

Current Researches in Economics and Administrative Sciences

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Editors

Assoc. Prof. Dr. Yüksel Akay Unvan
Assoc. Prof. Dr. İbrahim Serbestoğlu

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PREFACE

Dear Readers,

While the exam continues with the CORONA virus in the world, we academics want to produce and share what we produce. The topics we dealt with in our book “Academic Studies in Economics and Administrative Sciences” have a wide range. Our work, which we have gathered under thirteen sections, includes valuable works of many colleagues from Turkey and abroad. Changing economic and financial conditions need to be reinterpreted. This is possible with different methods and discourses. Science that repeats itself cannot serve this purpose. When we look at this aspect, different sounds and perspectives are needed. In fact, it should be aimed to evaluate some issues in a multi-disciplinary manner with a multi-dimensional approach. We think that the diversity in our book is a step towards this goal. We would like to thank everyone who contributed to this resource work produced as a result of a meticulous process. It is our wish that both its contribution to the literature and the evaluation of our readers will carry us together by multiplying to other studies.

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THE ROAD TO 2007 -2008 GLOBAL FINANCIAL CRISIS AND THE RISK-TAKING CHANNEL

Bilgin Bari & Zafer Adali***

Highlights: This study aims to define the properties of the 2008 Global Financial Crisis and The Risk-Taking Channel. The roots of the 2008 Global Financial Crisis has been received considerable attention in the literature, and many researchers and institutions tried to investigate the determinants of the crisis to prevent the potential crisis like the 2008 crisis. They emphasized that credit expansions, moral hazards, inadequate regulatory and supervision, employing advanced financial engineering are some counselled determinants inducing the outbreak of the crisis. Gradually, the researchers noticed the new monetary transmission mechanism, which can singly explain the common cause of the 2008 Global Financial Crisis. The new monetary transmission mechanism is called as the risk-taking channel. Therefore, understanding the 2008 Global Financial Crisis through the risk-taking channel will be essential to implement the monetary policy and prevent a similar financial crisis.

Keywords: The 2008 Global Financial Crisis, The Risk-Taking Channel, The Monetary Transmission Mechanism, The Mortgage System

1. The Road to 2007-2008 Financial Crises

Before the 2008 Global financial crisis, many essential events, laying the foundation of the crisis, occurred. Thus, investigating the pre-crisis conditions may be essential to examine and understand the 2008 global financial crisis and the risk-taking channel.

The "Internet-dotcom" issue is one of the most critical pre-financial crisis conditions. The innovation, internet technologies and information had been the most attractive topics in the 1990s, and the world and the economies have been followed this new wave. This structural changing sharply increased the value of the firms' stocks related to the internet, technology and innovations. The sharp increase in the firms' stocks is called the dotcom bubble, and the rising continued until March 2000, and finally, the burst of assets happened. Beginning in March 2000, the burst

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of the dotcom bubble had a detrimental impact on the advanced economies, especially the US. When economic recession resulting from the burst of assets was witnessed, The Federal Reserve (FED) implemented the expansionary policy in order to mitigate the harmful effect of the bubble crisis. At this time, the deflation and permanent unemployment like Japan long-term experienced were one of the most fearful scenarios in the eyes of FED administrations. This situation and Japanese bad experience induced the FED to conduct the unusual and highly aggressive expansionary monetary policies.

Furthermore, some political factors also led to the unusual expansionary policies conducted by the US government and the FED. For example, the terrorist attack on the World Trade Center and afterwards, the Iraq and Afghanistan War may be considered as a milestone because these events pushed the government to increase the government expenditure. Besides, the Bush administration used excess liquidity to cover their bad management. Political unrest resulting in two big war and the Bush administration political maneuver were also the essential reasons for the expansionary monetary policy. Therefore, the market was awash with easy money, which resulted in the one per cent interest rate.

Another reason for the expansionary monetary policy conducted by the US government is that the construction and real estate were considered as the locomotive sectors and rescuer markets to ameliorate the economic recession. The growth of the construction and the real estate sector were positively associated with low-interest rates resulting from the expansionary monetary policy. The expansionary monetary policy led to low-interest rates which stimulated the people to buy the property. The expansionary policy was implemented to mitigate the crisis and reinvigorate the economy, but its long term effects were more devastating than the dotcom crisis. The unusual expansionary policy led to the 2008 financial crisis, and the 2008 crisis is called the great recession in light of its detrimental effects on both the US economy and all world economy. In other words, the road to hell is paved with good intentions.

The 2008 Global financial crisis is associated with the expansionary policy, but this policy is only not enough to understand the foundation of the crisis. There are also some mechanisms, factors and the economic agents' behavior patterns which play a crucial role in the outbreak of the 2008 financial crisis. The mechanism or factors can be classified as the mortgage system, securitization, financial engineering resulting in disguising the risks. Therefore, examining these factors will contribute to understanding the primary element of the 2008 financial crisis.

The mortgage system is considered a dominant factor which induced the crisis. In the beginning, the mortgage system seemed to be the

most secure financial field because the mortgage loans were benefited by the only highly secure consumer whose credit history was considered positive. However, financial engineering, financial innovation techniques and the above mentioned prolonged expansionary monetary policy set the mortgage system on its ear. First, we will examine the effects of the expansionary policy on the mortgage system. After eliminating the outbreak of the dot-com bubble, other mentioned reasons, The FED governors such as Greenspan and Bernanke continued to conduct the expansionary monetary policy resulting in the prolonged low-interest rate. The results of the expansionary policy fostered mortgage demand, and gradually the increase in real estate prices was also another factor increasing the mortgage demand. All of the experiences led the mortgage system to evolve the riskiest financial market because the mortgage loans system was designed through an adjustable interest rate. The prolonged low-interest-rate increased the loan repayment likelihoods for both secure consumer and less secure consumers since the prolonged low-interest-rate both boosted the value of the real estate and shrank default risk. Gradually, some of the people, classified as NINJA (No income, No job or Asset), started to engage in the mortgage loans denoted as the subprime mortgage loans. Therefore, the quality of the mortgage loans was deteriorated by the subprime mortgage loans (Narin & Ozer, 2010).

This loans mechanism was also accelerated and became uncontrollable by some other factors. Securitization is the most important actors accelerating the subprime loans. Briefly, securitization is a kind of financial engineering process which obtain an illiquid asset such as the mortgage loan and convert them into a liquid asset. In the mortgage system, Mortgage-Backed Securities (MBS) is a popular securitization system which provides liquidity and transfer risks in the system. In the MBS, all individual mortgage loans are transferred into mortgage pools and loans documented is issued by a third financial company. Thus, the customer can obtain more credits based on profit from MBS. One of the main problems in the system is that risk can be changed much time by using derivative products and economic agents are willing to take more risk. The permanent increase in housing prices, prolonged low-interest rate and the securitization, pushed prime and subprime customer to buy second or third mortgage loans and the mortgage market reached fever pitch. Some financial institutions, rating agencies also support this situation because they believed that the mortgage system is the most secured area (Roubini & Mihn, 2012). On the other hand, these rating agencies had little information about mortgage loans and could not detect risk because of the highly advanced financial engineering. In other words, financial innovation and complicated financial instruments may shelter risk, and

most of the credit agencies rank the mortgage loans as a secure (Ozsoylu et al., 2010).

The year of 2006 is a turning point because the FED increased interest rate in order to prevent inflation and sustain more robust economic growth. The happiness resulting from the mortgage system reversed because the sub-prime loans are based on the adjustable interest rate and sharply increased in interest rate raise instalment payment. Sub-prime mortgage loans became the default which led the outbreak of the risks shadowed by financial engineering. To sum up, increasing interest rate in 2006 acted as a spark and all world witnessed the outbreak of the crisis (Egilmez, 2011).

The mortgage system, financial engineering, little information on financial derivative, avarice and the expansionary monetary policy are the most critical factors used to examine the feature of the 2008 global financial crisis. Besides, some researchers discovered one thing which explains all mentioned reasons and connection in terms of the monetary transmission mechanism named as the risk-taking channel. As following the part, we will try to analyze the features of the risk-taking channel and emphasize the importance of the transmission mechanism to build a robust economy.

2. The Risk-Taking Channel and The Financial Crisis

The 2008 Global Financial Crisis has been received tremendous attention, and the effects of the global financial on the real economy were highly substantial devastating. Indeed, even the most developed countries equipped with the knowledge of how to mitigate the crisis by implementing the monetary and fiscal policies were not able to effectively respond to the crisis. At first glance, a high level of credit expansion and the burst of assets related to the mortgage markets seem to be the essential determinants resulting in the recent crisis. However, various researchers and policy-makers have focused on the determinants of the current global financial crisis to prevent the potential crisis, which has similar characteristics as the 2008 financial crisis. The turmoil in the financial and real economy lead to highly intense discussions in which policy-makers and researcher have tried to determine the factors emerging in the 2008 global financial crisis. Thus, a degree of consensus was established by the researchers, and they identified that weak governance activity, bank competition, inadequate regulatory and supervisory are considered as some essential determinants inducing the crisis (Gambacorta, 2009).

Furthermore, some researchers also found a different inducing factor. Within this perspective, the monetary policy implemented during the 2000s was evaluated by the researchers, and they suggested that the prolonged interest rate arose from the accommodating monetary policy

may also be another essential factor inducing the crisis. This new argument has generated massive attention in the literature, and the features and effects of the monetary policy on the financial market have been renegotiated. Admittedly, the classical view already mentioned that the financial crisis is associated with excessive credit expansion and the burst of assets caused by lower interest rates as a result of the expansionary monetary condition. On the other hand, the recent new monetary policy discussion underlined the further argument that the expansionary monetary policy, promoting prolonged low-interest rate, and lax liquidity lead financial institutions to undertake more risk. This new sight signed the existence of the brand-new monetary transmission mechanism, which is considered the primary determinants of the 2008 Global financial crisis. The brand-new monetary policy transmission mechanism is coined as the risk-taking channel (Taylor, 2009; Adrian & Shin, 2009; Borio & Zhu,2008).

The risk-taking channel has reshaped the understanding of the monetary policy because the central banks and other policy-maker authorities thought that maintaining price stability is the best objective to promote economic stability. Besides, the financial stability was disregarded by the authorities since the financial innovation and credit transfer techniques improved by financial engineering was considered as sufficient means to bolster financial confidence (Duffie, 2008; Altunbaş et al., 2010). However, the risk-taking channel pointed out that the monetary policy is also important factors affecting the financial stability and the misguided monetary policy may have a devastating impact on the financial system, like the 2008 financial crisis (Taylor, 2009).

3. The Risk-Taking Channel

Before the 2008 global financial crisis, the connection between the monetary policy and the risk-taking have been indicated by some well-known researchers. For example, Keeley (1990) posed that the expansionary monetary policy stimulates the bank level risk-taking. The understanding of the new effects of the monetary policy increase studies related to the risk-taking channel. Therefore, various authors from different countries have tried to investigate whether there is the existence of the risk-taking channel in their countries. Rajan (2006), Matsuyama (2007), Allen and Gale (2000), Borio and Zhu (2008) emphasized that there is a connection between the monetary policy and the risk-taking. According to them, the expansionary policy monetary policy promoting interest rate below the benchmark level induce the financial institutions to decrease their risk aversion. Briefly, the risk-taking channel expresses that the economic agents are willing to undertake more risk for higher returns when

the interest rate remains prolonged time because of the too ongoing expansionary monetary policy (Paligorava & Sierra, 2012).

The risk-taking channel is associated with many motives. Initially, the search for yield is one of the leading determinants explaining the risk-taking channel. The prolonged low-interest-rate may stimulate the avarice motives of financial institutions, and they could take on more risk to search more yield. In this motive, banks managers accelerate their incentives to invest in remunerative riskier assets because persistent low-interest-rate causes the margin between the lending and deposit rates to decrease. This mechanism is rigorously correlated to the link between the low-interest rate and sticky target return. The mechanism is also associated with behavioral, institutional and contractual reasons which induce the economic agents to take on more risk. The behavioral and psychological reasons are based on the money illusion where the economic agents are not interested in whether nominal interest rates decline to recompense for lower inflation. In addition to psychological reasons, institutional constraints also play a vital role in the understanding of the financial institutions' risky behavior. Briefly, the institutional constraint is related to guaranteed nominal rate returns. For example, the financial institutions interested in the life insurance and pension fund are to offer minimum returns for customers. Thus, prolonged low-interest rates induce them to change their portfolio. At this time, they invest in a higher-risk financial instrument yielding in higher return because of their constraint assumptions. Furthermore, the financial fund managers' motives are also related to the search for yield. The financial managers are willing to invest risky-assets resulting in higher returns in order to obtain a high commission fee. However, the performance of the managers is measured by obtaining returns in the eyes of the customer. Therefore, the managers have to invest in risky-instruments to prevent stop flow of funds by the customers (Shleifer and Vishny, 1997; Brunnermeier & Nagel, 2004).

The second way pointed out that valuations, income and cash flow are associated with the monetary policy. In this view, the expansionary monetary leading to low-interest-rate seem to be a financial accelerator because an increase in collateral values arose from the expansionary monetary policy shrinks borrowing constraint (Bernanke et al., 1996). Adrian and Shin (2009) also argue that the low-interest rate has an impact on the banks' estimation of default probabilities, loss given default and volatilities owing to the increase in asset and collateral values resulting from the monetary policy. Besides, the movement of the stock prices has an impact on risk perception through the leverage effect. In this perspective, a low-interest rate boosts the stock prices, harm corporate leverage and hence alleviate the holding stock risks because the equity

relative to corporate rate's value is positively associated with higher stock prices. Danielson et al. (2004) tried to examine the connection, as mentioned earlier in terms of the impacts of the leverage effect on asset price volatility. They implied that the expansionary monetary policy improves the asset price volatility, which releases the financial firms' risk budget, and thus banks and other financial institutions encourage to undertake more risk. This view is also supported by Adrian and Shin (2009). They assumed that the business cycle is linked to leverage and the financial institutions' balance sheet.

Central bank communication policies and attitude on the futures also play a vital role in the development of the risk-taking channel. The financial institutions rely on central banks when adverse events occur in the markets. Therefore, they could operate their financial functions in freewheel. For example, Central banks credibility and predictable policies generate an insurance effect which leads to a decrease in market uncertainty and the probability of considerable downside risk. On the other hand, at the same time, financial institutions undertake more risk under the protection of the central bank (Diamond & Rajan, 2009). By reasons of this wrong attitude, the monetary policy should be urged caution to balance the willingness of the banks to undertake risk (Gambocarta, 2009).

Habit formation affected by the monetary policy is considered as another factor inducing the crisis. The habit formation indicates that an expansionary monetary policy boosts consumption and investment, which generate the favorable economic condition. Higher-level economic environment paints a promising picture which may decrease the degree of investors and consumers risk aversion. It is the general and natural habit formation of human being that people make the bolder decision and do not consider negative consequences when the economic environment performs well. During the 2000s, the prolonged low-interest-rate had been continued by the central bank, and many scholars claimed that the not only advanced monetary and fiscal policies but also financial engineering eliminates the economic downturn (Ozsuca, 2012). Therefore, economic actors feel confident because prolonged low-interest-rate stimulates asset price and the economic performance quite a while (Longstaff and Schwartz, 1995; Campell & Cochrane, 1999; Collin-Dufresne and Goldstein, 2001 and Altunbas et al., 2010). Besides, Yellen (2001) also pointed out that economic agents do not appraise decreasing in assets prices when the prices of their assets continually increase. Berger and Udell (2003) also underlined that financial institutions do not implement the credit standards in the appropriate economic environment because of short institutional memories related to previous crises.

4. Conclusion and Policy Recommendations

Many authors have researched the determinants of the 2008 Global Financial Crisis, and they emphasized that inadequate regulation, supervision, ambition to make money, the uncontrolled monetary policy vs seem to be the most agreeable factors inducing the crisis. Then, some researchers have tried to investigate the crisis and its determinants deeply, and they found that there is a new monetary transmission mechanism which can thoroughly explain the stage development of the 2008 financial crisis. The new monetary transmission mechanism is named as the risk-taking channel in which the expansionary monetary policy can induce the economic agents to take on risk for obtaining profit. Undertaking more risk arose from the expansionary monetary policy lead to an unstable and risky financial market. Before the crisis, the monetary policy is only implemented to control inflation and improve economic growth, and the effects of the monetary policy on financial stability are ignored. Financial innovation, financial engineering and liberal market mechanism are thought to be enough tools to sustain financial stability in the eyes of the government and market players. On the other hand, the 2008 global financial crisis indicated that there is a new function of the monetary policy related to financial stability. In the light of the examining the crisis and the risk-taking channel, we recommended that the central banks and policy-makers should also focus on the effects of the monetary policy on the financial stability and economic agents risk attitude along with the former duties such as inflation and the sustainable economic growth.

References

- ADRIAN, T., SHIN, H. S. (2009), "Money, Liquidity, and Monetary Policy", *American Economic Review: Papers & Proceedings*, 2009, 99:2, 600-605.
- ALTUNBAS, Y., GAMBACORTA, L., MARQUÉS-IBÁÑEZ, D. (2010), "Does Monetary Policy Affect Bank Risk-Taking?", ECB Working Paper, 1166.
- BORIO, C., ZHU, H. (2012), "Capital regulation, risk-taking and monetary policy: a missing link in the transmission mechanism?", *Journal of Financial Stability*, 8(4), 236-251.
- BRUNNERMEIER, M.K., NAGEL, S. (2004), "Hedge funds and the technology bubble", *The Journal of Finance*, 59(5), 2013-2040.

- CAMPBELL, J. Y., COCHRANE, J. H. (1999), “By force of habit: A consumption-based explanation of aggregate stock market behavior”, *Journal of Political Economy*, 107(2), 205-251.
- COLLIN-DUFRESNE, P., GOLDSTEIN, R.S. (2001), “Do credit spreads reflect stationary leverage ratios?”, *The Journal of Finance*, 56(5), 1929-1957.
- DANIELSSON, J., SHIN, H. S., ZIGRAND, J. P. (2004), “The impact of risk regulation on price dynamics”, *Journal of Banking & Finance*, 28(5), 1069-1087.
- DIAMOND, D. W., RAJAN, R. G. (2009), “Illiquidity and interest rate policy”, National Bureau of Economic Research, No: w15197.
- DUFFIE, D. (2008), “Innovations in Credit Risk Transfer Implications for Financial Stability”, Working Paper no. 255, Bank for International Settlements, Basel.
- EGILMEZ, Mahfi (2011), *Küresel Finans Krizi*, RemziKitabevi, İstanbul.
- FISHER, I. (1933), “The debt-deflation theory of great depressions”, *Econometrica: Journal of the Econometric Society*, 337-357.
- GAMBACORTA, L. (2009), “Monetary Policy and the Risk-Taking Channel”, *BIS Quarterly Review* (December): 43–53.
- LONGSTAFF, F. A., SCHWARTZ, E. S. (1995), “A simple approach to valuing risky fixed and floating rate debt”, *The Journal of Finance*, 50(3), 789-819.
- NARIN, M., OZER, A. (2010), “Küresel Krizin Reel Sektör Üzerine Etkileri: Türkiye İmalat Sanayi”, Turgut Özal Uluslararası Ekonomi ve Siyaset Kongresi Bildiriler, 1, 15-16.
- OZSOYLU, Ahmet F., KAPLAN, I.U., GEDİK, M.A. (2010), *Küresel Kriz ve Türkiye*, Karahan Kitabevi, Adana.
- PALIGOROVA, T., SIERRA, J. (2012), “Monetary policy and the risk-taking channel: Insights from the lending behaviour of banks”, *Bank of Canada Review*, 2012(Autumn), 23-30.
- ROUBINI, N., MIHM, S. (2010), *Crisis economics: A crash course in the future of finance*, Penguin.
- SHLEIFER, A., VISHNY, R. W. (1997), “The limits of arbitrage”, *The Journal of Finance*, 52(1), 35-55.

TAYLOR, J. B. (2009), “The financial crisis and the policy responses: An empirical analysis of what went wrong”, National Bureau of Economic Research, No. w14631.

THE LOCATION OF FINANCIAL TRANSFERS IN EU AND ITS EFFECT CRITERIA IN THE COHESION PROCESS

Ahmet Niyazi Özker*

Introduction

In the European Union harmonization process, the importance of financial transfers is as important as the social cohesion policies as well as the basis of financial institutional compliance. The financial transfers analyse aim at putting forth financial compliance targets through the process of the harmonization of social policies as related to the financial alterations. In this context, the use of funds created within the scope of the European Union harmonization program is aimed at improving the infrastructure of member countries, the utilization of human resources and the improvement of structural production functions.

The harmonization of macroeconomic indicators constitutes also the second important pillar of this process. Increasing public investment expenditures and ensuring the harmonization of the physical production structure constitute the primary purpose of financial transfers while correcting the deviations in human resources compliance also require financial transfer supports as an important integration problem. The inclusion of the developed countries with high production levels and the high public administration costs of these countries further increases the importance of financial transfers directed to EU integration process. In this respect, the impact of these financial transfers within the EU is a phenomenon that should be considered together with its macro effects, and this fact make the establishment of a common Union budget a current subject.

Financial transfers directed to the EU countries are within the scope of financial instruments that play an important role in ensuring economic cohesion as well as the provision of social cohesion conditions. This socio-economic adaptation aims at increasing the efficiency and joint sharing of public investments within the EU, while expressing a large-scale and long-term structure. In this point, it is important to understand the impacts of public expenditures as well as the objectives of increasing the efficiency of resource utilization in the scope of the Union and the establishment of common agricultural policies. In addition, the importance of the classification of public revenues and expenditures in financial transfers has

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become even more important. The importance of the criteria for the determination of the structural adjustment and limits of financial transfer items for the EU also arises from this point.

The aims of financial transfers are differentiated in a process where national financial approaches of EU Member States and different levels of national wages, corporate tax practices, indirect taxation and employment rates directly affect financial transfers. It can be said that the problem for the EU has arisen from this point. It is seen that the early study on the effects of financial transfers in the EU harmonization process and on the effects of the scale along with important determinations, was realized from the study of Blom-Hansen (2005). The study emphasized the importance of directing financial transfers, especially in the process, and made important determinations regarding the future of the EU in this study. The study (2007) by Jan in 't Veld on behalf of the European Union Commission on the status of financial transfers and the criteria for harmonization for the EU harmonization process has revealed significant determinations. The report prepared by the EU Commission in 2010 for the achievement of social, economic and financial adjustment, as a research report, is an important research report on the future of the EU.

In this report, it is possible to find the important priorities that is placed on the position and impact of financial transfers directed to EU's future. Again, as related to this subject it can be said that the study put forward by the European Commission (2014a) has drawn an important strategic framework. The different national economic problems of the Member States are the appearance of a structure that changes the scale of impact of financial transfers and expresses important problems in terms of structural adjustment policies. In addition to all these, different impact scales with the level of development of socially transferred financial transfers reveal the process of financial transfers in which significant adjustment problems arise. All this requires a clear understanding of the position of financial transfers within the EU in terms of its purpose and effect, requiring a comparative positional analysis of financial transfers and national growth rates for each member country. However, financial transfers in the European Union are also facing some important structural problems.

These problems can occur during the implementation process, but also they may arise from the structural differences of the members (European Union, 2012: 18). In addition, the differences in the national objectives of the member countries have caused the financial transfers in the process to take place with different problems in the adaptation process for long years. Furthermore, the fact that some financial transfers are completely unproductive in terms of source their funds and that they are politically

purely out of the EU harmonization process is also a serious debate (Behnke and Mueller, 2017: 519).

1. The Prospects from The Fiscal Transfers in EU and The Macro Criteria in The Aimed Structural Location

In this process, where there are structural discrepancies related to the financial applications, the purpose of financial transfers can be evaluated on two different basis regarding aiming to cope with the common harmonization problems. The first one is the probable loss of financial value with possible deviations except for the purpose of the use of financial transfers for purposes (Gaspar and Pereira, 1995: 54-55). The second is the extent to which the funds related to financial transfers will be used for consumption, or on how which directed to the scale real investments will be used. These contradictions, which also highlight important management and usage costs, have also changed certainly the usage and application forms of funds which are the source of financial transfers in the EU adaptation process (European Environment Agency, 2014: 19).

1.1. The Expected Objectives of Financial Transfers in EU Harmonization Process

Although the position and distribution of financial transfers within the European Union raises some important debates, it can be said that they aim for four important objectives in general. What should be emphasized here is that the adaptation problem, along with social goals, is more oriented towards economic targets directed to the common regional values (European Commission, 2014b: 15).

The aim is primarily to create a common process at production levels, and to align physical and human resources values with a direct positive effect related to evaluation the common capital formation. In this context, it is possible to consider the general objectives of financial transfers related to the common use of regional resources as follows:

- **Ensuring the Participation of Financial Losses in the Process of Financial Transfers:** At this stage, which can be accepted as the first stage of the financial transfers' process, the negative impact of financial losses that may arise as a result of deviations from the objectives of financial transfers is almost inevitable. This process, in which the common production process and regional capital formation are directly adversely affected, is a process in which financial losses are also shared (Arslan and Ergeç, 2010: 157). The inclusion of these financial losses also related to the deviations from the objectives is an indispensable priority of the distribution of the effective financial values. This fact, which also means wasting of transfers, also means that the effect of financial transfers on

investments in target production is also ineffective and meaningless as well as being evaluated as common environmental management failures.

- **The Probable Administrative Costs directed to the Best Using of the Financial Transfers:** In the contribution of financial transfers to the adaptation process, it is important to pay attention to usage savings in terms of administrative practices (Arslan and Ergeç, 2010: 160-161). This approach, which expresses the careful saving of financial resources, includes selective credit policies, and the fiscal transfers should be directed to the needed places that keep on the official demand applications. This approach, in other words, refers to directing financial transfers to increase the production level for the development of the economy. Increasing the economic capacity of the EU member states and avoiding the lost and depreciation of financial transfers is important in terms of ensuring the efficiency of transfers in the process. In this context, programming and monitoring of the financial transfers process as a management process is an important administrative obligation (Stavarek, 2003: 7-8).
- **Unearned Income Seeking in Financial Transfers and Its Objectives for Economic Efficiency:** Financial transfers provide important resources for public and private investments. The aim is to make ineffective investments efficient through financial transfers and to make efficient use of inefficient resources through financial supports. On the other hand, supporting sectoral competition in the process of efficient resource use increase the sectoral rent after financial transfers. Each sectoral support for economic growth goals increases the efficiency of the sectoral use of inefficient resources through the competition process at this stage, and this fact raises the sectoral economic values of the search for earned seeking from inefficient sources (Mandl et al, 2008: 15).
- **The Financial Transfer Funds Directed to Consumption, and The Consuming-Investment Relation of Transfers:** To directed to consumption behaviour the financial transfers have undoubtedly a significant impact on private and public sector investments. Even though the financial transfers have a positive effect on the consumption limits, the investment expenditures may have a negative effect on some the investments. Consumption expenditures, which are over-supported by financial transfers in the being talked of process, can turn into the beginning of a position where investments are even more adversely affected. The insufficient level of investment weakens the impact of financial

transfers through increasing prices and may disrupt the balance of consumption-investment (Faia, 2010: 30). This is a process in which financial transfers should be controlled for purposes and aims to change the implementation strategies of financial transfers in the targeted consumption-smoothing process. In this process, the purpose of financial transfers is to be the control of the flow processes of financial transfers that support both financial positions directed to the balance of investment and consumption (Faia, 2010: 30-31).

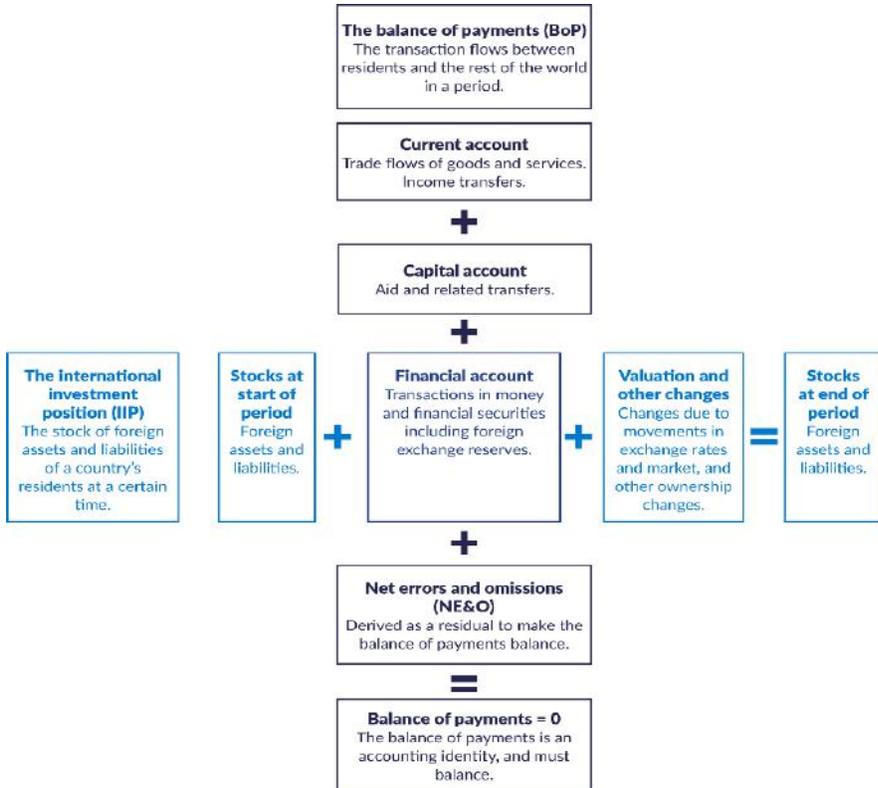
Undoubtedly, the structural features of financial transfers should be taken into account as well as the structural goals of the adaptation process directed to cohesion policies. Although the two primary objectives for the EU harmonization process are to ensure the capital formation of financial transfers, the priority of increasing human resources and efficiency is important. In short, it is necessary to emphasize that the primary objectives of financial transfers in the framework of EU harmonization policies are "Infrastructure Investments", "Effective Human Resources Use" and "Ensuring Sectoral Production Environment" (Sienkiewicz, 2018: 6).

On the other hand, it is seen that the use of financial transfers is shaped according to the capital accumulation of countries and balance of payments balance. In this point for the European Union, it is necessary to emphasize these two important structural financial issues as subtitles. One of these is financial transfers arising from goods and services; another is the position and distribution of international investment positions for countries. However, this process includes the financial reserves of the countries. In terms of financial transfers, the European Union is a catalyst for the creation of this balance and a secure financial transfer process. This process means also a stock saving and optimal reversing directed to the end of financial transfers period as depend on the other exchange values (European Central Bank-ECB, 2009: 9).

1.2. Dynamics related to Macro Values in the European Union in directing Financial Transfers

It should be especially emphasized that the primary purpose of financial transfers in the EU is to support the formation of capital in the presence of a process of harmonization. At this point, it is seen that financial transfers in the EU show significant differences from traditional-classic financial transfers for the purposes. These structural differences are shaped according to the current balances of the countries which are subject to financial transfers together with the obligations arising from the international investment positions. The main objective of this approach is to create an effective financial transfers process in which the balances of current accounts and capital accounts are stabilized. In addition, another

objective of the EU in the same process is the sustained realization of the financial transfer process, as a sharing financial phenomenon based on the macro values of the EU member countries (Saurugger, 2013: 19). Obligations in handling financial transfers as a same-common value arise from this point. It is possible to follow this process in figure 1 below:



Source: Alex Erskine and Fredrik Eriksson (2018), *Improving Coherence in The Illicit Financial Flows Agenda*, <https://www.u4.no/publications/improving-coherence-in-the-illicit-financial-flows-agenda> (Accessed 12.04.2019).

Figure1. Macro Equilibrium Process for Financial Transfers directed to Capital Formation

As seen in figure 1, the structural position of international investments on the selective use of financial transfers and its division-share among the member countries are quite significant. At this point, the relationship between financial transfers and international investment positions should be emphasized in two aspects. The first is the external assets of the EU member state and the financial liabilities per capita by the end of the year. This approach also includes the stock change values of these assets and liabilities at the beginning and end of the period (Eurostat, 2016: 32). Moreover, the balance of payments and the international trade positions of

the member states directly affect the financial transfers process in terms of current external accounts. The sum of these macro-values of the member state of interest also determines the limits of the country's financial securities and the monetary movements of the country related to the position affecting the financial transactions.

A result relationship with which all these balances are equated to "Zero" reveals the "neutral" value in the financial transfers of the country concerned in the EU. At this stage, it is important to emphasize that financial transfers under the EU are affected primarily by the balance of payment balances of the country. The considered financial transfers take place in the process, and this financial phenomenon depends on these process values. The differences between countries in terms of financial transfers arise from the difference of these values equality to the balance of current payments. This case can be considered with in the two different approaches. The first is the impact of global capital flows on the current external balances on the EU (European Union, 2012: 37).

All global differences have led to significant current account differences on EU member countries. This situation directly affects the financial transfer limits and the distribution between countries. The second is the differences in the capital accumulation of EU member countries. This phenomenon, which determines the external current balances as well as the global dimension of the capital flow, also differentiates the financial transfer limits in among EU countries. From this perspective, it can easily be said that financial transfer applications for EU countries are a derivative and result effect of international investment positions and the current balances of each of the countries (Eurostat, 2019: 1-3).

In this respect, it is seen clearly that financial transfers in terms of EU countries aim to provide external current balances and close current account deficits, and the priority aim is to eliminate the negative values of the countries' foreign exchange positions. It should be emphasized again, as related to this financial phenomenon, the elimination of the monetized national value losses caused by the use of the Euro is also an important determinant of this priority financial transfer values. As it is seen in Figure 1, it is not enough to consider financial transfers as financial aids only in order to analyses the structural effects of financial transfers. The financial deficits arising from the possible depreciation of the foreign currency deposits of the countries can be evaluated as financial transfers support.

In directed to the primary objective of the fiscal year the main objective in this financial applications are to provide an end-of-year balance equal to foreign assets and liabilities, but in the medium and long term, the balance of payments equilibrium is targeted. In this respect, developed EU countries aim primarily at a stable financial equilibrium-neutral of the

balance positions for less developed member countries to avoid global capital and commercial losses via financial transfers. In other words, the periodical difference between the balance of current accounts and capital accounts balance with the balance of payments sets the limits of financial transfers to the relevant countries for the EU and determines the selective distribution of transfers (Gauberti, 2016: 39-40).

2. Structural Distribution of Transfer Funds for EU Cohesion Policy and The Framework of Financial Funds

The location of the transfer funds under the EU represents a significant position with the distribution of funds to the member states directed to also cohesion policies. In other words, since the primary objective of financial transfers is to achieve a structural macro-compliance between the member states, the relevant funds are evaluated an impact scale at the level of contribution to GDP. On the other hand, the distribution of transfers between the member countries was around 250 billion euro between 2000 and 2006. This amount represents about 37 percent of the EU budget. Undoubtedly, these amounts have increased even after 2007 and the new EU countries have played an active role in this regard. It is necessary to emphasize that a budget of 308 billion Euros has been created for the application of the programs in 2004 the year in which the fund programs based on financial transfers were predominantly completed (Veld, 2007: 3).

2.1. Cohesion Funds Interventions and Its related to Distribution Objectives

The use of transfers of funds for public purposes has been the subject of significant financial implementations, especially between 2007 and 2013. Especially between these years and the EU budget up to 75 percent of per capita GDP can be perceived as the years leading to significant deviations. In other words, the share of EU member underdeveloped countries from the EU budget is less than 77 percent, and then has experienced more deviations in the following years. In terms of financial transfers, it is also possible to consider this position for the regions covered by the EU. As we mentioned, one of the most important objectives of financial transfers is to reduce the regional unemployment rate and to pull down the unemployment problem and the regional development gap for the underdeveloped countries within the EU.

For this purpose, financial transfers also aim to support the regional competitive environment. In 2013, we have seen funds allocated to financial transfers in the amount of around € 48 billion to support the competitive environment and the regional attractive. Again, in order to ensure global cooperation in the EU budget for 2013, we have seen a budget of around 7.8 billion directed to overcome the commercial and

regional problems of the countries with common borders. Although this approach to the development of environmental awareness for both commercial and financial-macroeconomic purposes required an increasing EU budget, it did not play an important role in overcoming cohesion problems after 2013 (European Commission, 2018a: 1). However, as of September 2018, 67% of the funds were allocated to these projects in the harmonization based on projects in the scope of the EU. This phenomenon of financial transfers means an increase of 66 billion euros in 2018 in the budget of the financial transfer funds under the EU and EU budget that is widened by financial transfers as directed towards the future. However, it should be reiterated that the primary purpose of financial transfers and funding policy within the EU is to ensure the cooperation of the cross-border member countries. In table 1 below, it is possible to monitor the change effects of the funds related to financial transfers in the EU over the last years:

Table 1. Changes in the Targets of Financial Funds on Cohesion Policies in the EU and Structural Estimates

Jobs created	12 400 000 
Investment	Increased by 6%, i.e. more than 500 billion EUR 
Countries in the Excessive Deficit Procedure	From 11 to 1 
Unemployment rate	Down from 10% to 6.8% 
Public debt	Down by 7.1 percentage points of GDP 
Industrial Production	9.2% higher 
Digital connectivity (DESI index 2018)	Up 42% 

Source: European Commission (2018b), *European Semester: The Autumn Package explained*, Brussels: European Commission, 21 November 2018, http://europa.eu/rapid/press-release_MEMO-18-6463_en.htm

As it is seen on table 1, we see that significant financial transfers have been made especially in the post-2014 EU in terms of job creation and the fight against unemployment. As we mentioned, an approach where the primary objective of financial transfers is human resources, then has initiated the investment process. We see that there is a 6% increase in the

EU budget after 2014 regarding the realization of compliance policies and a common investment budget of 500 billion Euros. Another priority of other tariff compliance policies is the It is possible to see a successful process in the financial deficits decreasing. Because it is possible to say that the financial deficits of the member states, which are 11 percent on average, decreased down to 1 percent after 2014. On the other hand, unemployment rates, the reduction of the public debts of countries (as a proportion of GDP) and industrial production rates among the member countries have entered an important stage after 2014.

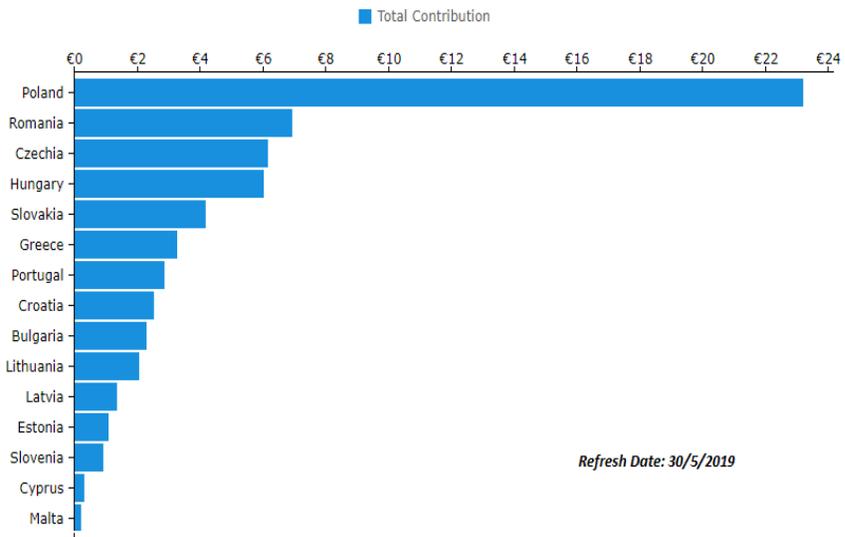
At this point, it is possible to say that financial transfers have been an important effect in overcoming the compliance problem. Actually, we see that there is a 9.2 percent increase in industrial production limits with the decreasing unemployment rates after the joint investments of the EU member countries. In spite of all these, it can be said that the most important adjustment problem within the EU is due to the increasing public borrowing compared to GDP. It is possible to say that the public debts should be between 6.5 and 7 percent of GDP in order to achieve a common coherence between the member countries according to Maastricht criteria. As present It is observed that the ratio of the average public debts for EU member countries to 7.1 percent. Compared to the share of participation in production, this is a process in which countries' current account deficits are positively affected, which has been also via financial transfers.

2.2. The Other Global Objectives of Financial Transfers in AB and The Possible Fiscal Measures

Financial transfers within the scope of the EU are also meaningful with the other priorities that are related to the member countries own objectives. On the other words, these objectives are beyond the overcoming of the adaptation problem, as well as the objectives for the realization of other national objectives. In this respect, other purposes of financial transfers are seen as national objectives and expectations with the exception of common goals for continental unity. Within the framework of these approaches, the objectives of the transfers bring along also the specific economic and financial objectives of the Member States together with some specific measures specific to this country. Nevertheless, it is not possible to separate these specific structural measures from the globalization process.

The national target of all countries, namely the aim of increasing economic growth and the accumulation of national capital, sets out also the framework for measures based on EU criteria. Among these, the effectiveness of global resource efficiency and the share of common environmental policies taken from financial transfers comes from. There are even scientific approaches linking the effectiveness of the policies to reduce non-unemployment rates within the EU directly to this effect of

financial transfers. (Eurostat, 2016: 69). From this point of view, it is seen that the funds expressing financial transfers between 2007 and 2013 show significant differences compared to the countries. The fact that we emphasize the distribution of financial funds between 2007 and 2013 is mainly due to the fact that EU funds are subject directly to significant structural change policies in these years. In figure 2, we can see the national economic and financial distribution of financial funds according to the structural changes as total contribution share as of May 2109.



Source: European Commission (2019), *European Structural And Investment Funds: Cohesion Fund*, <https://cohesiondata.ec.europa.eu/funds/cf>, (30.05.2109).

Figure 2. Distribution of Financial Funds for Cohesion Policies in the EU and Total Contribution (EUR Billion)

The distribution of financial funds on the basis of the EU countries in terms of Euro currency is very meaningful for countries with financial deficits. In particular, it is important that new EU member states benefit more from financial transfer funds. In figure 2, we see that Poland and Romania have come to the forefront in the ranking of new members and less developed countries. However, in the distribution of financial transfers in figure 1 as of 2019, it appears that some elements within the scope of compliance policies would be taken into consideration. At the beginning of these elements, we see the employment levels of these countries (European Commission, 2018c: 76). We see that the unemployment problem in the EU is an important problem. The second important element of employment is the structural position of the countries that are subject to financial transfers in the technological infrastructure.

The differences in the technological infrastructure of the EU's member states are seen as an important adaptation problem in the present days. This formation process which also supports the global trade volume of countries has a significant impact on the current account deficits for a long time especially as directed to the cohesion policies. Countries whose sectoral development is weak in this respect should be supported by meaningful financial transfers. Indeed, it is very meaningful for the EU that countries such as Poland, Romania, Bulgaria, Czechoslovakia and Lithuania are subject to high financial transfers as a result of the dissolution of the Soviet Union in overcoming the integration problem.

This approach also reveals the mutual financial obligations of the EU countries and the necessity of supporting joint capital formation with a common currency. At this stage, it is almost inevitable to support via the orientation programs in the scope of financial transfers in the creation of business areas. At this stage, the development of joint management strategies and the determination of the common objectives of financial institutions are undoubtedly an important stage of financial transfer policies (European Central Bank-ECB, 2012: 71).

It is possible to say that Figure 2 was shaped according to these features as considered their institutional evaluations. In addition, supporting the entrepreneurship in the new EU member states and ensuring via the desired flow of capital implies education, human health and common social work areas, the sub-integration programs of compliance policies. This approach, which also means the harmonization of structural internal dynamics, emphasizes the support of global capital movements rather than national policies in the scope of the short term programs that include financial transfers. The demographic characteristics of the member countries, ecological changes, differences in consumer preferences, and problems in sectoral information sharing also cover the adaptation process of the sub-programs dealt with within the scope of compliance policies (Kauppi and Widgrén, 2004: 234-235). In this context, the problem in terms of financial transfers is to create a prioritized framework of conditions for global markets and to ensure that these macro market values are reconciled with the exchange rate policies and economic stability elements. In this respect, it is also very important to overcome the asymmetric information problem in order to understand the formation of common market economies and the position of financial transfers directly related to this phenomenon (Kemmerling and Bodenstern, 2006: 377).

In other words, a meaningful competition for the member states depends on the rational distribution of financial transfers and this phenomenon, which should be supported by political balances, inevitably necessitates the reconsideration of trade balances and tax practices in terms

of compliance policies. In this respect, the need for financial transfers to support internal factors directed to the cohesion process as well as external factors is significant in terms of both the compliance policies and the practical rationality of the common economic and fiscal policies. In other words, the adaptation of socio-economic factors as an external factor and the formation of a common political decision process can be expressed as the first stage of the macro approach financial transfers process related to a rational institutionalization process.

Conclusion

Financial transfers applications, as practicing among the considered countries that need these financial values, have taken an important place being directed in the harmonization process in EU for a long time. The financial transfers within the EU appear to have two important functions among the member states. The first is to overcome the cohesion problem among the member states and the structural cohesion problems with the dynamics of economic equilibrium. Indeed, EU countries are countries with significant development differences among themselves, and this economic phenomenon appears to be a major cause of fiscal adjustment problems. It is clear that these differences are the reason why less developed EU member states are subject to significant financial deviations. It is necessary to deal with the adaptation process problems such as current deficits experienced by these countries, effective human resources using, passing environmental and health problems that may be subject to common policies, and adaptation problems arising from other common defence strategies. Financial transfers are involved in the process as an important tool-practitioner to overcome these problems as play a key role in the restructuring of the future of the EU.

The second importance of financial transfers in the financial implementations process of the EU is to achieve common institutional objectives among member states. Financial institutions among EU countries and the differences in their application have turned the direction of integration process in recent years. In this respect, the institutional deficiencies among EU countries are an important issue of integration and include the dynamics of priority change in itself. It has been observed that targets such as an under common EU Central Bank practices and a common currency cause significant problems as a result of institutional incompetence and non-compliance with legal practices especially in the monetary values alterations. In fact, it can be said that this is the primary factor affecting the distribution of financial transfer limits among the member states. As a result, effect of the process, regardless of the purpose or the limit, undoubtedly that financial transfers reveal an effective express of capital flow via transfers. In other words, it appears clearly that the

process of financial transfers between EU countries is an expression of the capital flow and formation process among the member countries.

Nevertheless, the financial transfers also provide important global incentives to achieve financial equivalence in socio-political and economic positioning with foreign countries outside continental Europe. Maintaining the competitiveness environment among non-member countries as well as among member countries and supporting via the transfer prices for global marketing are important facts in this context that is under the financial transfers. In particular, the need of transfer prices for financial transfer supports seems inevitable in terms of global networking cooperation and global capital-trading distribution in directed to the future expectations of EU. We should also emphasize that financial transfers within the EU in recent years show significant differences from the aims and objectives of the EU in its foundation years. Approaches to the harmonization of the new member states after the first fifteen member states have differentiated the future limits and structural objectives of financial transfers. Therefore, the future of financial transfers within the EU has entered into a more meaningful process with the economic dynamics shaped according to the common political future of the EU when compared to the past process for EU. Undoubtedly, the structural content of financial transfers for structural market balances and the strategic compliance in the implementation process are among the primary objectives for a desired level of competition in this process, and certainly this phenomenon is among realized should be realized. The necessity of common capital accumulation and industrial production in all circumstances is more meaningful than national debt is a major problem to EU's future. In this respect, it can be said that the political and economic future of financial transfers is not more in directed to support national aims, but to provide more a digital platform for common defence and industrial production.

REFERENCES

- ARSLAN, Bengül Gülümser and ERGEÇ, Etem Hakan (2010), "The Efficiency of Participation and Conventional Banks in Turkey: Using Data Envelopment Analysis", *International Research Journal of Finance and Economics*, 57, pp. 156-168.
- BEHNKE, Nathalie and MUELLER, Sean (2017), "The Purpose of Intergovernmental Councils: A Framework for Analysis and Comparison", *Regional & Federal Studies*, 27(5), pp. 507-527.
- BLOM-HANSEN, Jens (2005), "Principals, Agents, and The Implementation of EU Cohesion Policy", *Journal of European Public Policy*, 12(4), pp. 624-648.

- ERSKINE, Alex and ERIKSSON, Fredrik (2018), *Improving Coherence in The Illicit Financial Flows Agenda*, <https://www.u4.no/publications/improving-coherence-in-the-illicit-financial-flows-agenda> (12.04.2019).
- EUROPEAN CENTRAL BANK-ECB (2009), *Glossary of Terms Related to Payment, Clearing and Settlement Systems*, Monthly Bulletin-December 2009, Frankfurt am Main: European Central Bank-ECB, December 2009.
- EUROPEAN CENTRAL BANK-ECB (2012), *Heterogeneity in Euro Area Financial Conditions and Policy Implications*, Monthly Bulletin-August 2012, Frankfurt am Main: European Central Bank-ECB, August 2012.
- EUROPEAN COMMISSION (2010), *Fifth Report on Economic, Social and Territorial Cohesion: Investing in Europe's Future*, European Union, Brussels: European Commission Directorate-General for Economic and Financial Affairs, 2010.
- EUROPEAN COMMISSION (2014a), *An introduction to EU Cohesion Policy 2014-2020*, Brussels: European Commission Directorate-General for Communication Citizens Information, June 2014.
- EUROPEAN COMMISSION (2014b), *The European Union Explained: Making Europe's Regions and Cities More Competitive, Fostering Growth and Creating Jobs-Regional Policy*, Brussels: European Commission Directorate-General for Communication Citizens Information, November 2019.
- EUROPEAN COMMISSION (2018a), *Report from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of The Regions: European Structural and Investment Funds 2014-2020 2018 Summary report of the programme annual implementation reports covering implementation in 2014-2017*, Brussels: 19.12.2018 COM(2018) 816 final, 2018.
- EUROPEAN COMMISSION (2018b), *European Semester: The Autumn Package Explained*, Brussels: European Commission, 21 November 2018, [http://europa.eu/rapid/press-release MEMO-18-6463_en.htm](http://europa.eu/rapid/press-release_MEMO-18-6463_en.htm) (26.05.2019).
- EUROPEAN COMMISSION (2018c), *Employment and Social Developments in Europe-Annual Review 2018*, Brussels: European Commission Directorate-General for Employment, Social Affairs and Inclusion Directorate, June 2018.

- EUROPEAN COMMISSION (2019), *European Structural And Investment Funds: Cohesion Fund*, <https://cohesiondata.ec.europa.eu/funds/cf>, (30.05.2109).
- EUROPEAN ENVIRONMENT AGENCY (2014), *National adaptation policy processes in European countries — 2014*, EEA Report No 4/2014, Luxembourg: European Environment Agency (EEA) Publications Office of the European Union, 2014.
- EUROPEAN UNION (2012), *The European Union Explained: How The European Union Works-Your Guide to The EU Institutions*, Brussels: European Commission Directorate-General for Communication, July 2012.
- EUROSTAT (2016), *Sustainable Development in The European Union a Statistical Glance from The Viewpoint of The Union Sustainable Development Goals*, Luxembourg: Publications Office of the European Union, 2016.
- EUROSTAT (2019), *New Release-Euroindicators, 84/2019-16 May 2019*, Luxembourg: Publications Office of the European Union, 2019.
- FAIA, Ester (2010), *Credit Risk Transfers and The Macroeconomy*, European Central Bank Working Paper Series No 1256 / October 2010, Frankfurt am Main: European Central Bank, 2010.
- GASPAR V. and PEREIRA A. M. (1995), “The Impacto Financial Market Integration and Unilateral Public Transfers on Investment and Growth in EC Capital Importing Countries”, *Journal of development Economics*, 48, pp. 43-66.
- GAUBERTI, Annabelle (2016), “Why Selective Distribution Makes Sense for Luxury and Premium Businesses”, *Feature - Selective Distribution*, February/March 2016, pp. 38-41.
- KAUPPI, Heikki and WIDGRÉN, Mika (2004), “What Determines EU Decision Making? Needs, Power or Both?”, *Economic Policy*, 19(39): 221–266
- KEMMERLING, Achim and BODENSTEIN, Thilo (2006), “Partisan Politics in Regional Redistribution: Do Parties Affect the Distribution of EU Structural Funds across Regions?”, *European Union Politics*, 7 (3), pp. 373–392.
- MANDIL, Ulrike; DIERX, Adriaan and ILZKOVITZ, Fabienne (2008), *The Effectiveness and Efficiency of Public Spending*, European Commission Economic Papers 301, Brussels: European Commission Directorate-General for Economic and Financial Affairs, February 2008.

- SAURUGGER, Sabine (2013), *Is there a sovereignty problem in the EU?* Sciences Po Grenoble, Working Paper No. 9, Grenoble: University Grenoble-Alpes, Sciences Po Grenoble, November, 2013.
- SIENKIEWICZ, Łukasz (2018), *Thematic Paper Human Resource Management: How to Attract, Retain and Develop Talent*, Brussels: European Commission Directorate-General for Employment, Social Affairs and Inclusion, August 2018.
- STAVAREK, Daniel (2003), *Banking Efficiency in Visegrad Countries Before Joining the European Union*, Paper prepared for the Workshop on Efficiency of Financial Institutions and European Integration, Lisbon: Technical University of Lisbon, October 2003.
- VELD, Jan in 't (2007), *The Potential Impact of the Fiscal Transfers under the EU Cohesion Policy Programme*, European Commission Number 283 – June 2007, ECFIN.A1/REP/2751, Brussels: European Commission Directorate-General for Economic and Financial Affairs, 2007.

DETERMINANTS OF TURKISH ISLAMIC BANKS PROFITABILITIES AND CAPITAL ADEQUACY RATIOS: APPLICATION OF FINANCIAL RATIO ANALYSIS WITH PANEL DATA

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Introduction

In many Islamic economics and banking books written in the 1960s and early 1970s, Islamic banks are translated as financial entities founded on the concept of profit and loss sharing (PLS) with entrepreneurial partners **Nienhaus (1983)**. Some scholars argue that the Islamic banking system has similarities with the conventional banking system. In other words, profit shares are thought to be the same as the interest rate. Some scholars argue that the Islamic banking system is based on the participation system. In the Islamic banking system, there is no fixed return of deposits. Since conventional banks offer a fixed return of deposits to customers, many customers in the world prefer a traditional banking system. Yet, Islamic banking operations have been increasing fast around the globe. In the banking and finance literature, many studies focused on the influence of banks' internal determinants on the profitabilities of conventional banks. Moreover, numerous studies analyze the impact of internal determinants on the profitability of Islamic banks. Nevertheless, there are limited studies about the financial ratio determinants that affect the profitabilities of Turkish Islamic banks.

In that research, the main objective is to scrutinize the impact of financial ratios on the profitabilities of Turkish Islamic banks for the period between 2016 Q1-2018 Q3. In that research, panel data analysis and Bayesian impulse response analysis will be used to find the relationship between financial ratios and profitabilities of Turkish Islamic banks.

Literature Review

In the literature, some researches focused on the relationship between Islamic banks internal financial factors and profitabilities.

Bashir (2001) evaluated the profitability of Islamic Banks implementing a linear method relating outcomes to various metrics spanning eight Middle Eastern countries from 1993 through 1998. The research results found that loans from massive debt and large loans to asset ratios led to higher profitability levels. The findings demonstrated the significance of client and short-term funding, non-interest generated reserves, and costs in advancing Islamic banks' profitability.

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Hassan and Bashir (2003) used bank-level data from 1994-2001 to concentrate on the profitability determinants of Islamic banks worldwide. The study concluded that the loan to the overall asset ratio had a significant positive impact on the various profitability indicators employed, such as net interest margin, return on assets, and return on equity, when interacting with the gross domestic product (GDP) per person. The analysis also showed that the ratio of total liabilities to total assets have a significant beneficial influence on Islamic banks' profitability.

Naceur (2003) analyzed the factors of Tunisian banks' profitability for the period between 1980-2000. The author argues that capital ratios, loans, and stock market development have a positive effect on profitability, while the bank's size has a negative impact.

Alkassim (2005) studied the causes of profitability in Islamic and regular banking in GCC states from 1997 through 2004. The study shows that overall assets had an adverse influence on regular bank profitability but have a beneficial effect on the performance of Islamic banks. Total equity is observed to have an adverse influence on traditional bank' profitability while continuing to have a positive influence on the profitability of Islamic banks.

Masood and Ashraf (2012) published research that analyzed the profitability determinant of different countries' Islamic banks over the period 2005-2010. They consider, in their study, that the size of the assets and management efficiency contributes to a favorable and vital relationship with banks' profitability.

Ahmad et al. (2004) have attempted to check the factors that influence the credit risk of Islamic banks in Malaysia. It was concluded that the quality of management, volatile assets ratio, and volume of Islamic banks' assets have a statistically relevant impact on Islamic banks' credit risk.

Haron (1996) tried, in his research, to define some of the internal and external profitability factors of Islamic banks. His study concluded that, besides capital adequacy, liquidity, and overall expenditures, the three forms of deposits (current, savings, and investment) had a statistically meaningful effect on Islamic bank profitability.

Alrashdan (2002) focused on the factors of profitability for Jordanian banks for the period between 1985-1999. The analyst observed that the return on assets (ROA) linked favorably to equity and total assets, while ROE linked negatively to financial debt and interest rates.

Haron et al. (2004) assess the influence of both the internal and external profitability factors of Islamic banks in selected countries implementing time series methodology and error-correction mechanisms. The findings revealed that liquidity and consumer price index corresponds favorably with the profitability metrics used.

Obeidat et al. (2013) explored the impact of internal determinants on the profitability of Islamic banks in Jordan during the years between 1997-

2006. For the study of estimating coefficients of independent variables, multiple regression is used. Empirical findings verify the most important determinants of profitability as internal indicators are deposit, cost of deposit, Mudaraba loans, and limited investment deposits.

Akhtar et al. (2011) examined the factors influencing the performance of Pakistani Islamic banks during the time between 2006M1-2009M12. As Model 1 and Model 2, they implemented two separate multivariate regressions. These equations include the Return on Assets (ROA) and Return on Equity (ROE) as dependent variables, respectively. The relationship of gearing ratio and capital adequacy ratios in two models have an affirmative relationship according to the results.

Gorus, Ozgur (2016) estimated the effect of bank-specific factors on the competitiveness of Turkey's Islamic banks. The ordinary least-squares (OLS) approach is employed utilizing actual monthly data for the period 2006M1-2016M2. They identified Return on Asset (ROA) as the dependent variable. Moreover, bank profitability determinants were also stated to be equity to total assets (ETA), credit quality (LQ), loan to total assets (LTA), net interest margin (NIM), operating expenditures to total assets (OETA), market share (MS), and non-interest revenue to total assets (NII). Empirical findings suggested a significant effect on bank profitability of the ETA, NIM, and MS. The calculated NIM coefficient at 0.432 could be described as the most potent determinant affecting the profitability of Turkish Islamic banks.

Masood et al. (2012) analyzed how bank-specific in various areas affect the competitiveness of Islamic banks in certain selected countries. It was unearthed that Islamic banks with productive management and a larger scale of resources contribute to higher asset returns. It was revealed that effective operational cost control performance significantly impacts the profitability of the banks.

Yahya et al. (2017) revealed a negative and negligible association between capital adequacy and profitability ratios, which are ROA and ROE. Besides, the analysis shows that during 2010-2014 asset size, asset management, liquidity, and deposits have a significant and favorable effect on the profitability of Yemen's banks.

Methodology

Data

In that research, secondary data were used. Data were retrieved from Turkey Participation Banks Association Database. Return on assets, return on equity, liquid assets/total assets, received credits/total assets, total credits and receivables/total assets, and personal loans/total credits and receivables, capital adequacy ratios, total credits and receivables/total funds collection were used as variables. All analysis will be conducted for the same period, that is between 2016 Q1- 2018 Q3. Moreover, ideal lag lengths will be chosen with AIC in all impulse response analysis.

Econometric Applications

Before implementing the Panel EGLS method (Table 2), the Hausman test was applied. Hausman test (Table 1) revealed that random effect would be used to find the impact of LATA (liquid Assets/total assets) on ROA of Turkish Islamic banks panel data set for the period between 2016 Q1- 2018 Q3.

Table1. Hausman Test

Correlated Random Effects -Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.354440	2	0.3081

Moreover, the Panel EGLS method (Table 2) unearthed that LATA (liquid assets/ total assets) had a positive and significant impact on the change of return on assets (ROA) of Turkish Islamic banks panel data set for the period between 2016 Q1-2018 Q3. In addition, liquid assets/total assets and return on equity can describe the change of return on assets of Turkish Islamic banks by %94.6981.

Table2. Panel EGLS Method with Random Effect

Dependent Variable: ROA

Method: Panel EGLS (Cross-section random effects)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001110	0.000610	-1.819777	0.0746
ROE	0.078109	0.002564	30.46259	0.0000
LATA	0.006354	0.001926	3.298329	0.0018

Effects Specification

	S.D.	Rho
Cross-section random	0.000613	0.4396
Idiosyncratic random	0.000692	0.5604

Weighted Statistics

R-squared	0.946981	Mean dependent var	0.001742
Adjusted R-squared	0.944942	S.D. dependent var	0.002960
S.E. of regression	0.000695	Sum squared resid	2.51E-05
F-statistic	464.3938	Durbin-Watson stat	1.274522
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.917869	Mean dependent var	0.005405
Sum squared resid	4.26E-05	Durbin-Watson stat	0.751113

In addition to that, a robust least-squares method was also implemented to find the liquid assets/ total assets impact on the change of Turkish Islamic banks' return on assets (ROA) for the same period. Robust least-squares method (Table 3) unearthed that liquid assets to total assets (LATA) had a positive and significant impact on the change of Turkish Islamic banks' return on assets. It can be indicated that the robust least-squares method corresponds with Panel EGLS with random effect.

Table 3. Robust Least-Squares

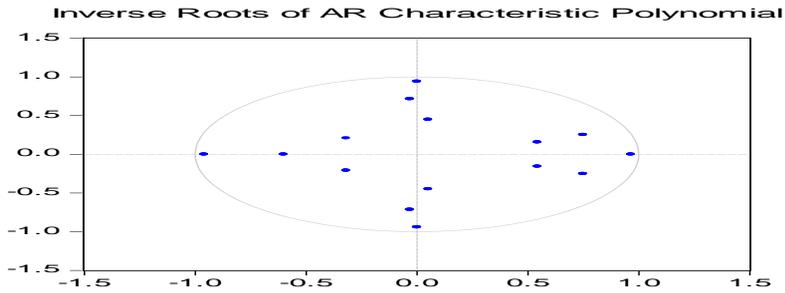
Dependent Variable: ROA

Method: Robust Least-Squares

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000352	0.000546	-0.644648	0.5192
ROE	0.073620	0.002955	24.91178	0.0000
LATA	0.004206	0.001953	2.153151	0.0313
Robust Statistics				
R-squared	0.788054	Adjusted R-squared	0.779902	
Rw-squared	0.940536	Adjust Rw-squared	0.940536	
Akaike info criterion	56.79832	Schwarz criterion	64.04758	
Deviance	3.35E-05	Scale	0.000803	
Rn-squared statistic	620.9260	Prob(Rn-squared stat.)	0.000000	
Non-robust Statistics				
Mean dependent var	0.005405	S.D. dependent var	0.003098	
S.E. of regression	0.000880	Sum squared resid	4.02E-05	

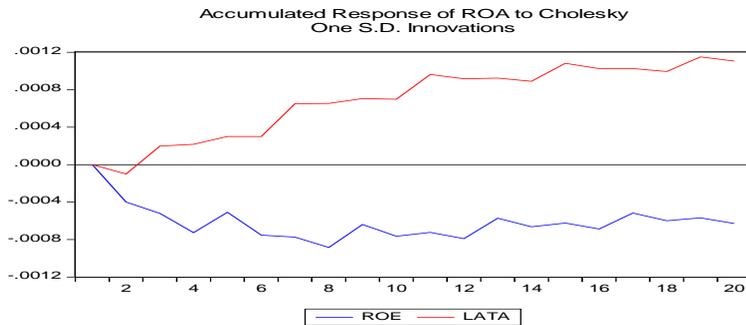
In addition to those analyses, vector autoregression based impulse response analysis was implemented to reveal the one standard positive innovation influence of liquid assets/total assets on Turkish Islamic banks return on assets (ROA).

Figure 1. AR Roots Polynomial Graph



Before implementing impulse response analysis, AR roots polynomial graph analyzed. AR roots polynomial test revealed that there is no stability problem in the model. Since there is no stability problem in the model, impulse response analysis will be conducted.

Figure 2. Impulse Response Analysis



Impulse response analysis unearthed that one standard deviation of the positive shock of liquid assets to total assets (LATA) increased the return on assets of Turkish Islamic banks for the same period.

Also, the impact of liquid assets/total assets on return on equity of Turkish Islamic banks was measured for the same time. Hausman test (Table 4) was implemented. According to the Hausman test result, fixed effect will be used in the analysis.

Table 4. Hausman Test

Correlated Random Effects -Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	38.354791	3	0.0000

Table 5. Panel Least-Squares

Dependent Variable: ROE

Method: Panel Least-Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.020884	0.006716	3.109736	0.0031
ROA	12.06869	0.398122	30.31405	0.0000
LATA	-0.092171	0.024193	-3.809848	0.0004

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.959404	Mean dependent var	0.063087
Adjusted R-squared	0.954329	S.D. dependent var	0.040099
S.E. of regression	0.008570	Akaike info criterion	-6.562789
Sum squared resid	0.003525	Schwarz criterion	-6.307310
Log likelihood	187.4767	Hannan-Quinn criter.	-6.463993
F-statistic	189.0620	Durbin-Watson stat	1.542651
Prob(F-statistic)	0.000000		

Moreover, panel least-squares test with fixed effect was implemented. Panel least-squares analysis (Table 5) revealed that the liquid assets/total assets ratio had a significant adverse impact on the return on equity of Turkish Islamic banks for the period between 2016 Q1- 2018 Q3.

In addition to that analysis, the robust least-squares method (Table 6) was applied to the same data for the same period.

Table 6. Robust Least-Squares

Dependent Variable: ROE

Method: Robust Least-Squares

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.007964	0.007251	1.098268	0.2721
ROA	12.59867	0.511987	24.60739	0.0000
LATA	-0.049876	0.026144	-1.907754	0.0564

Robust Statistics

R-squared	0.784838	Adjusted R-squared	0.776563
Rw-squared	0.939318	Adjust Rw-squared	0.939318
Akaike info criterion	59.55141	Schwarz criterion	66.37741
Deviance	0.005693	Scale	0.010234
Rn-squared statistic	608.5867	Prob(Rn-squared stat.)	0.000000

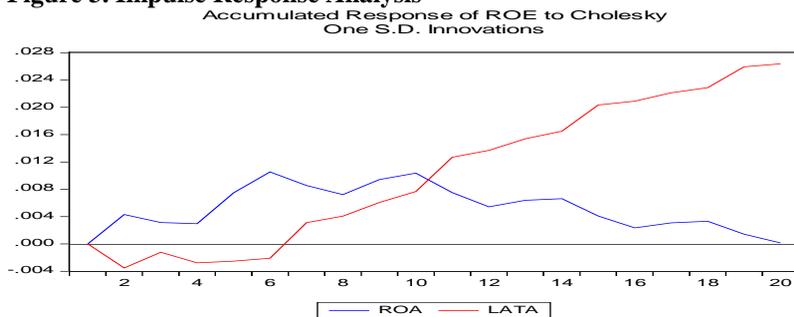
Non-robust Statistics

Mean dependent var	0.063087	S.D. dependent var	0.040099
S.E. of regression	0.011340	Sum squared resid	0.006687

It was found that liquid assets to total assets had a significant adverse impact on the return on equity (ROE) of Turkish Islamic banks.

Besides, impulse response analysis was applied to find the one standard deviation positive shock of liquid assets/total assets on the change of return on equity of Turkish Islamic banks for the same period.

Figure 3. Impulse Response Analysis



Impulse response analysis unearthed that liquid assets to total asset (LATA) had negative innovation influence on ROE for a short period; LATA had positive innovation influence on ROE for a long time. Moreover, panel least-squares was also implemented to find the determinants of capital adequacy ratios for the same period.

Table 7. Panel Least-Squares

Dependent Variable: CAR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.337842	0.136455	2.475849	0.0170
AKTA	-0.583595	0.213849	-2.729003	0.0090
TKATA	-1.244191	0.215046	-5.785689	0.0000
TKTF	0.794631	0.018378	43.23868	0.0000
T_TKA	-0.493602	0.164208	-3.005962	0.0043

Effects Specification

Cross-section fixed (dummy variables)

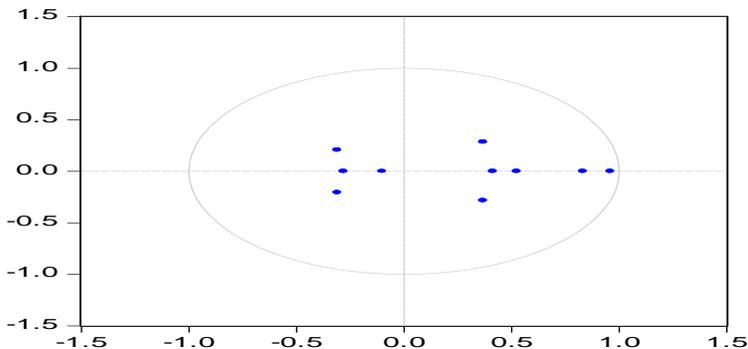
R-squared	0.983244	Mean dependent var	0.226671
Adjusted R-squared	0.980329	S.D. dependent var	0.374056
S.E. of regression	0.052462	Akaike info criterion	-2.908872
Sum squared resid	0.126604	Schwarz criterion	-2.580399
Log likelihood	88.99397	Hannan-Quinn criter.	-2.781849
F-statistic	337.4019	Durbin-Watson stat	2.590289
Prob(F-statistic)	0.000000		

Hausman test was applied again. Fixed effect will be used in panel data analysis.

According to the panel least-squares method, received credits /total assets (AKTA), total credits and receivables/total assets (TKATA), and personal loans/total credits and receivables (T_TKA) had a significant negative effect on capital adequacy ratios (CAR) of Turkish Islamic banks. Also, total credits and receivables/total funds collection (TKTF) has had a noticeable positive impact on the CAR of Turkish Islamic banks. Robust least-squares analysis was applied again. The research result of robust least-squares analysis corresponds with panel least-square analysis.

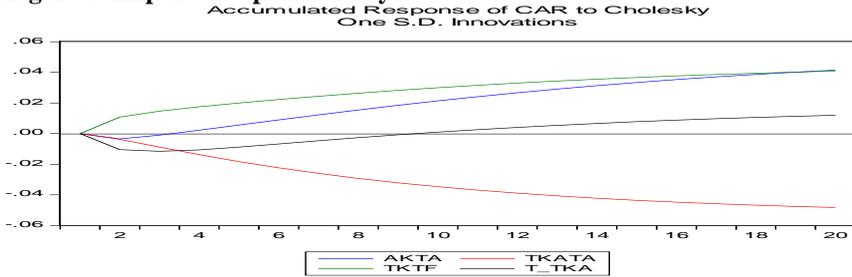
Moreover, impulse response analysis was applied to find the innovation influence of previous independent variables on the change of capital adequacy ratios (CAR) of Turkish Islamic banks. Before implementing impulse response analysis, AR roots polynomial analysis (Figure 4) performed.

Figure 4. AR Roots Polynomial Graph
Inverse Roots of AR Characteristic Polynomial



AR roots polynomial analysis unearthed that there is no stability problem in the model. After determining no stability problem, vector autoregressive based (VAR) impulse response analysis was implemented.

Figure 5. Impulse Response Analysis



According to impulse response analysis (Figure 5) results, total credits and receivables/total funds collection (TKTF) has had a positive innovation impact on the CAR of Turkish Islamic banks. Also, received credits/total assets (AKTA) has had a negative innovation impact for a very slight period. In general, received credits/total assets (AKTA) has had a positive innovation influence on the CAR of Turkish Islamic banks. Besides, total credits and receivables/total assets (TKATA) has had an adverse innovation impact for all periods. That research result corresponds with the panel least-squares method. Moreover, personal loans/total credits and receivables (T_TKA) has had a negative short term influence on the CAR of Turkish Islamic banks. Still, for the long term, personal loans/total credits and receivables (T_TKA) has had a positive innovation influence on the CAR of Turkish Islamic banks for the period between 2016 Q1-2018 Q3.

Conclusion

In that research, panel data analysis and Bayesian impulse response analysis were used to identify the relationship of Turkish Islamic banks' capital adequacy ratios, profitability, and financial ratios between 2016 Q1-2018 Q3. In panel data analysis, it was observed that the liquid assets/total assets ratio of Turkish Islamic banks had a strong positive influence on the ROA. Besides, the liquid assets/total assets ratio had a significant adverse effect on Turkish Islamic banks' ROE. It was also unearthed that received credits/total assets, total credits and receivables/total assets, and personal loans/total credits and receivables had a crucial negative impact on Turkish Islamic banks' capital adequacy ratios (CAR). Besides, total credits and receivables/total funds collection had a notable positive impact on Turkish Islamic banks' CAR. The same data had been used for robust least-squares analysis. The results of the robust regression test correspond to the panel data analysis.

Also, the Bayesian impulse response analysis showed that liquid assets/total assets had a positive innovation impact on Turkish Islamic banks' ROA, and liquid assets/total assets had an adverse effect on ROE over a limited period. In the long term, one standard deviation positive

shock of innovation influence of liquid assets/total assets on Turkish Islamic banks' ROE has been positive.

In addition, received loans/total assets, total credits and receivables/total collection of funds had positive innovation influence on Turkish Islamic banks' capital adequacy ratios. It can be said that when Turkish Islamic banks are rapidly increasing their borrowings, they can effectively manage the capital adequacy risk. In other words, Turkish Islamic banks can use the accelerated borrowing mechanism efficiently to raise the capital adequacy ratios.

A sudden growth in personal loans /total credits and receivables was found to plummet Turkish Islamic banks' capital adequacy ratios in the short term. Personal loans/total credits and receivables had a positive innovation influence on Turkish Islamic banks' capital adequacy ratios in a long time. Moreover, total credits and receivables/total assets are found to have an adverse innovation impact on Turkish Islamic banks' CAR rates. It can be argued that the increase in total assets shall exceed the rise of total credits and receivables to have sustainable CAR rates of Turkish Islamic banks.

References

- Ahmad, N. H., & Ahmad, S. N. (2004). "Key Factors Influencing Credit Risk of Islamic Bank: A Malaysian Case" *The Journal of Muamalat and Islamic Finance Research*, 1(1), 65-80.
- Akhtar, M. F., Ali, K., & Sadaqat, S. (2011). "Factors Influencing the Profitability of Islamic Banks of Pakistan" *International Research Journal of Finance and Economics*, 66(66), 1-8.
- Alkassim, Faisal A. (2005). "The Profitability of Islamic and Conventional Banking in the GCC Countries: A Comparative Study", (Electronic Version), *Master Degree Project*, University of Wales Bangor, United Kingdom.
- Alrashdan, A. (2002). "Profitability Determinants of Jordanian Commercial Banks" *Master Degree Project*, Al al-Bayt University, *Mafraq, Jordan*.
- Bashir, Abdel-Hameed M. (2001), "Assessing the Performance of Islamic Banks: Some Evidence from the Middle East", (Electronic Version), 21st Annual Meeting of Middle East Economic Association, in Conjunction with Allied Social Sciences Association in New Orleans, Louisiana, U.S.A., January 7-9, 2001.
- Gorus, M. S., & Ozgur, O. (2016). "Türkiye'de İslami Bankaların Karlılığının Belirleyicileri: Banka İçİ Faktör Analizi", *Sakarya İktisat Dergisi*, 5(2), 1-13.
- Haron, S. (1996). "Competition and Other External Determinants of the Profitability of Islamic banks" *Islamic Economic Studies*, 4(1).
- Haron, S., & Azmi, W. N. W. (2004, December). "Profitability Determinants of Islamic Banks: A Cointegration Approach", Islamic Banking Conference, Union Arab Bank, Beirut, Lebanon (pp. 5-7).

- Hassan, M. Kabir Bashir, & Abdle-Hameed M. (2003). "Determinants of Islamic Banking Profitability" International Seminar on Islamic Wealth Creation, Session 2, University of Durham, UK. 7-9 July 2003.
- Masood, O., & Ashraf, M. (2012). "Bank-specific and Macroeconomic Profitability Determinants of Islamic Banks" *Qualitative Research in Financial Markets*.
- Naceur, S. B. (2003). "The Determinants of the Tunisian Banking Industry Profitability: Panel Evidence" *Universite Libre de Tunis Working Papers*, 11(3), 317-319.
- Nienhaus, V. (1983). "Profitability of Islamic PLS Banks Competing with Interest Banks: Problems and Prospects" *Journal of King Abdulaziz University: Islamic Economics*, 1(1).
- Obeidat, B., El-Rimawi, S., Maqableh, M., & Al-Jarrah, I. (2013). "Evaluating the Profitability of the Islamic Banks in Jordan" *European Journal of Economics, Finance and Administrative Sciences*, 56, 27-36.
- Yahya, A. T., Akhtar, A., & Tabash, M. I. (2017). "The Impact of Political Instability, Macroeconomic and Bank-Specific Factors on the Profitability of Islamic banks: An Empirical Evidence" *Investment Management and Financial Innovations*, (14, Iss. 4), 30-39.

THE EFFECTS OF FINANCIAL DEVELOPMENT ON FOREIGN DIRECT INVESTMENT IN TURKEY: A DYNAMIC ANALYSIS

*Pınar Karahan-Dursun**

1. Introduction

Many countries actively seek to attract foreign direct investment (FDI) because they believe that multinational enterprises will contribute to economic growth by creating new job opportunities, increasing capital accumulation, and raising total factor productivity (Desbordes and Wei, 2017: 1). The rationale for increased efforts to attract more FDI stems from the belief that FDI has several positive effects which include productivity gains, technology transfers, the introduction of new processes, managerial skills, and know-how in the domestic market, employee training, international production networks, and access to markets. These benefits, in addition to the direct capital financing it generates, suggest that FDI can play an important role in modernizing the national economy and promoting growth (Alfaro et al, 2004: 90).

The role of foreign direct investment has been widely recognized as a growth-enhancing factor in developing countries (Nasser and Gomez, 2009: 60-61). Empirical studies show that the effect of FDI on growth depends on the absorptive capability of the host country and, the level of financial development in the host country affects its ability to absorb the benefits of FDI (Ang, 2010: 1596). Financial systems, which arise to mitigate the effects of information asymmetries and transaction costs, influence saving rates and investment decisions. Financial development may increase foreign investments due to better access of firms to capital, as well as domestic investment. Lowering informational asymmetry, financial intermediaries provide information about local market risks, providing more credibility to potential profit in the country. Therefore, financial development stimulates the entry of new foreign investors in the local market. Financial systems that are more effective at pooling the savings of individuals and at lending these resources to project owners can profoundly affect economic development. Besides the direct effect on capital accumulation, financial system may play a crucial role in permitting the adoption of better technologies by effectively mobilizing resources for projects (Levine, 1997; Kinda, 2009).

The direct relationship between financial development and FDI is ambiguous on theoretical grounds. There are two views on the relationship

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The direct relationship between financial development and FDI is ambiguous on theoretical grounds. There are two views on the relationship between FDI and financial development. This first view suggests negative relationship between FDI and financial development. This view considers that FDI tends to be larger in countries that are riskier, financially underdeveloped, and institutionally weak. Under this view, FDI is a substitute for financial development as FDI takes place to overcome the difficulties of investing through capital markets (Claessens et al 2001: 3; Nasser and Gomez, 2009: 63). The second view suggests that FDI and financial development are complementary. Firms' access to external finance depends on financial development (Desbordes and Wei, 2014: 6)¹. With developed financial infrastructure, the foreign firms are able to judge how much they can borrow for innovative activities and are able to make ex-ante planning about their investments (Dutta and Roy, 2011: 305). Accordingly, FDI is positively correlated with the development of the financial market in the second view.

However, while several empirical studies have found that financial development enhances the positive effects of FDI on economic growth (Alfaro et al, 2004; Hermes and Lensing, 2003; Choong et al, 2004; Ang, 2010; Adjasi et al, 2012; Adeniyi et al, 2012, Kelly, 2016), a few studies have investigated the direct link between financial development and FDI. Financial development has been recently considered as one of the key determinants of FDI inflows and a prerequisite for its utilization (Nasser and Gomez, 2009; Angloyor et al, 2013; Kargooukar, 2012; Desbordes and Wei, 2014; Varnamkhaski and Mehregan, 2014; Shah, 2016; Fauzel, 2016; Bayar and Gavriletea, 2018).

Although the existence of the studies suggesting financial development has an important determinant of FDI, a quite little work have been done to investigate the association between financial development and FDI in Turkey. Most of these studies examine causality relationship between financial development and FDI. This study differs from the existing studies by employing Kalman filter technique to capture the dynamic effects of financial development on FDI. Further, the study intends to fill the gap in

¹Global FDI flows were severely affected worldwide by the global financial crisis (UNCTAD, 2009). After a 16 per cent decline in 2008, global FDI inflows fell a further 37 per cent to \$1,114 billion in 2009 (UNCTAD, 2010). Desbordes and Wei (2016) point that tight external financing conditions resulting from the global financial crisis have been partly blamed for this fall, suggesting that access to external finance is an important determinant of FDI.

the related literature for Turkey by considering asset quality of the banking sector as measures of financial development.

The study is organized as follows. The next section reviews the empirical literature on the linkage between financial development and FDI. Section 3 provides the data and methodology. Section 4 reveals the empirical results. Section 5 concludes.

2. Literature Review

Though a great deal of empirical evidence has been devoted to FDI-growth linkage, little work has been done to investigate the role of financial development on the attractiveness of FDI inflows. Some of these studies analyze the effect of FDI on economic growth considering the role of financial development (Alfaro et al, 2004; Hermes and Lensing, 2003; Choong et al, 2004; Adjasi et al, 2012; Adeniyi et al, 2012; Kelly, 2016; Ang, 2010).

Alfaro et al (2004) use cross-country data for 71 countries over the period 1975-1995 and conclude that the positive effect of FDI on economic growth enhance when local financial markets is well-developed. Hermes and Lensing (2003) find that FDI only has a positive effect on economic growth in cases where the development of the financial system reach a certain minimum level considering a panel of 67 countries that are mostly in Latin America and Asia. Similarly, Choong et al (2004) find that FDI creative economic growth only if the financial system has achieved the certain minimum level for selected developed and East Asian countries. Adjasi et al (2012) apply panel data method for 32 African countries from 1997 to 2008 and conclude that FDI only has a significant effect on economic growth with better financial development level. Adeniyi et al (2012) examine causal linkage between FDI and economic growth considering the role of financial development in 5 Economic Community of West African States (ECOWAS) over the period 1970-2005. Their findings reveal that the benefits of FDI on economic growth in Ghana, Gambia and Sierra Leone depend on the financial indicator used. Similarly, Kelly (2016) document that FDI only has a positive impact on economic growth when the financial system is more developed in six East African countries. Ang (2010) finds that the financial development level of Malaysia is important precondition to realize the positive effects of FDI on economic growth covering the period 1965-2004.

While the role of financial development in enhancing effect of FDI on economic growth is well established, there have been limited studies examining the linkage between FDI and financial development. Zakaria

(2007) test the causal relationship between FDI and financial development in 37 developing countries for the period 1970-1999. The results of causality test provide little support that the domestic banking sector causes FDI. However, the study reveals that the direction of causality between FDI and stock market development is bi-directional in the developing countries. Similarly, Soumare and Tchana (2011) investigate the causal relationship between FDI and financial development employing panel data for 29 emerging countries. They document bi-directional causality between FDI and stock market development indicators. The results also show that banking sector development indicators have no significant effect on FDI, and vice-versa. On the other hand, Nasser and Gomez (2009) apply GLS (Generalized Least Square) for 15 Latin American countries from 1978 to 2003 and determine that both banking sector development and stock market development are strong determinant of the FDI inflows.

Angloyor et al (2013) investigate the causality between financial development and FDI in 42 African countries. They divide the countries in two groups for the banking and stock market samples. The banking sample consists of 42 countries for the period 1970-2007, while the stock market sample consists of 16 countries from 1990-2007. Using 2SLS (Two Stage Least Squares) panel approach, they suggest significant bi-directional causality between financial development and FDI.

Fauzel (2016) investigate the linkage between financial development and FDI in selected Small Island countries employing a panel vector autoregressive model (PVAR) approach for the period 1990-2013 and find bi-directional relationship between FDI and financial development. On the other hand, Abzari et al (2011) investigate the causality between financial development and FDI in 8 developing countries employing Vector Autoregressive (VAR) model from 1976 to 2005 and determine existence of causality relationship from FDI to financial development in 5 developing countries.

Desbordes and Wei (2014) analyse the effects of financial development on FDI in developed and developing countries with 83 source countries and 125 destination countries over the period 2003-2006 using panel estimation method. The results indicate that well-functioning financial system induce FDI in both source and destination countries.

Shah (2016) concludes that the financial development mostly has a significant effect on FDI in 10 MENA countries using panel estimation method from 1988 to 1990. Using panel causality approach, Bayar and Gavriletea (2018) state that financial development has significant impact

on FDI inflows in 11 Central and Eastern European Union countries for the period 1996-2015.

Kargoonkar (2012) examines the effect of financial development on FDI in 78 countries applying the data mining approach between 1980 and 2009. The study documents that the development of the financial system of the host country is an important prerequisite for FDI inflow.

Varnamkhaski and Mehregan (2014) indicate that financial development has positive and significant impact on FDI inflows in 33 developing countries during 1995-2010 employing Estimated Generalized Least Squares (EGLS).

Nwosa and Emma-Ebere (2017) observe that there is a negative relationship between financial development and FDI in the long run, while the positive relationship exists in the short run in Nigeria, covering the period from 1980 to 2015 using VECM model.

Using a panel of 97 countries over the period 1984-2003, Dutta and Roy (2011) show that financial development leads to greater FDI inflows up to a certain level of financial development. Beyond that, the effect of financial development on FDI is negative. The study also reveals that the political risk factors affect the relationship by altering the threshold level of financial development.

The empirical evidence on the link between financial development and FDI for Turkey is quite limited. Şahin and Ege (2015) analyse the causal linkage between financial development and FDI employing panel causality approach from 1996 to 2012 in Greece, Bulgaria, Macedonia and Turkey. They confirm that FDI Granger cause financial development in Bulgaria, Greece and Turkey. Besides, the study indicates that there is bi-directional causality between financial development and FDI in Turkey. Bayar and Öztürk (2016) analyse the causal relationship financial development and FDI in Turkey employing bootstrap Granger causality test during the 1974-2015 period and find a unidirectional causality from financial development to FDI. Using Bootstrap panel causality approach over the period 1993-2013, Şahin (2018) investigate the causal relationship between financial development and FDI in BRIC-T countries, namely Brazil, Russia, India, China, South Africa and Turkey. The findings of the study indicate that FDI promote financial development in Brazil, China and Russia while there is no causality between financial development and FDI in India, South Africa and Turkey. Çelik (2019) examine the effect of financial development on FDI in fragile five countries consisting of Brazil, Indonesia, South Africa, India and Turkey using panel data method for the

period 1981-2016. The results suggest that the increase in the level of financial development promote FDI inflows.

3. Data and Methodology

This study investigates the effects of financial development on FDI inflows to Turkey over the period 1990-2017. The financial development indicators include both the banking sector (credit market) and stock market (equity market), following the studies of Zakaria (2007), Soumare and Tchana (2011), Nasser and Gomez (2009), Agbloyor et al (2013) and Shah (2016).

The dependent variable is the net inflows of foreign direct investment as a percent of GDP (henceforth, FDI). The first financial development measure is the ratio of private credit by deposit money banks to GDP (henceforth, CRD). It is the most widely used proxy of financial development and captures one of the main activities of banks, namely, channelizing savings to investors (Dutta and Roy, 2011: 307). This variable isolates credit to private sector and indicates the level of funding private sector investment. The second measure is the ratio of non-performing loans to total loans (henceforth, NPLs). Non-performing loans reflects key vulnerabilities of the banking sector. An increase in NPLs implies deterioration in asset quality of banks' balance sheet (Ghosh, 2015). In this regard, NPLs is widely associated with the banking crises (Demirgüç-Kunt and Detragiache, 1997; Salas and Saurina, 2002; Khemraj and Pasha, 2009; Reinhard and Rogoff, 2010; Nkusu, 2011; Louzis et al, 2012; Ghosh, 2015). Hence, NPLs is included as proxy for loan quality of the asset side of banks' balance sheet. The stock market development is also considered to capture financial development. Accordingly, the third measure is the ratio of stock market capitalization to GDP (henceforth, SMCAP). This measure captures the overall size of the market and is frequently used by the studies as an indicator of stock market development (Boyd et al. 2001; Nasser and Gomez, 2009; Soumare and Tchana, 2011; Korgaonkar, 2012; Şahin and Ege, 2015; Bayar et al, 2017; Nkoa, 2018; Şahin, 2018). All variables are measure in natural logarithms. The sources of CRD and SMCAP are World Bank's global financial development database while NPLs are obtained from Bank Association of Turkey database.

In the empirical analysis, the study applies ADF (Augmented Dickey-Fuller), PP (Phillips-Perron) and Ng-Perron tests to detect the stationary feature of the variables. After stationary analyzing, co-integration relationship between FDI and financial development indicators is investigated by Bound test developed by Pesaran et al. (2001). The bound

test has better estimations than the two-step Engle-Granger method. Furthermore, it is reliable for small sample sizes (Narayan and Narayan, 2005: 429). Equation 1 presents the Unrestricted Error Correction model (UECM) specification formed for this study.

$$\Delta LFDI_t = a_0 + a_{1t} + \sum_{i=1}^m a_{2i} \Delta LFDI_{t-i} + \sum_{i=0}^m a_{3i} \Delta LFD_{t-i} + a_4 LFDI_{t-1} + a_5 LFD_{t-1} + \mu_t \quad (1)$$

where, Δ denotes first difference operator, “m” denotes number of lags, “t” represents the trend variables. LFDI is the log of FDI, LFD signify the log of financial development indicators that are CRD, NPLs and SMCAP.

Lastly, Kalman filter approach is employed in order to investigate the dynamic effects of financial development on FDI. The Kalman filter recursively estimates the parameters by updating the estimation with every additional observation (Atılgan et al, 2016: 4). Equation 2 and Equation 3 presents the Kalman filter model used in this study.

$$LFDI_t = \alpha_0 + \alpha_{1,t} LFD + \varepsilon_t \quad (2)$$

$$\alpha_{i,t} = \alpha_{i,t-1} + v_{i,t} \quad (3)$$

where $\alpha_{1,t}$ indicates the financial development elasticity of FDI that implies percentage change in FDI in response to a one percentage change in financial development.

4. Empirical Results

4.1. Unit Root Tests

It is employed ADF, PP and Ng-Perron test to examine stationary properties of the series. The results of unit root test results are shown by Table 1.

Table 1. Unit Root Test Results

ADF Test Results			
LFDI	-2.73	Δ LFDI	-5.82
LCRD	-1.82	Δ LCRD	-3.51
LNPLs	-1.71	Δ LNPLs	-4.42
LSMCAP	-2.77	Δ LSMCAP	-6.79
PP Test Results			

LFDI	-2.73	Δ LFDI	-6.39
LCRD	-1.38	Δ LCRD	-3.48
LNPLs	-1.84	Δ LNPLs	-4.42
LSMCAP	-2.65	Δ LSMCAP	-7.97
ADF and PP Critical Values (Level): %5= -3.59			
ADF and PP Critical Values (First Differenced): %5=-2.98			
Ng-Perron Test Results			
	MZa	MZt	MSB
LFDI	-9.80	-2.18	0.22
LCRD	-4.73	-1.51	0.32
LNPLs	-5.08	-1.58	0.31
LSMCAP	-9.20	-2.05	0.22
Ng-Peron critical values at %5 significance for MZa, MZt, MSB and MPT 17.30, -2.91, 0.17, 5.48 respectively.			
	MZa	MZt	MSB
Δ LFDI	-12.58	-2.50	0.20
Δ LCRD	-11.69	-2.41	0.21
Δ LNPLs	-12.79	-2.52	0.20
Δ LSMCAP	-12.02	-2.45	0.20
Ng-Peron critical values at %5 significance for MZa, MZt, MSB and MPT -8.10, -1.98, -0.23, 3.17 respectively.			

Both ADF and PP test results show that the null hypothesis of the series is not stationary cannot be rejected. The used all series are found to be integrated of order I(1) for both ADF and PP test results. Ng-Perron test results provide the findings of ADF and PP test. More specifically, the calculated t statistics for LFDI, LCRD, LNPLs and LSMCAP are less than the critical values for MZa and MZt tests and greater than the critical values for MSB and MPT tests suggesting the all series are not stationary in their level forms. For the first difference of the series, the estimated t statistic for the all series are greater than the critical values according to MZa and MZt tests and are less than the critical values according to MSB and MPT tests. In sum, unit root test results indicate that the all series are stationary after differencing.

4.2. Bound Test

After stationary analysis, the study investigates co-integration relationship between FDI and financial development employing Bound test Pesaran et al. (2001). Table 2 presents the Bound test results.

Table 2: Bound Test Results

K	F statistics	Critical Values at %5 Significance Level	
		Bottom Bound	Upper Bound
3	7.55	3.38	4.23

K is the number of independent variable in equation (1).

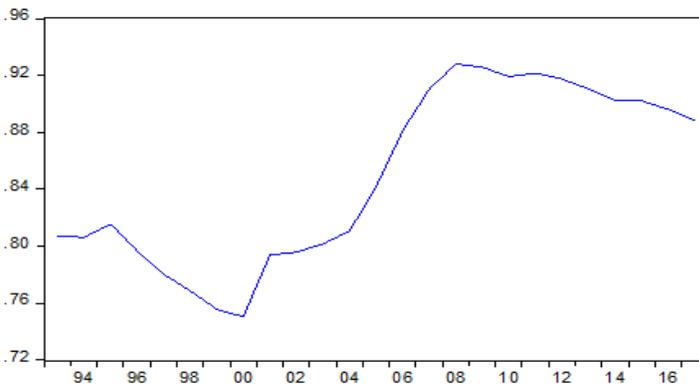
Critical values are obtained from Table CI(iv) at Pesaran et al. (2001: 301).

For F test, the null hypothesis is that there is no co-integration relationship between the series, and the null hypothesis cannot be rejected in case the estimated F statistic is lower than the bottom bound of critical values. Otherwise, the null hypothesis can be rejected if the estimated F statistic is higher than the upper critical level (Karagöl et al., 2007: 76). The Bound test results in Table 2 show that F test is higher than the upper critical level suggesting the existence of co-integration relationship between FDI and financial development indicators.

4.3. Dynamic Approach

Kalman filter approach is employed to capture time-varying relationship between FDI and financial development indicators. The time-varying parameter (TVP) estimates for CRD, NPLs and SMCAP are presented in Figure 1, Figure 2 and Figure 3, respectively. TVP estimate results for the all variables are also statistically significant.

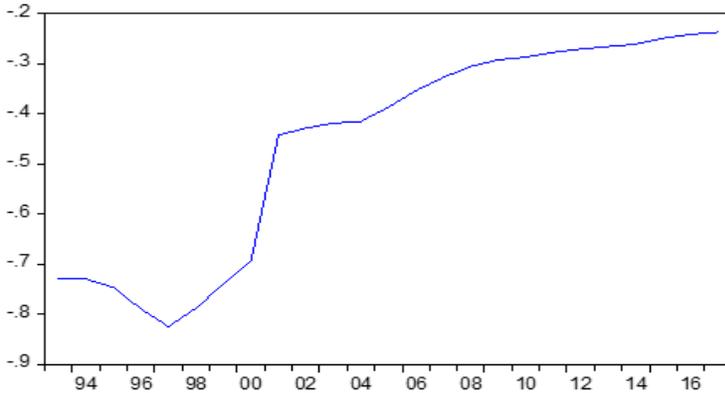
Figure 1: Time-Varying Parameter (TVP) Estimates Result for CRD



The TVP results in Figure 1 suggest that the ratio of credit to private sector to GDP has a positive impact on FDI inflows in Turkey for the period of 1993-2017. The effect of CRD on FDI generally decreased until the year of 2000 and increased between 2001 and 2008. The effects of CRD

on FDI begins to decrease during the time of global financial crisis, and this decreased effects occurred between 2008 and 2017. The estimated Kalman filter technique reveals that the global financial crisis leads to lower positive effects of CRD on FDI. However, the change in the size of the TVP is 0.04 that indicates this decreasing effect is small.

Figure 2: Time-Varying Parameter (TVP) Estimates Result for NPLs



According to the TVP results in Figure 2, suggest a negative impact of the ratio of non-performing loans to total loans (NPLs) on FDI inflows in the analyzed period. This expected sign indicates that the deterioration of the asset quality of the banking sector is negatively associated with FDI inflows to Turkey over the period 1993-2017. The TVP results also suggest that the effects of NPLs on FDI slowed down for the past decade. However, the change in the magnitude of the TVP is found to be 0.7 times fewer for the period of 2008-2017 than before the global financial crisis.

Figure 3: Time-Varying Parameter (TVP) Estimates Result for SMCAP

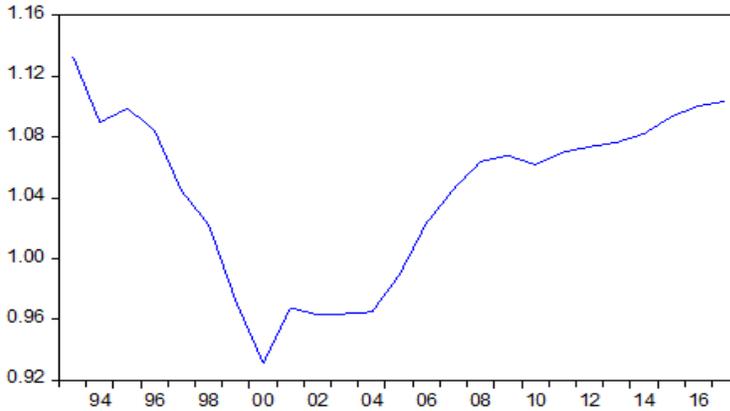


Figure 3 show that the stock market capitalization to GDP ratio (SMCAP) has a strong positive effect on FDI inflows to Turkey in the analyzed period. The effect of SMCAP on FDI decreased in the period of 1993-2000 and increased between 2000 and 2001. Following stable course between 2001 and 2004, the effect of SMCAP on FDI increased until the year of 2009. After the effect slightly decreased in the period of 2009-2010, it continued to increase until this time.

5. Conclusion

This study explores the linkage between FDI inflows and foreign direct investment over the period of 1990-2017 in Turkey. The financial development is considered both the banking sector development and stock market development in the empirical analysis. Regarding financial development indicators, the ratio of private credit to GDP and the ratio of non-performing loans (gross) to total loans are used as measure of banking sector development, while the stock market capitalization to GDP is employed to capture stock market development. This study is expected to contribute to the related literature for Turkey by employing the time-varying parameter (TVP) estimated by Kalman filter technique. Besides, the current study considers the asset quality of the banking sector as a measure of banking sector development that may affects FDI inflows.

In the empirical analysis, Bound test developed by Peseran et al (2001) is employed in order to investigate co-integration relationship between FDI and financial development indicators. The Bound test results indicate the

existence of the co-integration relationship between FDI and for all used financial development indicators. After co-integration analysis, Kalman filter approach is applied to determine the time-varying effects of financial development on FDI. The time-varying parameter (TVP) results suggest that the global financial crisis affects the dynamic relationship between financial development and FDI. More specifically, the positive effects of the credit ratio on FDI decrease the period of 2008-2017, while the positive effects of the stock market capitalization ratio on FDI increase after the global financial crisis. On the other hand, Kalman filter results suggest that the non-performing loans ratio affects FDI inflows negatively, and this negative effect becomes more stable after the global financial crisis. TVP results indicate that FDI inflows are more responsive to the stock market development and to the asset quality of the banking sector after the global financial crisis.

This paper concludes that well-developed financial system ensures to attract more FDI inflows in Turkey. The findings of this study reveal that policymakers aimed at increasing FDI should consider the quality of the loan portfolio of the banks' balance sheet as well as the quantity of the loans to private sector. Lowering non-performing loans will provide to decrease ex-post credit risk and hence the fragility of the financial system. In addition, stock market regulations should be arranged to increase of attractiveness of FDI, such as implementations regulations to ensure both domestic and foreign investors to be protected. Future studies may consider by using more financial development indicators to examine the effects of financial development on FDI inflows in Turkey. Besides, it may be helpful to investigate the linkage between FDI inflows and economic activity, such as economic growth, unemployment, etc., considering the role of financial development.

References

- Adeniyi, O. and Omisakin, O. (2012). Foreign Direct Investment, Economic Growth and Financial Sector Development in Small Open Developing Economies. *Economic Analysis & Policy*, Vol. 42(1), 105-127.
- Adjasi, C.K.D., Abor, J., Osei, K.A., and Nyavor-Foli, E.E. (2012). FDI and Economic Activity in Africa: The Role of Local Financial Markets. *Thunderbird International Business Review*, 54(4), 429-439.

- Agbloyor, E.K., Abor, J., Komla, C., Adjasi, D., Yawson, A. (2013). Exploring the causality links between financial markets and foreign direct investment in Africa. *Research in International Business and Finance*, 28, 118-134.
- Alfaro, L., Chanda, A., Kalemli-Ozcan, S., Sayek, S. (2004). FDI and Economic Growth: The Role of Local Financial Markets. *Journal of International Economics*, 64, 89-112.
- Ang, J.B. (2010). Financial Development and The FDI-Growth Nexus: The Malaysian Experience. *Applied Economics*, 41, 1595–1601.
- Atılgan, E., Kılıç, D. and Ertuğrul, H.M. (2016). The Dynamic Relationship Between Health Expenditure and Economic Growth: Is the Health-Led Growth Hypothesis Valid for Turkey?. *The European Journal of Health Economics*, 1-8.
- Bayar, Y., Şaşmaz, M.Ü. and Öztürk, Ö.F. (2017). Financial Development and Tax Revenues: Evidence from OECD Countries. *Eurasian Academy of Sciences Eurasian Business & Economics Journal*, 12, 51-63.
- Bayar, Y. and Gavriletea, M.D. (2018). Foreign Direct Investment Inflows and Financial Development in Central and Eastern European Union Countries: A Panel Cointegration and Causality. *International Journal of Financial Studies*, 6(55), 1-13.
- Bayar, Y. and Ozturk, O.F.(2016). Interaction Between Financial Development and Foreign Direct Investment Inflows in Turkey. *Scientific Cooperation for the Future in the Social Sciences Usak International Conference-2016*, 35-42.
- Boyd, J.H., Levine, R. And Smith, B.D. (2011). The Impact of Inflation on Financial Sector Performance. *Journal of Monetary Economics*, 47, 221-248.
- Choong, C.K., Yusop, Z., and Soo, S.C. (2004). Foreign Direct Investment, Economic Growth, and Financial Sector Development: A Comparative Analysis. *ASEAN Economic Bulletin*, 21(3), 278-289.
- Claessens, S., Klingebiel, D., Schmukler, S.L. (2001). FDI and Stock Market Development: Complements or Substitutes?. *World Bank Working Paper*, 1-37.
- Çelik, İ.E. (2019). Finansal Gelişmişlik Seviyesinin Doğrudan Yabancı Yatırımlar Üzerindeki Rolü: Kırılğan Beşli Ülkeleri Açısından Bir Değerlendirme. *Marmara Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 2149-1844, 65-82.

- Desbordes, R. and Wei, S.J. (2014). The Effects of Financial Development on Foreign Direct Investment. *World Bank Policy Research Working Paper*, 7065, 1-50.
- Desbordes, R. and Wei, S.J. (2017). The Effects of Financial Development on Foreign Direct Investment. *NBER Working Paper*, 23309, 1-43.
- Dutta, N. and Roy, S. (2011). Foreign Direct Investment, Financial Development and Political Risks. *The Journal of Developing Areas*, 44(2), 303-327.
- Fauzel, S. (2016). Modeling the Relationship between FDI and Financial Development in Small Island Economies: A PVAR Approach. *Theoretical Economics Letters*, 6, 367-375.
- Ghosh, A. (2015). Banking-Industry Specific and Regional Economic Determinants of Non-Performing Loans: Evidence from US States. *Journal of Financial Stability*, 20, 93-104.
- Hermes, N. and Lensink, R. (2003). Foreign Direct Investment, Financial Development and Economic Growth. *Journal of Development Studies*, 40:1, 142-163.
- Karagöl, E., Erbaykal, E. And Ertuğrul, H.M. (2007). Türkiye’de Ekonomik Büyüme ile Elektrik Tüketimi İlişkisi: Sınır Testi Yaklaşımı. *Doğuş Üniversitesi Dergisi*, 8(1), 72-80.
- Kelly, R. (2016). Does Financial Sector Development Enhance the Relationship between FDI and Economic Growth? A Comparative Study of East African Countries. *Journal of Reviews on Global Economics*, 5, 145-153.
- Khemraj, T., and Pasha, S. (2009). The Determinants of Non-Performing Loans: An Econometric Case Study of Guyana. *Munich Personal RePEc Archive*, 53128, 1-25.
- Kinda, T. (2009). Increasing Private Capital Flows To Developing Countries: The Role of Physical and Financial Infrastructure. *MPRA*, 19163, 1-40.
- Korgaonkar, C. (2012). Analysis of the impact of financial development on Foreign Direct Investment: A Data Mining Approach. *Journal of Economics and Sustainable Development*, 3(6), 70-78.
- Levine, R. (1997). Financial Development and Economic Growth: Views and Agenda. *Journal of Economic Literature*, 35, 688-726.
- Louzis, D.P., Vouldis, A.T., and Metaxas, V.L. (2012). Macroeconomic and Bank-Specific Determinants of Non-Performing Loans in

- Greece: A Comparative Study of Mortgage, Business and Consumer Loan Portfolios. *Journal of Banking & Finance*, 36, 1012-1027.
- Narayan, P. K. and Narayan, S. (2005). Estimating Income and Price Elasticities of Imports for Fiji in A Cointegration Framework. *Economic Modelling*, 22, 423-438.
- Nasser, O.M.A. and Gomez, X.G (2009). Do Well-Functioning Financial Systems Affect the FDI Flows to Latin America. *International Research Journal of Finance and Economics*, 29, 60-75.
- Nkusu, M. (2011), Nonperforming Loans and Macrofinancial Vulnerabilities in Advanced Economies. *International Monetary Fund*, 11(161), 1-27.
- Nwosa, P.I. and Emma-Ebere, O.O. (2017). The Impact of Financial Development on Foreign Direct Investment in Nigeria. *Journal of Management and Social Sciences*, 6(1), 181-197.
- Pesaran, M. H, Shin, Y. and SMITH, R.J (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16, 289-326.
- Reinhart, C.M., and Rogoff, K.S. (2010). From Financial Crash to Debt Crisis. *NBER Working Paper*, 15795, 1-46.
- Sahin, S. And Ege, I.(2015). Financial Development and FDI in Greece and Neighbouring Countries: A Panel Data Analysis. *Procedia Economics and Finance*, 24, 583-588.
- Sahin, S. (2018). Foreign Direct Investment, International Trade and Financial Development in BRICS-T Countries: A Bootstrap Panel Causality Analysis. *Business and Economics Research Journal*, 9(2), 301-316.
- Shah, M.H. (2016). Financial Development and Foreign Direct Investment: The Case of Middle East and North African (MENA) Developing Nations. *MPRA Working Paper*, 1-18.
- Soumare, I., Tchana, F.T. (2011). Causality between FDI and Financial Market Development: Evidence from Emerging Markets. *MPRA Working Paper*, 31328, 1-36.
- United Nations Conference on Trade and Development (UNCTAD) (2009). World Investment Report 2009: Transnational Corporations, Agricultural Production and Development. *United Nations Publication*, 1-277.

United Nations Conference on Trade and Development (UNCTAD) (2010). World Investment Report 2010: Investing in a Low-Carbon Economy. *United Nations Publication*, 1-184.

Varnamkhasti, J.G., Mehregan, N. (2014). Financial Development as a Key Determinant of FDI Inflow to Developing Countries. *Int. J. Humanities*, 21(3), 17-43.

Zakaria, Z. (2007). The Causality Relationship Between Financial Development and Foreign Direct Investment. *Jurnal Kemanusiaan bil.10*, 1-23.

AN EMPIRICAL STUDY ON FOREIGN TRADE AND EXCHANGE RATE ANALYSIS IN TURKEY: COINTEGRATION AND CAUSALITY ANALYSES

Metin Sağlam & Sümeyye Uzun***

Introduction

Countries have become more interdependent with the globalization process due to the increase in their economic relations. Over time, the interdependence of the countries started to deepen particularly in terms of economy. Looking from an economic point of view, the interdependence mentioned above could be observed in foreign trade operations. Hence, the deterioration of the economy in one of the trade partners due to economic or political crises could have a negative effect on the foreign trade of other trade partners. On the other hand, the foreign exchange policies implemented by countries also have a significant impact on foreign trade. For example, with the collapse of the Bretton Woods System in the 1970s, the abandonment of the fixed exchange rate regime and the transition to the floating exchange rate regime led to instability in exchange rates. This affected foreign volume and the status of foreign trade components in many countries. In particular, the problem of foreign dependency on production observed in developing countries increased the negative effects of fluctuations in the exchange rate on economic growth through foreign trade. During the periods in which the exchange rate declined in these countries, the increasing costs in export products and decreasing costs of import products led to the emerging of foreign trade deficits or the deepening of the existing deficits.

The fact that the production is dependent on exported intermediate goods and raw materials in Turkey, which is listed in the category of developing countries, has been perceived as a significant structural problem. Despite the export-based growth model adopted since the 1980s, the national economy has faced chronic foreign trade deficits due to the foreign dependency problem in production and accordingly in exportation. This situation caused the economy to be affected by the fluctuations in the exchange rate. During the periods when the exchange rate increased, the increase in the prices of imported intermediate goods and raw material led to an increase in production costs.

In the light of the explanations made above, the relationship between the foreign trade and exchange rate will be examined in terms of the economy of Turkey in this study. The first part of the study will present some of the national and international studies on the relationship between

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foreign trade and exchange in terms of Turkey and other countries. In the second part, the information will be provided on the data used within the scope of the analysis performed in the study as well as its methodology. In the third section, the findings obtained from the analysis will be evaluated. The study will be finalized with the conclusion part.

1. Literature

Arize (1994) analyzed the relationship between the real effective exchange rate and foreign trade balance for nine Asian countries using the data belonging to the 1973Q1-1991Q1 period. The study, in which cointegration analyses were conducted, revealed that in the long run, the relationship between the variables was positive and statistically significant.

Zeng (1999) investigated the size of the relationship between the exchange rate and foreign trade in the Chinese economy using the data belonging to 1986:01-1997:01 period. In the study where the Johansen cointegration test was used, it was concluded that there was a long-term relationship between foreign trade and exchange rate.

Baharumshah (2001) analyzed the effects of the changes in the exchange rate on the foreign trades of Thailand and Malaysia with Japan and the United States using the data belonging to the 1980:01-1996:04 period. The author, who used the Johansen cointegration test in his study, found that the real exchange rate had a significant effect on the foreign trade balance.

Zengin (2001) examined the relationship between real exchange rate and foreign trade prices in terms of Turkey using the data belonging to 1994:01-2000:2 period. Using the VAR model as the method, the author identified a causality from the export and import price index towards the real exchange rate. Moreover, the fact that the real exchange rate is effective on the import price index was another finding of the study.

Acaravcı and Ozturk (2002) researched the effects of the changes in the exchange rates on exports in the Turkish economy by using that data belonging to 1989:01-2002:08 period. As a result of the study where the Johansen cointegration test was used as a method, it was found that the uncertainty in the exchange rate affected the exports demand negatively.

Liew et al. (2003) examined the effect of fluctuations in exchange rates on foreign trade between ASEAN 5 countries and Japan. Using the data for the period 1986-1999, the authors concluded that the fluctuations in the exchange rate had a significant impact on the foreign trade balance.

In his study, Onafowora (2003) analyzed the relationship between the real exchange rate and the foreign trade of Thailand, Malaysia and Indonesia with the USA and Japan. Working with data belonging to the

1980:01-2001:04 period, the author used VECM as the method. The results of the analysis revealed that there was a long-term relationship between real foreign trade and the real exchange rate in the countries that were examined.

Hacker and Hatemi-J (2004) investigated the effect of the exchange rate on the foreign trade of the Czech Republic, Poland and Hungary with Germany. In the study where data from 1993:08-2002:07 period was used, VECM was used as the method. The findings obtained showed that the decrease in exchange rates had a negative effect on foreign trade in the short term and a positive effect in the long term.

Saatçioğlu and Karaca (2004) examined the relationship between exchange rate uncertainty and exports using quarterly data for the 1981-2001 period in terms of Turkey. The authors used the Johansen cointegration test and error correction model as the method. The results of the analysis indicated that the exchange rate uncertainty had a negative effect on exports in the short and long term.

Karagöz and Dogan (2005), in their study on the relationship between foreign trade and exchange rate in Turkey, performed regression analyses on the data belonging to the 1995:01-2004:06 period. As a result of the study, it was found that there was no long term relationship between exports, imports and the real exchange rate.

Yapraklı (2006) examined the relationship between the real exchange rate and foreign trade prices in Turkey using the data belonging to the 1982:01: 2004:04 period. As a result of the study where the cointegration and error correction models were used, it was found that there was a one-way and negative causality from imports to the real exchange rate in the long run. In addition, the finding that there was a negative causality from exports to real exchange rates in the long term was another result obtained in the study.

Tarı and Yıldırım (2009) analyzed the effect of uncertainty in the exchange rate on exports in terms of Turkey using the data belonging to the 1989:Q1-2007:Q3 period. The results of the study, in which the Johansen cointegration test and error correction models were used, showed that the uncertainties in the exchange rate did not have any impact on exports in the short term, but they affected exports negatively in the long term.

Using the quarterly data for the 1989-2005 period, Vergil and Erdogan (2009) investigated the relationship between the exchange rate and foreign trade in Turkey. Using the ARDL bounds testing approach as the method, the authors concluded that there was a long-term relationship between the exchange rate and foreign trade.

Aliyu (2010) examined the effects of the fluctuations in the exchange rate on the exports in the Nigerian economy using the data of the 1986Q1-2006Q4 period. The findings obtained in the study where the VECM method was used, confirmed the existence of a long-term stable relationship between exports and exchange rates.

Alptekin and Uysal (2012) analyzed the relationship between the real exchange rate and trade balance in the Turkish economy. Using the ARDL method on the data belonging to 1992:01-2009:01 period, the authors found that the real exchange rate had a significant effect on the foreign trade balance.

In their study, Ho and Karim (2012) investigated the relationship between exchange rates and foreign trade for 9 Asian countries. In the study, regression analysis was performed on the data belonging to the 1980-2009 period. The results showed that the exchange rate was an important factor in foreign trade.

Karaçor and Gerçeker (2012) analyzed the relationship between the exchange rate and foreign trade in Turkey for the 2003:01-2010:12 period. As a result of the study in which the VAR model was used, there was a long-term relationship between the real exchange rate and foreign trade volume. In addition, it was concluded that there was a bidirectional causality between the real exchange rate and the foreign trade volume in the short term, and there was a one-way causality from the real exchange rate towards the foreign trade volume in the long term.

Yıldırım and Kesikoğlu (2012) analyzed the relationship between exports, imports and the real exchange rate in Turkey using the data from the 2003:01-2011:09 period. Having used the bootstrap and corrected the causality test as the method, the authors did not find any relationship between the exchange rate and exports or imports.

Using the quarterly data for the period 1987-2010, Altıntaş (2013) examined the relationship between exports and the real exchange rate in Turkey. As a result of the study where the ARDL bound testing approach and Granger causality tests were used as the method, it was concluded that the increase in the real exchange rate in the long term affected exports negatively.

Kızıldere et al. (2013) investigated the effects of the changes in the exchange rate on exports and imports in 18 developing countries with the help of the ARDL model. Having used the data from the 1994-2010 period in their studies, the authors found that the effect of the changes in the exchange rate on exports was negative in the short term and positive in the long term. They also concluded that the effect of the exchange rate on imports was statistically insignificant in the countries analyzed.

Tapsin and Karabulut (2013) investigated the causality relationship of the real exchange rate, exports and imports in Turkey for the 1980-2011 period. The findings obtained from the study using the Toda-Yamamoto causality test showed that there was a causality relationship from imports to exports and from real exchange rate to imports.

Değer and Demir (2015) investigated the relationship between the foreign trade volume and real effective exchange rate using the data of the Turkish economy belonging to the 1997:01-2004:12 period. As a result of the study in which cointegration and causality analyzes were used, the cointegration relationship between the variables was confirmed and it was concluded that the reel exchange rate was the Granger cause of the foreign trade.

Kesgingöz (2015) analyzed the impact of fluctuations in exchange rates on the foreign trade between Turkey and Kyrgyzstan. As a result of the study, in which the VAR model was used on the monthly data for the period of 1993-2014, the findings showed that fluctuations in the exchange rate did not have a significant effect on the exports and imports of the two countries.

In their study, Aftab et al. (2015) investigated the effect of fluctuations in the exchange rate on foreign trade between the European Union and Malaysia. The results obtained in the study where the ARDL bounds test was used on the monthly data of 2000-2013, showed that the effects of fluctuations in the exchange rate on foreign trade in the short term were quite significant.

Ganiyev (2016) investigated the relationship between exchange rate and foreign trade in the economies of Kazakhstan and Kyrgyzstan using the ARDL method. In the study, data of the 2002Q1-2014Q4 period were used for the Kazakhstan economy and data of the 2000Q1-20014Q4 period were used for the Kyrgyzstan economy. Findings obtained from the study showed that imports affected exports in Kyrgyzstan. Moreover, the impact of devaluations on imports in Kazakhstan was negative both in the short and long terms.

Oncel and Inal (2016) used the data from the 2000:01-2015:12 period to analyze the relationship between real exchange rate and the trade balance in Turkey. The findings obtained in the study where the ARDL bounds testing approach was used confirmed the cointegration relationship between the variables and verified the real exchange rate as the cause of the foreign trade balance.

Hunegnaw and Kim (2017) analyzed the effects of the exchange rate on the foreign trade balance in 10 East African countries with data from the 1970-2013 period. As a result of the study where the ARDL bounds testing

approach was used, it was proved that the real exchange rate had a positive effect on the foreign trade balance of the four countries.

Meniago and Eita (2017) investigated the effect of exchange rate volatility on foreign trade for 39 African countries. Using the panel data analysis on the data for the 1995-2012 period, the authors reported that the volatility in the exchange rate had a negative effect on exports. In addition, findings indicating the existence of a relationship between exchange rate volatility and imports were obtained.

Barak and Naimoğlu (2018) analyzed the relationship between foreign trade and real exchange rates in the countries in the Fragile Five using the data from the 2000-2014 period. Having used the panel data analysis in their studies, the authors found that the relationship between real exchange rate and foreign trade was statistically significant and negative in the short and long term.

Barışık and Dursun (2018) examined the relationship between exchange rates and international terms of trade in 21 developing countries. In the study where annual data from the 2000-2016 period were used, the relationship between the variables was investigated through the panel data analysis. Findings obtained from the study showed that the international terms of trade affected the real exchange rate both in the short and long terms.

Bahmani-Oskooee and Gelan (2018) analyzed the effect of exchange rate changes on foreign trade in terms of 12 African countries. In the study, the bounds testing approach was used as the method. The results of the analysis revealed that the exchange rate changes in most of the countries analyzed were effective on foreign trade in the short term, and fluctuations in the exchange rate affected the exports of five countries and imports of one country in the long term.

Using the data from 1989:01-2018:06 period, Uslu (2018) explored the impact of the exchange rate on the exports and imports in Turkey. As a result of the study, where the Maki (2012) testing for panel cointegration testing for multiple structural breaks and Granger causality test was used, it was found that the effect of the increases in the exchange rate on exports was positive and their effect on imports was negative in the long term. Another finding obtained in the study was that the causal relationship between exports and imports was bidirectional.

Jadoon and Guang (2019) examined the effect of changes in the exchange rate on the foreign trade balance in terms of the Pakistani economy. In the study, the relationships between variables were analyzed using data from the 1971-2016 period and the ARDL bounds testing approach. According to the results obtained from the study, the effect of

the exchange rate on the foreign trade balance was positive and significant in both the short and the long terms.

In his study, Gürtler (2019) analyzed the exchange rate and foreign trade balance in the Czech Republic with quarterly data belonging to the 2000-2014 period. Having included the ARDL bounds testing approach in the study as the method, the author reported that the real effective exchange rate had a very strong and negative effect on foreign trade in the short term; however, this effect turned into positive in the long term.

Ozer and Kutlu (2019) investigated the relationship between the exchange rate and foreign trade balance in Turkey using the VAR method in their study. As a result of the study in which the relationship between the variables was analyzed with the data from the 2003:01-2019:01 period, it was found that the real exchange rate was effective on the foreign trade balance.

2. Data Set and Method

2.1. Data Set

In the study, monthly data belonging to the 2003:01-2019:11 were used to analyze the relationship between exports, imports and real exchange rates. Within the scope of the study, the export unit value index variable was included in the analysis for representing exports, import unit value index variable was included for representing imports and CPI-based real effective exchange rate index was included as the indicator for the real exchange rate. Information on variables was given in Table 1.

Table 1: Information About Variables

Variable	Description	Source
LEX_SA	Export Unit Value Index	TurkStat
LIM_SA	Import Unit Value Index	TurkStat
LRER_SA	Real Effective Exchange Rate	EDDS

Turkey Statistical Institute (TurkStat) data base publishes the export unit index and import unit index data taking 2010 as the base year (2010=100). However, real effective exchange rate data were obtained from the Electronic Data Distribution System (EDDS) database taking 2003 as the base year (2003=100). To ensure that the base years of the series were the same year, the data of the export unit value index and the import unit value index were converted to the base year of 2003 and the series taking 2003 as the base year were used in the analysis. Furthermore, the fact that the series used in the analysis were monthly series led to the problem of seasonality. For this reason, the seasonality of the series was

treated using the moving average method and they were used in the study in the treated form. In addition, to observe the changes in the series more clearly, the analysis was made over the logarithmic values of the series.

2.2. Method

In the study, the relationship between variables was examined through time series analysis. Within the scope of time series analyses, Augmented Dickey-Fuller (ADF) unit root test, Johansen cointegration test and Granger causality test was used.

2.2.1. ADF Unit Root Test

One of the problems frequently encountered in studies using time series analysis is that the series are not stationary. The results obtained in studies with non-stationary series may be insignificant due to the false regression problem or the significant results may be misleading. For this reason, in studies where time-series analyzes are used, firstly stationarity tests should be performed on the series (Gujarati, 2016: 320).

Stationarity in the time series means that the series follows a horizontal course over time, that is, there is no continuous increase or decrease in the series. In other words, the concept of stationarity describes the situation that the series used in the analysis have a fixed variance and a fixed average (Sevüktekin and Çınar, 2017: 239).

One of the methods frequently used within the scope of stationarity testing of time series is unit root testing. In this context, critical values of t statistics were determined as a result of Monte-Carlo simulation studies by Dickey-Fuller (1979) and these values were tabulated. This test, which is known in the literature as tau (τ) statistics or Dickey-Fuller test, is performed around three models being pure random walk, random walk with drift, and random walk with drift and deterministic trend (Gujarati and Porter, 2018: 755).

Dickey and Fuller then added the lag values of the variable dependent on the equations they used in the Dickey-Fuller unit root test, and performed the stationarity analysis of the series according to this method called the augmented Dickey-Fuller (ADF). Concerning the analysis of the ADF stationarity test, three models were used being the model without drift, the model with drift, and the model with drift and deterministic trend (Tarı, 2018: 390). The equations for these models are given below (Sevüktekin and Çınar, 2017: 336):

$$\Delta Y_t = \alpha_1 Y_{t-1} + \sum_{i=1}^n \alpha_i \Delta Y_{t-i} + \varepsilon_t \quad (1)$$

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \sum_{i=1}^n \alpha_i \Delta Y_{t-i} + \varepsilon_t \quad (2)$$

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \alpha_2 \text{trend} + \sum_{i=1}^n \alpha_i \Delta Y_{t-i} + \varepsilon_t \quad (3)$$

2.2.2. Johansen Cointegration Test

Cointegration is performed to determine the long-term relationship between non-stationary variables. The first studies for cointegration tests were carried out by Engle-Granger (1987) (Kutlar, 2017: 234).

The Engle-Granger cointegration test based on the least squares method uses a single equation. This causes certain problems on selecting the variable to use its equality. Due to these uncertainties regarding variables, a new cointegration test was developed by Johansen (1988). In the Johansen cointegration test, which is based on the most similarity method, all cointegration relations that may arise between the variables are taken into account (Tari, 2018: 425-426).

The Johansen cointegration test is a test, which is based on the stationarity of the series at the same level as well as the VAR analysis. For this reason, tests are carried out to determine the stability and reliability of the VAR model, which is built after the series are determined to be stationary at the same level. Another feature of the Johansen cointegration test is that the cointegration relationship does not change according to the dependent variable. In other words, in the Johansen cointegration test, when analyzing the cointegration relationship, it is not important which variable is determined as the dependent variable since the cointegration relationship between all series used in the analysis is considered (Kocabiyik, 2016: 44).

2.2.3. Granger Causality Test

In the economy literature, the causality relationship between the variables is very important as well as the direction of this causality. The causality relationship between the variables is examined with the help of causality tests. Although stationarity is an important factor in the causality tests performed by Granger (1969), the state of being stationary at the same level or different levels would differ according to the causality tests (Tari, 2018: 436-437).

In the Granger causality test developed by Granger (1979), variables must be stationary at the same level. In addition, the number of lagged terms included in the model affects the causality relationship significantly. Various information criteria are used to determine the number of lagged terms to be included in the model (Gujarati and Porter, 2018: 654).

The equations regarding the Granger causality test used in the study are given below. Equations are derived on the basis of Granger (1969).

$$\text{LEX_SA}_t = \sum_{i=1}^m \alpha_i \text{LEX_SA}_{t-i} + \sum_{i=1}^m \beta_i \text{LIM_SA}_{t-i} + \sum_{i=1}^m \delta_i \text{LRER_SA}_{t-i} + \varepsilon_{1t} \quad (4)$$

$$\text{LIM_SA}_t = \sum_{i=1}^m \theta_i \text{LIM_SA}_{t-i} + \sum_{i=1}^m \lambda_i \text{LEX_SA}_{t-i} + \sum_{i=1}^m \sigma_i \text{LRER_SA}_{t-i} + \varepsilon_{2t} \quad (5)$$

$$\text{LRER_SA}_{t-i} = \sum_{i=1}^m \phi_i \text{LRER_SA}_{t-i} + \sum_{i=1}^m \pi_i \text{LEX_SA}_{t-i} + \sum_{i=1}^m \varphi_i \text{LIM_SA}_{t-i} + \varepsilon_{3t} \quad (6)$$

3. Findings

3.1. ADF Unit Root Test Results

In the study, stationarity testing of variables was done with the help of the ADF unit root test. ADF unit root test results are given in Table 2:

Table 2: ADF Test Results

	The Model with Drift		The Model with Drift and Deterministic Trend		The Model without Drift	
	t-ist.	Prob.*	t-ist.	Prob.*	t-ist.	Prob.*
LEX-SA	-2.584886	0.0978	-2.187897	0.4933	0.545177	0.8331
LIM_SA	-2.509096	0.1148	-2.271090	0.4473	0.281643	0.7666
LRER_SA	-1.007558	0.7506	-2.799597	0.1992	-0.393545	0.5411
D(LEX-SA)	-8.588892	0.0000	-8.727212	0.0000	-8.581952	0.0000
D(LIM_SA)	-4.894195	0.0001	-5.013342	0.0003	-4.894181	0.0000
D(LRER_SA)	-11.45480	0.0000	-11.64136	0.0000	-11.47419	0.0000

For a series to be stationary in the ADF unit root test, the t-statistic must be negative and the probability value must be 1%, 5% or less than 10% significance level. When Table 2 is examined; it is seen that all three variables examined are not stationary in their level values for the model with drift, the model with drift and deterministic trend and model without

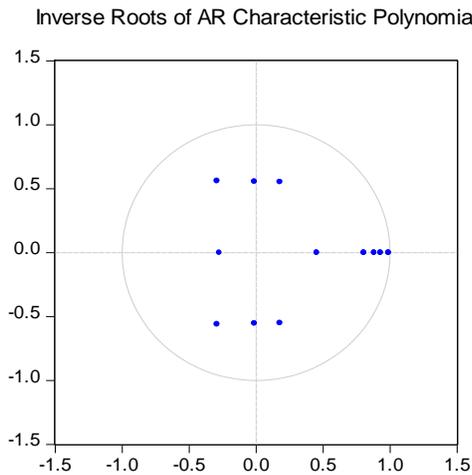
drift in terms of the 5% significance level. However, when the first difference of the series belonging to the variables is considered, it is seen that it becomes stationary in terms of all three models. In this case, it can be said that the series are stationary in their first differences; that is they are $I(1)$.

3.2. Johansen Cointegration Test Results

Since the Johansen cointegration test is based on the VAR model, the stability, reliability and stationarity of the VAR model that was built should be determined initially.

AR polynomial characteristic roots are used to determine the stationarity in the VAR model. Information on AR roots is given in Table 3. The fact that the built VAR model is non-stationary, that is, it contains unit roots depends on the absolute value of AR roots to be greater than 1. In this case, if the model contains the unit root, AR roots must be outside the unit circle. However, when Table 3 is analyzed, it is seen that the AR roots related to the VAR model are within the unit circle. Therefore, it can be concluded that the VAR model is stationary and stable.

Table 3: AR Polynomial Characteristic Roots



The reliability of the VAR model depends on the absence of autocorrelation. This is because the autocorrelation problem causes the t , F test statistics and R^2 to be greater. In this case, the results obtained from these tests could be misleading (Yavuz, 2009: 126). In line with these explanations, it should be determined whether the VAR model contains autocorrelation problems. In the study, the LM test was performed to determine the problem of autocorrelation and the test results are given in Table 4. When the test results were analyzed, it was determined that the probability values were greater than 0.05 at 5% significance level in 6 lags.

This shows that the model does not contain autocorrelation problems; that is, it is reliable.

Table 4: Autocorrelation (LM) Test Results

Lag Length	LM Test Statistics	Probability Value
1	1.718565	0.0825
2	0.943761	0.4866
3	1.290678	0.2395
4	0.624949	0.7760
5	0.711905	0.6981
6	0.666181	0.7397

After the VAR model was identified to be stationary and reliable in the study, Johansen cointegration analysis was performed. There are two test statistics, namely trace and eigenvalue, in the Johansen cointegration test and with the help of these statistics, it is decided whether the series are cointegrated. The results of the Johansen cointegration test are given in Table 5.

Table 5: Johansen Cointegration Test Results

Hypothesis	Trace Statistics	0.05 Critical Value	Hypothesis	Maximum Eigenvalue Statistics	0.05 Critical Value
$r = 0$	21.85097	29.79707	$r = 0$	14.74747	21.13162
$r \leq 1$	7.103497	15.49471	$r = 1$	6.784166	14.26460
$r \leq 2$	0.319331	3.841466	$r = 2$	0.319331	3.841466

The fact that trace and eigenvalue test statistics are greater than 5% critical value proves that there is a cointegration relationship between variables. However, when Table 5 is examined, it is seen that the trace and eigenvalue statistics are smaller than the 5% significance level. Therefore, the results of the Johansen cointegration test show that there is no cointegration relationship between LEX_SA, LIM_SA and LRER_SA variables.

3.3. Granger Causality Test Results

To determine the relationship between export unit index, import unit index and real effective exchange rate, the Granger causality test was conducted. However, to perform the Granger causality test, a VAR model must be built and the optimal lag lengths of the built model must be determined. In this context, optimal lag lengths are given in Table 6. When the information criteria given in Table 6 are examined, it is determined that the optimal lag length is 3. Therefore, the 3rd lag was used as the delay length in the VAR model built before the Granger causality test was performed.

Table 6: Optimal Lag Lengths

Lag	LogL	LR	FPE	AIC	SC	HQ
0	1385.484	NA	5.98e-11	-15.02700	-14.97458	-15.00576
1	1429.992	87.08099	4.06e-11	-15.41296	-15.20329*	-15.32798
2	1446.237	31.25386	3.76e-11	-15.49171	-15.12479	-15.34299*
3	1458.790	23.74131	3.61e-11*	-15.53033*	-15.00615	-15.31787
4	1463.782	9.278128	3.78e-11	-15.48676	-14.80533	-15.21057
5	1466.279	4.559601	4.06e-11	-15.41607	-14.57739	-15.07615
6	1474.771	15.23047	4.08e-11	-15.41055	-14.41462	-15.00689
7	1482.140	12.97579	4.16e-11	-15.39282	-14.23964	-14.92542
8	1485.388	5.613658	4.44e-11	-15.33030	-14.01987	-14.79917
9	1490.352	8.417256	4.64e-11	-15.28643	-13.81875	-14.69156
10	1496.238	9.789380	4.82e-11	-15.25259	-13.62765	-14.59398
11	1515.784	31.86783	4.31e-11	-15.36722	-13.58502	-14.64487
12	1531.640	25.33498*	4.01e-11	-15.44174	-13.50229	-14.65566
13	1541.864	16.00367	3.98e-11	-15.45505	-13.35835	-14.60523
14	1552.510	16.31543	3.93e-11	-15.47293	-13.21899	-14.55938
15	1556.597	6.130985	4.17e-11	-15.41954	-13.00833	-14.44225
16	1561.084	6.583086	4.41e-11	-15.37047	-12.80202	-14.32945
17	1566.506	7.780376	4.62e-11	-15.33159	-12.60588	-14.22683
18	1572.997	9.101198	4.79e-11	-15.30432	-12.42136	-14.13582

As the final phase within the scope of the analysis made in the study, Granger causality analysis was performed. The results of the Granger causality test are given in Table 7. Granger causality test results reveal that the LIHR_SA and LIM_SA are not the Granger cause of the LRER_SA variable. However, the LRER_SA variable is the Granger cause of both LEX_SA and LIM_SA variables. Moreover, there is a one-way causality from the LEX_SA variable towards the LIM_SA variable.

Table 7: Granger Causality Test Results

	Chi-Square	Prob.	Result
LRER_SA ⇒ LIM_SA	8.680345	0.0339	H ₀ is rejected at the 0.10 significance level.
LEX_SA ⇒ LIM_SA	48.81249	0.0000	H ₀ is rejected at the 0.10 significance level.
LIM_SA ⇒ LRER_SA	2.274467	(0.5174)	H ₀ cannot be rejected at the 0.10 significance level.
LEX_SA ⇒ LRER_SA	1.122526	0.7716	H ₀ cannot be rejected at the 0.10 significance level.
LIM_SA ⇒ LEX_SA	5.731419	0.1254	H ₀ cannot be rejected at the 0.10 significance level.
LRER_SA ⇒ LEX_SA	6.967435	0.0729	H ₀ is rejected at the 0.10 significance level.

Conclusion

In this study, the relationship between foreign trade and the real exchange rate in Turkey was examined using the monthly data of the

2003:01-2019:11 period. In the study, the export unit index variable and import unit index variable were used with the aim of representing the foreign trade of Turkey. The real exchange rate was represented by the real effective exchange rate variable taking 2003 as the base year.

In the analysis part of the study, the stationarity of the variables was tested initially and it was observed that the variables were I(1). Next, a VAR model was built in order to perform the Johansen cointegration analysis. LM test was performed with the aim of testing the stability of the built VAR model and AR characteristic root test was performed to test its stationarity. The tests showed that the VAR model was stable; that is, it did not contain autocorrelation problems and it was stationary. After the VAR model was found to be reliable, the Johansen cointegration test was applied. The test results revealed that the variables were not cointegrated. This showed that there was no long-term relationship between the variables.

In the study, in the third part of the analysis, the Granger causality test was performed. Granger causality test results revealed that the real exchange rate was the cause of the export unit index and the import unit index. Another finding reached as a result of the Granger causality test was that there was a one-way causality from the export unit index to the import unit index.

When the findings obtained from the study were evaluated collectively; the existence of the causality from the real exchange rate to exports and imports revealed that the exchange rate policies implemented in the country had a significant impact on foreign trade. In this context, it could be stated that the exchange rate policies and foreign trade policies implemented in Turkey could not be considered independent of each other. On the other hand, the identification of causality from export to import showed that export was an important determinant of import.

References

- ACARAVCI, A., ÖZTÜRK, İ. (2002), “Döviz Kurundaki Değişkenliğin Türkiye İhracatı Üzerine Etkisi: Ampirik Bir Çalışma”, *Review of Social, Economic, and Business Studies*, 2(2002), 197-206.
- AFTAB, M., AHMAD, R., ISMAİL, I., Ahmed, M. (2016), “Does Exchange Rate Uncertainty Matter in the Malaysia-E.U. Bilateral Trade? An Industry Level Investigation”, *Empirica*, 43(3), 461-485.
- ALİYU, S. U. R. (2010), “Exchange Rate Volatility and Export Trade in Nigeria: An Empirical Investigation”, *Applied Financial Economics*, 20(13), 1071-1084.

- ALPTEKİN, V., UYSAL, D. (2012), “Reel Döviz Kurunun Dış Ticaret Üzerindeki Uzun Dönemli Etkilerinin Analizi”, *Trakya Üniversitesi Sosyal Bilimler Dergisi*, 14(2), 1-22.
- ALTINTAŞ, H. (2013), “Türkiye’de Petrol Fiyatları, İhracat ve Reel Döviz Kuru İlişkisi: ARDL Sınır Testi Yaklaşımı ve Dinamik Nedensellik Analizi”, *Uluslararası Yönetim, İktisat ve İşletme Dergisi*, 9(19), 1-30.
- ARIZE, A. C. (1994), “Cointegration Test of A Long-run Relation between the Real Exchange Rate and Trade Balance”, *International Economic Journal*, 8(3), 1-9.
- BAHARUMSHAH, A. Z. (2001), “The Effect of Exchange Rate on Bilateral Trade Balance: New Evidence from Malaysia and Thailand”, *Asian Economic Journal*, 15(3), 291- 312
- BAHMANI-OSKOOEE, M., GELAN, A. (2018), “Exchange Rate Volatility and International Trade Performance: Evidence from 12 African Countries”, *Economic Analysis and Policy*, 58, 14-21.
- BARAK, D., NAİMOĞLU, M. (2018), “Reel Döviz Kurunun Dış Ticaret Üzerindeki Etkisi: Kırılgan Beşli Örneği”, *Ömer Halisdemir Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 11(2), 82-95.
- BARIŞIK, S., DURSUN, E. (2018), “Gelişmekte Olan Ülkelerde Reel Döviz Kuru ve Dış Ticaret Hadleri İlişkisine Ait Ampirik Bir Uygulama”, *Journal of International Management, Educational and Economic Perspectives*, 6(2), 1-16.
- DEĞER, O., DEMİR, M. (2015), “Reel Efektif Döviz Kuru ve Dış Ticaret Hacmi Arasındaki Nedensellik İlişkisi: Türkiye Örneği”, *Finans, Politik & Ekonomik Yorumlar*, 52(604), 7-21.
- DICKEY, D. A., FULLER, W. A. (1979), “Distribution of the Estimators for Autoregressive Time Series with A Unit Root”, *Journal of the American Statistical Association*, 74(366a), 427-431.
- ENGLE, R. F., GRANGER, C. W. J. (1987), “Cointegration and Error-Correction: Representation, Estimation and Testing”, *Econometrica*, 55(2), 251-276.
- GANIYEV, J. (2016), “Kırgızistan ve Kazakistan’da Dış Ticaret, Döviz Kuru ve Ekonomik Büyüme Arasındaki İlişki”, *MANAS Sosyal Araştırmalar Dergisi*, 5(3), 89-101.
- GRANGER C. W. J. (1969), “Investigating Causal Relations by Econometric Models and Cross-spectral Methods”, *Econometrica: Journal of Econometric Society*, 37(3), 424-438.

- GUJARATI, D. (2016), Örneklerle Ekonometri. (Çev. Bolatoğlu, N, *BB101 Yayınları*, Ankara.
- GUJARATI, D. N., PORTER, D. C. (2018), Temel Ekonometri. (Çev. Şenesen, Ü. ve Günlük-Şenesen G.), *Literatür Yayıncılık*, İstanbul.
- GÜRTLER, M. (2019), “Dynamic Analysis of Trade Balance Behaviour in A Small Open Economy: J-curve Phenomenon and the Czech Economy”, *Empirical Economics*, 56(2), 469-497.
- HACKER, R. S., HATEMİ_J, A. (2004), “The Effect of Exchange Rate Changes on Trade Balances in the Short and Long Run: Evidence from German Trade with Transitional Central European Economies”, *Economics of Transition*, 12(4), 774-799.
- HO, C. S., KARİM, N. A. (2012), “Exchange Rate Macroeconomic Fundamentals and International Trade”, *In 2012 IEEE Colloquium on Humanities, Science and Engineering (CHUSER)*, 534-538.
- HUNEGNAW, F. B., KIM, S. (2017), “Foreign Exchange Rate and Trade Balance Dynamics in East African Countries”, *The Journal of International Trade & Economic Development*, 26(8), 979-999.
- JADOON, A., GUANG, Y. (2019), “The Effect of Exchange Rate Fluctuations on Trade Balance of Pakistan”, *International Journal of Economic Sciences*, 8(1), 68-80.
- JOHANSEN, S. (1988), “Statistical Analysis of Cointegration Vectors”, *Journal of Economic Dynamics and Control*, 12(2-3), 231-254.
- KARAÇOR, Z., GERÇEKER, M. (2012), “Reel Döviz Kuru ve Dış Ticaret İlişkisi: Türkiye Örneği (2003-2010)”, *Sosyal Ekonomik Araştırmalar Dergisi*, 12(23), 289-312.
- KARAGÖZ, M., DOĞAN, Ç. (2005), “Döviz Kuru ve Dış Ticaret İlişkisi: Türkiye Örneği”, *Fırat Üniversitesi Sosyal Bilimler Dergisi*, 15(2), 219-228.
- KESGİNGÖZ, H. (2015), “Döviz Kurundaki Değişimin Türkiye-Kırgızistan Dış Ticaretine Etkisi: VAR Analizi”, *Kastamonu Üniversitesi İktisadi ve İdari Bilimler Dergisi*, Temmuz 2015, Sayı: 5, 91-99.
- KIZILDERE, C., KABADAYI, B., EMSEN, Ö. S. (2013), “Dış Ticaretin Döviz Kuru Değişmelerine Duyarlılığı: Seçilmiş Gelişmekte Olan Ülkeler Üzerine Bir İnceleme”, *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 27(3), 41-54.

- KOCABIYIK, T. (2016), "Johansen Eşbütünlük Testinde Karar Aşamalarının Analizi", *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, CİEP Özel Sayısı, 40-50.
- KUTLAR, A. (2017), *Ekonometrik Zaman Serileri: Teori ve Uygulama, Umuttepe Yayınları*, Kocaeli.
- LIEW, K. S., LIM, K. P., HUSSAIN, H. (2003), "Exchange Rate and Trade Balance Relationship: The Experiences of ASEAN Countries", *International Trade*. 307003, 1-11.
- MENIAGO, C., EITA, J. H. (2017), "Does Exchange Rate Volatility Deter Trade in Sub-Saharan Africa?", *International Journal of Economics and Financial Issues*, 7(4), 62-69.
- ONAFOWORA, O. (2003), "Exchange Rate and Trade Balance in East Asia: Is There a J-curve", *Economics Bulletin*, 5(18), 1-3.
- ÖNCEL, A., İNAL, V. (2016), "Türkiye'de Reel Döviz Kuru ile Dış Ticaret Dengesi Arasındaki İlişki: 2000-2015 Dönemi İçin ARDL Modeli ile Ampirik Bir Analiz", *Balkan Sosyal Bilimler Dergisi*, 2016 Aralık, 786-799.
- ÖZER, H., KUTLU, M. (2019), "Türkiye'de Enflasyon, Döviz Kuru ve Dış Ticaret Dengesi İlişkisinin VAR Modeli ile Analizi", *Yönetim ve Ekonomi Araştırmaları Dergisi*, 17(4), 214-231.
- SAATÇIOĞLU, C., KARACA, O. (2004), "Döviz Kuru Belirsizliğinin İhracat Etkisi: Türkiye Örneği", *Doğuş Üniversitesi Dergisi*, 5(2), 183-195.
- SEVÜKTEKİN, M., ÇINAR, M. (2017), "Ekonometrik Zaman Serileri Analizi", *Dora Yayıncılık*, Bursa.
- TAPŞIN, G., KARABULUT, A. T. (2013), "Reel Döviz Kuru, İthalat ve İhracat Arasındaki Nedensellik İlişkisi: Türkiye Örneği," *Akdeniz İ.İ.B.F. Dergisi*, (26), 190-205.
- TARI, R. (2018), *Ekonometri, Umuttepe Yayınları*, İzmit.
- TARI, R., YILDIRIM, D. Ç. (2009), "Döviz Kuru Belirsizliğinin İhracata Etkisi: Türkiye İçin Bir Uygulama", *Yönetim ve Ekonomi*, 16(2), 95-105.
- USLU, H. (2018), "Türkiye'de Döviz Kuru ve Faiz Oranının Dış Ticaret Üzerine Etkileri: Yapısal Kırılmalı Bir Analiz", *Ekonomi, Politika & Finans Araştırmaları Dergisi*, 3(3), 311-334.
- VERGİL, H., ERDOĞAN, S. (2009), "Döviz Kuru-Ticaret Dengesi İlişkisi: Türkiye Örneği", *ZKÜ Sosyal Bilimler Dergisi*, 5(9), 35-57.

- YAPRAKLI, S. (2006), “Türkiye’de Dış Ticaret Fiyatları İle Reel Döviz Kuru Arasındaki İlişki: Ekonometrik Bir Analiz”, *H.Ü. İktisadi ve İdari Bilimler Fakültesi Dergisi*, 24(1), 69-87.
- YAVUZ, S. (2009), “Hataları Ardışık Bağımlı (Otokorelasyonlu) Olan Regresyon Modellerinin Tahmin Edilmesi”, *Atatürk Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 23(3), 123-140.
- YILDIRIM, E., KESİKOĞLU F. (2012), “İthalat, İhracat ve Döviz Kuru Bağımlılığı: Bootstrap İle Düzeltilmiş Nedensellik Testi Uygulaması”, *Ege Akademik Bakış*, 12(2), 137-148.
- ZENG, Z. (1999), “Foreign Exchange Rate Reform, the Balance of Trade and Economic Growth: An Empirical Analysis of China”, *Journal of Economic Development*, 24(2), 143-162.
- ZENGİN, A. (2001), “Reel Döviz Kuru Hareketleri ve Dış Ticaret Fiyatları (Türkiye Ekonomisi Üzerine Ampirik Bulgular)”, *C.Ü. İktisadi ve İdari Bilimler Dergisi*, 2(2), 27-41.

AN APPLICATION ON HEAVY COMMERCIAL VEHICLE SELECTION WITH AN INTEGRATED APPROACH OF CRITIC – CODAS

*Fulya Zarali**

1.Introduction

Logistics was a military activity in the past, but today it is an integrated process of modern production. Logistics helps to optimize the production and distribution processes in order to increase efficiency and competitiveness of enterprises and is a customer-oriented operation management (Tseng et al., 2005, p.1658). Vehicle selection provides an important sustainable competitive advantage for the enterprises engaging in logistic activities within this period. Vehicle selection for logistics enterprises is an important process which affects the performance of the enterprises. Transportation cost is the most important and greatest item among the logistics costs (Koban, Keser, 2007, p. 75). The competitiveness of logistics enterprises is affected by high rate of vehicle related costs in the logistics companies providing road transport services among total cost of transport. This suggests the importance of vehicle selection problems for logistics enterprises (Baykasoğlu et al., 2013, p.5).

Traditional single criterion decision-making problems remain insufficient to solve vehicle selection problems. Because vehicle alternatives to be selected increase day by day. Vehicle trademarks and vehicle properties in commercial vehicle market cannot solve this problem with single criterion (for instance; price criterion). The abundance of alternatives to be selected and criteria varying by firms have revealed the importance of multi-criteria decision-making methods for vehicle selection problems. In this study, heavy commercial vehicle selection problem of a logistics company operating in Kayseri was modelled and solved by an integrated approach combining CRITIC and CODAS methods. Criteria and vehicle alternatives were determined with an expert team established within the company. CRITIC method which is an objective method was employed to determine the weights of criteria. The best heavy commercial vehicle was selected by CODAS method among the alternatives. CRITIC and CODAS integrated method features to be the first in literature for heavy vehicle selection problems.

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CRITIC (Criteria Importance Through Inter-criteria Correlation) method is employed to determine the weights of criteria for multi-criteria decision-making methods. It is suggested by Diakoulaki et al.,. The intensity of contrasts available in the structure of each criteria is measured by CRITIC method and correlation analysis is used for this measurement (Rostamzadeh, 2018, p. 657). When examining the studies carried out in the literature using CRITIC method, it was seen that Kazan and Özdemir (2014) employed CRITIC and TOPSIS method to evaluate the financial performances of the companies traded in Istanbul Stock Exchange, Madic and Radovanovic (2015) employed CRITIC and ROW methods for machine selection, Adali and Işık (2017) employed CRITIC and Maut methods for the selection of contract manufacturer, Ghorabae et al. (2017) employed CRITIC and WASPAS methods to select 3PL service provider, and Rostamzadeh et al., (2018) employed fuzzy TOPSIS and CRITIC methods to evaluate supply chain risk management.

CODAS (COmbinative Distance-based ASsessment) method is a method employed to make the best selection among the alternatives. It was developed by Ghorabae et al., (2016). In this method, the selection of alternatives is determined by Euclidean and Taxicab distances. General performance of an alternative is measured with Euclidean and Taxicab distances from negative ideal point. The first distance is Euclidean distance. If the Euclidean distances of two alternatives are very close to each other, the Taxicab distance is used to compare them. The alternative which has greater distances from the negative ideal solution is preferred (Ghorabae p. 28-29). When the studies carried out using CODAS method in the literature were examined, it was seen that Ghorabae et al., (2017) employed CODAS method to assess market segment; Pamucar et al., (2018) employed CODAS method for the selection of energy generation technology in Libya; Badi et al., (2018) and Boltürk (2018) employed CODAS method for supplier selection; Boltürk and Karasan (2018) employed CODAS method for the selection of renewable energy, and Mathaw and Sahu (2018) employed CODAS method for the selection of equipment.

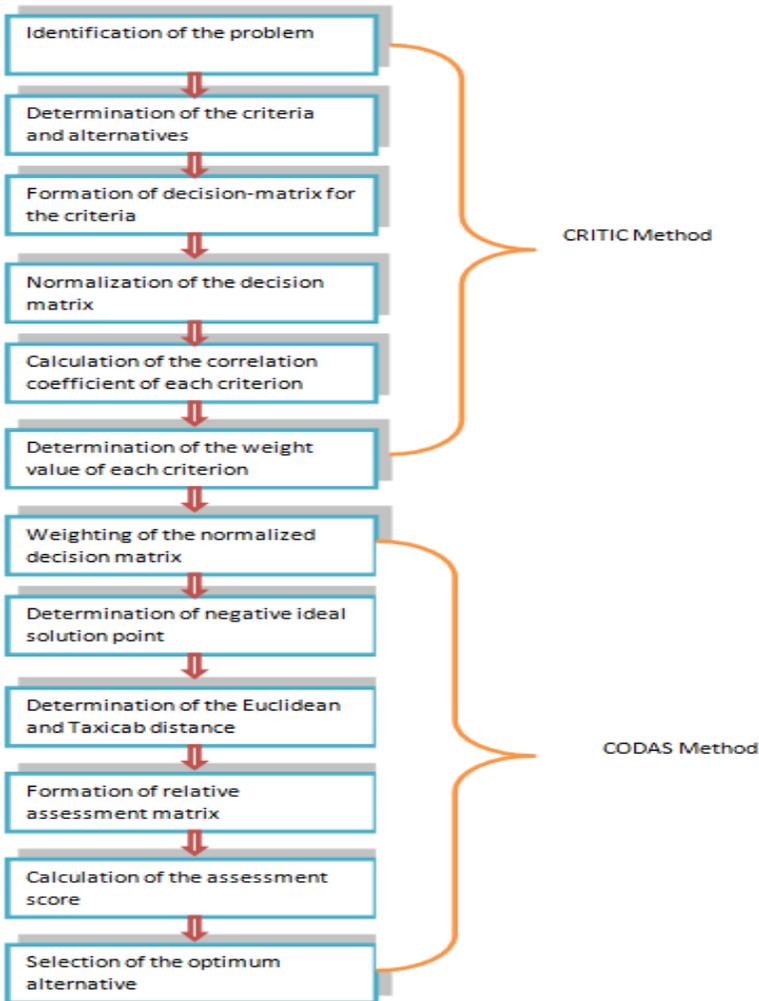
There is a limited number of publications in the literature with regard to heavy commercial vehicle selection. Among the studies conducted, Baykasoğlu et al. (2013) employed fuzzy DEMATEL and fuzzy TOPSIS method for heavy commercial vehicle selection, Kabak and Uyar (2013) employed AAS and PROMETE method for heavy commercial vehicle selection, and Doğan et al. (2017) employed Copras-G method for heavy commercial vehicle selection.

This study was conducted to show applicability of new techniques developed for multi-criteria decision-making problems to the heavy commercial vehicle selection problems, and to make contributions to the literature because there is a limited number of studies in the literature on the heavy commercial vehicle selection. For this purpose, an integrated approach combining the integrated CRITIC and CODAS methods was developed in this study and an evaluation on the heavy commercial vehicle selection was presented.

2. Integrated CRITIC and CODAS Method

Flow chart in Figure 1 shows the steps of the integrated CRITIC and CODAS method developed for the heavy commercial vehicle selection.

Figure 1. Flow chart of the integrated CRITIC and CODAS method



2.1. CRITIC Method

In multi-criteria decision-making problems, the weighting of criteria is generally determined by subjective perspective of decision-maker. The weight value of the criteria varies by the decision-maker's experience, knowledge and perception of the problem. These types of subjective evaluations affect the reliability of the results. Therefore, objective methods were developed for the weighting of the criteria. CRITIC method is one of these methods. It was developed by Diakoulaki et al. (1995). In this method, standard deviation of each criterion and correlation values among the criteria are included in the weighting process of the criteria (Kazan and Özdemir, 2014, p. 209).

The steps of CRITIC method are explained below (Madic and Radovanovic, 2015, p. 8-9).

Step 1: The decision-making matrix is formed.

In CRITIC method, $X = [X_{ij}]_{m \times n}$ decision-making matrix is initially formed. Where, X_{ij} ; shows the performance value of alternative i. in terms of Criteria j. In $m \times n$; m is the number of alternatives and n is the number of criteria.

Step 2: The decision-making matrix is normalized.

$[X_{ij}]_{m \times n}$ decision-making matrix is normalized using Equation 1.

$$r_{ij} = \frac{x_{ij} - x_j^{\min}}{x_j^{\max} - x_j^{\min}} \quad (1)$$

$$x_j^{\max} = \max(x_j, i = 1, 2, \dots, m)$$

$$x_j^{\min} = \min(x_j, i = 1, 2, \dots, m)$$

Step 3: The weight value of each criterion is calculated.

The weight value of j-th criterion j is calculated using Equations 2 and 3.

$$W_j = \frac{C_j}{\sum_{j=1}^n C_j} \quad (2)$$

$$C_j = \sigma_j \sum_{j=1}^n (1 - r_{jj'}) \quad (3)$$

C_j is the quantity of information contained in j-th criteria. σ_j , is the standard deviation of the j-th criterion and $r_{jj'}$ is the correlation coefficient between the j and j'-th criteria.

2.2 CODAS Method

Two measures are used for the selection of alternatives in CODAS (Combinative Distance-Based Assessment) method. The primary and main measure is related to the Euclidean distance of the alternatives to the negative ideal. The usage of this type of distance requires an abnormal indifference area for the criteria. The secondary measure is the taxicab distance. The taxicab distance is related to normal indifference area. The

alternative which has greater distances than negative ideal solution is preferred as the best alternative (Badi et al., 2018, p.4).

The steps of CODAS method are explained below (Badi et al., 2018 p.5).

Step 1: The decision matrix $[X_{ij}]_{n \times m}$ is formed where X_{ij} ($X_{ij} > 0$) is the performance value of i -th alternative on j -th criterion . $\{i \in \{1,2, \dots, n\} \text{ and } j \in \{1,2, \dots, m\}\}$

Step 2: The decision matrix is normalized using Equation 4 for the cost and benefit criteria.

$$n_{ij} = \frac{X_{ij}}{\max_i X_{ij}} \quad j \in N_b \rightarrow \text{benefit criterion} \quad (4)$$

$$n_{ij} = \frac{\min_i X_{ij}}{X_{ij}} \quad j \in N_c \rightarrow \text{cost criterion}$$

Step 3: The decision matrix normalized is weighted using Equation 5.

$$r_{ij} = W_j \times n_{ij} \quad (5)$$

W_j ($0 < W_j < 1$) shows the weight of j -th criterion and $\sum_{j=1}^m W_j = 1$.

Step 4: The negative ideal solution point is calculated using Equation 6.

$$n_s = [n_{sj}]_{1 \times m} \quad (6)$$

$$n_{sj} = \min_i r_{ij}$$

Step 5: The Euclidean distance of the alternatives from the negative ideal solution is calculated using Equation 7, and the taxicab distance of the alternatives from the negative ideal solution is calculated using Equation 8.

$$E_i = \sqrt{\sum_{j=1}^m (r_{ij} - n_{sj})^2} \quad (7)$$

$$T_i = \sum_{j=1}^m |r_{ij} - n_{sj}| \quad (8)$$

Step 6: The comparative assessment matrix is formed using Equation 9.

$$R_a = [h_{ik}]_{n \times n} \quad (9)$$

$$h_{ik} = (E_i - E_k) + (\varphi(E_i - E_k) \times (T_i - T_k))$$

$k \in \{1,2, \dots, n\}$ and φ denote a threshold function to identify the Euclidean distance of two alternatives.

$$\varphi_x = \begin{cases} 1 & |X| \geq \tau \\ 0 & |X| < \tau \end{cases}$$

In this function, τ is a threshold parameter to be determined by the decision-maker. It is suggested that this parameter has a value between 0.01 and 0.05. If the difference between Euclidean distance is less than τ , these two alternatives will be compared by the Taxicab distance (Badi et al., 2015 p.5).

Step 7: The assessment score of each alternative is calculated using Equation 10.

$$H_i = \sum_{k=1}^m h_{ik} \quad (10)$$

Step 8: The assessment score is ranked in ascending sort. The alternative with the highest value of H is the best choice.

3. Application

In this study, heavy commercial vehicle selection was made for a logistics company operating in Kayseri. The logistics company plans to expand its vehicle fleet by means of purchasing new vehicles. For this purpose, an expert team including general manager, operation executive, vehicle service and maintenance supervisor, and purchase specialist was established. The vehicle alternatives were primarily determined with this team. Six heavy commercial vehicles (Mercedes Actros 1845 LS, DAF XF 400 FT, ManTGX, Renault T 460, IvecoStralisXp and Ford 1848 T) were selected. 8 criteria were determined to select these six alternative heavy commercial vehicles by utilizing the literature (Baykasoğlu et al., (2013), Kabak and Uyar (2013), Doğan et al., (2017)). These criteria and their explanations were given in Table 1. The criteria for six heavy commercial vehicles were determined with the expert team by benefiting from the information available in the vehicle catalogues and expert team's knowledge. Table 2 shows the criterion values determined and the trademarks of heavy commercial vehicles to be selected. The three-level decision model formed for this problem was shown in Figure 2.

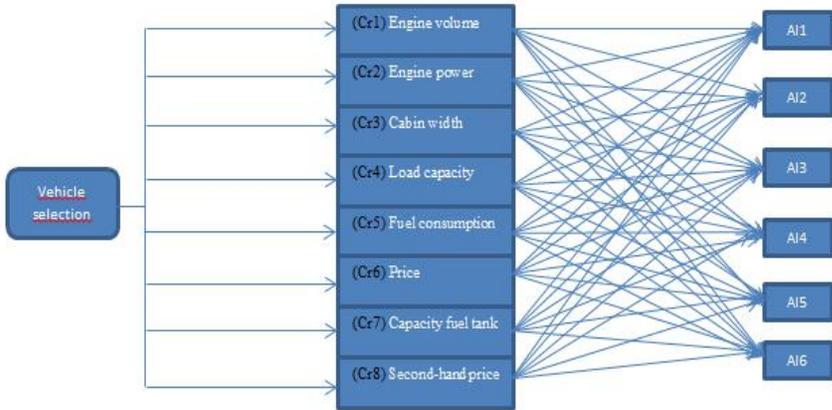
Table1 Criteria and Explanation

Criteria	Explanation
(Cr1) Engine volume (liter)	It refers to the volume that the pistons swept between the lower dead point and the upper dead point in the cylinder.
(Cr2) Engine power (hp)	It refers to the power that the engine gets at a certain time.
(Cr3) Cabin width (meter)	It refers to the large area required for safe, comfortable accommodation and driving.
(Cr4) Load bearing capacity (tons)	It refers to the maximum load capacity that a vehicle can carry.
(Cr5) Fuel consumption (liter)	It refers to the amount of fuel the vehicle spends during operation
(Cr6) Price (x1000Euro)	It refers to the price of the vehicle.
(Cr7) Capacity of fuel tank (liter)	It refers to the vehicle's fuel tank.
(Cr8) Second-hand price (x1000TL)	It refers to the second-hand price.

Table 2 Criterion values

	(A11) Mercedes Actros 1845 LS	(A12) DAFXF 450FT	(A13) Man TGX	(A14) Renault T460	(A15) Iveco Stralis Xp	(A16) Ford 1848 T
(Cr1) Engine volume (liter)	12,8	12,9	12,4	12,8	12	13
(Cr2) Engine power (hp)	470	449	430	460	460	480
(Cr3) Cabin width (meter)	2,5	2,49	2,4	2,36	2	2,5
(Cr4) Load bearing capacity (tons)	26	27	26	27	25	26
(Cr5) Fuel consumption (liter)	19,44	20	21	21,5	19,5	20
(Cr6) Price (x1000Euro)	110	93	95	85	99	100
(Cr7) Capacity of fuel tank (liter)	1050	1100	720	650	1000	1100
(Cr8) Second- hand price (x1000TL)	390	350	300	250	330	280

Figure 2 A three-level decision problem with a hierarchical structure



The weights of criteria were initially determined by CRITIC method to make a selection among the alternative heavy commercial vehicles. $[X_{ij}]_{m \times n}$ decision matrix was initially formed to determine the weights by CRITIC method and the decision matrix is given in Table 3.

Table3 Decision Matrix

	Cr1	Cr2	Cr3	Cr4	Cr5	Cr6	Cr7	Cr8
A11	12,8	470	2,5	26	19,44	110	1050	390
A12	12,9	449	2,49	27	20	93	1100	350
A13	12,4	430	2,4	26	21	95	720	300
A14	12,8	460	2,36	27	21,5	85	650	250
A15	12	460	2	25	19,5	99	1000	330
A16	13	480	2,5	26	20	100	1100	280

The decision matrix was normalized using Equation 1 and the normalized decision matrix is given in Table 3.

Table4 Normalized decision matrix

	Cr1	Cr2	Cr3	Cr4	Cr5	Cr6	Cr7	Cr8
A11	0,984	0,979	1	0,962	1	0,772	0,954	0,641
A12	0,992	0,935	0,996	1	0,97	0,913	1	0,714
A13	0,954	0,895	0,96	0,962	0,924	0,895	0,654	0,833
A14	0,984	0,958	0,944	1	0,902	1	0,591	1
A15	0,923	0,958	0,8	0,926	0,995	0,858	0,91	0,757
A16	1	1	1	0,962	0,97	0,85	1	0,893

Table 4 shows the mean and standard deviation values of each criterion, and Table 5 shows the correlation values.

Table 5 The mean and standard deviation values

	Mean	Standard deviation
Cr1	0,973	0,026
Cr2	0,954	0,033
Cr3	0,950	0,070
Cr4	0,969	0,025
Cr5	0,960	0,035
Cr6	0,881	0,069
Cr7	0,851	0,166
Cr8	0,806	0,118

Table 6 correlation values

	Cr1	Cr2	Cr3	Cr4	Cr5	Cr6	Cr7	Cr8
Cr1	1	0,403	0,896	0,727	-0,142	0,697	0,225	0,152
Cr2	0,403	1	0,104	-0,141	0,463	0,377	0,527	0,026
Cr3	0,896	0,104	1	0,641	-0,152	-0,091	0,146	-0,033
Cr4	0,727	-0,141	0,641	1	-0,563	0,617	-0,25	0,31
Cr5	-0,142	0,463	-0,152	-0,563	1	-0,845	0,88	-0,81
Cr6	0,697	-0,377	-0,091	0,617	-0,845	1	-0,67	0,751
Cr7	0,225	0,527	0,146	-0,25	0,88	-0,67	1	-0,645
Cr8	0,152	0,326	-0,033	-0,31	-0,81	0,751	-0,645	1

The weight value of each criterion was calculated using Equations 3 and 4. Table 6 shows the values obtained. Accordingly, the most important criterion was determined as the capacity of fuel tank (Cr7) according to CRITIC method.

Table 7 Weight value

	Cr1	Cr2	Cr3	Cr4	Cr5	Cr6	Cr7	Cr8
W_j	0,047	0,078	0,165	0,045	0,053	0,097	0,290	0,224

After the weights were determined by CRITIC method, CODAS method was used. The normalized matrix which was weighted using the Equation 5 first was formed in CODAS method. The weights of criteria obtained from CRITIC method were used for the weighting process and these weights are given in Table 7.

Table8 The normalized matrix

	Cr1	Cr2	Cr3	Cr4	Cr5	Cr6	Cr7	Cr8
Al1	0,046	0,076	0,165	0,043	0,053	0,075	0,277	0,143
Al2	0,047	0,073	0,164	0,045	0,051	0,088	0,29	0,16
Al3	0,045	0,069	0,158	0,043	0,049	0,087	0,189	0,186
Al4	0,046	0,074	0,156	0,045	0,048	0,097	0,171	0,224
Al5	0,043	0,074	0,132	0,042	0,052	0,083	0,264	0,169
Al6	0,047	0,078	0,165	0,043	0,051	0,082	0,29	0,2
n_s	0,043	0,069	0,132	0,042	0,048	0,075	0,171	0,143

The negative ideal solution points were determined for the criteria with the help of the Equation (6) and these points were given in the same table. According to the values obtained, the Euclidean and Taxicab distances of the alternatives from the native ideal solution were also calculated. The Equation (7-8) was used to calculate the value of the most distance of optimal criteria to the negative ideal solution. Table 8 shows the values of Euclidean (Ei) distance and Taxicab (Ti) distance.

Table 9 values of Euclidean (Ei) distance and Taxicab (Ti) distance.

$E1$	0,114	$T1$	0,155
$E2$	0,122	$T2$	0,195
$E3$	0,173	$T3$	0,103
$E4$	0,095	$T4$	0,138
$E5$	0,100	$T5$	0,136
$E6$	0,130	$T6$	0,233

Finally, the comparative assessment matrix was formed using the Equation 9 and is given in Table 9. A threshold function (φ) was used to identify the Euclidean distances of two alternatives. τ threshold parameter determined by the decision maker was used in this function. As this value is generally taken as 0.02 in the literature, the same value was also used for this study (Ghorabae et al., 2016; Badi et al., 2018b).

Table 10 the Comparative assessment matrix

	Al1	Al2	Al3	Al4	Al5	Al6	H_i
Al1	0	-0,008	-0,059	0,019	0,014	-0,016	-0,05
Al2	0,008	0	0,041	0,084	0,081	-0,008	0,206
Al3	0,059	-0,041	0	0,043	0,04	-0,087	0,014
Al4	-0,019	-0,084	-0,043	0	0,005	-0,13	-0,271

A15	-0,014	-0,081	-0,040	-0,005	0	-0,127	-0,267
A16	0,016	0,008	0,087	0,13	0,127	0	0,368

The assessment score (H_i) of each alternative was calculated using the Equation 10 and is given in Table 9. The alternative with the highest value of H_i is accepted as the optimum alternative. A16 was determined as the best alternative according to the results obtained from the study. Ford 1848T ranked number one as the optimum alternative heavy commercial vehicles for the logistics company. DAF XF 450 Ft. ranked number two and Man TGX ranked number three. Renault T460 was the heavy commercial vehicle with the lowest score. The expert team considered the results as optimum and anticipated that CRITIC-CODAS method suggested for this problem would also give good results for similar problems.

4. Conclusion

In this study, heavy commercial vehicle selection was made for a logistics company operating in Kayseri. Within this process, an integrated approach combining CRITIC and CODAS methods which have been started to be used as a new approach in the literature was presented to evaluate the most suitable method. CRITIC- CODAS combined method was preferred in this study because it is a new method in the literature, it was not used for the heavy commercial vehicle selection before and it is anticipated that it would make contributions to the literature. CRITIC method, an objective method, was employed to determine the weights of the criteria. The best vehicle was selected among the alternatives by using CODAS method. Within this context, an integrated modelling was introduced to the literature through the present study and was helped managers to make decisions.

To showed the applicability and effectiveness of the proposed model the heavy commercial vehicle selection was made for a logistics company operating in Kayseri. The alternatives and criteria were determined with the expert team established within the company. Six different heavy commercial vehicle (Mercedes Actros 1845 LS, DAF XF 400 FT, ManTGX, Renault T 460, IvecoStralisXp and Ford 1848 T) alternatives determined by the expert team were assessed according to the criteria including engine volume, engine power, cabin width, load bearing capacity, fuel consumption, price of vehicle, capacity of fuel tank and second-hand price of the vehicle. The weights of the criteria were determined by using CRITIC method and it was seen that the capacity of fuel tank (Cr7) was the most important criterion. Six alternative heavy commercial vehicles were ranked by using CODAS method. While Ford

1848T ranked number one as the optimum alternative heavy commercial vehicles for the logistics company, Renault T460 was the heavy commercial vehicle with the lowest score. The expert team considered the results obtained as optimum and anticipated that CRITIC-CODAS method suggested for this problem would also give good results for similar problems.

It was observed that the optimum results can be achieved with an objective assessment by means of the current method suggested for the heavy vehicle selection. However, these criteria were examined within the scope of conditions, opportunities and basic capabilities of the current logistics company. For future studies, it is considered that new studies integrated with fuzzy logic method to be conducted by using different criteria and alternatives for the heavy commercial vehicle selection would make significant contributions to the literature.

References

- ADALI E., İŞİK A., (2017), "CRITIC and MAUT Methods for the Contract Manufacturer Selection Problem", *European Journal of Multidisciplinary Studies*, 2(5), 93-101.
- BADI I., BALLEM M., SHETWAN A., (2018), "Site Selection of Deselination Plant in Libya by using combinative distance-based assessment (CODAS) method", *International Journal for Quality research*, 12(3), 609-624.
- BADI I., ABDULSHANED A., SHETWAN A. (2018), "A case study of supplier selection for a steelmaking company in Libya by using the combinative distance-based assessment (CODAS) model", *Decision Making Applications In Management and Engineering*. 1(1).1-12.
- BAYKASOĞLU A., KAPLANOĞLU V., DURMUSOĞLU Z., SAHIN C., (2013), "Integrating fuzzy DEMATEL and fuzzy hierarchical TOPSIS methods for truck selection", *Expert Systems with Applications*, 40(3), 899-907.
- BOLTÜRK E., KARASAN A., (2018), "Interval valued neutrosophic CODAS method for renewable energy selection", *Data Science and Knowledge Engineering for Sensing Decision Support*, 1026-1033.
- BOLTURK E., (2018). Pythagorean fuzzy CODAS and its application to supplier selection in a manufacturing firm. *Journal of Enterprise Information Management*. 31(4), 550-564.

- DAKOULAKI D., MAVROTAS G., PAPAYANNEKIS L., (1995) ,
“Determining objective weights in multiple criteria problems: The
CRITIC Method”, *Computers Operation Research*. 22(7), 763-770
- DOGAN E.M., EREN M., ÇELİK K., (2017), “Lojistik Sektöründe Ağır
Ticari Araç Seçimi Problemine Yönelik Copras-G Yöntemi ile Karar
Verme”, *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi*, 19(1),
153-178.
- GHORABAE M.K.,AMIRI M., ZAVADSKAS E.K.,(2016), “A new
combinative distance-based assessment (CODAS) method for multi-
criteria decision making”, *Economic Computation and Economic
Cybernetics and research*, 50(3),25-44.
- GHORABAE M.K.,AMIRI M.,ZAVADSKAS E.K.,
ANTUCHEVICIENE J.,(2017), “Assessment of third-party logistics
providers using a CRITIC-WASPAS approach with interval type-2
fuzzy sets”, *Transports*,32 (1),66-78.
- GHORABAE M.K.,AMIRI M., ZAVADSKAS E.K., HOOSHMAND
R., ANTUCHEVICIENE J., (2017), “Fuzzy extension of the CODAS
method for multi criteria market segment evaluation”, *Journal of
Business Economics and Management*, 18(1), 1-19
- KABAK M., UYAR O., (2013), “Lojistik Sektöründe Ağır Ticari Araç
Seçimi Problemine çok ölçütlü bir yaklaşım”, *Gazi Üniversitesi
Mühendislik ve Mimarlık Dergisi*, 28(1),115-125
- KAZAN H.,OZDEMIR O.,(2014), “Financial Performance Assessment of
Large Scale Conglomerates via TOPSIS and CRITIC”, *Internatioanl
Journal of Management and Sustainability*, 3(4),203-224.
- KOBAN E., KESER H.Y. (2007), *Dış Ticarete Lojistik*, Ekin Basım
Yayın Dağıtım, Ankara.
- MADIC M., RADOVANOVIC M.,(2015), ”Ranking of some most
commonly used nontraditioanl machining processes using ROV and
CRITIC methods”, *U.P.B. Sci.Bull.,Series D*. 77(2), 193-204
- MATHEW M., SAHU S., (2018), “Comparison of new multi-criteria
decision making methods for material handling equipment selection”,
Management Science Letters.8(3), 139-150.
- PAMUCAR D.,BADI I.,SANJA K.,OBRADOVIC R., (2018), “A Novel
Approach for the selection of Power Generation Technology Using a
Linguistic Neutrosophic CODAS Method: A case study in Libya”,
Energies,11,2-25

ROSTAMZADEH R., GHORABAE M.K., GOVINDAN K., ESMAEILI A.,BODAGHI H., NOBAR K.,(2018), “Evaluation of sustainable supply chain risk management using an integrated fuzzy TOPSIS-CRITIC approach”, *Journal of Cleaner Production*.175,651-669.

TSENG Y., YUE W., TAYLOR M., (2005), “The Role of Transportation in Logistics Chain”, *Proceedings of the Eastern Asia Society for Transportation Studies*. 5, 1657 - 1672

PRIVATE AND PUBLIC ACTION IN POST PURCHASE DISSATISFACTION

*Ayşe Ersoy Yıldırım**

Introduction

Businesses achieve their basic targets by maintaining and improving customer satisfaction or by identifying the causes of dissatisfaction to eliminate. In spite of their efforts, many businesses face situations in which their customers are sometimes displeased and sometimes react. Customers' expressing their unfulfilled expectations in written or verbal form has shown as the reaction for dissatisfaction. In terms of the development of product or services, the effects of customer responses due to dissatisfaction on business are of strategic importance. Therefore, it is possible to manage customer satisfaction by examining their reactions. If there is discordance between the consumer's expectations from the product and the convenience of the product for its intended use, a real problem or a problem perceived by the consumer can be mentioned. This situation, which shows that the consumer is not satisfied, concerns business closely. In spite of their all bona fide efforts, all business experience situations in which their consumers are not satisfied. It can be stated that independent from each other, the positive or negative effects of the emotional response occurring in the customer after the purchase, determine the result related to satisfaction and dissatisfaction in the evaluation (Westbrook, 1987: 258-270). In the absence of satisfaction, consumer responses emerge as an important issue (Hawkins et al., 2004: 676). To evaluate the responses for the development of products or services is strategically important for businesses.

1. Customer Behaviour in Post-Purchase Dissatisfaction

The most commonly emphasized issue in consumer behavior is the factors affecting consumer behavior. The variables belonging to all these factors are directed at affecting the purchasing decision process. The final stage of the consumer decision process is the evaluation of the performance of purchased products. The consumer encounters one of three important situations in post-purchased evaluation. Satisfied; the possibility of purchasing the same product/service/brand again is high. Partially satisfied; the person is in a cognitive contradiction as a result of their value judgments, attitudes, beliefs, falling into a mismatch. Dissatisfied; the performance of the product is far below the

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expectation; the customer shows response or remains unresponsive (Hawkins et al., 2004: 676). Fundamentally, the consumer's assesses products by comparing its actual performance with their expectations. An increase is expected in satisfaction level if the performance is above expectation and a decrease is expected if the performance is below expectations. Oliver (1980) determined that confirmation affects consumer satisfaction and confirmation is positively related to consumer satisfaction. It is determined that positive confirmation (perceived performance above of expectations) increases consumer satisfaction and negative confirmation (perceived performance below of expectations) decreases consumer satisfaction, therefore consumer satisfaction is essentially assumed to be a confirmation function (Yi, 1993: 503). Customers judge the product, when it is exposed to one or more of the situations such as any defect in the product bought, the undesired / unexpected result from the support services, insufficient performance of the goods / service, etc. (Fornell and Wernerfelt, 1988: 289-290). The type of error in goods/products or service, functional (durability ease of use, maintainability, physical performance, etc.) and symbolic (psychological effect, etc.) performance dimensions of a goods/product or service are related to determining the realized product performance. Failure to ensure and / or maintaining desired performance after purchase is defined as product failure (functional and / or symbolic failure) (Kincade et al, 1998: 84) and phrases causal references (Folkes, 1990: 144) to product failure. The main purpose of consumers to use any product is to satisfy the relevant need. If the product does not satisfy the need, there will be a negative evaluation. Therefore, it is vital to know how the product performs during use (Hawkins et al., 2004: 675). Consumer; in case of having problems related to needs (price, time, quality, etc.) and if expectations are not fully met (issues that are not declared but customer expectations), tend to react. The responses of consumers to failures consist of a series of behaviors that can continue from trying to explain dissatisfaction to doing nothing (Sing, 1988: 94). According to the model developed by Landon (1977), the consumer behaves in two ways when not satisfied. One of ways is not showing response (inaction) and the other is showing response (action) (Lyons, 1996: 39). The behavior of the consumer not to show response when not satisfied in the post-purchase is to stay inactive. Consumer; with the effect of variables such as personality structure, culture, previous experiences, etc. may prefer not to show response if dissatisfied (Lyons, 1996: 39). A number of consumers don't know where and when to consult. Expressing dissatisfaction in terms of time and effort (Odabaşı, 1999:188) is not carried out if the service/product is cheap or if the importance of the problem is low or if to change the brand is easy or if the buying experience is insignificant for

the customer. Or if the cost of taking action, includes the emotional cost, is perceived to be high, consumers would prefer not to take action. If the consumer thinks that taking a psychological or social risk related to taking action and thinks this situation will make them look bad, or in part, if they hold themselves responsible for the situation, the consumer shows inaction (no action) behavior. Apart from this, the consumer also prefers to remain silent (inaction) because of the perception that taking action does not change anything. If the customer's feedback is not supported by the business or if the management prone to ignore dissatisfaction-related actions, the consumer will tend to inaction.

1.1. Customer Responses in Post-Purchase Dissatisfaction

Customer satisfaction expressed as the degree of fulfilling the customer needs, wishes and expectations that affect the next demand for goods or services and dependence on the goods or services throughout the consumption of goods or services (Lingenfelder and Schneider, 1991:109). Customer satisfaction fundamentally affects product-related variables and a series of customer-related variables. Customer satisfaction is mainly influenced by product-related variables and a number of customer-related variables. (Nicosia and Mayer, 1976; Day, 1984). The product-related variables affecting the customer satisfaction decision include product type (Kincade et al, 1998), price (Stephens and Gwinner, 1998), durability (Kincade et al, 1998), importance of product for customer (Sheth et al, 1999: 550), type of failure type regarding performance dimensions (Kincade et al, 1998) and degree of problem (Richins,1987). Consumer-related variables that affect the customer satisfaction decision are also significant. It is defined that consumer-related variables are; demographic features (Bearden and Oliver, 1985), personality (Sheth et al, 1999:551), attitude (Halstead and Dröge, 1991), values (Liu and McClure, 2001), culture (Day et al, 1981; Richins, 1987), knowledge and experience (Sing, 1990a; Broadbridge and Marshall, 1995).

In cases where dissatisfaction appears with the use of the product, generally, the response also appears. Customers' response to dissatisfaction after purchasing a product/good or service (Bell, Mengüç and Stefani, 2004: 113) is described as “expressing unfulfilled expectations of customers via written or verbal” in the customer relations literature (Barlow and Moller, 1996: 39). Consumer behaviors, which are in the decision to show response (take action), are examined in two groups: public action and private action. (Day and Landon, 1977: 432). Actions to refer the business to improve the good / product/service fault; actions for compensation such as correction, product change, and refund are expressed as public action. In addition

in Turkey, tending towards to business, private and public institutions such as the ministry of trade and industry, professional chambers, chambers of commerce and industry, provincial directorates of trade, consumer associations are considered as public actions. Taking actions to compensate for damages by resorting to judicial remedies (via commercial or consumer courts) are also public actions. Customers express negative experiences of the product or service directly to the seller, intermediary, manufacturer or the person providing the service (Barlow and Moller, 1996: 48). The behavior, also known as a direct statement, expresses that it can directly transfer to service provider the customers' dissatisfaction via the channels related to the production, distribution, and sale of the product (Richins, 1982; 502). Customer; turns to the person or organization that is the direct addressee of the dissatisfactory behavior. In another form of public action, the customers take the matter to the media or take to organization such as consumer associations via official complaint or take to legal institutions. The attitude is neither related to people who are found in the social network, nor to the institutions or individuals causing dissatisfaction. There are individuals and institutions that do not cause response behavior but play an active role in forming opinion in society (Singh, 1988: 103). Moreover, public action responses reveal themselves in the search for compensation according to the intensity of dissatisfaction (Bearden and Teel, 1983: 21). In Turkey, with justified reasons, consumers can take action to compensate for damages in legal ways by resorting to business, private, public institutions or the judiciary, trade or consumer courts in accordance with the “consumer protection act” (see. old law no. 4077; new law no. 6502).

Warning the relatives about the goods / services / companies / brands / manufacturers / sellers on the grounds of dissatisfaction with the good / product / service purchased and stopping to purchase the same good / product / service, not buying again, boycotting the brand / business are considered as private action. The unsatisfying experiences or negativities of the complainant about the products or services are not just for the related business, but to the familiar people in the social network, and also is transferred to unfamiliar people who have not experienced dissatisfaction from the product or services (Singh, 1988: 94; Halstead and Dröge, 1991: 210). The unsatisfied customers are more willing than the satisfied customers, to share the reason for dissatisfaction with the people around (Barlow and Moller, 1996: 41). The difference of informal responses from formal responses is that informal responses cannot be controlled by business. Blodgett et al. (1997) claimed that customers, who are not satisfied, expect less success from the solution of the problem and have less response

behavior, are more likely to communicate negatively from word of mouth. Businesses which fail to present a certain level of satisfaction to their customers and have decreasing number of sales may often think that this is due to a limited group of consumers who are not satisfied and that there is no problem. According to this type of business, if the response rates are low, there is no dissatisfaction. However, most of the responses are forwarded to intermediary firms rather than manufacturers and the manufacturer may not know about it (Richins and Verhage, 1985: 29). People often prefer to tell other people about this negativity instead of directly reaching the business / manufacturer who is the addressee of the problem (Barlow and Moller, 1996: 41). Considering the fact that customers with dissatisfaction share this situation with an average of ten people (O'Neil et al., 2008: 355), and the word of mouth communication is the most reliable and honest resource based on sharing experiences that affect the buying behavior of other customers (Marangoz, 2007: 39); the effect of informal responses on potential customers can be noticed.

As the degree of dissatisfaction increases, the frequency of these behaviors increases (Richins, 1982: 504), and if the severity of dissatisfaction is high, all behaviors appear suddenly (Anderson and Sullivan, 1993: 136). Whether public or private action takes place, improvement strategies of which the main purpose is identified as "change the negative perceptions of dissatisfied customers"(Grönross, 2007: 126), are considered as solutions.

2. Methodology of The Study

This study aims to determine the responses of consumers in case of a customer is dissatisfied with the goods /products they purchased or the service they experienced in the post-purchase process and carried out to demonstrate the behaviors related to these responses. Regarding the participants; instead of customers who are not satisfied with a particular product, brand or business, the customers of many businesses were examined. The data of the research was obtained from the central district of Adıyaman province living in five neighborhoods that characterize the city center. 274 households from 667 households were selected for the face-to-face survey. Using the random sampling method, the data of the study were obtained through a face-to-face survey. As a result of the reviews, 428 questionnaire forms were determined to be suitable for analysis. As a data collection tool "Customer behavior in post-purchase dissatisfaction survey form" was used. The model of the study was adapted from the scale developed by Oliver (1980). The model of the study was considered as the

relationship between the demographic characteristics of the participants and taking action behavior in response to dissatisfaction.

In line with the model of the research, the hypotheses evaluated in the 95% confidence interval and 5% significance levels are as follows:

H₁: Consumers participating in the research take action as the response in the event of dissatisfaction.

H₂: Private action tendencies of the surveyed consumers are higher than public actional tendencies.

H₃: Private actions, public actions, and taking action behaviors of consumers participating in the research differ significantly according to demographic factors.

The data obtained in the study were analyzed using “SPSS (statistical package for social sciences) for Windows 22.0” program.

In the evaluation of the data, number, percentage, mean, standard deviation, independent groups t-test, one-way ANOVA test (posthoc = scheffe) were used. To calculate the reliability of 6 items in the scale for determining post-purchase behaviors resulting in dissatisfaction, the internal consistency coefficient "Cronbach Alpha" was calculated. The overall reliability of the scale was determined high as Cronbach Alpha= 0.77. To establish the structure validity of the scale, the explanatory factor analysis method was applied. As a result of the Bartlett test ($p=0.000<0.05$), it was determined that there was a relationship between the variables taken into Factor Analysis. As a result of the test ($KMO = 0.644 > 0.60$), it is determined that the sample size was found to be sufficient for factor analysis. In the factor analysis application, the varimax method was chosen, and the structure of the relationship between the factors remained the same. As a result of the factor analysis, the variables are classified under 2 factors which has a total explained variance of 66.886%. According to the alpha and explained variance value, it was understood that the scale for determining post-purchase behaviors that resulted in dissatisfaction related to its reliability is a valid and reliable tool. The factor structure of the scale is shown in Table 1.

Table 1: Scale Factor Structure for Determining Post-Purchase Behaviors Resulted in Dissatisfaction

Dimension Article of Private Action (Eigenvalue=2.431)	Factor Load	Explained Variance	Cronbach's Alpha
To tell the matter or situation around.	0.817		
To warn everyone about dissatisfaction at every opportunity.	0.803		
Never will shop at the same place again.	0.732	39.831	0.773
To consult to business, authorities/ institutions or consumer associations.	0.887		
To contact with the place where the product was purchased	0.731		

Dimension Article of Public Action (Eigenvalue=1.582)	Factor Load	Explained Variance	Cronbach's Alpha
Go to legal remedies to determine the compensation.	0.897		
To consult to business, authorities/ institutions or consumer associations.	0.887	27.055	0.753
To contact with the place where the product was purchased	0.731		
Total Variance %66.886			

While calculating the scores of the factors in the scale, after the values of the items in the factor were summed, the factor scores were obtained by dividing the number of items (arithmetic mean).

3. Findings of The Research

The findings obtained as a result of the analysis of the data which were collected from the participants in this study aimed at determining the responses regarding dissatisfaction post-purchase are presented below. Explanations and comments were made based on the findings obtained.

Table 2: Response Behavior in Post-Purchase Dissatisfaction

Tables	Groups	Frequency(n)	Percentage (%)
Customer Response in Post-Purchase Dissatisfaction	Inaction Behavior	78	18.2
	Taking Action Behavior	350	81.8
	Total	428	100.0

In this study, it was determined that 18.2% of the participants are inactive (no action) as a response and 81.8% demonstrate taking action behavior.

Table 3: Distribution of Response Behavior According to Definitional Features in Post-Purchase Dissatisfaction

		Inaction		Take Action		p
		n	%	n	%	
Gender	Male	50	%64.1	163	46.6%	X ² =7.842
	Female	28	%35.9	187	53.4%	p=0.004
Marital Status	Single	58	%74.4	273	78.0%	X ² =0.482
	Married	20	%25.6	77	22.0%	p=0.289
Age	18-26	51	%65.4	260	74.3%	X ² =3.269
	27-35	13	%16.7	51	14.6%	p=0.195

	35 +	14	%17.9	39	11.1%	
Educational Level	Primary School	7	%9.0	33	9.4%	
	High School	16	%20.5	68	19.4%	X ² =0.056 p=0.972
	Graduate and Post Graduate	55	%70.5	249	71.1%	
Total Household Income Per Month	Under 3500 TL	16	%20.5	107	30.6%	
	Between 3500-7500 TL	35	%44.9	180	51.4%	X ² =11.166 p=0.004
	7501 TL and more	27	%34.6	63	18.0%	

Table 3. Accordingly, it is determined that the ratio of males showing inaction behavior is higher than the rate of males showing taking action behavior (64.1%), and the rate of women who take action (53.4%) was higher than the rate of women showing inaction (X² = 7.842; p = 0.004 < 0.05). In the event that the products/goods or services are dissatisfactory, it was determined that the singles who take action (74.4%) and inactive (78.0%) showed a homogeneous distribution. According to the marital status variable, it is determined that the married people who take action (22%) and the inactive married people (25.6%) showed homogeneous distribution (p > 0.05). The action-inaction behavior is distributed homogeneously according to the age variable (X² = 3.269; p = 0.1950.05). It is determined that there was a homogeneous distribution of participants with the education level of university and above, and who are taking action (71.1%) and who are inactive (70.5%) due to dissatisfaction with products/goods or services. (X²=0.056; p=0.972 >0.05). According to the variable of total household income per month, it is determined that the participants who are dissatisfied with the products/goods or services and who take action (18.0%) with an income of 7501 and above, are lower than the participants who inaction (34.6%) with an income of 7501 and above (X²=11.166; p=0.004<0.05).

Table 4. Average of After Dissatisfaction Action Behavior Scores

	N	Mean	SD	Min.	Max.
Private Action	350	3.815	1.151	1.000	5.000
Public Action	350	3.093	1.050	1.000	5.000
Action Behavior After Dissatisfaction	350	3.454	0.896	1.000	5.000

It is determined that participants' level of "private action" is high (3.815 ± 1.151), "public action" level is medium ($3.093 \pm 1.1.050$), "action behavior after dissatisfaction" level is high (3.454 ± 0.896).

Table 5. Relationship of After Dissatisfaction Behaviors with Demographic Features

Demographic Features	n	Private Action	Public Action	Action Behavior
Gender		Mean±SD	Mean±SD	Mean±SD
Male	16 3	3.900±1.1.1 61	3.168±1.0 34	3.534±0.8 53
Female	18 7	3.742±1.14 0	3.029±1.0 62	3.385±0.9 28
t=		1.284	1.238	1.552
p=		0.200	0.216	0.122
Marital Status		Mean±SD	Mean±SD	Mean±SD
Single	27 3	3.878±1.11 6	3.110±1.0 72	3.494±0.8 89
Married	77 9	3.593±1.24 9	3.035±0.9 70	3.314±0.9 12
t=		1.925	0.555	1.561
p=		0.055	0.579	0.120

Age		Mean±SD	Mean±SD	Mean±SD
18-26	260	3.873±1.113	3.137±1.053	3.505±0.890
27-35	513	3.680±1.213	2.771±1.103	3.226±0.881
35 and higher	394	3.607±1.304	3.222±0.886	3.415±0.925
F=		1.323	2.955	2.134
p=		0.268	0.053	0.120
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Educational Level		Mean±SD	Mean±SD	Mean±SD
Primary School	337	3.919±1.087	2.737±0.992	3.328±0.803
High School	680	3.490±1.230	2.966±0.976	3.228±0.860
Graduate and Post-Graduate	249	3.890±1.126	3.175±1.067	3.533±0.908
F=		3.420	3.201	3.502
p=		0.034	0.042	0.031
PostHoc=		3>2 (p<0.05)	3>1 (p<0.05)	3>2 (p<0.05)
<hr/>				
Total Household Income Per Month		Mean±SD	Mean±SD	Mean±SD
Under 3500 TL	107	3.717±1.275	3.037±1.140	3.377±0.931
Between 3500 – 7500 TL	180	3.830±1.126	3.076±1.013	3.453±0.900
7501 TL and more	634	3.942±0.994	3.238±0.994	3.590±0.817
F=		0.787	0.775	1.122
p=		0.456	0.462	0.327

Demographic factors are the most common and oldest determinants used to explain post-purchase behavior (Fox, 2008: 25). The relationship between post-purchase dissatisfaction and demographic variables is given in Table 5.

It has been determined in several studies that when the relationship between the post-purchase action and gender is examined, there is a positive relationship between being a woman and expressing dissatisfaction (Barış, 2008: 83-84). Although women communicate in the same way as men in general, they express complaints to the business and friends more often than men. (Fox, 2008: 27). The research conducted by Akan and Kaynak discovered that male consumers tend to be alienated less towards business than female consumers (Akan and Kaynak, 2008: 17-18). But in this study, it is determined that the participants' private action, public action, and action behavior after dissatisfaction not showing significant difference according to gender ($p>0.05$). According to certain studies between household income and taking action, it is determined that expressing dissatisfaction decreased as the household income increased (Barış, 2008: 86), and as the income levels of the customers increased, their sensitivity increased (Akan and Kaynak, 2008: 17-18).

However, in this study, it is stated that the participants' private action, public action, and action behavior did not differ significantly from the household's monthly income ($p>0.05$). As a result of in previous studies, It has been determined that there is both negative (Bookshop, 2008: 116) and positive (Oliver et al., 1981: 90) relationship between the age of the customers and take action behavior. This relationship originates from the fact that older customers show more responses, sellers treat older customers more positively and carefully (Oliver et al., 1981: 90). Nevertheless in this study, it is determined that the participants' private action, public action, and take action behavior does not differ significantly according to the age variable ($p>0.05$). According to this study, it is revealed that the participants' private action, public action, and take action behavior does not differ significantly from the marital status variable ($p>0.05$). But in some other studies, it is seen that there are findings that married customers are less taking action than single customers according to the marital status variable (Folkes, 1988: 556).

When the taking action is evaluated in terms of education level, it is seen that educated people have high beliefs that the response is "a behavior worth doing". Singh stating that education provides "knowledge power", mentions that which can be effective in response behavior for some product categories (Singh, 1990: 67). According to

this study, the participants' private action differentiate significantly with respect to the educational status variable ($f = 3.420$; $p = 0.034 < 0.05$). This difference is that people with an education level of university or higher tend to be more show private action than people with a high school education level ($p < 0.05$). The taking action behaviors of the participants have differentiated significantly according to the educational status variable ($f = 3.201$; $p = 0.042 < 0.05$). It is determined that participants with an education level of university or higher, take action more than participants with an education level of primary school ($p < 0.05$). The behavior of the participants to taking action after dissatisfaction differentiate according to the educational status variable ($f = 3.502$; $p = 0.031 < 0.05$). It is determined that participants with a university or higher education level, take action more than participants with a high school education level ($p < 0.05$). Although there are remarkable research findings regarding the profession variable, in this study, the findings were not used since most of the participants were self-employed. Singh's (1990) research findings in the banking sector to explain customer dissatisfaction is revealed that customers from different professions behave differently when they encounter faults. The research demonstrates that young and professional employees show more responses.

Table 6: The Reason of Customer Telling of the Situation to the Environment in Post-Purchase Dissatisfaction

	Without a necessary and important reason.	47	13.4
Reason of the customers' to explain the dissatisfied situation to the environment	In order to prevent other people from experiencing the same thing.	161	46.0
	In order to relieve my anger.	60	17.1
	In order to take revenge from the brand and store.	82	23.4
	Total	350	100.0

The reason for customers to tell the situation to their surroundings in post-purchase dissatisfaction is given table 6. It is determined that according to the variable of the reason of the customer who is dissatisfied with the products/goods or services, telling the situation to the environment, 23.4% of the participants wanted to "revenge from the brand and store". Hirschman (1972) argued that when customers are dissatisfied, two situations will arise: making a voice (taking action) and leaving (inaction). Thereafter "retaliation behavior" is added to

Hirshman's explanations, by Hunt (1991). Retaliation is defined as the consumer's conscious behavior that will harm the business. At the root of retaliation, the behavior is the physical harm to the business. The fact that customers spread bad words about the business is based on retaliation behavior (Kılıç, 2012:4189). Unless customer responses are resolved by the business, it is determined that 75% of customers express their dissatisfaction with the environment (Manickas and Shea, 1997: 68). The consumer who experiences negativity about the purchased product/good/service, turns to irrational behaviors in order to reduce their anger and to take revenge if their dissatisfaction is too high. However, the consumer demonstrates rational behavior in order to prevent other people to be harmed. According to the variable of the customer who is dissatisfied with the products/goods or services; it is determined that 46.0% of the participants told "to prevent other people to experience the same thing" as the reason for explaining the situation to the environment. The reason for negative word of mouth communication is, as it is seen, to prevent other people from being affected. The consumer who experiences the negativity may not want the people around him or those with close personal relationships to experience the same negativity. Probably this altruistic behavior can be explained by the individualism or collectivism approach in the culture in which it is experienced. Ringberg, Schröder and Christensen also have taken into account the cultural structure of customers, in problem solving to better understand the responses to customers' service failures. Ringberg and the others, have referred to the cultural structure as a mental creation or orientation of the customer problem, and have defined two dominant cultural structures among customers. These are relational cultural structures and oppositional cultural structures. In relational cultural structure, customers think of other people at least as much as themselves and are more involved in the solution of the problem. In the opposing cultural structure, individuals express their responses with the intention of taking revenge from the business, not in order to prevent others from experiencing the same negativity (Ashley and Varki, 2009: 24). In this study, it is determined that 17.1% of the participants spread their dissatisfaction with "in order to relieve their anger". Anger is an element which triggers response behavior. Customers show their anger to themselves because they made a wrong purchase, or show their anger to the business that is made them fall into this situation. It can be mentioned attitudes that "responding" is the right of the consumer and it is relaxing of expressing to it when it gets angry; it can also be said that "responding" is a behavior that can bring conflict, shame, and discomfort (Bariş, 2008: 88-91). Therefore, the presence of psychological risk in response behavior is explicit. Response behavior tends to decrease as the psychological risk increases. According to the

“The reason for telling the situation to other people” variable of the dissatisfied customer, it was determined that 13.4% of the participants shared the situation to other people “Just because they wanted to express the situation regardless of any necessary and significant reason”. In addition to the factors arising from goods / products and services that are the subject of dissatisfaction, there are also psychological factors that affect the behavior of customers. The perception characteristics, emotional characteristics, motivation levels and personality structures of the customers are the factors that affect the post-purchase behavior.

4. Conclusion

The responses of the customers, which subject to consumer behavior, arise, as a result of not getting desired satisfaction from the goods or services. There may be unexpected and undesirable failures in good / product or service presentation, but the important thing is that they are as few as possible and the negativity is eliminated. Therefore, issues that explain consumer behavior in encountering responses are considered as an important resource.

With this study, it is discovered that 81.8% of the consumers participating in the study, instead of being passive, taking action as a response if they were dissatisfied (H_1 accepted). It is determined that the participants are more prone to private action such as communication from word of mouth in expressing their responses than public actions (such as turning to business, public institutions or legal ways) (H_2 accepted). It is determined that there is no significant difference compared to other demographic variables, although the private action of the consumers participating in the study regarding customer dissatisfaction differ significantly according to the education level variable (H_3 rejected). The public actions of consumers participating in the study, showing a significant difference according to the level of education, but it is discovered that there is no significant difference compared to other demographic variables (H_3 rejected). Though the after dissatisfaction behavior of the consumers participating in the research, shows a significant difference according to the level of education, it is not significant compared to the other demographic variables (H_3 rejected).

Post-purchase behaviors are substantial data for increasing customer satisfaction. Businesses should aim to direct their customers to contact the relevant business before others in order to effectively evaluate customer responses. According to Richins (1983), if the responses are supported, the return of this incentive to the company will be positive. Considering the responses are generally made by

consumers who really use and care about the good / product or service; as the customers tell the environment about how the process of negativity was corrected, the negative impact on the good / product or service leaves its place to the positive effect. When the customer responses are examined together, the ideal issue is to address and solve the problem within the business and is no need other behaviors. For this reason, businesses should primarily deal with dissatisfaction and intervene. Furthermore, it is important to take the necessary measures to prevent similar problems from occurring again, after this intervention. Customer expectations, encountering response process and results play a role in eliminating dissatisfaction, as well as guiding also the public works on consumer protection.

References

- Akan, Y. and Kaynak, S. (2008), “*Tüketicilerin Şikâyet Düşüncesini Etkileyen Faktörler*”, Ankara Üniversitesi Siyasal Bilimler Fakültesi Dergisi, Sayı 63, 2.
- Anderson, Eugene W. and Mary Sullivan (1993), *The Antecedents and Consequences of Customer Satisfaction for Firms*, Marketing Science, 12 (Spring), 125-143.
- Barlow, J., Moller, C. (1996), *A Complaint Is A Gift*, San Francisco: Berrett- Koehler Publishers Inc.
- Barış, G. (2008), *Kusursuz Müşteri Memnuniyeti İçin Şikâyet Yönetimi*, İstanbul : MediaCat Yayınları.
- Bell, J. S., Mengüç, B., ve Stefani L.S. (2004), “*When Customer Disappoint: A Model of Relational Internal Marketing and Customer Complaints*”, Journal of the Academy of Marketing Science, Vol: 32, No:2, 112-126.
- Bearden, W., Teel, J. (1983), “*Selected determinants of consumer satisfaction and complaint reports*”, Journal of Marketing Research Vol 20, 21-28.
- Blodgett, J., Granbois D. (1992), “*Toward an integrated conceptual model of consumer complaining behavior, Journal of Consumer Satisfaction*”, Dissatisfaction and Complaining Behavior Vol. 5, 93-103.
- Blodgett, J.G., Hill, D.J., Tax, S.S. (1997), “*The effects of distributive, procedural, and interactional justice on postcomplaint behaviour*”, Journal of Retailing Vol.73 (2), 185-210.
- Broadbridge A. ve Marshall, J.(1995), “*Consumer complaint behavior: the case of electrical goods*”, International Journal of Retail & Distribution Management 23(9), 8-18.

- Brown, P., Rice, J. (1998), *Ready-to-wear apparel analysis*, 2nd ed. Upper Saddle River, NJ. Merrill Prentice-Hall.
- Day, RL. (1977), “*Extending the concept of consumer satisfaction*”, *Advances in Consumer Research* 4 (1), 149-154.
- Day, RL.(1984), “*Modeling choices among alternative responses to dissatisfaction*”, *Advances in Consumer Research* 4(1), 496-499.
- Day, RL vd.(1981), “*The hidden agenda of consumer complaining*”, *Journal of Retailing* 78(2), 86-106.
- Day, RL & Landon, EL (Jr). (1977), *Toward a theory of consumer complaining behavior*; In Woodside, AG, Sheth, IN, Bennet, PD, *Consumer and industrial buying behavior*, New York. North-Holland.
- Folkes, S. Valerie. (1988), “*Recent attribution in consumer behavior: a review and new directions*”, *Journal of Consumer Research*, Vol:14, 548-565.
- Fornell C., Wernerfelt B.(1988), “*A Model for Customer Complaint Management*”, *Marketing Science*, Vol. 7, No. 3, 287-298.
- Fox, L.G. (2008), “*Getting Good Complaining Without Bad Complaining*”, *Journal of Consumer Satisfaction, Dissatisfaction & Complaining Behavior*, Vol: 21, 27.
- Goodwin C.ve Spiggle S. (1989), “*Consumer Complaining: Attributions and Identities*”, *Advances in Consumer Research* Volume 16, eds. Thomas K. Srull, Provo, UT: Association for Consumer Research, 17-22.
- Grönroos, C. (2007), *Service Management and Marketing, Customer Management In Service Competition*, (3th. Edition) John Wiley & Sons.
- Halstead, D., Dröge, C. (1991), “*Consumer attitudes toward complaining and the prediction of multiple complaint responses*”, *Advances in Consumer Research* Vol 18, 210-216.
- Haverila, J. M. ve Naumann, E. (2009), “*Customer Satisfaction and Complaints: Is There a Relationship?*”, *Review of Business Research*, Vol:9, No:1.
- Hawkins Del I,Best R.J ve Coney K.A. (2004), *Consumer Behaviour: Building Marketing Strategy*, McGraw- Hill Irwin.
- Kılıç, B. ve Ok, S. (2012), “*Otel İşletmelerinde Müşteri Şikâyetleri ve Şikâyetlerin Değerlendirilmesi*”, *Journal of Yasar University*, 25(7), 4189-4202.

- Kitapçı, O. (2008), “*Restoran Hizmetlerinde Müşteri Şikâyet Davranışları: Sivas İl’inde bir Uygulama*”, Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, Sayı: 31, Temmuz-Aralık 2008, ss.111-120.
- Landon, El (Jr). (1980), “*Consumer satisfaction, dissatisfaction and complaining behavior as indicators of market performance*”, *Advances in Consumer Research* 7(1), 186-191.
- Lyons (1996), “*Getting Customers to Complain: A Study of Restaurant Patrons*”, *Australian Journal of Hospitality Management*, Volume 3, Number 1, 39.
- Manickas P.A. and Shea L.J.(1997), “*Hotel Complaint Behavior and Resolution*”, *A Content Analysis*, *Advances in Consumer Research*, Vol.36, 68-73.
- Maute, MF, Forrester, WR, (Jr). (1993), “*The structure and determinants of consumer complaint intentions and behavior*”, *Journal of Economic Psychology*, Vol.14, 219- 247.
- Odabaşı, Y. ve Barış, G. (2003). *Tüketici Davranışı*. İstanbul: MediaCat Yayınevi.
- Oliver, Richard L. (1980), “*A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions*”, *Journal of Marketing Research*, 17 (September), 46-49.
- Oliver, Richard L. and William O. Bearden (1983), “*The Role of Involvement in Satisfaction Processes*, *Advances in Consumer Research*”, Ann Arbor, MI: Association for Consumer Research.
- Oliver, Richard L. and Wayne S. DeSarbo (1988), “*Response Determinants in Satisfaction Judgments*”, *Journal of Consumer Research*, 14 (March), 495-507.
- Oliver, Richard L. and G. Linda (1981), “*Effects of Satisfaction and Its Antecedents on Consumer Preference and Intention*”, *Advances in Consumer Research*, Kent B. Monroe, ed. Ann Arbor, MI: Association for Consumer Research, 88-93.
- O’Neill, J. W., B. Hanson, and A. S. Mattila.(2008), “*The relationship of sales and marketing expenses to hotel performance in the United States*”, *Cornell Hospitality Quarterly* 49 (4), 355-363.
- Richins, ML. (1982), “*An investigation of consumers’ attitudes toward complaining*”, *Advances in Consumer Research* 9(1), 502-506.
- Richins, Marsha L. (1980), “*Consumer Perceptions of Costs and Benefits Associated with Complaining, Refining Concepts and Measures of*

- Consumer Satisfaction and Complaining Behavior*” (eds.) H. Keith Hunt and Ralph L. Day, Bloomington IN: Indiana University, 50-53.
- Richins, ML & Verhage, BJ. (1985), “*Seeking redress for consumer dissatisfaction: the role of attitudes and situational factors*”, *Journal of Consumer Policy* 8(1), 29-44.
- Singh, J. (1988), “*Consumer complaint intentions and behavior: definitional and taxonomical issues*”, *Journal of Marketing* 52(1), 93-107.
- Singh, J. (1990a), “*Identifying consumer dissatisfaction response styles: An agenda for future research*”, *European Journal of Marketing*, 24(6), 55-72.
- Singh, J. (1990b), “*A typology of consumer dissatisfaction response styles*”, *Journal of Retailing* 66(1),57 99.
- Yi, Youjae, (1993), “*The determinants of consumer satisfaction: the moderating role of ambiguity*”, *Advances in Consumer Research*, Volume 20, 502-506.
- Westbrook, R. A. (1987), “*Product/consumption based affective responses and post-purchase processes*”, *Journal of Marketing Research*, 24, 258-270.

THE IMPACT OF EXCHANGE RATE MOVEMENTS ON FISHERIES TRADE OF TURKEY

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Introduction

The role of exchange rates in international trade is indisputable. Since they form the relative prices between countries, they constitute the mechanism, advantages and disadvantages of the trade of products. Some products may not be manufactured in a country or may be relatively cheaper in other countries. This may result in that country importing those products from other countries to meet its needs. This relative superiority may differ with the change in the value of the currency of that country over time. The main factor determining this is exchange rates. As every sector is affected, the fisheries sector is also affected by the exchange rate changes.

Turkey's export of fisheries in recent years has an increasing trend. Exports of fisheries reached \$ 455.811.925 in 2019 and generated an important source of income and foreign exchange for Turkey. This seemingly small contribution constitutes the average 0.29 % of Turkey's total exports in last four years. In the same year, imports were only \$ 48.736.634, and the difference between exports and imports was brought to our country as an important high added value. The effect of exchange rate fluctuations on this important sector certainly realized in practical life. However, an empirical study testing whether this effect is statistically significant has not been found in the literature. In this context, it is thought that this study provides an original contribution to the existing literature. In addition, the variables are exposed to many shocks and breaks in today's global world, which transforms the structures of the variables and makes them non-linear. In the study, examining the possible relationships with a non-linear method is also thought to increase the originality of the study by the testing of the nonlinearities in the variables. Findings obtained as a result of the study showed that real exchange rate shocks have a significant effect on the foreign trade of fisheries.

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The rest of the study is organized as follows: the literature related to the study is reviewed in the first section; the data set and method used in the study are introduced in the second section; the findings of the study are presented in the third section; finally, the findings are evaluated in the last section.

1. Literature Review

The exchange rate and the import-export relationship, which form the basis of the study, rest on a simple theoretical basis. The depreciation of the domestic currency against the exchange rate, when variables such as quality, marketing and political balance are assumed constant, causes the prices of the goods produced by the country to become cheaper and increase the demand for the goods of that country. However, studies examining the relationship between real exchange rates and exports differ according to the studied country, the period covered and the method used in the research (Yurtoglu, 2017). Therefore, there is no consensus in the studies examining the relationship between the two variables (Saatcioglu ve Karaca, 2004). Studies examining this relationship are numerous and it is not possible to mention the results of all of them. Nevertheless, it is thought that it may be beneficial for the theoretical background of the study to mention some of the studies conducted in general. Since our study deals with the trade for fisheries in particular Turkey, examining the related literature by dividing it into two sections as international studies and Turkish studies is thought to be useful.

First of the studies conducted in the international area, the relationship between China's exchange rate movements and its agricultural exports to Japan was explored by Chen (2011). The results showed that nominal exchange rates between the countries are important determinants of agriculture exports of China and depreciation in the exchange rate of China positively affects the exports, while appreciation negatively effects. However, this relationship does not always result in this direction. In another study conducted to developed and developing countries, Berman and Berthou (2009) indicated that relationship between depreciation of exchange rate and export levels may be nonlinear and response of countries may be less positive or even negative if (i) firms borrow in foreign currency, (ii) they are credit constrained, (iii) they are specialized in industries that require more external capital and (iv) the magnitude of depreciation or devaluation is large. This nonlinear relationship between variables was also verified by Baum et al (2004). They investigated 13 country data-set of bilateral exports data and found nonlinear relationship

depending on the economic activity volatility in importing country. Also this nonlinear relationship was changed according to the considered country pairs. On the other hand, impact of exchange rate volatility on exports may be negative as mentioned by Khosa et al., (2015). They investigated the nine emerging economies and found that exchange rate volatilities had significant negative effects on exports levels.

In the domestic studies, a literature review made at impact of exchange rate on trade balance summarizes the general situation in Turkey. Kutlu (2013) conducted a literature review research and examined the studies in terms of sampling period, econometric methods studied and modeled variables. The result of the research demonstrated that there is no definitive judgement on the impact of exchange rates on Turkey's foreign trade balance. Studies supporting the theoretical framework of our study and approaching the subject from different perspectives in the domestic area examined the impact of exchange rate on trade balance, its effect on trade volume, and its effect on product trade on a local basis. Kosekahyaoglu and Karatasli (2018) examined the impact of changes in the real exchange rate on Turkey-EU trade in the period between 1994 to 2016 and found that there is a negative and significant impact of loss of real value in exchange rate on long-term trade balance. In their 2003 dated study, Ata and Arslan examined the relationship between exchange rate and trade volume by using annual data. As a result of the research, it was found bi-directional Granger causality relationship between the two variables. Vergil (2002) analyzed the impact of real exchange rate volatility on the export flows of Turkey to the United States and its three major trading partners in the European Union for the period 1990-2000. The study concludes that the real exchange rate volatility has a significant negative effect on real exports. Erdem et al. (2010) explored the impact of exchange rate levels and uncertainty on bilateral agricultural trade between Turkey and 20 major trading partners by using annual data covering the period 1980–2005. The one of the findings of the study revealed that the exchange rate level is less robustly linked to trade volumes than is exchange rate uncertainty. In a study made in more locally in Turkey and examined the impact of changes in exchange rates on the amount of exports in Denizli, Güneş et al. (2018) applied causality analysis separately for each sectors. They found causality relationships on exchange rate to export products such as cereals, pulses, oilseeds and its products, textiles and its raw materials, aquaculture, fisheries and forest products, electricity and electronics and mining products. It is possible to find more studies that identify significant relationships. However, as mentioned before, there are

also studies that detect insignificant relationships and no consensus has been achieved.

There are also studies examining the effect of exchange rates on trade through sea transportation levels. One of the Turkey related studies conducted by Aık et al. (2019), the effect of USD / TL and EURO / TL exchange rates on container traffic in Turkish ports was examined. According to the findings obtained with causality analysis varying from time to time, they found that this interaction increased from time to time in international trade especially in the period when Turkish lira depreciated. The impact of exchange rate volatility on maritime export levels was investigated by Chi and Cheng (2016) on the sample of Australia and its trade partners in Asian countries. The authors found that exchange rate volatility has significant effects on maritime export rates and this effect changes according to the country pairs. The impact on maritime import levels of South Korea was investigated by Kim (2017) and the authors found that the exchange rate volatility has a significant negative effect on the import levels. Kim (2016) investigated the effect of nominal exchange rate on cargo throughputs of the South Korea ports in another study, and found that increase in nominal exchange rate positively affect the cargo traffic at ports. The maritime-based studies mentioned also provided findings supporting the effect of exchange rate on international trade.

Another approach on the subject is about how to analyze the export rates of product groups. Most of the studies we dealt with addressed the issue with aggregate trade statistics. Bini-Smaghi (1991) revealed that using aggregate trade data limits the flexibility of income, price and exchange rate risks. Accordingly, McKenzie (1998) argue that while aggregate trade data reveals limited and contradictory findings of a relationship, an important relationship can be established when these data are divided into various commodity subgroups. Considering these reasons and the purpose of the study, the econometric relationship between variables are tested by using a single product group in this study.

In this context, it is not baseless to aim to reveal a relationship between exchange rate and fisheries trade of Turkey in this study. The increase in the exchange rate and the resulting depreciation in the domestic currency may affect fishery exports positively and increase the demand for fishery goods in Turkey. Also, as mentioned in some studies in the literature, the relationship between the variables may be nonlinear, and the method used in our study takes into account this possibility by using asymmetric causality test. The contribution of our study to the literature is that it

examines the relationship of fisheries trade with the real exchange rate through a nonlinear method by taking the study carried out by Güneş et al. (2018) one step further.

2. Methodology

This section provides information about the method, dataset and non-linearity. Since the method used is a nonlinear method, it is important to determine the nonlinear structures in the series.

2.1. Asymmetric Causality Analysis

The method used in the study is developed by Hatemi-J (2012). It is a nonlinear method and takes into account the potential asymmetries in the variables. It presents causality relations in four different combinations by separating the shocks that the variables contain as positive and negative; (i) from positive shocks to positive shocks, (ii) from positive shocks to negative shocks, (iii) from negative shocks to negative shocks, and (iv) from negative shocks to positive shocks.

In the asymmetric causality test, the process suggested by Toda and Yamamoto (1995) is followed. The method distinguishes the effect of negative shocks from positive ones (Shahbaz et al., 2017), since the cumulative sums of the positive and negative shocks contained in the variables are used (Tugcu and Topcu, 2018). Hatemi-J (2012) uses the bootstrap simulation technique, taking into account the effects of ARCH (Tugcu et al, 2012). Achieving critical values with this simulation technique provides reliable results as it provides leverage corrections (Hatemi-J and Uddin, 2012). In addition, the variables do not have to comply with the normal distribution in this way, and this feature is a great advantage considering today's global world.

Since the method is a nonlinear one, the linearity of the series should be tested before using this method. Accordingly, ARMA models are estimated for each variable before analysis and ARCH LM (Engle, 1982), BDS Independence (Brock et al., 1987) and Ljung-Box (1978) tests are applied to their residues. Also, the series do not have to be stationary in this method. However, since Toda and Yamamoto (1995) process is followed in the analysis, it is necessary to determine the maximum degree of integration (Umar and Dahalan, 2016). For this, unit root and stationarity tests can be used, and if variables contain unit root, they are added as a lag to the unrestricted VAR equations (Hatemi-J and Uddin,

2012). GAUSS code written by Hatemi-J (2012) is used in the application of the method.

2.2. Data

The dataset used in the study consists of 235 monthly observations and covers the periods between January 2000 and July 2019. Import and export statistics of water products are taken from website of TUIK (2019) and the classification of the data is ISIC Rev3. The exchange rate is obtained from website of Central Bank of the Republic of Turkey (2019) and refers to CPI Based Real Effective Exchange Rate based on 2003=100.

Table 1. Descriptive Statistics

	EXP	IMP	REXC
Mean	18331854	3046319.	103.6864
Median	13137754	2929877.	105.7800
Maximum	69137534	16547829	127.7200
Minimum	1161680.	12957.00	62.49000
Std. Dev.	13621943	2571121.	13.26205
Skewness	0.767162	1.459109	-0.708268
Kurtosis	2.918709	7.397066	3.207207
Jarque-Bera	23.11577	272.6998	20.06811
Probability	0.000010	0.000000	0.000044
Observations	235	235	235

Source: TUIK (2019); CBRT (2019).

The graphical representation of the raw data used in the study is presented in Figure 1. As can be seen, the seasonality effect is noticeable in real exchange rate, export and import variables. For this reason, the series were seasonally adjusted using the TRAMO function in the Eviews package software to purify the effect on the series.

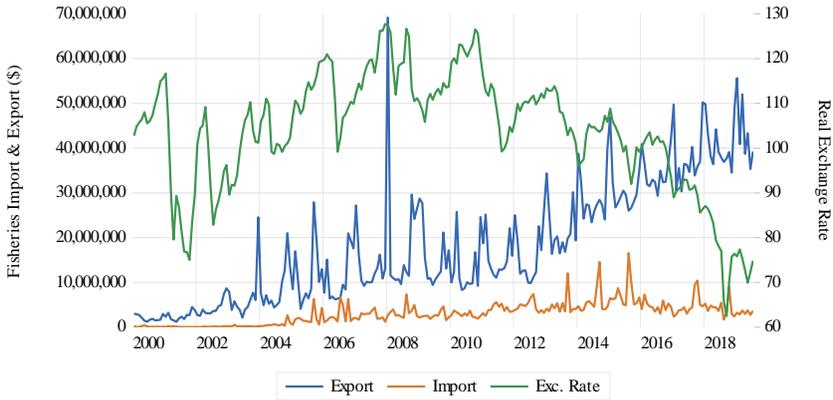


Figure 1. Graphical Display of the Variables
 Source: TUIK (2019); CBRT (2019).

When the movements of variables in general are examined, it is seen that the real exchange rate variable has decreased considerably in recent times. This is probably due to exchange rate fluctuations formed by the political situation in Turkey. On the other hand, fisheries export variable follows an increasing trend and provide significant foreign exchange inflow to the Turkish economy, and imports are relatively more stable.

2.3. Nonlinearity Test

Since the asymmetric causality test used as the method of the study is a nonlinear method, it is necessary to determine the nonlinear structure in the series. For this purpose, ARCH LM (Engle, 1982), BDS Independence (Brock et al., 1987) and Ljung-Box (1978) test statistics were applied to each series. First of all, the optimal ARMA models were estimated for each variable and tests were carried out by separating the residuals from the estimated models.

3. Results of The Analysis

In this section, the linearity of the series is tested first in order to evaluate the appropriateness of the asymmetric causality test. Unit root tests are then performed to determine the maximum degree of integration value in the analyses. After all these pre-tests, asymmetric causality test is applied and findings are evaluated.

3.1. Nonlinearity Analysis

In this section, the non-linearity of each variable were tested with the BDS Independence test and their results are presented in Table 2. As a result of the analyses applied for export variable, ARMA (4,5) model was determined as the most suitable model with 0.331 AIC value. It was later found that the estimated model was significant and that AR and MA roots

were less than 1. The squares of residuals were also found to be dependence and contain a long-run memory, which is also a sign of not being linear. According to the results of the BDS Independence test applied to residuals, the null of linearity hypothesis in all dimensions was rejected for export variable.

ARMA (8, 7) model with 1.373 AIC value was the most suitable model for import variable. It was later found that the estimated model based on the determined lags was significant and the roots were less than 1. When the correlogram of the squared residuals were checked, it was observed that there was a dependency and a long-term memory in the residuals, which could be a sign of nonlinearity. According to the BDS Independence test statistics applied later, the null of linearity hypothesis was rejected in all dimensions.

For the Exchange Rate variable, ARMA (4, 3) was found to be the best model with -3.875 AIC value. The estimated model was found to be significant and its roots were less than 1. As in the residuals of the export and the import variables, dependency and long-run memory were identified in the correlogram of the squared residuals. According to the results of the BDS Independence test, which was applied to achieve a definite result, the null of linearity hypothesis was rejected in all dimensions.

Table 2. BDS Independence Test Results

	Dim.	BDS Statistic	Std. Error	z-Statistic	Prob.
Export	2	0.012205	0.005899	2.069149	0.0385*
	3	0.034311	0.009385	3.655934	0.0003*
	4	0.048187	0.011189	4.306532	0.0000*
	5	0.055750	0.011677	4.774224	0.0000*
	6	0.055539	0.011276	4.925456	0.0000*
Import	2	0.020403	0.005785	3.526799	0.0004*
	3	0.046896	0.009207	5.093267	0.0000*
	4	0.060859	0.010981	5.542195	0.0000*
	5	0.065160	0.011463	5.684220	0.0000*
	6	0.065112	0.011073	5.880492	0.0000*
Exchange	2	0.034109	0.005917	5.764426	0.0000*
	3	0.060240	0.009435	6.384586	0.0000*
	4	0.074500	0.011274	6.607922	0.0000*
	5	0.077506	0.011792	6.572746	0.0000*
	6	0.078718	0.011412	6.897771	0.0000*

*Null of linearity hypothesis is rejected.

According to the results of the linearity test, the structures of all variables were determined to be non-linear. This means that the parameters and variance in the established models change over time. In other words, linear analysis methods applied using these data can yield misleading

results, and applying non-linear methods can provide more reliable results. Within this framework, it has been determined that the asymmetric causality test used in this study can be applied to existing series.

3.2. Unit Root Analysis

In order to apply the asymmetric causality test used in the study, it is necessary to determine the maximum degree of integration. Therefore, unit root tests were applied to the variables. Augmented Dickey Fuller (Dickey and Fuller, 1979) and Phillips-Perron (Phillips and Perron, 1988) and Kwiatkowski-Phillips-Schmidt-Shin (Kwiatkowski et al., 1992) tests were performed for each series and the results are presented in Table 3. While the null hypothesis of the augmented Dickey Fuller (ADF) and Phillips-Perron (PP) tests points to the unit root, the null hypothesis of the KPSS test points to stationarity. According to the results obtained, the real exchange rate variable was only indicated stationary by the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test at level. For the export variable, both ADF and PP tests indicated stationarity at level. For the import variable, only the PP test indicated stationarity at level. In this case, all variables can be considered stationary at the level and the maximum degree of integration can be considered as 0. However, breaks in the series structure may cause unit root tests to give incorrect results. Therefore, the application of unit root tests that take structural breaks into account may contribute to the reliability of the results.

Table 3. Unit Root Tests

		Level					
		Intercept			Trend & Intercept		
		REX	EXP	IMP	REX	EXP	IMP
LEVEL	ADF	-1.82	-1.44	-2.07	-2.15	-4.08***	-2.10
	PP	-1.88	-2.28	-2.08	-2.23	-9.52***	-4.68***
	KPSS	0.57***	1.84	1.53	0.40	0.28	0.40
FIRST	ADF	-11.1***	-14.0***	-18.0***	-11.1***	-13.9***	-18.0***
DIF.	PP	-10.5***	-44***	-36***	-10.5***	-44***	-39***
	KPSS	0.12***	0.07***	0.12***	0.03***	0.04***	0.09***

ADF and PP CVs at Intercept: -3.45 for ***1%, -2.87 for **5%, -2.57 for *10%. ADF and PP CVs at Trend & Intercept: -3.99 for ***1%, -3.42 for **5%, -3.13 for *10%. KPSS CVs at Intercept: 0.74 for ***1%, 0.46 for **5%, 0.34 for *10%. KPSS CVs at Trend & Intercept: 0.21 for ***1%, 0.14 for **5%, 0.12 for *10%.

Accordingly, one break ADF test developed by Zivot & Andrews (1992), one break LM test developed Lee & Strazicich (2013), two break ADF test developed by Narayan & Popp (2010), two break LM test developed by Lee & Strazicich (2003) and two breaks KPSS test developed by CiS & Sanso (2007) were applied to the series which take into account

possible breaks in level and level and trend. According to the results presented in Table 4, considering the structural breaks in the variables, all variables are stationary at level.

Table 4. Unit Root Tests with Structural Breaks

Test Items	Break in Level (Mod A)			Break in Level and Trend (Mod C)		
	REX	EXP	IMP	REX	EXP	IMP
One break ADF test (Zivot & Andrews, 1992)						
ADF Stat	-1.80	-3.77	-3.46	-3.61	-6.86***	-5.50**
Break Date	36	25	48	118	69	57
Fraction	0.15	0.10	0.20	0.50	0.29	0.24
Lag	12	11	10	12	11	10
One break LM test (Lee & Strazicich, 2013)						
LM Stat	-2.19	-5.48***	-2.48	-4.24*	-6.38***	-4.02
Break Date	100	38	68	105	59	59
Fraction	0.42	0.16	0.28	0.44	0.25	0.25
Lag	5	10	10	6	10	10
Two break ADF test (Narayan & Popp, 2010)						
ADF Stat	-4.40**	-12.1***	-5.38***	-7.65***	-12.8***	-6.97***
Break Date	56, 200	28, 117	29, 57	109, 204	25, 110	57, 193
Fraction	0.23, 0.85	0.11, 0.49	0.12, 0.24	0.46, 0.86	0.10, 0.46	0.24, 0.82
Lag	12	11	10	12	11	10
Two break LM test (Lee & Strazicich, 2003)						
LM Stat	-2.58	-6.33***	-2.87	-5.76**	-12.4***	-5.91**
Break Date	31, 100	42, 118	68, 71	94, 201	28, 111	59, 195
Fraction	0.13, 0.42	0.17, 0.50	0.28, 0.30	0.40, 0.85	0.11, 0.47	0.25, 0.83
Lag	5	10	10	6	10	10
Two breaks KPSS test (CiS & Sanso, 2007)						
KPSS Test	0.06*	0.11***	0.08*	0.06**	0.04*	0.13
Break Date	60, 214	26, 118	34, 58	14, 105	70, 111	18, 68
Fraction	0.25, 0.91	0.11, 0.50	0.14, 0.24	0.06, 0.44	0.29, 0.47	0.07, 0.28

ZA (1992) One Break in Level CVs: -5.34 for ***1%, -4.80 for **5%, -4.58 for *10%. **ZA (1992)** One Break in Level and Trend CVs: -5.57 for ***1%, -5.08 for **5%, -4.82 for *10%. **LS (2013)** One Break in Level CVs: -4.23 for ***1%, -3.56 for **5%, -3.21 for *10%. **LS (2013)** One Break in Level and Trend CVs: -5.07 for ***1%, -4.47 for **5%, -4.20 for *10% when λ is 0.2, -5.15 for ***1%, -4.45 for **5%, -4.18 for *10% when λ is 0.3, -5.05 for ***1%, -4.50 for **5%, -4.18 for *10% when λ is 0.4. **NP (2010)** Two Break in Level CVs: -4.95 for ***1%, -4.31 for **5%, -3.89 for *10%. **NP (2010)** Two Break in Level and Trend CVs: -5.57 for ***1%, -4.93 for **5%, -4.59 for *10%. **LS (2003)** Two Break in Level CVs: -4.54 for ***1%, -3.84 for **5%, -3.50 for *10%. **LS (2003)** Two Break in Level and Trend CVs: -6.16 for ***1%, -5.59 for **5%, -5.27 for *10% when λ_1 is 0.2 and λ_2 is 0.4, -6.33 for ***1%, -5.71 for **5%, -5.33 for *10% when λ_1 is 0.2 and λ_2 is 0.8, -6.42 for ***1%, -5.65 for **5%, -5.32 for *10% when λ_1 is 0.4 and λ_2 is 0.8. **CS (2007)** One Break in Level

CVs: 0.12 for ***99%, 0.08 for **95%, 0.07 for *90% when λ_1 is 0.2 and λ_2 is 0.9, 0.16 for ***99%, 0.10 for **95%, 0.08 for *90% when λ_1 is 0.1 and λ_2 is 0.5, 0.14 for ***99%, 0.09 for **95%, 0.08 for *90% when λ_1 is 0.1 and λ_2 is 0.2. **CS (2007)** One Break in Level and Trend CVs: 0.08 for ***99%, 0.06 for **95%, 0.04 for *90% when λ_1 is 0.1 and λ_2 is 0.4, 0.07 for ***99%, 0.05 for **95%, 0.04 for *90% when λ_1 is 0.3 and λ_2 is 0.5, 0.11 for ***99%, 0.08 for **95%, 0.05 for *90% when λ_1 is 0.1 and λ_2 is 0.3.

The fact that the variables are stationary shows that the series do not carry the shocks they receive over time and tend to return to the average. The technical advantage of this result is that, since the asymmetric causality test follows a Toda-Yamamoto (1995) process, the maximum degree of integration should be known. In the unit root tests, the series were found to be stationary at level and therefore the d_{max} value was determined as 0.

3.3. Causality Analysis

The maximum number of lags for the variables was set to 12, the d_{max} value to 0, and the bootstrap replication number to 1000, and analyses were performed. For the number of lags to be 12, the frequency of the data was considered to be monthly. The d_{max} value was determined to be 0 since there are no unit root in the data and they are stationary at the level. The results of the asymmetric causality test applied to the data were presented in Table 5. According to the results, three significant causality relationship was determined from the real exchange rate variable to both export and import variables. The results revealed that positive shocks in the reel exchange rate are the causes of positive shocks in the fisheries export, and negative shocks in the reel exchange rate are the cause of positive shocks in the fisheries export. In addition, positive shocks in the real exchange rate are the cause of negative shocks in the fisheries import.

Table 5. Asymmetric Causality Test Results

	R+E⁺	R+E⁻	R-E⁻	R-E⁺	R+I⁺	R+I⁻	R-I⁻	R-I⁺	
Optimal Lag;VAR(p)	1	2	2	2	1	2	3	2	
Additional Lags	0	0	0	0	0	0	0	0	
Test Stat (MWALD)	5.50	3.38	0.80	4.64	1.50	4.63	0.66	0.53	
Asym. chi-sq. p-value	0.01**	0.18	0.66	0.09*	0.22	0.09*	0.88	0.76	
Critical Val.	1%	12.0	16.3	10.4	11.4	13.0	14.9	15.4	13.4
	5%	7.94	8.85	6.87	6.59	8.09	10.1	9.70	7.25
	10%	6.64	7.00	5.06	5.11	6.12	8.45	7.91	5.30

Significance levels ***1%, **5%, *10%. "R" refers to Real Exchange Rate, "E" refers to Export, and "I" refers to Import

Conclusions

The findings of the study provide originality in two aspects. Firstly, according to the analysis, both the real exchange rate variable and the

fisheries export and import variables have nonlinear structures. This shows that parameters change over time in structures modeled with these variables. It can be said that macro-economic instability is the basis of the factors that lead to this. In particular, the recent exchange rate attacks exposed by Turkey may be the main causes of this non-linear structure. The country's dependence on foreign sources in terms of energy resources and high ratio of the imported intermediate goods in exported goods give a permanent trade deficit and affect the stability of the exchange rate of the country. Secondly, the relatively complex structure of the fisheries trade may cause its relationship with the exchange rate to be asymmetrical. This possibility was observed in the studies mentioned in the literature section and was evaluated in the research with the method used and asymmetrical relationships were determined in several directions. In the literature, the study provides an original contribution in terms of examining the relationship between these variables and using a nonlinear method in the examination process.

In our study, we analyzed both import and export variables, but our main focus is, of course, the impact on export values. In addition, the real exchange rate variable was chosen, considering that it would be a better indicator of changes in the exchange rates in Turkey. The increase in the real exchange rate variable indicates that the Turkish lira's purchasing power has increased, while its decrease indicates a decrease in the purchasing power. Three significant causal relationships were determined from real exchange rate to fisheries trade, and two of them were related to fisheries export.

The first one is from positive shocks in the real exchange rate to positive shocks in the fisheries export. The increase in the value of the Turkish lira and the increase in export values were not an intended result, as when the value of products in the country increased, exports would be expected to decrease. This may have been caused by the fact that the gains in other countries' currencies were greater than the Turkish lira and the relative price increase in Turkey was less. The second one is from negative shocks in the real exchange rate to positive shocks in the fisheries export. This result indicates that the shocks that decrease the value of the Turkish lira are the cause of the increase shocks in fisheries exports. As mentioned in general trade theories, assuming that the relative prices in other countries are fixed, if the country's currency value decreases, the prices of its products also decrease, and this increases the demand for the products of that country. That is, the depreciation of the Turkish lira positively affected the export of fisheries in the period under consideration. The third one is

from positive shocks in the real exchange rate to negative shocks in the fisheries import. The expected situation in the case of imports was that the appreciation of the Turkish lira would increase imports or vice versa, but this result could not be achieved. In general, depreciation in the Turkish lira have a positive impact on fisheries exports. A negative effect from the appreciation could not be determined econometrically. This may have been caused by the structure of the fisheries market and financial relations. Long-term or forward-dated agreements may protect export relations from increase in value of the currency. The depreciation of the Turkish lira may also open the door to new agreements or customers. However, other significant econometric relationships identified (positive-positive export, positive-negative import) need to be explained in future studies.

Further studies can also analyze the individual products under the title of fisheries and which products are affected more by exchange rate movements. In addition, more practical findings can be obtained by evaluating the effect of exchange rate on fisheries foreign trade through interviews with sector stakeholders.

References

- Açık, A., Sağlam, B. B., & Tepe, R. (2019). "Time-varying causality between exchange rate and container handling volume in Turkish ports." *Transport & Logistics: the International Journal*, 19(46), 1-11.
- Ata, H. A. & Arslan, İ. (2003). "Döviz kuru ve dış ticaret hacmi ilişkisi: Türkiye örneği (1980-2000)." *Afyon Kocatepe Üniversitesi İ.İ.B.F. Dergisi*. 5(2), 105-123.
- Baum, C. F., Caglayan, M., & Ozkan, N. (2004). "Nonlinear effects of exchange rate volatility on the volume of bilateral exports." *Journal of Applied Econometrics*, 19(1), 1-23.
- Berman, N., & Berthou, A. (2009). "Financial market imperfections and the impact of exchange rate movements on exports." *Review of International Economics*, 17(1), 103-120.
- Bini-Smaghi, L. (1991). "Exchange rate variability and trade: Why is it so difficult to find any empirical relationship?" *Applied economics*, 23(5), 927-936.
- Brock, W., Dechert, W. & Scheinkman, J. (1987). A test for independence based on the correlation dimension. Working Paper. Department of Economics, University of Wisconsin, Madison.

- Carrion-i-Silvestre, J. L., & Sansó, A. (2007). "The KPSS test with two structural breaks." *Spanish Economic Review*, 9(2), 105-127.
- CBRT (2019). CPI based real effective exchange rate. Retrieved from <https://evds2.tcmb.gov.tr/index.php?/evds/dashboard/1550>, (Accessed: 18.08.2019)
- Chen, L. (2011). "The effect of China's RMB exchange rate movement on its agricultural export." *China Agricultural Economic Review*, 3(1), 26-41.
- Chi, J. & Cheng, S. K. (2016). "Do exchange rate volatility and income affect Australia's maritime export flows to Asia?" *Transport Policy*, 47, 13-21.
- Dickey, D. A. & Fuller, W. A. (1979). "Distribution of the estimators for autoregressive time series with a unit root." *Journal of the American Statistical Association*, 74, 427-431.
- Engle, R.F. (1982). "Autoregressive conditional heteroscedasticity with estimates of the variance of U.K. inflation." *Econometrica*, 50, 987 – 1008.
- Erdem, E., Nazlioglu, S., & Erdem, C. (2010). "Exchange rate uncertainty and agricultural trade: Panel cointegration analysis for Turkey." *Agricultural Economics*, 41(6), 537-543.
- Güneş, S , Çakmak, L & Cambazoğlu, B . (2018). "Reel kurun ihracat performansına etkisi: Denizli örneği." *Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 32, 263-270 .
- Hatemi-j, A. (2012). "Asymmetric causality tests with an application." *Empirical Economics*, 43(1), 447-456.
- Hatemi-J, A., & Uddin, G. S. (2012). "Is the causal nexus of energy utilization and economic growth asymmetric in the US?" *Economic Systems*, 36(3), 461-469.
- Khosa, J., Botha, I., & Pretorius, M. (2015). "The impact of exchange rate volatility on emerging market exports." *Acta Commercii*, 15(1), 1-11.
- Kim, C. B. (2016). "Impact of exchange rate movements, global economic activity, and the BDI volatility on loaded port cargo throughput in South Korea." *The Asian Journal of Shipping and Logistics*, 32(4), 243-248.

- Kim, C. B. (2017). "Does exchange rate volatility affect Korea's seaborne import volume?" *The Asian Journal of Shipping and Logistics*, 33(1), 43-50.
- Kösekahyaoğlu, L. & Karataşlı, İ. (2018). "Türkiye-AB dış ticaretinde J eğrisi etkisi: 1994-2016 dönemi üzerine ampirik bir inceleme." *Suleyman Demirel University Journal of Faculty of Economics & Administrative Sciences*, 23(Special Issue in memory of Geybullu Ramazanoğlu), 831-844.
- Kutlu, S. (2013). "Changes in exchange rates and the balance of trade: A literature survey with reference to Turkey's foreign trade." *Ataturk University Journal of Economics & Administrative Sciences*, 27(2), 121-140.
- Kwiatkowski, D., Phillips, P.C.B., Schmidt, P. & Shin, Y. (1992). "Testing the null hypothesis of stationarity against the alternative of a unit root." *Journal of Econometrics*, 54, 159-178.
- Lee, J & Strazicich, M.C. (2003). "Minimum lagrange multiplier unit root test with two structural breaks." *Review of Economics and Statistics*, 85(4), 1082-1089.
- Lee, J & Strazicich, Mark C. (2013). "Minimum LM unit root test with one structural break." *Economics Bulletin*, 33(4), 2483-2492.
- Ljung, G. M., & Box, G. E. (1978). "On a measure of lack of fit in time series models." *Biometrika*, 65(2), 297-303.
- McKenzie, M. D. (1998). "The impact of exchange rate volatility on Australian trade flows." *Journal of International Financial Markets, Institutions and Money*, 8(1), 21-38.
- Narayan, P. K. & Popp, S. (2010). "A new unit root test with two structural breaks in level and slope at unknown time." *Journal of Applied Statistics*, 37, 1425-1438.
- Phillips, P.C.B. & Perron, P. (1988). "Testing for unit root in time series regression." *Biometrika*, 75, 335-346.
- Saatçioğlu, C. & Karaca, O. (2004). "Türkiye'de ihracat ile büyüme arasındaki nedensellik ilişkisi: 1980 dönüşümünün etkisi." *İstanbul Üniversitesi İşletme Fakültesi Dergisi*, 49, 30-40.

- Shahbaz, M., Van Hoang, T. H., Mahalik, M. K., & Roubaud, D. (2017). "Energy consumption, financial development and economic growth in India: New evidence from a nonlinear and asymmetric analysis." *Energy Economics*, 63, 199-212.
- Toda, H.Y. & Yamamoto, T. (1995). "Statistical inference in vector autoregressions with possibly integrated processes." *Journal of Econometrics*, 66, 225-250.
- Tugcu, C. T., & Topcu, M. (2018). "Total, renewable and non-renewable energy consumption and economic growth: Revisiting the issue with an asymmetric point of view." *Energy*, 152, 64-74.
- Tugcu, C. T., Ozturk, I., & Aslan, A. (2012). "Renewable and non-renewable energy consumption and economic growth relationship revisited: Evidence from G7 countries." *Energy Economics*, 34(6), 1942-1950.
- TUIK (2019). Fisheries statistics. Retrieved from <https://biruni.tuik.gov.tr/disticaretapp/disticaret.zul?param1=2¶m2=0&sitcrev=0&isicrev=3&sayac=5804>, (Accessed: 18.08.2019).
- Umar, M., & Dahalan, J. (2016). "An application of asymmetric Toda-Yamamoto causality on exchange rate-inflation differentials in emerging economies." *International Journal of Economics and Financial Issues*, 6(2), 420-426.
- Vergil, H. (2002). "Exchange rate volatility in Turkey and its effect on trade flows." *Journal of Economic & Social Research*, 4(1), 67-80.
- Yurtoğlu, Y. (2017). "Reel döviz kuru ile ihracat arasındaki nedensellik ilişkisi: Türkiye örneği (1997-2015)." *Gazi İktisat Ve İşletme Dergisi*. 3(1), 71-88.
- Zivot, E. & Andrews, W.K. (1992). "Further Evidence on the great crash, the oil-price shock, and the unit-root hypothesis." *Journal of Business & Economic Statistics*, 10(3), 251-270.

A PROBLEMATICAL APPROACH TO THE PRESENTATION OF PUBLIC GOODS, AND PROBABLE DEVIATIONS IN THE QUASI-MARKETS

*Ahmet Niyazi Özker**

Introduction

The structural properties of public goods directly affect the scale of presentation of these goods and the relations of presentation in the goods markets. The fact that there is no competitive advantage in the introduction of full public goods, and their indivisibility, creates different effects for the markets in which they are offered. This problematical approach to the presentation of full public goods can cause possible deviations in the quasi-markets where the quasi-public goods are offered, or in the internal markets, as well as the effects of welfare distribution. In this respect, the level of influence of possible political dynamics in the performance of full public goods has to be addressed with possible levels of influence and deviations to be created in the quasi-markets (Latif et al., 2011: 2). Structural different characteristics of public goods differentiate the scales of the benefit provided by the presentation of these goods and services, as well as differentiate the presentation structure of public goods offered for possible markets (Stiglitz, 2000: 14-15). It is worth remembering that the primary element that creates deviations in the presentation of public goods is related to the focus of the process of making decisions regarding the production of these goods within the political approaches (Laudal, 2020: 7).

The political nature of the public decision-making process, in which the production and presentation of full public goods is handled, can cause inevitably significant deviations in the presentation of these goods (Hjerpe, 1997: 44). In this context, the politicized attribution of public decisions may reveal significant benefit distribution deviations in the presentation of these goods, which are often far from market goods. The fact that these public goods are subject to market prices on the basis of quasi-markets, or internal markets, can be described as the second important reason for deviation (World Health Organization, 2013: 13). At this point, public goods, which are subject to production and presentation in the markets, are able to cause micro-based production and presentation problems for the sectors with possible structural deviations related to public welfare efficiency. Considering that the primary purpose in the

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presentation of national and global full public goods is the optimal benefit-welfare distribution in return for optimal costs, public interventions to ensure the delivery of benefits in the quasi-markets are also frequently included in the process. In this framework, it is observed that public responses for the public offering of public goods are aimed at eliminating deviations in the effectiveness of the public, as well as preventing deviations in the distribution of production factors aimed at securing sectoral market balances (Bourdin and Vetschera, 2018: 331). However, the explanation of these structural deviations in the presentation of public goods through single-focus public intervention process reveals an incomplete framework for analyzing the effects of the distribution of benefits of the public goods that can also occur with market balances. In this respect, the approach taken in a problematical framework for the presentation of public goods necessitates a holistic structure, which is addressed by equilibrium dynamics in the quasi-markets (UNIDO, 2008: 109).

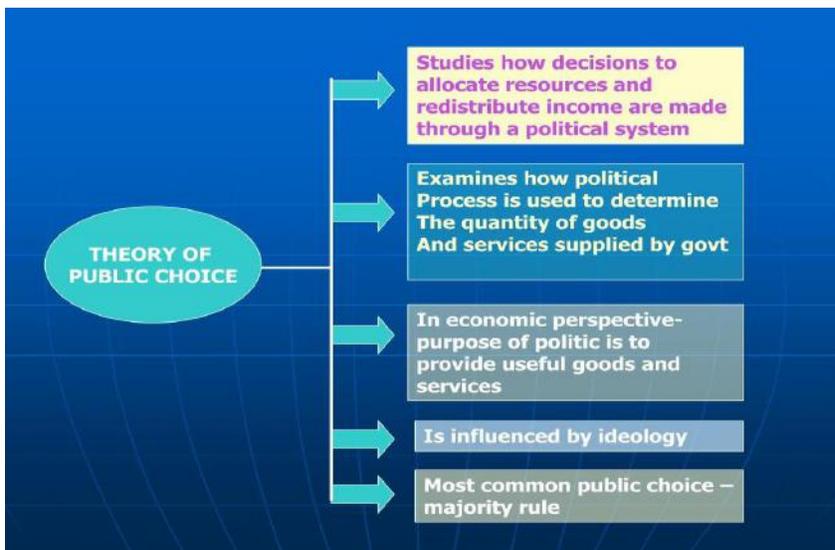
1. The Public Choice Theory in The Presentation of Public Goods and Its Problematical Framework

The problematical approach to the presentation of public goods reveals an approach framework that mainly focuses on the presentation of national public goods. Therefore, the differences of the dynamics of our problematic approach to the presentation of global public goods due to some of its own unique structural features with national public goods, make strategies thought the public goods presentation analyses process need closer to the national public choice theory (Malkiel, 2003: 5-7). The reflection of public qualified social demands to the decision making process in the presentation of public goods is in question with a structural transfer process called the public selection theory (UNIDO, 2008: 33).

1.1. The Dynamics of public choice theory and Its Political Decisions Structure

While the public choice theory approach affects the process of public decisions with its sub-dynamics, it can also cause some possible deviations in the production and presentation of public goods (Eryilmaz, 2015: 377). These deviations related to the presentation of public goods related to the public selection theory arise from the production factors distribution of goods primarily intended to be produced and presented. In other ways, the public decisions making process effecting on public financing policies for public goods and services can manipulate existing taxes that are the most important public financial source. Certainly, this structure of public financing sources, which does not comply with the intended public presentation process, has a negative effect on the demand preferences conveyed by consumers through the voting mechanism.

In another word, public decisions making process directly effecting on public financing policies for public goods and services can manipulate existing taxes that are the most important public financial source (Hjerppe, 1997: 2). This structure of public financing sources, which does not comply with the intended public presentation process, has a negative effect on the demand preferences conveyed by consumers through the voting mechanism (Mueller, 2008: 36). This discrepancy between public resources and public offering purposes is a valuable resource and presentation deviation often seen in underdeveloped countries and is a major also a meaningful cause of deviation for the distribution of public goods for many public economists. Figure 1 shows the dynamics of public choice theory and its structural relationship with the distribution process of public goods.



Source: SlideServe (2020), Public Choice, <https://image3.slideserve.com/6206258/slide2-1.jpg> (Accessed 01.05.2020).

Figure 1. Resource Allocations and Distribution Decision Dynamics in Public Choice Theory

The relationship between the problematical in the presentation of public goods and the process related to the public choice theory constitutes a meaningful factorial distribution process with the effects of the decisions taken on the factor distributions. But, as illustrated in Figure 1, it is not enough to approach to put forth clarity through the presentation problematic of the public goods of the factor distribution relationship only. A strategy in which the structural dynamics of the current political system and deviations in income distribution are not included in the analysis process reveals a structure that also weakens the political effectiveness of the public decision process (Butler, 2012: 12). Therefore, this situation

regarding the presentation of public goods also provides a reason for a public presentation process where the existence of possible public interventions in the introduction of public goods is inevitable.

As followed in Figure 1 within the framework of the dynamics affecting the public choice theory, a political interventionist approach in the presentation of public goods results in a structure where public goals come to the fore rather than social demands. In this context, the ideological infrastructure of the approaches taken in an economic perspective, which is in fact a higher structural institution, comes to the fore with an interventionist structure in the process of decisions taken on common public goods. In particular, the decisions taken regarding the presentation of common public goods make the cost element of public goods more meaningful in the process due to the ideological approaches in the public decisions making process that present a different stoicism structure than the public choice theory.

Certainly, this structural phenomenon means inevitably meaningful deviations in the optimal welfare theory approach as related to public goods presentations (Schnellenbach and Schubert, 2104: 19-20). However, it should be emphasized that the basic deviations related to the optimal welfare approach to public choice theory at each stage lies a structure affected by a common reconciliation-decision process, where the presentation of public goods and the pursuit of political balance meet. In this respect, the production and presentation process of public goods in which the public choice theory is manipulated is determined within the frame of political balance dynamics, and this process also makes it inevitable to emphasize a structure in which political balance dynamics are determined.

1.2. Possible Deviations related to Political Balances in The Presentation of Public Goods

As we have already mentioned, there is a need to identify and clarify the political determinants that are aimed at reconciling social preferences and political balances for purposes rather than optimal scales in the presentation of public goods. From the point of view of the public choice theory, the basis of this approach lies in the higher acceptance and approval of possible presentation problems, rather than the recognition of political decisions regarding public goods made in the process of public decisions more than a small part of the society.

Undoubtedly, this approach means a process in which the cost-benefit analysis, which also takes into account the possible externalities of political decisions, is also discussed. This process of seeking a political balance related to the problematic structure in the presentation of public goods is based on the approach that possible negative externalities, as deviations in

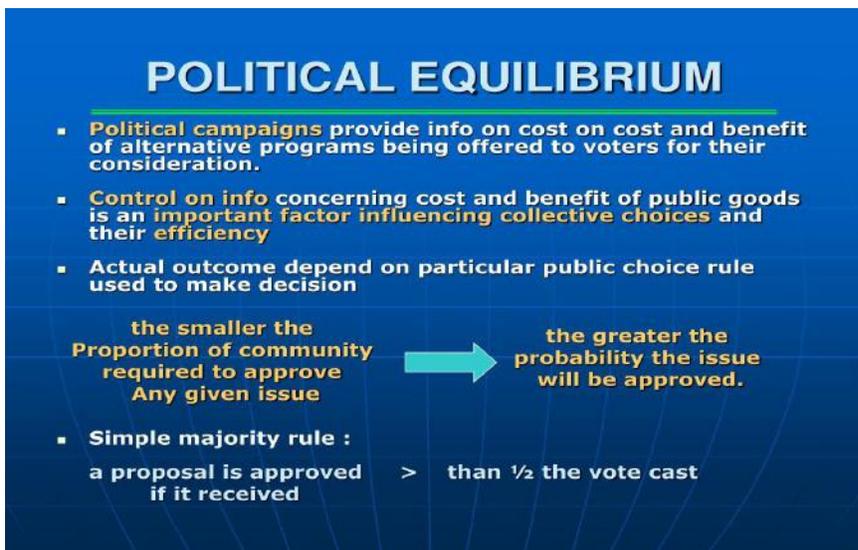
the cost-benefit analysis, will not be in question in the extent that the preferences are reflected to the decision process (Block, 1983: 8). In this context, it is possible to list the determinants of the political balances regarding the presentation of basic public goods within the framework of public choice approaches as follows below:

- In the presence of public goods, determining the current valid rules of the public choice approaches in the relevant period and the social dynamics of each rule with social demands included in the public decision-making processes. In brief, introducing the structural rules of *Public Choice Theory* approaches and a political balance mechanism as a standard set of rules in addressing possible problematical evaluation phenomena in the presentation of public goods and be included to this process (Buchanan, 2003: 2).
- Determining the *Average and Marginal Costs* that directly affect the political approaches in the presentation of public goods and discussing the cost-benefit analysis in a framework in which the social benefit criteria are primarily handled in the public decision-making process. Determining the operational infrastructure of the process by explicitly addressing the public operational framework for the analysis of the phenomenon of *Natural Monopolies* in the presentation of public goods as a result of cost-benefit analysis (Ward, 2019: 3).
- To share information with voters who form the basic dynamics of the theory of public preferences regarding possible Average and Marginal Costs to create socio-political balances in the presentation of public goods. Besides, to include the opinion of voters informed in the decision-making process, which offers the opportunity to compare the costs offered with the costs of possible alternative public goods. To achieve socio-political balance in this way, to ensure that average costs are compared with welfare targets in terms of social sharing of social costs (Bruce, 1976: 23).
- Informing taxpayers in the financing of the costs related to the production and presentation of public goods is meaningful to the optimal distribution of public goods. Because the most important of the public funding sources, taxes are an important socio-political balance factor in ensuring political balances, certainly, these costs are included in the process as tax prices in the presentation of public goods. This fact that their approach to how the tax burden perceives the distribution process in terms of obliged parties necessitates being included in the public-decisions process. In this respect, the fact that socio-political balances take place in the process as balance dynamics within the framework of

social preferences is meaningful in the terms of holistic political balance dynamics as intended to the presentation of public goods (Diamond and Mirrlees, 1971: 13-14).

- How to distribute benefit among voters in determining the political balance dynamics makes the existence of a more politically fair approach inevitable in the process. In addition to this, it is very essential to ensure political balances in the production of public goods offered, as well as to share the benefits created by the produced goods among voters, as well as a fairer factorial distribution between the private and public sectors. Voters aim to achieve the highest gain with their utility maximization approach. This approach offers a structure that expresses its political balance with each of these internal dynamics as related to *Public Choice Theory* (Holcombe, 2019: 19).

The infrastructure framework of political balances, addressed within the public chooses for the presentation of public goods, is set out in Figure 2 below:



Source: SlideServe (2020), Public Choice, <https://image3.slideserve.com/6206258/political-equilibrium2-1.jpg> (Accessed 01.05.2020).

Figure 2. Political Equilibrium Approach for the Public Decisions in the Public Choice

The effective political process, which may cause possible deviations in the presentation of public goods, also brings some structural solutions to the agenda within the scope of the search for political balance. As seen in

Figure 2, it is the first threshold of this situation that alternative presentations are also included through public goods containing alternative costs within the scope of political campaigns. In addition to this, the inclusion of social Public Choice theory dynamics in the control process of social benefit-cost analysis constitutes the second stage of this situation. On the other hand, this approach is also an important factor in the control and analysis of the benefits and costs included in the process of understanding collective choices and the level of influence of these choices.

Because, as it is mentioned before, this approach is based on that the smaller the cumulative response level in analysing the problematic structure of public goods, the higher the probability of the issue being approved. On the other hand, the political balance in the presentation of public goods is concerned with the process of dealing with the level of production of the public goods or goods offered with the need for financial resources. This approach, which indirectly means sharing the social tax burden, also means that the cost of each unit of goods produced and offered by the public is equal to the price expressed as the tax price (Hoffman, 2019).

As public choice analytics, it can be said that the cumulative tax burden in the presentation of public goods is equal to the average tax burden on which all voters are burdened as a cost. It can be said that the deviations in the presentation of public goods emerged within the framework of this approach. Certainly, failure to measure the benefit values versus costs in the presentation of public goods can cause significant deviations in the tax burden-sharing as a result of possible changes in the price of the goods expressed as tax prices. This fact, the limited ground of alternatives in the presentation of public goods, often carries tax prices above the ongoing cost provision values (Hoffman, 2019).

These operational deviations towards practices are seen in the process as a major cause of political deviations or politicized decisions in the presentation of public goods. However, the striking deviations in the presentation of public goods are more in question in the production and presentation of public goods, which are located in the quasi-markets, rather than in full public goods. These markets, also called half markets, represent markets where some public goods are also produced by the private sector and reveal a structure that causes possible deviations in the presentation of public goods (Buckley and Croson, 2006: 941-942).

2. The Position of Quasi-Market Dynamics, and Its related to the Public Goods in Deviation Process

Whether the presentation of some public goods will be directly presented via the public or in the markets, the presentation of public goods

and services is a result of the search for effective directly related to the presentation of these goods. This approach refers to a broader perspective than questioning which goods will be produced by the public and which goods by the private sector.

The fact that public goods produced by the public are produced by the private sector of the same quality causes these goods to be perceived as market goods in the presentations regarding the markets. Public goods and services have ceased to be full public goods depending on the periodic changes in the past, and have been the subject of cost transactions, which also express market prices. Therefore, the phenomenon of the quasi-market for public goods is also the markets that highlight public funding support in increasing the effectiveness of private goods market offers (Uler, 2010: 291-292).

2.1. The Presentation of Public Goods in the Quasi-Markets and Its Position in the Process

The presentation of public goods in the quasi-markets is directly related to its position in markets where market prices form a balance process with the private sector. Pricing models of public goods also change in the quasi-markets, where the characteristics of being full public goods differ, and this phenomenon is a related to express of possible deviations in the presentation of public goods. At this stage, the phenomenon of quasi-markets comes into play and the financing of market goods produced by the private sector in the agenda by the public sector. Therefore, the market mechanisms in which the financing of the consumption of public goods produced in the market such as education and health is provided by the public is emphasizing a process that expresses the market-financing balance between the public sector and the private sector as quasi-markets. In a more self-meaning, the quasi-markets are markets where the public goods offered are private on the supply side but not depends on the income limits of consumers the demand side due to be financed by the public sector (Kirmanoğlu, 2014: 142).

The aim of the quasi-markets aims to increase the utility-scale of the public good offered by the private sector in the market and to ensure a socially effective benefit-presentation distribution. Within this scope, it is a primary goal to achieve an effective level in the distribution and presentation of public goods and to ensure a fair demand efficiency. In cases where the distribution of social income is impaired, this positive effect of public financing on demand is aimed at increasing the presentation efficiency of public goods by creating a balance different from the market operation. In addition to some important goods such as education and health services offered in the quasi-markets, there are also agricultural products produced by the private sector but whose purchasers

or financiers are only the public sector. Supporting these products supplied by the private sector through direct public financing creates a meaningful the whole of relationships set of relationships for financing and presentation of public goods through diversified structural strategies between the public and the private sector (Mulder, 2004: 218). Structural, strategic variations in the production and presentation of public character goods between the private and public sector can be seen in Table 1 below, which is in the context of financial resources and presentations (Grassi.and Albert Ma, 2012: 5).

Table 1. Structural Strategies in the Presentation of Public Goods in Quasi-Markets

		FUNDING	
		Public	Private
DELIVERY	Public	Deconcentration Devolution <i>[Move toward federalism]</i>	Cost recovery (fee-based) projects <i>[Commodification of information]</i>
	Private	Contracting out to public and/or private providers Subsidies to producers to hire private providers <i>[Enabling the private sector]</i> Funding for community-driven development <i>[Subsidiarity]</i>	Commercialization Total privatization to private companies <i>[Shifting authority for the public good to the private sector]</i> Withdrawal from support for extension, leaving responsibility to NGOs <i>[State withdrawal from agricultural extension]</i>

Diversified Strategies

Source: FAO (2020), *Public Sector Agricultural Extension*, <http://www.fao.org/3/Y5061E/y5061e06.htm> (Accessed 04.05.2020).

While the presentation of public goods in the quasi-markets is by the private sector, public financing support can be said to operate in two directions rather than unilaterally. As can be seen in Table 1, although the production costs of the public goods produced by the private sector partially cover the private sector, there is a situation where the presentation costs are covered by public financial supports. Here, in terms of public financing, the weight is the public financing support in public presentation rather than the costs of manufactured goods. In this respect, the quasi-markets also express a market integrity that shares the financing costs of publicly produced public goods for both sectors (Grassi.and Albert Ma,

2012: 21). Therefore, it is observed that the presentation and distribution costs of publically character goods continue on a different public support scale in the quasi-markets where diversified strategies are involved in the production and presentation of public goods. Therefore, while the presentation of these goods is within the scope of the private sector, the creation of the consumption margins of these publically character goods as a result of the aim of social welfare and socio-economic developments is supported directly by public financing policies. Again, within this framework, financing and presentation of publically goods put forth also effective activities related to local government practices (Local Government Forum, 2008: 18). This position of quasi-markets frequently brings up the phenomenon of fiscal federalism in this case, and the public goods offered by the private sector regionally are evaluated outside of a central public finance policy (Guimaraes and Chilenga, 2018: 16). It should be noted that publicly financed financing in the quasi-markets is not only related to the presentation and consumption of public goods but also to support the private sector producing these goods through subsidies. A process in which the private sector is financed in this way by public financing also reveals an important public financing activity with its effect on the costs associated with the presentation of these goods. Supporting the private sector hiring and factor input costs in the quasi-markets through public financing is a meaningful example of a two-way functional financing policy in financing the presentation of characteristic public goods.

2.2. Possible Deviations and Dynamics of Deviation in the Presentation of Public Goods in The Quasi-Markets

The quasi-markets are influenced by different structural market elements in the presentation of public goods with their unique market dynamics. It is the differences in the different approaches and impact levels in the presentation and financing of these goods, which most clearly reveal the structural features of these markets as related to probably deviations. Therefore, this approach makes it inevitable to consider the structural differences between the quasi-markets and internal markets for analysis of possible deviations in the presentation of public goods and dynamics related to them. In addition, publically regulatory interventions in organizing these markets and operational relations with other markets in ensuring resource efficiency are closely related to the location of the dynamics related to the structural deviations of the quasi-markets. The transactional transparency of these markets to the public and the levels of influences of public financial resources in the management of the markets also have an important location and role in understanding the functioning of the quasi-markets and deviations in the possible impact level.

Even more, it must be required to attract attention that the production of publically goods and services in the quasi-markets has a larger market distribution scale than is expected (Lewis, 2017: 12-13). The weakly insufficient relationship of public goods to public financial politics in the quasi-markets is a significant reason-cause deviation in the presentation of these goods in the quasi-markets. Therefore, the level of influence of the goods produced and presented in the quasi-markets, regardless of their level, is directly related to the financial limits in which these goods are financed by the public and the existence of insufficient public financing policies in a process where the quasi-internal organizations. And at this point, the internal markets are incompatible, and probable deviations in the presentation of public goods in these markets are inevitably, and this case also reveals the context of structural contradictions.

Table 2. The Deviation Dynamics in the Quasi and Internal Markets during Public Goods Presentations.

	Quasi-internal Organization	Internal Market
Headquarters	• Government	• Chairman & PCO
Members	• Large business groups	• Group subsidiaries
Rationale	• Mitigation of information imperfection • Reduction of business uncertainty	• Failures of external markets
Main Tasks: Sources of Efficiency	• Information exchanged/centralized • Coordination of major investment projects • Performance monitoring (exports, etc.)	• Information exchanged/centralized • Productive factors redeployed within a group for best uses • Performance monitoring (profits, market share, etc.)
Conditions of Success	• Government/leadership strongly committed to economic development • Low corruption and high quality civil service • Small number of participants • Strong incentives	• Non-interference of family interests • Adequate corporate governance mechanisms • Manageable group size or diversification and compatible organizational structure
Causes of Organizational Degeneration	• Corrupt symbiosis → Discretionary/non-transparent regulations → Zigzag <i>chaebol</i> policies: poor corporate governance legislation, bailouts of troubled firms, etc.	• Family interests first → Expropriation of minority shareholders, ‘socialism’, etc. • Growing strain on organizational structure and management

Source: Sang-Woo NAM (2001), *Family-Based Business Groups: Degeneration of Quasi Internal Organizations and Internal Markets in Korea*, ADB Institute Research Paper No: 28, Tokyo: Asian Development Bank Institute, 2001.

Table 2 describes the structural dynamics that may affect and cause deviations the presentation of public goods within the framework of the

structural relations established by quasi-market organizations with internal markets. As it is seen in Table 2, it is necessary to emphasize the role of different actors in the process of structural relations with the quasi-markets and internal markets in the presentation of public goods. In the market organizations related to the quasi-markets, the main element that predominantly directs the market formation process is the public executive body. In addition, it is mentioned to take attention that the second important the quasi-market actor where the presentation of the public goods produced is provided by large-scale business groups, which complete this structural process.

However, it is observed that the actors, which caused deviations in the process with the decisions regarding the presentation of public goods in the internal markets, are group subsidiaries and members of the executive board. In this respect, the stubs in the presentation of public goods in the quasi-markets arise from the fact that these markets have a different internal market relationship with public financial policies (Saunders, 2015: 6). Competitive structural dynamics of internal markets reveal that publicly funded the quasi-market goods are more susceptible to possible deviations in a politicized process with public decisions. In this context, the structural dynamics that may cause possible deviations in the presentation of public goods in the quasi-markets and their relationship with internal markets related to the presentation deviations can be considered in four main categories.

- **Deviations Related to The Decision Rationality in The Presentation of Public Goods:** As the process of decisions in the presentation of public goods depends on private sector decisions in terms of the limits and presentation of the goods to be produced, public decisions for financial support may create deviations in market presentation balances other than market profit targets. In this case, the extent to which the public goods to be offered in these markets will have an impact on the target market prices emerges as an important uncertainty subject. This uncertainty causes the public goods offered by the private sector to form a different non-rational market balance as inevitably. The striking point for the quasi-markets here is that private sector presentations are directly affected by the decisions taken during the public decision process and are subject to political decisions in financing the goods offered that means that being out of market rationality (Grand, 2011: 83-84).
- **Deviations in The Source of Factorial Effectiveness in The Presentation of Public Goods:** Public property goods offered by the private sector require that investment projects in the quasi-markets be handled in a harmonious process for a process that is

optimal and compatible with public financing policies. The importance of central information-sharing regarding the presentation of public goods for these markets emerges from this point. The efficiency of resources in the quasi-markets depends on the rational distribution of this information sharing and the sectoral distribution of information exchange in the quasi-markets. In each process where resource efficiency cannot be ensured, and effective information distribution does not occur, private sector units will be reluctant to present public property goods in the presentation of public goods. This process, in which performances related to private sector presentations supported by public financing are also monitored, and deviations in resource efficiency are also a process, which means the public financial supports in the efficient presentation of public property goods and support of the consumption of these goods-services (Dan and Andrews, 2015: 3-4). Undoubtedly, this process in the quasi-markets that is considered together with public and private sector means that is also far from optimal intended to the presentations process public property goods process.

- **Deviations to Obstruct The Presentation Success of Public Goods in The Presentations:** The main reason for presentation failures in public offering of public goods in the quasi-markets is the inability of public policies to manage markets and the economy with a strong impact. Public property goods in the quasi-markets cause a loss of performance in the private sector's presentation of these goods, unless the public financial decisions supported via a strong incentive policy in financing public-property goods produced by the quasi-markets. On the other hand, this process is a process in which the performances of the companies producing these goods and services in the markets are also monitored by public policies. At this point, it should be emphasized that the performances of private sector units producing public goods in the quasi-markets are also determining-expanding the target scope of public financial support policies. Public financing of the procurement and consumption of the public goods offered, while strengthening the impact of public financing policies, has also significant impact on the participation of the markets. The uncontrolled nature of political favouritism and bribery in the production and presentation of these public goods, while reducing the presentation quality of public goods, would be caused significant deviations in the number of participants in quasi-markets (Hjerpe, 1997: 15).
- **Deviations connected with Market Organization Degenerations in The Presentation of Public Goods:** The devastating common life

distributions in the country and deviations arising from the non-creative market organizations would cause significant deviations in the presentation of public property goods produced by the private sector. In addition, this phenomenon related to the presentation of public goods can be the subject of an even more negative presentation process, with non-creative market regulations as well as non-transparent practices taking place in the process. However, the produced goods by quasi-markets and publicly financed in the markets would further increase market-oriented organizational degeneration as a result of unstable politics during an unstable policy process. In this framework, the differences in the practice regarding the public legislation and the outdated structure of the scope of the legislation emerge as a reason for a significant deviation in the presentation of public goods as a result of the organizational degenerations it has revealed. In addition to the fact that legislative activities could not be provided effectively to all these possible causes of deviation in Quasi-markets, this fact also expresses weak cooperation with the private sector are an important reason for degeneration in these markets.

Preventing deviations related to the presentation of public goods and increasing the efficiency of the presentation would also require the public financial compensations of firms that are financially deadlocked. In this case, preventing possible deviations would gain a positive meaning depending on the effectiveness of public finance policies, which gradually increase their effectiveness on the markets.

Conclusion

The presentation of public goods is an important phenomenon that is handled within the scope of public policies and often encountered problems in its presentation. In addition to offering public goods and services by the public sector, these public goods are also offered in quasi-markets aimed to increase the effectiveness of these goods, as publicly financed goods, and they also have important effect as goods produced and offered by the private sector. Undoubtedly, it should be emphasized that the socio-political plane of the public choice theory structure in the presentation of public goods is closely related to the subject produced and presented in quasi-markets. In this context, it is observed that the actors in the process of public preferences directly affect the public goods presentation process in both public and quasi-markets.

However, deviations in the presentation of public goods create different impact scales on these markets where these goods or services are financed by public policies. It is to be understood that these deviations in the presentation of public goods in Quasi-markets are not only due to market dynamics but also from the rational decisions taken in public decision processes. Public decisions are decisions that also include public financial policies, and public supports offered to support the private sector in quasi-markets are also policies to support the existence of a competitive quasi-markets. For this purpose, the presentation of public goods in the markets has to include structural policies regarding the reorganization of the markets. Maintaining the competitive structure of the steerable sectors in these markets is an important structural phenomenon in terms of the presentation effectiveness of public goods offered in quasi-markets. In this context, it is seen that the framework of public policies in ensuring good market effectiveness depends on the sectoral distribution of these public goods with effective financial policies and their presentation efficiency.

Within the framework of this approach, it is seen that market conditions are subject to non-rational public decisions, and deviations in the presentation of public goods reveal two important negative dynamics. The first of these are the negative effects of sectoral performances in the production and presentation of public goods, and the negative results arising from the missing position of sectoral information sharing. The second one is the degenerations in the market structure that cause the sectors to produce public goods in quasi-markets to come out of the desired management scale. Another public preferences approach that causes deviations related to the presentation process of public goods is also that the possible contradictions between political preferences and sectoral profit targets. It is understood that these contradictions make public financing policies inevitable to support these sectors in a process in which the private sector is negatively affected as a possible cost factor in the factor distribution of production in quasi-markets. In this respect, it is inevitable that the dynamics that create possible deviations in the presentation of public goods in the quasi-markets should be carried out under a common balance policy both in market conditions and in line with the financing targets of public decisions.

References

- BLOCK, Walter (1983), "Public Goods and Externalities: The Case of Roads", *The Journal of Libertarian Studies*, 7(1), pp. 1-34.
- BRUCE, Colin (1976), "Social Cost-Benefit Analysis: A Guide for Country Project Economists for the Derivation and Application of Economic and Social Accounting Prices", *World Bank Staff Working Paper*, No. 239 (August 1976).
- BUCHANAN, James M. (2003), "The Creation of Public Choice Theory", *Economic Insights*, 8(2), Dallas: Federal Reserve Bank of Dallas, pp. 1-4.
- BUCKLEY, Edward and Rachel CROSON (2006), "Income and Wealth Heterogeneity in the Voluntary Provision of Linear Public Goods", *Journal of Public Economics*, 90, pp. 935-955.
- BOURDIN, David and Rudolf VETSCHERA, (2018), "Factors Influencing The Ratio Bias", *EURO J. Decis Process*, 6, pp. 321-342.
- BUTLER, Eamonn (2012), *Public Choice – A Primer*, Westminster: The Institute of Economic Affairs, 2012.
- DAN, Sorin and Rhys ANDREWS (2015), *Market-Type Mechanisms and Public Service Equity: A Review of Experiences in European Public Services*, Published in Public Organization Review Online first 02 April 2015, <https://core.ac.uk/download/pdf/34632595.pdf>.
- DIAMOND, P. A. and James A. MIRRLEES (1971), "Optimal Taxation and Public Production I: Production Efficiency." *The American Economic Review*, 61(1), pp. 8-27.
- ERYILMAZ, Filiz (2015), "An Economic View on Politics: Public Choice Theory", in *Turkey at the Beginning of 21st Century: Past and Present*, Efe, R., Ayışığı, M., Düzbakar, Ö. and Arslan, M. (Eds.), Sofia: Sofia Univ. St. Kliment Ohridski Publishing, pp. 367-381.
- FAO (2020), *Public Sector Agricultural Extension*, <http://www.fao.org/3/Y5061E/y5061e06.htm> (Accessed 04.05.2020).
- HJERPPE, Reino (1997), *Provision of Public and Merit Goods: Towards an Optimal Policy Mix?*, Research in Progress 10-February 1997, Helsinki: The United Nations University (UNU) World Institute for Development Economics Research (UNU/WIDER), 1997.
- HOFMANN, Elizabeth (2019), *What Goods And Services Are Best Provided By The Public Sector And Which Are Best Provided By The Private Sector?*, <https://www.econ.iastate.edu/node/710>.

- GRAND, Julian Le (2011), “Quasi-Market versus State Provision of Public Services: Some Ethical Considerations”, *Public Reason*, 3(2), pp.80-89.
- GRASSI, Simona and Ching-To ALBERT MA (2012), “Public Sector Rationing and Private Sector Selection”, *Journal of Public Economic Theory*, 14 (1), pp. 1–34.
- GUIMARÃES, Alice Soares and Thoko Jean CHILENGA, (2018), *Local Government and the Provision of Public Goods: decentralization and fiscal autonomy in Nigeria*, ATRN Working paper 01-November 2018, African Tax Research Network (ATRN), Pretoria: The African Tax Administration Forum (ATAF), 2008.
- HOLCOMBE, Randall G. (2019), “Checks and Balances: Enforcing Constitutional Constraints” in *Public Choice*, Mixon, F. G. Jr., (Ed.), Basel: Multidisciplinary Digital Publishing Institute (MDPI), pp. 12-23.
- KIRMANOĞLU, Hülya (2014), *Kamu Ekonomisi Analizi*, 5th ed., İstanbul: Beta Basım Yayım Dağıtım. A.Ş.
- LAUDAL, Thomas (2020), *A New Approach to the Economics of Public Goods*, New York: Routledge Co., 2020.
- LATIF, Madiha, Shanza ARSHAD, Mariam FATIMA and Samia FAROOQ (2011), “Market Efficiency, Market Anomalies, Causes, Evidences, and Some Behavioural Aspects of Market Anomalies”, *Research Journal of Finance and Accounting*, 2(9/10), pp. 1-13.
- LEWIS, Paul (2017), *Quasi-Markets: An Overview and Analysis*, Working Paper, London: King’s College Department of Political Economy, 2017.
- LOCAL GOVERNMENT FORUM (2008), *Local Government and the Provision of Public Goods*, Wellington: The Local Government Forum Christchurch, New Zealand, November 2008.
- MALKIEL, Burton G. (2003), *The Efficient Market Hypothesis and Its Critics*, CEPS Working Paper No. 91, April 2003, Brussels: Central European Policy Studies (CEPS), 2003.
- MUELLER, Dennis C. (2008), “Public Choice: An Introduction”, in *Readings in Public Choice and Constitutional Political Economy*, Rowley, Charles K. and Schneider, Friedrich (Eds.), Berlin: Kluwer Academic Publishers, Volume 1, pp. 32–48.
- MULDER, Arjen (2004), *Government Dilemmas in the Private Provision of Public Goods*, Rotterdam: Erasmus Research Institute of

Management (ERIM) in Rotterdam School of Management / Rotterdam School of Economics, 2004.

NAM, Sang-Woo (2001), *Family-Based Business Groups: Degeneration of Quasi-Internal Organizations and Internal Markets in Korea*, ADB Institute Research Paper No: 28, Tokyo: Asian Development Bank Institute, 2001.

SAUNDERS, Andrew (2017), *Are Quasi-Markets Appropriate for Delivering Public Employment Services?*, Unpublished Master Thesis, Melbourne: Deakin University Faculty of Arts and Education November 2015.

SCHNELLENBACH, Jan and Christian SCHUBERT (2014), *Behavioral Public Choice: A Survey*, Freiburg im Breisgau: Institut für Allgemeine Wirtschaftsforschung Abteilung für Wirtschaftspolitik Albert-Ludwigs Universität Freiburg i. Br., 2014.

SLIDESERVE (2020), *Public Choice*, <https://www.slideserve.com/aldenhinton/public-choice> (Accessed 01.05.2020).

STIGLITZ, Joseph E. (2000), *Economics of The Public Sectors*, 3rd Ed., New York: W.W. Norton & Co.

ULER, Neslihan (2010), “Public Goods Provision, Inequality and Taxes”, *Experimental Economics*, 14, pp. 287–306.

UNIDO (2008), *Public Goods for Economic Development*, New York: United Nations Industrial Development Organization, 2008.

WARD, William A. (2019), “Cost-Benefit Analysis Theory versus Practice at the World Bank”, *Journal of Benefit-Cost Analysis*, Society for Benefit-Cost Analysis-March 2019, pp. 1-21.

WORLD HEALTH ORGANIZATION (2013), *Deviation Handling and Quality Risk Management*, Geneva: World Health Organization (WHO), 2013.

DETERMINANTS OF RISK APPETITE AND SECTORAL EFFECTS OF RISK APPETITE: THE CASE OF TURKEY

*Ali Özer**

1. Introduction

As investors began to evaluate their savings in the financial markets, one of the most curious topics was the relationship between risk and return. Markowitz (1952) touched on the concepts of modern portfolio and risk and return, and emphasized that the historical risks of investment instruments are important in decisions. The necessity of portfolio diversification to control the risk, and then the concept of international diversification for systematic risk has been brought to the agenda. With the Effective Markets Hypothesis (EMH), Fama (1970) put forward the concepts of rational individual, equal distribution of information and instant reflection of information on prices, which are the basic assumptions of traditional finance theories. According to this theory, it is not possible to gain extraordinary earnings through the use of information. Based on the studies of Markowitz (1952), Fama (1965) and Fama (1970), it has begun to price financial assets with beta as a measure of systematic risk with the Financial Asset Pricing Model developed by Sharpe (1964), Lintner (1965) and Mossin (1966). In this model, it is assumed that there is a linear relationship between financial assets and systematic risk. With the Arbitrage Pricing Model put forward by Ross (1976), it is revealed that asset returns are affected by multiple factors. Various traditional finance theories based on these models were introduced and these concepts focused especially on the concept of risk, how to measure risk and its effects on returns. In the light of these theories, many types of risks and for measuring these risks, methods have been introduced.

However, in the 1980s, the fact that price movements in markets, anomalies and existence of parts of crises that cannot be explained by traditional finance theories, pushed the finance literature towards a new search. With the study of Kahneman and Tversky (1979), a new concept has entered the finance literature with the name of behavioral finance that examines human behavior and psychology. With this new area, behavioral approaches have begun to develop in addition to traditional approaches to explain price movements. With this new field, concepts such as investor psychology, investor sentiment and investor behavior have begun to emerge and research. However, investment environment has become important as much as financial instruments's risks. In this type of analysis, it is as important as how investors react to the current risk, as well as measuring the risk of the environment. In traditional finance theories,

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although human is considered rational, the inability to explain price movements in the market has revealed behavioral models and the concept of irrational individuals has emerged. At this point, it is thought that the calculations, which also take into account investor behavior, are more accurate to investigate the causes of market movements. While investors examine how various investment instruments act in relation to each other, along with the risks posed by investment instruments, they should also consider the ways in which the investors in the market perceive the risk and their reactions. As a result, concepts such as “investor sentiment”, “risk perception”, “risk aversion” and “risk appetite” have emerged and studies have been carried out to measure and report them. In this study, determinants of Risk Appetite Index (RISE) which calculated by Central Securities Depository of Turkey (CSD) and what are the sectoral impact of RISE has investigated.

2. Risk Appetite Concept and Index

Although studies on behavioral finance were conducted in the 1980s, risk-related behavior changes were not included in the modeling of the price changes in the financial markets until the 1990s. Concepts such as risk appetite have become popular, especially in the models related to crises in the late 1990s and studies investigating the contagiousness of crises. However, explaining the changes in asset prices with concepts such as risk appetite continues to be controversial in the literature. Especially after the 2008 crisis, the measurement of market, credit and volatility risks in financial markets and the behavioral relationship between these indicators have become increasingly the focus. These financial risk factors relate to credit risks measured by credit default swaps, market risks measured by value at risk, volatility risks and risk appetite. (Misina, 2003; 1). Investors should monitor risk and consider investors' attitudes towards risk when determining their investment and portfolio strategies. When the markets are analyzed and the crisis periods are analyzed, it is seen that investors display different behaviors under stress. This is what the risk appetite is trying to capture. The term risk appetite is understood to be generally that investors are willing to take on financial risk with the expectation of making a potential profit. Measuring the risk appetite at any given time is crucial for financial stability, as sudden increases in risk premiums, decreases in market liquidity and sharp asset price declines are often associated with loss of risk appetite. (Maraval, 2017: 7)

Concepts such as “investor sentiment”, “investor trust”, “risk perception”, “risk premium”, “risk aversion” and “risk appetite” that appear when examining investors' investment environment and investor movements, as stated in the study of Gai and Vausse (2004) it seems to be used synonymously from time to time. However, these concepts are

different, although there are connections between them. Although there are some differences between the concepts other than risk appetite, in general, they are an indicator of investors' individual attitudes under conditions of uncertainty. In asset pricing models based on traditional finance theories, individuals' behavior towards risk is considered constant. However, with behavioral finance, it has been generally accepted that individuals are not rational and exhibit in irrational behavior. Risk appetite, on the other hand, tries to explain the unexplained part of asset pricing with the factors that affect individuals' attitudes towards risk as well as the asset prices and the perception created by these factors in individuals. It is difficult to identify these factors directly in asset prices, only their combination can be observed. In addition, risk premiums added to asset prices are affected by the risk appetite. (Uhlenbrock. 2009; 221)

Studies such as Keynes (1937), Minsky (1977), Kindleberger (1978), and Minsky (1986) examined the structure of increases and decreases in the markets and revealed that risk appetite had a significant impact on market fluctuations. Dungey et al. (2003) argued that unexpected sudden fluctuations in the markets and changes in their attitudes towards risk, and consequently, the balancing movements related to financial instruments in investors' portfolios caused changes in international markets. Kumar and Persaud (2002) showed that there is a serious connection between the decrease in risk appetite and financial crises, and that the negative reaction in investors' behavior increases. The exchange of Risk Appetite Index calculated for Turkey is seen in Chart 1. When the chart is analyzed, it is seen that the risk appetite decreased to the lowest level during the 2008 crisis period. Also, as seen from the chart appears to be an extremely volatile nature of the risk appetite in Turkey.

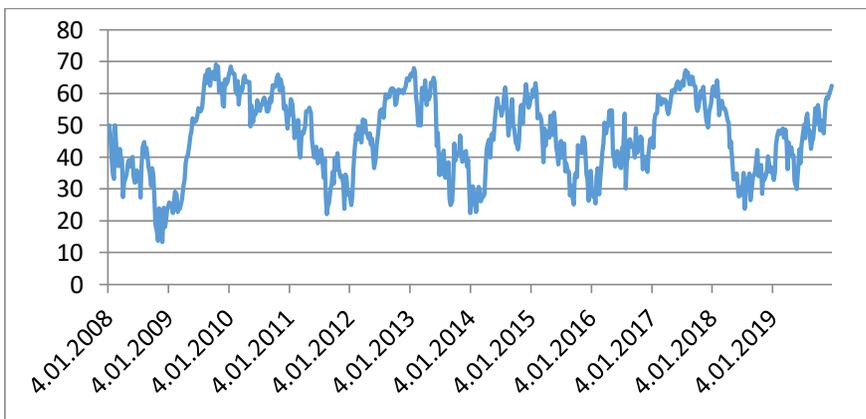


Chart 1: Risk Appetite Index (RISE) 2008-2019

When the recent studies are examined, it is focused on measuring the risk appetite and the effects of the risk appetite with a survey or different methodologies. Indices that measure risk appetite sometimes take different names, and sometimes have different measurement techniques under the same name. These indices, which are usually created to answer the same question, aim to clarify the risk appetite concepts and develop a summary indicator by extracting common information provided by some of the commonly followed measures. In the studies conducted in the literature, the sample and questionnaire studies or risk appetite measurement results created with different methodologies are shared. However, there was a need for a more comprehensive calculation of the risk appetite for investors, such as the problems with the reliability of such studies, the narrow sample size, lack of data reflecting all investors, and impossibility to put together and create indexes due to different samples. Therefore, Turkey in 2011, Central Securities Depository of Turkey (CSD) and in cooperation with Özyeğin University Financial Appetite Index (RISE) has been calculated. It has been shared with the public since 2012. While calculating this index, it is the weekly calculated index over investors with a portfolio value of at least 5000 TL at any time since 2005.

Changes in investors' risk appetite not only affect individual risk and risk premiums they are willing to, but also affect the reactions of the markets. Thus, it can be seen how the good or bad news and unexpected events occurring in the market have an impact on the market. Thus, the information coming to the market affects risk appetite according to investor attitudes. Risk appetite is also reflected in the market and affects asset prices. Although controversial, risk appetite has been striking recently in determining asset prices. Bad news in the market situation, where investor risk appetite is already low, may cause much higher re-pricing of risky assets compared to periods of high risk. Several indicators have been proposed in the literature, with the awareness of the importance of risk appetite. While these indicators were introduced, various approaches emerged. While some risk appetite indicators emerge through methodological studies based on theoretical models, some indicators are mostly improvised, formed by gathering market data that are considered to be determinants of risk appetite in the market, without considering theoretical models. However, the concept of risk appetite underlying these indicators is not necessarily the same. Theoretically, investors' overall risk appetite will affect all risky financial market segments. For this, one can try to rely on certain modeling assumptions when developing indicators. (Uhlenbrock.2009; 222)

The first group of risk appetite indicators, referred to here as market-based indicators, combines information from various financial markets using statistical methods. These are typically based on the implied volatility and spreads of different asset classes. This group of indicators are; Westpac's Risk Appetite Index (WP), Merrill Lynch's Risk Avoidance Indicator (MLRAI), JPMorgan Liquidity, Credit and Volatility Index (LCVI), Dresdner Kleinwort's Total Risk Perception Index (ARPI), UBS Investor Sensitivity Index (UBS), CBOE's Volatility Index (VIX), Lehman Brothers' Market Risk Sensitivity Index (MARS). Theory-based indices originate from economic or financial models and typically focus on specific markets. These are: Risk-Appetite Index developed by Tarashev et al.(2003) for Bank for International Settlements (BIS); Risk Appetite Index (FSI) developed by Gai and Vause (2004) for Bank of England; Global Risk-Appetite Index (GRAI) developed by Kumar and Persaud (2002) and used by JP Morgan and the IMF; Risk-Appetite Index (CSFB) developed by Wilmot et al. (2004); Investor Confidence Index (ICI) developed by Froot and O'Connell (2003) and Risk Avoidance Index (GS) developed by Goldman Sachs. These indices are typically based on a financial or economic model applied to a single financial market. There are three main approaches to the formation of risk appetite indices. First, the market-based model that examines the relationship between the return and volatility of financial assets. Secondly, it is a method that takes into account the implicit possibilities of prices, reveals the expectations of investors in uncertainty and reveals the differences in individuals' risk attitudes. Finally; approaches consisting of models with traditional structures. (Illing and Aoron, 2005; 38-40)

3. Literature

In his study, Haugen (2006) investigated the relationship between risk appetite and macroeconomic environment in Norway using the Bayesian approach methodology. They have demonstrated that risk appetite depends on deviation and trend growth and has a strong relationship with the macroeconomic environment.

Shen and Hu (2007) investigated the risk appetite of the 7 major banks in Taiwan between 1991 and 2006. As a result of the analysis, they could not detect a significant relationship with risk appetite and exchange rate, S&P 500 volatility and GDP. On the other hand, only two banks showed that loan interest rates were effective on risk appetite. On the other hand, they stated that there is a strong connection between risk appetite and stock indices.

Sarwar (2012), in his study, the closing values of VIX Index and stock market indices for the period 1993-2007 were used. Indices used: S&P 500 Index for USA, Bovespa Index for Brazil, AK&M Index for Russia,

Bombay Sensex Index for India and Shanghai SE Index for China. According to the results of the correlation analysis; It showed a significant negative simultaneous relationship between VIX and stock returns in the USA, China and Brazil in the period 1993-2007. Regression analysis revealed a strong negative simultaneous relationship between daily changes in VIX and US stock index returns. Also, when the VIX index is floating and at high levels, they have expressed that the negative relationship between the US and Brazil stock returns becomes stronger. Like the US market, the momentary negative relationship between Brazilian stock returns and VIX changes was found. Also, this relationship is stronger when VIX is both higher and more variable

In the study conducted by Altay and Akçalı (2012), using the data of 1994 and 2011, based on the methodology of Kumar and Persaud (2002), the risk appetite index was created with the average and standard deviation of past abnormal returns. Then, the probability of the index created to predict crises was investigated. As a result of the study, it has been revealed that the calculated index predicts the crisis days by 70%.

Hoffmann et al. (2013), in their studies, analyzed the monthly survey data covering 1510 investors in the Netherlands in 2008-2009 period with the purchase and sale records to measure the risk behavior of individual investors in the 2008 global crisis period. As a result of the research, they showed that while investor behavior fluctuates significantly in crisis periods, the expectations of returns have become more volatile than risk perception and risk tolerances. They showed that there was an increase in risk perception in the worst times of the crisis and that the perception began to improve towards the end of the crisis. They also stated that they saw the crisis periods as a chance for individual investors to enter the stock market.

In the study, So and Lei (2015) made regression analysis when investigating the relationship between VIX index and New York Stock Exchange transaction volume between 1997 and 2010. The variables used in the study are, Short-term interest rates, GDP, unemployment rate, consumer price index, and "days of the week and holidays" as a dummy variable. As a result of the analysis, they claimed that the change in the trading volume of the New York Stock Exchange was largely explained by the change in the VIX index, but this relationship was only during periods of high sensitivity. They also showed that there was a positive relationship between trade volume volatility and VIX. As VIX increases, transaction volume volatility also increases. They stated that the change in VIX significantly explained the percentage change in trade volume, but this effect only existed in the period of high sensitivity. They also found that the correlation coefficients were positive, i.e. when VIX increased, the transaction volume also increased, and volatility in the trading volume

positively correlated with the VIX level. When the VIX level is higher in successive trading days, the variability of the trading volume is higher in the same period.

Saraç et al. (2015), between 2008 and 2013 in Turkey about the predictability of the risk appetite of foreign and domestic investors, they have been already conducted research the using unit root tests, Wald test and TAR models. As a result of the research, they stated that the risk appetite index calculated for domestic investors is linear and both its ups and downs are predictable, while the risk appetite index calculated for foreign investors does not have a linear structure, and that the periods of decrease are predictable, but the periods of increase are unpredictable.

Çelik et al. (2017) study between 2008 and 2017, relationship between risk appetite index which calculated in Turkey, and macro economic variables, investigated by the method of regression. As a result of the study, they have achieved meaningful relations with the exchange rate, interest rate, money supply and central bank foreign exchange reserves. The direction of their relations was negative with exchange rate and interest rate, while it was positive with money supply and central bank reserves.

Sarıtaş and Nazlıoğlu (2019), study the effect of VIX index between 2009 and 2018, to exchange rate and stock markets in Turkey. They used causality models and the effect-response modeling based on VAR model. According to the causality analysis, there was no causality from exchange rate and stock markets in Turkey to VIX index. On the other hand, they found that there was a causality from VIX to both.

İskenderoğlu and Akdag (2019), the study calculated the risk appetite index for Turkey in the years 2008-2015; Its relationship with exchange rates, interest rates, gold and oil prices has been investigated to cover short, medium and long periods. As a result of the study, it has been determined that gold prices and interest rates have a short-term effect on risk appetite, oil prices have a long-term effect, while exchange rate has a short, medium and long-term effect.

4. Data Set and Method

In this study, between 2008 and 2019 in Turkey, relationship between Risk Appetite Index (RISE) and macro economic variables were investigated. Since the risk appetite variable were explained weekly, all datasets were calculated weekly and included in the study. Firstly, the relationship between risk appetite and macroeconomic variables was investigated with Granger causality analysis and VAR model. Then, short, medium and long-term effects of RISE on selected stock market indices has investigated. The data set used in the study was obtained from the CSD of Turkey website, the electronic data distribution system (EVDS) on the

CBRT website, and the www.investing.com website. The data set and explanations used in the study are presented in Table 1.

Table 1. Variables Used in the Study

Variables	Description	Symbols
Risk Appetite	Risk Appetite Index	RISE
Gold	Gold Prices	Gold
Oil	Brent Oil Price	Oil
Exchange Rate	Dolar Exchange Rate	Dolar
Global Index	Chicago Option Exchange Volatility Index (Fear Index)	VIX
Virtual Money	Bitcoin	BTC
Stock Markets	SP500 Index BIST100 Index	SP500 B100
Interest Rate	10-Year US Bond Interest 10-Year Chinese Bond Interest TL Deposit Interest Rate	10YUS 10YCHN TLDEP
Stock Market Sector Indices	BISTFINANCIALS BISTSERVICES BISTTECHONOLGY BISTINDUSTRIALS BISTTOURISM	BFIN BSRV BTEC BINS BTRSM

Yule (1926) is the first study that brings the subject of stationarity to the agenda in the analyzes to be made. Nelson and Plosser (1982), MacKinnon (1991) stated that the data set used for obtaining healthy relations in time series analysis should not contain unit root and all series should be stationary. They emphasized in the analyzes made without stationary that there may be results based on fake relationships. For this reason, the series was made stationary through

the Augmented Dickey Fuller (ADF) unit root test, which was first developed by Dickey Fuller (1981). After making the series stationary, the relationship between risk appetite and macroeconomic variables, causality analysis developed by Granger (1969) were investigated. This test reveals the short-term relationship between the variables X and Y. After determining the factors that determine the risk appetite, Granger causality analysis, Todo-Yomato causality analysis and Breitung and Candelon (2006) frequency causality analysis, to determine the short, medium and long-term effect of risk appetite on sectoral indices, were performed. Although Breitung and Candelon (2006) frequency causality analysis use the same delays as, Granger (1969) causality analysis, there are some differences. Geweke (1982) and Hosoya (1991) laid the foundation for the decomposition of spectral density functions based on the VAR model, and Breitung and Candelon (2006) developed the frequency causality analysis inspired by these studies. Although the causality analysis developed by Todo-Yamamoto (1995) is based on the VAR model, it can be performed without the need for pretests such as stationarity and cointegration of the series. As with the Granger causality analysis, the appropriate lag length is determined by the VAR model (p). Then, the maximum integration degree of the series is determined and modeling is done by taking the sum of the two. It is stated that it will give healthier results since the series can be modeled in a stationary state.

4. Results

In the study, basic statistics about the raw states of the variables and transformed into logarithmic series are shown in Table 2 before the econometric analysis is started. In the analysis applied in the study, logarithmic series were used. The states before logarithms are calculated are presented for information purposes. In the study, the series were obtained daily, however, since the risk appetite index was announced weekly, daily series averages were converted to weekly series. Therefore, the statistics that appear in the table consist of weekly values.

Table 2. Descriptive Statistics of Variables

	Mean	Maks.	Min.	Std .Dev.	Jar.Bera
Gold	1328.07	1777.30	1060.340	165.8590	90.62678*
B100	104929	166307	59394.77	25572.55	18.31725*
BTC	419.299	2781.04	4.340000	465.5653	1391.918*
Dolar	3.1355	6.64	1.75	1.298709	59.10519*
BSRV	47274.3	57857	34120.49	6329.013	7.860787**
BFIN	90721.8	99863.6	68842.64	7022.003	9.674681*
10YCHN	3.55055	4.67600	2.696800	0.430109	10.48223*
10YUS	2.25400	3.07360	1.386400	0.413107	15.07326*
Oil	76.4772	125.252	29.14000	26.35057	38.95147*
Rise	46.6364	67.8300	22.30000	11.15911	17.10365*
BINS	62770.4	80982.4	47382.45	9287.825	8.825627**
SP500	2154.28	3229.70	1278.786	502.9651	16.87034*
BTEC	32825.0	61307.9	19585.95	12575.08	18.36807*
BTRSM	5666.20	7288.09	4553.560	625.2811	5.950652***
TLDep	11.4726	24.9900	5.590000	4.372151	194.0385*
VIX	15.2250	31.8460	9.438000	3.600069	163.7284*
LGold	7.18422	7.48283	6.966336	0.118214	56.65186*
LB100	11.5495	12.2364	10.99196	0.259719	11.35174
LBTC	5.14926	7.92966	1.467703	1.733386	55.62167*
LDolar	1.08986	1.89311	0.559616	0.401354	29.79100*
LBSRV	10.7544	10.9657	10.43765	0.138057	8.074636*
LBFIN	11.4124	11.5115	11.13958	0.080360	17.93946*
L10YCHN	1.25982	1.54239	0.992058	0.120415	21.231348*
L10YUS	0.79521	1.12283	0.326500	0.188464	17.44436*
LOil	4.27578	4.83029	3.371836	0.353563	21.99532*
LRise	3.81144	4.21700	3.104587	0.254949	22.73657*
LBINS	11.0366	11.3019	10.76601	0.145359	7.674283**
LSP500	7.64696	8.08014	7.153666	0.240783	16.83323*
LBTEC	10.3364	11.0236	9.882568	0.341931	13.84211*

LBTRSM	8.63641	8.89399	8.423665	0.108116	3.521428*
LTLDep	2.38134	3.21847	1.720979	0.327497	53.40219*
LVIX	2.69768	3.46091	2.244744	0.220866	18.15521*

After the statistics about the data used in the study were shared, the series were made stationary in order to avoid the fake relationship problem in the analyzes to be made as stated in the method section. For stationarity, ADF unit root test was used and presented in Table3.

Table 3. ADF Unit Root Tests

	Level				Difference			
	Intercept		Trend and Intercept		Intercept		Trend and Intercept	
	Test Sta.	Prop.	Test Sta.	Prop.	Test Sta.	Prop.	Test Sta.	Prop.
LGold	-2,053	0,26	-1,567	0,80	-14,149	0,00	-14,26	0,00
LB100	-0,147	0,94	-1,809	0,69	-19,159	0,00	-19,14	0,00
LBTC	-1,012	0,75	-1,521	0,82	-11,169	0,00	-11,15	0,00
LDolar	0,2605	0,97	-3,170	0,09	-16,793	0,00	-16,81	0,00
LBSer	-1,969	0,30	-3,133	0,10	-20,031	0,00	-20,01	0,00
LBFin	-3,215	0,02	-3,783	0,02				
L10YChn	-1,525	0,51	-1,739	0,73	-17,041	0,00	-17,03	0,00
L10YUS	-1,838	0,36	-2,070	0,56	-14,715	0,00	-14,69	0,00
LOil	-1,620	0,47	-1,487	0,83	-15,080	0,00	-15,08	0,00
LRise	-4,045	0,00	-4,074	0,00				
LBIns	-1,677	0,44	-3,420	0,05	-17,733	0,00	-17,70	0,00
LSP500	-0,982	0,76	-3,324	0,06	-16,878	0,00	-16,86	0,00
LBTec	-0,546	0,87	-1,139	0,91	-18,345	0,00	-18,30	0,00
LBTrsm	-1,244	0,65	-2,455	0,35	-15,665	0,00	-15,68	0,00
LTLDep	-1,730	0,41	-2,358	0,40	-5,3906	0,00	-5,394	0,00
LVIX	-5,882	0,00	-5,909	0,00				
	MacKinnon Critical Values							
%1	-3,4458		-3,9803		-3,4458		-3,9803	
%5	-2,8682		-3,4206		-2,8682		-3,4206	
%10	-2,5704		-3,1330		-2,5704		-3,1330	

When the ADF unit root test results in Table 3 are examined, it is seen that logarithmic series are generally not stationary at level value and when the difference values are taken, all series are stationary. It was determined that BIST-Financial Index, Risk Appetite Index (RISE) and VIX (Fear) Index are stable at level values, BIST-Financial Index is at 5% significance level and other variables are significant at 1%. These variables are included in the study with level values. All other series were taken from the differences and all of them were found to be significant in 1%. These variables are included in the study with difference values. After the stability of the series has been achieved, the basic VAR model has been established to determine the appropriate lag length to be used in the analyzes and is presented in Table 4.

Table 4. Determination of Lag Length

	LogL	LR	FPE	AIC	SC	HQ
0	2186.60	NA	4.07e-19	-11.1283	-11.0167	-11.0841
1	8863.98	12944.9	1.11e-33	-44.6648	-43.3250	-44.1338
2	9184.45	603.234	4.01e-34*	-45.685*	-44.1171*	-44.667*
3	9295.28	202.380	4.23e-34	-45.6331	-41.8369	-44.1284
4	9373.40	138.269	5.31e-34	-45.4138	-40.3895	-43.4223
5	9439.61	113.444	7.10e-34	-45.1335	-38.8810	-42.6552
6	9533.90	156.264*	8.26e-34	-44.9969	-37.5162	-42.0318
7	9608.51	119.452	1.07e-33	-44.7596	-36.0508	-41.3077
8	9701.16	143.136	1.28e-33	-44.6146	-34.6776	-40.6759
9	9800.37	147.673	1.48e-33	-44.5032	-33.3380	-40.0777
10	9883.94	119.685	1.88e-33	-44.3117	-31.9184	-39.3994
11	9971.26	120.152	2.38e-33	-44.1394	-30.5179	-38.7403
12	10060.7	118.035	3.01e-33	-43.9780	-29.1283	-38.0921

When the criteria made for the appropriate lag length in Table 4 are examined, it was seen that 4 criteria indicated 2 lag lengths, while only 1 criterion suggested 6 lag lengths. In the Granger causality analysis, the common optimal degree of integration is considered, therefore the appropriate lag length is considered to be 2. Causality analysis according to 2 lag lengths are presented in Table 5.

Table 5. Granger Causality Test

Relationships	F Statistics	Prop.
LRISE-LGold	0,5311	0,7129
LGold - LRISE	2,5767	0,0371
LRISE-LB100	1,15113	0,3320
LB100-LRISE	111,136	8.E-64
LRISE-LBTC	0,49926	0,7363
LBTC-LRISE	0,34415	0,8481
LRISE-LDolar	0.45701	0.7673
LDolar-LRISE	4.09753	0.0029
RISE-L10YCHN	0.44630	0.7751
L10YCHN -RISE	1.44669	0.2178
LRISE-L10YUS	1.25458	0.2873
L10YUS -LRISE	0.42175	0.7930
LRISE-LOil	0.09398	0.9843
LOil -LRISE	0.53729	0.7084
LRISE-LSP500	1.51806	0.1961
LSP500 -LRISE	1.27607	0.2788
LRISE-LTLDEP	0.41437	0.7983
LTLDEP -LRISE	1.35055	0.2505
LRISE-LVIX	1.14316	0.3358
LVIX -LRISE	2.57409	0.0374

According to the results of Granger causality analysis, a causality relationship could not be determined from the risk appetite index to the selected macro economic variables. RISE is not the cause of any variable. On the other hand, from the macroeconomic variables to the risk appetite index, a causal relationship was found between gold prices, BIST100 Index, Dolar exchange rate and VIX Index. While gold prices and VIX Index were significant at 5%, BIST100 and Dollar exchange rate were significant at 1%. In summary, gold prices, BIST100 Index, Dollar rate and VIX Index, were determined to be the cause of the risk appetite index (RISE). The best degree of significance was found to be with BIST100. Since the causality relationship has been determined, since there is a

weekly data set, variance decomposition analysis based on VAR model has been made up to 12 delays and presented in Table 6.

Table 6. Variance Decomposition Table

	Rise	Gold	B100	BTC	Dolr	10YUS	10Ch	Oil	Sp50	TDp	VIX
1	100	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2	44,6	0,05	54,0	0,21	0,65	0,20	0,01	0,10	0,00	0,04	0,00
3	40,8	0,54	56,0	0,15	0,80	0,94	0,07	0,13	0,14	0,16	0,08
4	38,7	1,07	55,9	0,12	0,93	1,81	0,18	0,27	0,53	0,21	0,11
5	37,6	1,64	54,2	0,12	1,06	2,81	0,35	0,53	1,22	0,25	0,14
6	36,6	2,20	52,0	0,12	1,18	3,87	0,53	0,86	2,11	0,27	0,16
7	35,7	2,73	49,5	0,14	1,28	4,96	0,71	1,24	3,11	0,28	0,18
8	34,9	3,23	47,1	0,15	1,37	6,04	0,87	1,63	4,14	0,30	0,20
9	34,0	3,68	44,8	0,17	1,44	7,07	1,02	2,02	5,15	0,31	0,22
10	33,2	4,09	42,7	0,18	1,50	8,05	1,15	2,37	6,07	0,33	0,23
11	32,5	4,46	40,8	0,19	1,53	8,96	1,25	2,69	6,91	0,35	0,25
12	31,8	4,78	39,1	0,20	1,56	9,81	1,34	2,98	7,63	0,37	0,26

When the results of variance decomposition analysis are analyzed, it is seen that while RISE is 100% affected by its own shocks in 1 delay, this effect decreases to 44.6% in 2 delays and the effect of BIST100 is 54%. This interaction coincides with the result of the Granger causality. There was no significant effect of other variables in 2 delays. As the number of delays increases, the impact of RISE's own shocks decreases and with this decrease, the effect of BIST100 decreases. However, interest on 10-year US bonds, gold prices, and the impact of the SP500 Index are increasing. Looking at the 12 delays, RISE was found to be affected by 31.8% own shocks, 39.1% BIST100 index, 9.8% US bond rates, 7.6% SP500 Index and 4.7% gold prices. It can be said that RISE was most affected by the change in the stock market and own shocks. After examining the factors affecting the risk appetite index, to see the sectoral effect, the effect of this index on the sector indices was investigated. Selected indices; BIST100, BIST Industrial, BIST Services, BIST Technology, BIST Financial and BIST Tourism. The selected indices represent the important sectors of the stock market and the majority of the stock market in terms of number of companies. A new VAR model has been established for this analysis and appropriate lag lengths are presented in Table 7.

Table 7. Determination of Lag Length

	LogL	LR	FPE	AIC	SC	HQ
0	2197.70	NA	3.21e-14	-11.2056	-11.13459	-11.17748
1	6157.17	7756.92	6.59e-23	-31.2080	-30.63966	-30.98277
2	6642.52	933.457	7.08e-24*	-33.4400*	-32.37426*	-33.01759*
3	6675.18	61.6369	7.70e-24	-33.3564	-31.79330	-32.73685
4	6706.21	57.4610	8.45e-24	-33.2645	-31.20403	-32.44781
5	6746.21	72.628*	8.86e-24	-33.2184	-30.66063	-32.20462
6	6778.72	57.8696	9.67e-24	-33.1341	-30.07892	-31.92314
7	6810.59	55.5957	1.06e-23	-33.0465	-29.49396	-31.63840
8	6841.17	52.2446	1.17e-23	-32.9523	-28.90239	-31.34705
9	6869.29	47.0378	1.31e-23	-32.8455	-28.29824	-31.04312
10	6896.02	43.7446	1.48e-23	-32.7315	-27.68694	-30.73205
11	6926.66	49.0640	1.64e-23	-32.6376	-27.09570	-30.44103
12	6967.94	64.6066	1.73e-23	-32.5981	-26.55884	-30.20439

When the criteria made for the appropriate lag length in Table 7 are examined, it was seen that 4 criteria indicate 2 lag lengths and only 1 criterion suggested 5 lag lengths. In the Granger causality analysis, the common optimal degree of integration is considered, therefore the appropriate lag length is considered to be 2. Causality analysis according to 2 delay lengths are presented in Table 8.

Table 8. Granger Causality Test

Relationships	F Statistics	Prop.
LRISE-LB100	0.14226	0.8674
LB100-LRISE	335.832	4.E-87
LRISE-LBSER	0.85468	0.4262
LBSER -LRISE	502.912	5E-111
LRISE-LBFIN	0.60630	0.5459
LBFIN -LRISE	1029.49	1E-160
LRISE-LBINS	0.47545	0.6219
LBINS -LRISE	681.331	4E-131

LRISE-LBTEC	0.46897	0.6260
LBTEC -LRISE	118.890	2.E-41
LRISE-LBTRSM	1.28338	0.2782
LBTRSM -LRISE	2.90671	0.0558

According to the results of Table 8 Granger Causality analysis, no causality relationship could be determined from the risk appetite index to the sectoral stock market indices. On the other hand, causality relationship was determined from all stock market indices towards the risk appetite index. As a result, risk appetite has no causal relationship towards any sector. After the Granger test, Todo-Yomamoto Causality analysis, which can reveal the long-term relationship between the variables and does not need the stationary, which is the basic assumption of the Granger test, was performed. In this analysis, the appropriate lag length is determined by the VAR model (p). Then, the maximum integration degree of the series is determined and modeling is done by taking the sum of the two. Not the common smallest lag length of 2, but the maximum lag length of 5 compared to the LR as the appropriate lag length. Thus, it became 6 with 1 degree of integration. However, in order to obtain a healthier result, 5 delays were made while the VAR model was established, and the 6th delay of the variables for the 6th delay was added to the model as the external variable. The results thus obtained are presented in Table 9.

Table 9. Todo-Yomamoto Causality Test

Relationships	Chi-Square Statistics	Prop.
LRISE-LB100	2,37028	0,7959
LB100-LRISE	318,735653	0,0000
LRISE-LBSER	7,550985	0,1828
LBSER -LRISE	63,96724	0,0000
LRISE-LBFIN	4,093508	0,5360
LBFIN -LRISE	258,6330	0,0000
LRISE-LBINS	7,666509	0,1756
LBINS -LRISE	109,8356	0,0000
LRISE-LBTEC	0,958167	0,9659
LBTEC -LRISE	8,960576	0,1106
LRISE-LBTRSM	4.538341	0.4748

LBTRSM -LRISE	5.697299	0.3368
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Looking at the results of Todo-Yomamoto Causality Test in Table 9, as in the Granger causality test, no relationship from risk appetite to sectoral indices has been detected in the long term. On the other hand, it has been observed that there is a long term relationship from stock market indices to risk appetite. However, the relationship between BIST-Technology and BIST-Tourism in the short term has disappeared in the long term. Thus, it can be said that BIST-100, BIST-Service, BIST-Financial and BIST-Industrial have an impact on RISE both in the short term and in the long term. Since RISE's sectoral impact could not be detected in two analyzes; Breitung and Candelon (2006) Causality Analysis, which can reveal short, medium and long term relationships in a single analysis, was performed and presented in Table 10.

Table 10. Breitung ve Candelon (2006) Frequency Domain Causality Test

	Long Term		Mid Term		Short Term	
	w=0,01	w=0,05	w=1,00	w=1,50	w=2,0	w=2,5
RISE-B100	2,892	3,024	1,892	1,024	1,389	0,781
RISE-BSer	2,771	2,845	1,356	1,853	1,987	1,125
RISE-BFin	1,339	1,993	1,201	1,458	1,743	0,861
RISE-BIns	2,964	2,681	0,653	1,479	0,512	1,710
RISE-BTec	1,834	1,906	0,442	0,098	0,243	1,421
RISE-BTrsm	1,268	1,349	0,609	1,325	1,057	0,854

Note: Lag lengths are determined according to AIC. (2.T-2p) degree of freedom and F table value is approximately 3.497. * It shows significance at 5%.

In Table 10, in the Breitung and Candelon test, only the relationship from risk appetite index to sectoral stock market indexes was investigated in order to observe the sectoral effect of the risk appetite index. The

purpose of this test is to give more precise and detailed results temporarily. However, according to the test results, no relationship was detected in the short, medium and long term, similar to the results in the Granger causality and Todo-Yomamoto causality test. In the causality analysis, although the risk appetite has no significant effect on the sectoral stock market indices, the analysis of variance decomposition up to 24 delays has been made and presented in Table 11.

Table 11. Sectoral Variance Decomposition Table

	B100	BSer	BFin	BIns	BTec	BTrsm
1	0,00	0,00	0,00	0,00	0,00	0,00
6	0,06	0,20	0,37	0,01	0,08	0,33
12	0,20	0,51	1,06	0,02	0,08	0,26
18	0,36	0,85	2,77	0,02	0,06	0,21
24	0,50	1,09	3,89	0,02	0,05	0,25

While performing variance decomposition in Table 11, a separate VAR model was established for each stock market index, and the effect of the risk appetite index on stock market indexes was investigated by adding to the established VAR model in macroeconomic variables in previous models. For example; For the VAR model established for the BIST100 index, the effect of RISE was measured up to 24 lags by adding it to other macroeconomic variables along with the risk appetite index. Thus, for 24 delays, 6 different VAR models were established, appropriate lag lengths were determined and the results are presented in the table. As a result of the analysis, it has been observed that the effect of RISE on sectoral stock indexes is very low. The biggest effect was found to be on the BIST-FINANCIAL Index with 3.89%. While there is 1.89% impact on BIST-Service, other indices are below 1%. Consistent with previous analysis results, RISE's impact on sectoral stock indexes is insignificant and very small.

5. Conclusion

Along with traditional finance theories, investors' attitudes towards risk have been considered constant in asset pricing and risk-return modeling. The concept of irrational individuals, which entered the financial literature with behavioral finance, has led to the investigation of investors' attitudes and behaviors towards risk. After that, market environment has become as important as the risk in investment decisions. However, various methods and concepts have been developed to measure individuals' attitudes

towards risk. However, until the infectious crisis studies in the late 1990s were carried out, they could not achieve the desired popularity. In addition, the fact that there were unexplained parts in the price movements in financial markets in these years caused an examination of individual attitudes and behaviors. Especially after the 2008 crisis, the risk appetite concept and its measuring indices began to attract attention. The risk appetite tries to explain the unexplained part of asset pricing with the factors that affect both the attitudes of individuals towards risk and the asset prices and the factors these individuals create. Recently, it has become increasingly common to assume that changes in risk appetite are an important determinant of asset prices, although controversial. In this study, determinants of Risk Appetite Index in Turkey, and the impact on sectoral stock indices were investigated.

When relationship between risk appetite index and macroeconomic variables are analyzed; In the Granger causality analysis, a causality relationship from the risk appetite index to the selected macro economic variables could not be determined. Causality was determined from gold prices, BIST100 Index, Dollar exchange rate and VIX Index to risk appetite. When the variance decomposition analysis results are examined, it is determined that 70% of the change in RISE is caused by own shocks and BIST-100 index. It was also determined that it was affected by 9.8% US bond rates, 7.6% SP500 Index and 4.7% gold prices.

Granger causality, Todo-Yomamoto causality and Breitung and Candelon causality analyzes were performed to determine the impact of RISE on sectoral stock indexes. As a result of the analyzes, RISE had no effect on stock indexes in either the short term or the long term. It was observed that all stock market indices were effective on RISE in the short term, but the effects of tourism and technology indices disappear in the long term. In addition, in the variance decomposition results based on VAR analysis performed with macroeconomic variables for each index, the greatest effect of RISE was found to be on the BIST-FINANCIAL Index with 3.89%. While there is 1.89% impact on BIST-Service, other indices are below 1%. In summary, the impact of RISE on sectoral stock indexes is insignificant and very small.

References

- Altay E. and Yaşar Akçalı B., (2012), “Analysis of the Relationship Between Inandstor Risk Appetite and Stock Market Crises in ISE”, *BRSA Journal of Banking and Financial Markets*, 6, 27-58.
- Breitung, J. and Candelon, B. (2006), “Testing for Short and Long-Run Causality: A Frequency Domain Approach”, *Journal of Econometrics*, 132(2), 363–378.
- Çelik Sibel, Dönmez Elmas and Acar Burcu, (2017), “The Determinants of Risk Appetite: Evidence From Turkey”, *Journal of Uşak University Social Sciences*, 10, 153-162.
- Dickey, D: A. and Fuller, W.A., (1981), “Likelihood Ratio Statistics for Autoregressiand Time Series with a Unit Root”, *Econometrica*, 49(4), 1057-1072.
- Dungey, M., Fry R., Gonzalez-Hermosillo, B. and Martin, V. L., (2003), “Characterizing Global Inandstors’ Risk Appetite for Emerging Market Debt During Financial Crises”, *IMF Working Paper*, 03/251.
- Fama, E.F., (1970), “Efficient Capital Markets: A Review of Theory and Empirical Work”, *Journal of Finance*, 25, 338-417.
- Fama, Eugene F. (1965), “The Behavior of Stock-Market Prices”, *The Journal of Business*, 38 (1), 34-105.
- Froot, K.A. and O’Connell P.G.J., (2003), “The Risk Tolerance of International Inandstors”, *National Bureau of Economic Research Working Paper No. 10157*.
- Gai, P. and Vause N., (2004), “Risk Appetite: Concept and Measurement”, *Bank of England Financial Stability Review*, (December), 127–36.
- Geweke, J., (1982), “Measurement of Linear Dependence and Feedback Between Multiple Time Series”, *Journal of the American Statistical Association*, 77, 304-313.
- Granger, C. W. J. (1969), “Inandstivating Causal Relations by Econometric Models and CrossSpectral Methods”, *Econometrica*, 37(3), 424-438.
- Haugen, P. (2006), Financial Risk, Risk Appetite and the Macroeconomic Environment, Master *Thesis of Science in Physicsand Mathematics*, Norwegian Uniandrsity.
- Hoffmann, A.O.I., Post, T. and Pennings, J.M.E., (2013), “Individual Inandstor Perceptions and Behavior During the Financial Crisis”, *Journal of Banking & Finance*, 37(1), 60-74.

- Hosoya, Y., (1991), "The Decomposition and The Measurement of the Interdependence between Second-Order Stationary Process", *Probability Related and Theory Fields*, 88, 429- 444.
- Illing M. and Aaron M., (2005), "A Brief Survey of Risk Appetite Indexes", *Bank of Canada Financial System Review*, 37-43.
- İskenderoğlu Ömer and Akdağ Saffet, (2019), "Risk İştahı ile Petrol Fiyatları, Döviz Kuru, Altın Fiyatları and Faiz Oranları Arasında Nedensellik Analizi: Türkiye Örneği", *Doğuş Üniversitesi Dergisi*, 20, 1-14.
- Kahneman, D., and Tversky, A., (1979), "Prospect Theory: An Analysis of Decision Under Risk", *Econometrica*, 47 (2), 263-291.
- Keynes, J. M., (1937), "The General Theory of Employment", *The Quarterly Journal of Economics*, 51(2), 209–223.
- Kindleberger, C. P., (1978), *Manias, Panics, and Crashes: A History of Financial Crises*. New York: Basic Books.
- Kumar, M. S. and Persaud, A., (2002), "Pure Contagion and Investors' Shifting Risk Appetite: Analytical Issues and Empirical Evidence", *International Finance*, 5(3), 401-436.
- Lintner, J., (1965), "Security Prices, Risk and Maximal Gains from Diversification", *Journal of Finance*, 20(4), 587–615.
- Mackinnon, J. G., (1991), *Critical Values For Cointegration Tests in Long-Run Economic Relationships*, New York Oxford University Press, 266-276.
- Minsky, H. P., (1977), "The Financial Instability Hypothesis: An Interpretation of Keynes and an Alternative to "Standard" Theory", *Nebraska Journal of Economics and Business*, 16(1), 5–16.
- Minsky, H. P., (1986), *Stabilizing an Unstable Economy*, New Haven: Yale University Press.
- Misina Miroslav, (2003), "What Does the Risk-Appetite Index Measure?", *Bank of Canada Staff Working Papers*, 1-19.
- Mossin, J., (1966), "Equilibrium in a Capital Asset Market", *Econometrica*, 34(4), 768–783.
- Nelson, C. R. and Plosser, C.R., (1982), "Trends and Random Walks in Macroeconomic Time Series: Some Evidence and Implications", *Journal of Monetary Economics*, 10(2), 139-162.
- Ross, S. A., (1976), "The Arbitrage Theory of Capital Asset Pricing", *Journal of Economic Theory*, 13, 341-360.

- Saraç, Taha B, İskenderoğlu, Ömer and Akdağ Saffet, (2016), “Yerli and Yabancı Yatırımcılara Ait Risk İştahlarının İncelenmesi: Türkiye Örneği”, *Sosyoekonomi Dergisi*, 24(30), 26-44.
- Sarıtaş H. and Nazlıoğlu E. H., (2019), “Korku Endeksi, Hisse Senedi Piyasası and Döviz Kuru İlişkisi: Türkiye İçin Ampirik Bir Analiz”, *Ömer Halisdemir Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 12(4), 542-551.
- Sarwar, G., (2012), “Is VIX An Inandstor Fear Gauge in BRIC Equity Markets?”, *Journal of Multinational Financial Management*, s.22, 55-65.
- Sharpe, William F., (1964), “Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk”, *Journal of Finance*, 19(3), 425–442
- Shen, D.B. and K.H. Hu, (2007), “Bank Risk Appetite Measurement and the Relationship with Macroeconomic Factors: Case of Taiwan’s Banks”, *International Journal of Information Systems for Logistics and Management*, 3(1), 25-39.
- So, S. M. S. and Lei, V. U. T., (2015), “On The Relationship Between Inandstor Sentiment, VIX and Trading Volume”, *Risk Goandrnance & Control: Financial Markets & Institutions*, 5(4), 114-122.
- Tarashev, N., K. Tsatsaronis, and Karampatos. D., (2003), “Inandstors’ Attitude Towards Risk: What Can We Learn from Options?”, *BIS Quarterly Review* (June), 57–65.
- Toda, H.Y. and Yamamoto, T., (1995), “Statistical Inference in Vector Autoregressions with Possibly Integrated Processes”, *Journal of Econometrics*, 66, 225-250.
- Uhlenbrock, Birgit, (2009), “Petite Indicators”, *Proceedings of the IFC Conference on Measuring Financial Innovation and Its Impact*, 31, 221-259
- Wilmot, J., P. Mielczarski, and J. Sweeney., (2004), *Global Risk Appetite Index*, In Credit Suisse First Boston: Global Strategy Research: Market Focus.
- Yule, G. U. (1926), “Why do We Sometimes Get Nonsense-Correlations between Time-Series?-A Study in Sampling and the Nature of Time-Series”, *Journal of the Royal Statistical Society*, 89(1), 1-63.

ESTIMATING THE EXPORT POTENTIAL OF TURKEY TO EMERGING MARKETS: EVIDENCE FROM PANEL GRAVITY MODEL

*Ayberk Şeker**

Introduction

Nowadays, international trade is seen as the driving force of economic development. Accordingly, countries aim to accelerate economic development processes by increasing their trade volumes. It is seen that especially the developing and less developed countries have a tendency to establish economic cooperation between each other in order to increase their international trade volumes.

Associated with the globalization process, the free movements of labor, capital, goods and services among countries have increased and this situation has shown an effect that increases the international trade volume. The export volumes of the countries integrated into the global economy increase more and the economic growth levels of the countries increment more rapidly due to the positive effects that occur in the national economy depending on the exports (Dollar, 1992). In addition to this, due to their positive effects of technology transfer of investments etc., it is seen that they make important contributions to the economic development of countries with the integration of underdeveloped and developing countries into the international economic structure (Borensztein et al., 1998).

Along with inception of globalization of the world economy and markets, the tendency of the countries towards regional economic unions has increased in the related process and important economic integrations have been realized. Although the liberalization of international trade seems to act in line with the principles of the World Trade Organization (WTO) in today, the idea of creating economic integrations has emerged as the main strategy for the expansion of international trade both developed countries and developing countries. Almost all of the economic integrations created include countries with many similarities that are cultural formations, geographical and mutual common interests, besides their socio-economic and political structures.

When evaluating international trade between Turkey and emerging markets, It is substantial to target countries that have international trade potential in terms of creating new markets in global trade and international competition. In this context, it should be determined potential emerging

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markets in terms of exports and constitute to trade policies on increment of trade volume with these countries.

In this study, it is aimed to determine the emerging markets that have the potential export market for Turkey by comparing the potential export levels and real exports. In order to establish the export model between Turkey and emerging markets, Turkey's exports to emerging markets, gross domestic product of the countries, distance between Turkey and emerging markets, average tariff rates of countries, exchange rates of Turkey and trade openness of Turkey and emerging markets will be used as variables.

1. Literature Review

Estimating the export potential of countries has an important place in determining target export markets. Although there are important studies on the export potential of countries in the literature, there are few studies that investigate the potential of Turkey's exports to emerging markets. Recent studies about export potential of Turkey are given in Table 1.

Table 1. Recent Studies in Literature

Author	Period/Sample	Method	Findings
Atabay Baytar (2012)	2001-2010 / Turkey and BRIC Countries	Panel Regression	Import and export variables have a significant effect and increase the trade volume. In addition, although Trade Dependency Index has positive effect on trade volume, Import Penetration Index and Export Propensity Index have negative impacts.
Alakbarov et al. (2017)	2001-2013 / World, Middle East, Africa, Developing Countries APEC Countries and Developed Countries	Engel –Granger Co-integration Tests	According to the results, it is seen that Turkey's potential export market is developed countries.
Demir and Bilik (2018)	2003-2014 / Thirty-One Countries	Stochastic Frontier Gravity Model	The average efficiency rate of 60% in Turkey and country-specific efficiency rate between 96% and 11% have been determined in terms of international trade.

Demir et al. (2019)	2006–2016 / Turkey and European Union-25 Countries	Stochastic Frontier Gravity Model	Turkey's average trade efficiency score is 56,3% and it ranged from 0,01% to 92,5% for all countries.
Konak and Demir (2019)	1995-2017 / Turkey and BRICS Countries	Panel Gravity Model	Exports increased as GDP and trade freedom index increased, trade decreased as distance between countries increased, the increase in the population of the importing country reduced trade.
Savaş and Işın (2019)	1997-2017 / Twenty Countries	Panel Gravity Model	1 percent increase in importers GDP per capita results in 0.83% increase in raisins import value from Turkey
Şeker (2019)	1996-2016 / Turkey and D-8 Countries	Panel Gravity Model	According to the results, there is unexploited export potential from Turkey to Nigeria and Indonesia. In addition to this, it is determined that there is export volume above export potential from Turkey to Pakistan, Bangladesh, Malaysia and Egypt.
Uzel and Gürlük (2019)	2001-2030 / 16 Selected Countries	Panel Gravity Model	GDP and population of the countries that Turkey export to are related to the agricultural exports positively while the distance variable is negatively. In addition, it has been determined that Turkey needs to follow increasing domestic consumption trends and emerging markets.

As a result of the literature research, it is seen that there are not enough researchs on determination of Turkey's potential trade with emerging markets and it is aimed to contribute to the literature at this point. In this context, it is aimed to analyze the export potential of Turkey to emerging markets economies with this study.

2. Methodology

The aim of this paper is to determine the potential emerging markets export market for Turkey by comparing the potential export level with the actual export from Turkey to emerging markets. In order to create the research model of Turkish exports to emerging markets in the study, data

on exports of Turkey to emerging markets, gross domestic product, distance between Turkey and emerging markets, tariff rates of emerging markets, exchange rates of Turkey, trade openness of Turkey and emerging markets are used. Emerging markets included in the analysis are given in appendix (Table 7).

Data on countries' gross domestic product, tariff rates of emerging markets, exchange rates of Turkey and emerging markets, trade openness of Turkey and emerging markets are gained from the database of the World Bank. In addition, data on countries' distance between Turkey and emerging markets are obtained from database of Research and Expertise on The World Economy (CEPII). Series used in the study are annual between 1996 and 2018. The information about the variables used in the study is as follows;

- $\ln(\text{exp}_{\text{tur}})$: Exports of Turkey
- $\ln(\text{gdp}_{\text{tur}})$: Gross Domestic Product of Turkey
- $\ln(\text{gdp}_{\text{emc}})$: Gross Domestic Product of emerging markets countries
- $\ln(\text{Indist})$: Distance between Turkey and emerging markets countries
- $\ln(\text{tariff}_{\text{emc}})$: Average tariff rate of emerging markets countries
- $\ln(\text{exr}_{\text{tur}})$: Exchange rates of Turkey
- $\ln(\text{openness}_{\text{tur}})$: Trade openness of Turkey
- $\ln(\text{openness}_{\text{emc}})$: Trade openness of emerging markets countries

Depending on these informations, the panel gravity model has been created for Turkey and emerging market countries to determine the potential export of Turkey and emerging market countries (1);

$$\ln(\text{exp}_{\text{tur}})_{ijt} = \beta_0 + \beta_1 \ln(\text{gdp}_{\text{tur}})_{it} + \beta_2 \ln(\text{gdp}_{\text{emc}})_{jt} + \beta_3 \ln \text{dist}_{ij} + \beta_4 \ln(\text{tariff}_{\text{emc}})_{jt} + \beta_5 \ln(\text{exr}_{\text{tur}})_{it} + \beta_6 \ln(\text{openness}_{\text{tur}})_{jt} + \beta_7 \ln(\text{openness}_{\text{emc}})_{jt} + \varepsilon_t \quad (1)$$

The gravity model has started to be applied in the international trade literature in the early 1960s. Tinbergen (1962), Pöyhönen (1963) and Linneman (1966) carried out gravity model as the first applications in the international trade literature. While international trade volumes between countries are realized in direct proportion with their economic size and populations, it is stated that the distance between countries will increase commercial costs and will be inversely proportional to distance (Baltagi, 2015: 608). Traditional panel gravity model is created as follows (2);

$$T_{ij} = \alpha_0 Y_{i\alpha 1} Y_{i\alpha 2} D_{ij\alpha 3} \quad (2)$$

3. Empirical Findings

Before panel data analysis, the stationarity of the variables should be tested by the unit root test. In the presence of non-stationary series, spurious regression problem can be occurred and the analysis results cannot be properly reflected the relationship between the variables. Hence, the stationarity of the series will be examined with panel unit root tests at first and then, model estimates regarding the export from Turkey to emerging markets will be made.

Table 2. Panel Unit Root Test Results

Variables	Levin, Lin & Chu	
	Level	
	C	C+T
$\ln(\text{exp}_{tur})$	-2.133**	-2.699***
$\ln(\text{gdp}_{tur})$	-6.863***	-5.948***
$\ln(\text{gdp}_{emc})$	-6.242***	-8.915***
$\ln(\text{tariff}_{emc})$	-3.745***	-9.637***
$\ln(\text{exr}_{tur})$	-1.938**	-3.917***
openness_{tur}	-4.798***	-30.463***
openness_{emc}	-2.061**	-3.112***

Note: "C" stands for constant term, "C + T" represents constant and trend. ***, **, and * indicate significance at 1 %, 5 % and 10 % respectively.

The results of the unit root tests are given in Table 2. According to the results, it has been determined that all series are stationary at their levels, in other words, they do not contain unit roots. Accordingly, it is necessary to start the stage of determining the appropriate estimation model for panel data analysis.

Accordingly, several tests have been carried out on the model within the scope of the study and estimation method is determined, which has effective results. In this direction, F Test, Breusch-Pagan Lagrange Multiplier (LM) Test, Score Test, Likelihood Ratio (LR) Test and Hausman Test have been fulfilled on the model.

F Test, Breusch-Pagan (1980) LM Test, LR Test and Score Test examine pooled model is examined against random effects model. The pooled model gives more effective results than the random effects model according to H_0 hypothesis. The alternative hypothesis reveals that the random effects model gives more effective results than pooled model.

Table 3. F Test, Breusch-Pagan LM Test, LR Test, Score Test and Hausman Test Results

Tests	F Score	Chibar2(01)	Chi2(1)	Prob>F	Prob>Chibar2	Prob>Chi2	Chi2(7)	Prob>Chi2
F Test	123.19	-	-	0.00	-	-	-	-
LM Test	-	1619.13	-	-	0.00	-	-	-
LR Test	-	345.11	-	-	0.00	-	-	-
Score Test	-	-	8920.24	-	-	0.00	-	-
Hausman Test	-	-	-	-	-	-	4.12	0.66

In the pooled model, the assumption is that both constant and slope parameters are fixed according to units and time, in other words, all observations are homogeneous. The pooled model makes estimates under the assumptions that there are no cross-section or time effects, and constant and slope parameters are fixed in the model.

The statistical values and results of the tests performed against the random model of the pooled model are given in Table 3. Evaluating the obtained findings, H_0 hypothesis, which states that the standard errors of unit effects are equal to zero in the research model, can be rejected and the pooled estimation model is not appropriate model for the analyses. Following determination that the pooled model is not appreciated, it is tested whether the appropriate estimator is fixed effects or random effects via Hausman Test. As regards the result, testing the research model by using a random effects estimator gives more effective results than other estimators.

The error term of the models used in panel data analysis is accepted to be homoscedastic (constant variance) within and between units. In addition to this, it is assumed that there are no periodic and spatial correlations in the error terms of the models (Tatoğlu, 2013: 197). It is substantial to test these assumptions in the random effects model in the subject matter models.

Table 4. Assumption Tests Results

	Tests	Test Statistics	Prob.
Heteroscedasticity Test Results	W_0	5.511	0.000
	W_{50}	4.647	0.000

	W₁₀	5.189	0.000
Autocorrelation Test Results	Modified Bhargava et al. Durbin-Watson	0.858	* < 2
	Baltagi-Wu LBI	0.992	* < 2
	LM(lambda=0)	430.77	0.000
	LM(Var(u)=0,lambda=0)	86.55	0.000
Cross-Sectional Correlation	Pesaran's Test	0.453	0.651
	Friedman's Test	28.807	0.371

Heteroscedasticity, autocorrelation and cross-sectional correlation problems can be observed in the random effects model. The results of panel data analysis assumption tests are given in Table 4. In this direction, tests developed by Levene (1960) and Brown and Forsythe (1974) tests analyze the presence of heteroscedasticity in the random effects model. While Bhargava, Modified Bhargava et al. and Baltagi-Wu LBI tests examine the presence of autocorrelation in the model, Pesaran and Friedman tests have been used to analyze the cross-sectional correlation.

Evaluating the findings in Table 4, the H_0 hypothesis, which states that there is a constant variance, is rejected. For this reason, it has been confirmed that the estimates made with the random effects model are heteroskedastic. In addition, the H_0 hypothesis, which demonstrate that there is no first-order autocorrelation for the random effects model, has been rejected according to Bhargava et al. (1982) and Baltagi and Wu (1999) tests. Thereby, it has been proved that the model estimated by the random effects model had first-degree autocorrelation. On the other hand, the H_0 hypothesis that there were no correlation between cross-section has not been rejected as a result of Pesaran (2004) and Friedman (1937) tests, and it has been showed that there is no cross-sectional correlation in the model.

In accordance with the results of the assumptions tests, it has been stated that it is more effective to continue with the panel data analysis with the random effects model and there are heteroscedasticity and autocorrelation in the random effects model. Therefore, consistent results are acquired by using the Arellano (1987), Froot (1989) and Rogers (1993) estimator in the random effects model.

Table 5. Arellano (1987), Froot (1989) and Rogers (1993) Estimator Results

Dependent Variable: $\ln(exp_{tur})$			
Independent Variables	Coefficients	Standard Error	Probability
$\ln(gdp_{tur})$	0.666	0.109	0.000
$\ln(gdp_{emc})$	0.769	0.086	0.000

<i>Indist</i>	-1.096	0.119	0.000
<i>ln(tariff_{emc})</i>	-0.185	0.154	0.230
<i>ln(exr_{tur})</i>	0.019	0.037	0.604
<i>openness_{tur}</i>	2.513	0.308	0.000
<i>openness_{emc}</i>	0.434	0.168	0.010
<i>constant</i>	-11.047	2.325	0.000
R²			
Wald chi2(9)			
Prob > chi2			

In Table 5, the results of Arellano (1987), Froot (1989) and Rogers (1993) estimator are given. It was targeted to create a model that measures export potential of Turkey to emerging markets and analyze factors that affect the exports of Turkey to emerging markets via gravity model. In regard to the results, gross domestic product of countries, distance between Turkey and emerging markets and trade openness of countries is found statistically significant.

4. Turkey's Export Potential to Emerging Markets

The export potential is calculated by comparing it with the actual export in order to determine whether there is an export potential not used in international trade. In the context of the study, the model which is created to determine the potential exports of Turkey with emerging markets is examined and actual and potential export have been calculated. The estimated export potential is compared with the actual export to reveal if there is a gap between actual and potential trade.

Export potential is estimated with statistically significant variables in the result of the panel gravity model. Model results are as below (3);

$$\ln(\exp_{tur})_{ijt} = -11.046 + 0.665 * \ln(gdp_{tur})_{it} + 0.769 * \ln(gdp_{emc})_{jt} - 1.095 * \ln(dist)_{ij} + 2.513 * \ln(openness_{tur})_{jt} + 0.434 * \ln(openness_{emc})_{jt} \quad (3)$$

The export potential is acquire by proportioning the theoretical value of Turkey exports to emerging markets based on the trade equation of Turkey, to the observed export value of Turkey to emerging markets. The value gained from the analysis represents the potential export level of Turkey to emerging markets.

**Table 6. Turkish Export Potential to Emerging Countries
in last 9 years**

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018
Egypt	0,48	0,52	0,44	0,52	0,53	0,54	0,56	0,59	0,54
Nigeria	1,52	1,37	1,32	1,46	1,50	1,59	1,70	1,39	1,51
S. Africa	0,57	0,57	0,75	0,44	0,49	0,45	0,48	0,53	0,54
Argentina	0,78	0,97	0,67	0,68	1,48	1,68	1,42	1,45	1,19
Brazil	0,91	0,89	0,77	0,84	1,01	1,24	1,58	1,72	1,41
Chile	1,12	0,98	0,77	0,63	0,67	0,59	0,48	0,51	0,39
Colombia	2,24	1,52	1,23	1,54	1,06	0,77	0,71	0,87	0,78
Ecuador	1,19	1,17	1,25	0,86	0,93	1,61	1,43	1,75	1,32
Mexico	2,34	3,23	2,37	2,14	1,71	1,31	0,91	1,08	0,91
Peru	0,42	0,33	0,43	0,39	0,37	0,47	1,03	1,03	0,74
Uruguay	0,79	1,19	0,85	0,95	0,85	0,77	0,87	0,87	0,89
Venezuela	4,06	2,28	1,45	3,01	5,68	13,59	13,57	7,76	2,52
China	0,93	1,27	1,24	1,06	1,44	1,56	1,52	1,48	1,74
S. Korea	2,01	1,64	1,70	2,01	2,04	1,42	1,45	5,64	4,24
India	2,08	2,31	2,25	3,08	3,28	2,63	2,61	2,83	2,17
Indonesia	1,22	1,43	1,88	1,99	2,01	1,87	1,51	1,99	1,93
Malaysia	1,09	1,87	2,13	1,31	1,16	0,81	0,83	1,17	1,08
Philippines	1,80	1,70	1,30	1,46	1,51	1,85	1,77	1,68	1,47
Thailand	1,38	3,41	2,60	2,11	2,21	2,31	2,31	2,74	1,97
Bahrain	0,75	1,38	1,21	1,36	1,28	0,90	0,95	1,01	0,88
Oman	1,33	1,16	1,01	0,77	0,58	0,67	0,75	1,10	0,69
S. Arabia	0,53	0,65	0,53	0,62	0,66	0,45	0,44	0,62	0,77
Croatia	1,95	2,64	3,04	3,14	2,26	2,11	1,85	2,08	1,91
Czechia	1,74	1,90	2,12	2,20	2,14	1,91	1,74	1,72	1,85
Hungary	3,21	3,81	3,53	2,92	2,93	2,34	1,90	1,69	1,83
Poland	1,37	1,61	1,51	1,43	1,30	1,09	0,91	1,01	1,11
Romania	1,18	1,48	1,65	1,73	1,60	1,41	1,46	1,54	1,49
Russia	0,73	0,87	0,84	0,83	0,92	1,01	1,85	1,56	1,41

Table 6 demonstrates the potential export rate of Turkey to emerging markets. As a result of the analyze, Turkey has a high export potential to emerging markets such as China, South Korea, India, Indonesia, Malaysia, Philippines and Thailan in the Asia continent; Croatia, Czechia, Hungary, Poland, Romania and Russia in the Europe continent; Argentina, Brazil, Ecuador and Venezuela in the America continent; Nigeria in the Africa continent. These findings show that Asian and European continents have the most important emerging markets which have export potential for Turkey.

5. Conclusion

Increasing the export volume is important to ensure the economic development and development levels of the countries. Growing the export volumes is an important issue for Turkey, which has an important economic and trade potential in its economic geography among Europe, Asia and Middle East, in order to increase the economic welfare. For this reason, the exports of Turkey to emerging markets have been estimated by the panel gravity model in this paper. The paper analyzes the export potential of Turkey to emerging markets in terms of potential export markets. In this direction, the paper contributes to theoretical and empirical literature of international trade by detecting the export potential of Turkey to emerging markets and discovering trade opportunities in terms of countries.

Panel data analysis has applied in order to demonstrate the export potential of Turkey to emerging markets in the context of analyses. The results of the estimates show that gross domestic products of countries, distance between Turkey and emerging markets and trade openness of countries have statistically significant effects on exports of Turkey to emerging markets.

When the potential exports are compared with the actual exports, it has been seen that Turkey has important export potential to China, South Korea, India, Indonesia, Malaysia, Philippines and Thailand in the Asia continent; Croatia, Czechia, Hungary, Poland, Romania and Russia in the Europe continent; Argentina, Brazil, Ecuador and Venezuela in the America continent; Nigeria in the Africa continent. These results demonstrate that emerging markets in Asia and Europe should have been priority export targets. In addition to this, it is concluded that new export incentives and providing the diversification in exports are considerable in order to enhance the export volume in America and Africa.

References

- ALAKBAROV, Naib, GÜNDÜZ, Murat, ÖZKAYA, Mehmet Hilmi, (2017), “Türkiye’nin İhracat Talebi Fonksiyonunun Farklı Ülke Gruplarına Göre Eşbütünleşme Analizi”, *Dokuz Eylül Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Cilt 32, Sayı 2, ss.369-395.
- ARELLANO, Manuel, (1987), “Computing Robust Standard Errors for Within-Groups Estimators”, *Oxford Bulletin of Economics and Statistics*, Vol. 49, Issue 4, pp.431-434.
- ATABAY BAYTAR, Rana, (2012), “Türkiye ve BRIC Ülkeleri Arasındaki Ticaret Hacminin Belirleyicileri: Panel Çekim Modeli Analizi”, *İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi*, Cilt 11, Sayı 21, ss.403-424.
- BALTAGI, Badi H., (2015), *The Oxford Handbook of Panel Data*, Oxford University Press, England.
- BALTAGI, Badi H., WU, Ping, (1999), “Unequally Spaced Panel Data Regressions with AR(1) Disturbances”, *Econometric Theory*, Vol. 15, pp.814-823.
- BHARGAVA, A., FRANZINI, L., NARENDRANATHAN, W. (1982), “Serial Correlation and Fixed Effects Models”, *The Review of Economic Studies*, Vol. 49, pp.533-549.
- BORENSZTEIN, E., DE GREGORIO, J., LEE, J., (1998), “How Does Foreign Direct Investment Affect Economic Growth?“, *Journal of International Economics*, Vol. 45, pp.115-135.
- BREUSCH, Trevor, PAGAN, Adrian, (1980), “The Larange Multiplier Test and Its Applications to Model Specification in Econometrics”, *Review of Economic Studies*, Vol. 47, pp.239-253.
- BROWN, Morton, FORSYTHE, Alan, (1974), “The Small Sample Behavior of Some Statistic Which Test the Equality of Several Means”, *Technometrics*, Vol. 16, pp. 129-132.
- DEMİR, Memduh Alper, BİLİK, Mustafa, (2018), “Türkiye’nin Ticaret Etkinliği: Stokastik Sınır Çekim Modeli Yaklaşımı”, *Ömer Halisdemir Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Cilt 11, Sayı 1, ss.29-48.
- DEMİR, Memduh Alper, BİLİK, Mustafa, UTKULU, Utku, (2019), “The Efficiency Of Manufacturing Trade Between Turkey And The European Union”, *Business & Management Studies: An International Journal*, Vol. 7, Issue 2, pp.591-608.
- DOLLAR, David, (1992), “Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from LCDs, 1976-1985”, *Economic Development and Cultural Change*, Vol. 40, Issue 3, pp.523-544.

- FRIEDMAN, Milton, (1937), “The Use of Ranks to Avoid the Assumption of Normality Implicit in the Analysis of Variance”, *Journal of the American Statistical Association*, Vol. 32, pp.675–701.
- FROOT, Kenneth, (1989), “Consistent Covariance Matrix Estimation with Cross-Sectional Dependence and Heteroskedasticity in Financial Data”, *Journal of Financial and Quantitative Analysis*, Vol. 24, pp.333-355.
- KONAK, Ali, DEMİR, Memduh Alper, (2019), “Türkiye’nin BRICS Ülkeleri ile Ticaretinin Analizi: Çekim Modeli Uygulaması”, *Journal of International Banking Economy and Management Studies*, Vol. 2, Issue 2, pp.45-69.
- LEVENE, H., (1960), “Robust Tests for Equality of Variances”, in Olkin, I, Ghurye, G., Hoefding, W., Madow, W. G. & Mann, H. B. (Eds.), *Contributions to Probability and Statistics*, Stanford University Press, Stanford, California, pp.278–292.
- LINNEMANN, Hans, (1966), *An Econometric Study of International Trade Flows*, North Holland Publishing Company, Amsterdam.
- PESARAN, M. Hashem, (2004), *General Diagnostic Test for Cross Section Dependence in Panels*, University of Cambridge, Faculty of Economics, Cambridge Working Papers in Economics, No. 0435.
- POYHONEN, P., (1963), “A Tentative Model for the Volume of Trade between Countries”, *Weltwirtschaftliches Archiv*, Vol. 90, Issue 1, pp.93-100.
- ROGERS, William, (1993), “Regression Standard Errors in Clustered Samples”, *Stata Technical Bulletin*, Vol. 13, pp.19-23.
- SAVAŞ, Yüksel, İŞİN, Ferruh, (2019), “Türkiye’nin Kuru Üzüm Dış Satım Potansiyelinin Çekim Modeli ile İncelenmesi”, *Tarım Ekonomisi Dergisi*, Cilt 25, Sayı 2, ss.195-200.
- ŞEKER, Ayberk, (2019), “Türkiye’nin D-8 Ülkelerine İhracat Potansiyelinin Analizi: Panel Çekim Modeli Yaklaşımı”, *ARHUSS*, Cilt 2, Sayı 3, ss.236-255.
- TINBERGEN, Jan, (1962), *Shaping the World Economy: Suggestions for an International Economic Policy*, The Twentieth Century Fund, New York.
- UZEL, Gökhan, GÜRLÜK, Serkan, (2019), “Turkey’s Agricultural Export: An Application of the Gravity Model”, *Business & Management Studies: An International Journal*, Cilt 7, Sayı 5, ss.2964-2979.
- YERDELEN TATOĞLU, Ferda, (2013), *Panel Veri Ekonometrisi*, Beta Yayıncılık, İstanbul.

Appendix

Table 7. Country List

Egypt	Nigeria	South Africa	Argentina
Brazil	Chile	Colombia	Ecuador
Mexico	Peru	Uruguay	Venezuela
China	South Korea	India	Indonesia
Malaysia	Philippines	Thailand	Bahrain
Oman	Saudi Arabia	Croatia	Czechia
Hungary	Poland	Romania	Russian Federation

COMPARISON OF SEARCH ENGINE MARKETING (SEM) PERFORMANCES OF E-COMMERCE BUSINESSES

Aziz Öztürk & Ramazan Göral***

1. INTRODUCTION

The marketing field witnesses new techniques and approaches each day as the global competition becomes a factor making it difficult for businesses and brands to be effective against their competitors. One of the competitive marketing approaches today is Search Engine Marketing (SEM).

Search Engine Marketing (SEM) is the marketing style comprised of the tasks which assist search engines such as Google, Yahoo!, Bing, to find and list websites. In other words, everything which could be done for ensuring that a website appears in the search engine results while internet users research businesses, goods, and services, is considered within the scope of SEM (Keptify.com, 2018).

Search engine marketing is one of the most important marketing channels for generating web traffic. SEM is generally used as an umbrella term concerning Search Engine Optimization (SEO) and Paid Advertising on Search Engines (Kritzinger, 2017).

According to the SEM statistics in 2019, an average person conducts between 3 to 4 searches each day. The average hit rate (HR) for the first spot on a Google search is 19,3%. A paid search network ad on Google gets clicked on by 63% of users. Around 93% of all web traffic is generated by search engines, and the businesses that can integrate Search Engine Optimisation (SEO) and Pay Per Click (PPC) ads hold a 25% higher hit rate and gain 27% more profit (99firms.com, 2019).

A business which overlooks SEO or PPC as a part of SEM strategy can lose numerous potential customers. This is because a business website can be reached on a search engine through either the PPC list or the organic list generated by SEO (Neethling, 2008).

The topic of this research is evaluating the SEM performances of businesses, and while conducting this evaluation, it is to define the factors which amount to the SEM performances of businesses while conducting this evaluation. In this context, the sample of our study comprises of the 7

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e-commerce businesses in Turkey which, according to various studies, are the most preferred by customers (Shiftdelete, 2020; blog.kmk, 2020). The aim of this study is to define the SEO and PPC factors which reveal the SEM performances of e-commerce businesses, to calculate the weights of these factors in the business performance rankings and to compare e-commerce businesses' SEM performances according to the weights of these factors.

In this context, the considered factors in the SEM performances of e-commerce businesses have been determined within the scope of literature. These factors have been featured under the title of conceptual framework. Afterwards, data relating to e-commerce businesses' SEO and PPC factors have been gathered by utilizing various free software online. In the weighting of the factors, the entropy method has been applied. The TOPSIS method has been used for the SEM performance comparisons of e-commerce businesses. The literature regarding entropy and TOPSIS are discussed under the Methodology section. Thus, with the combined use of entropy weighting and TOPSIS ranking methods, a model for the evaluation of SEM performances of businesses has been proposed.

The data regarding the SEO and PPC factors of e-commerce businesses can frequently change. Moreover, depending on the software used for data collection, the data can exhibit minor differences. These can be seen as the limitations of this study.

2. CONCEPTUAL FRAMEWORK

New strategies are being developed in order to gain market share online with the increased use of the internet as a marketing tool. One amongst these strategies is Search Engine Marketing (SEM). SEM is a strategy utilizing the power of search engines for potentially drawing millions of views daily to websites (Berman & Katona, 2013).

Search Engine Marketing consists of various activities such as implementation of Search Engine Optimisation (SEO), managing Pay Per Click (PPC) advertising lists, submitting websites to indexes, and developing online marketing strategies for businesses and individuals (Kritzinger, 2017).

According to Dou, et al. (2010), two kinds of marketing activity (SEM) can be conducted on e-commerce environment through search engines. Firstly, businesses can pay for links directing to their websites on the sponsored sections of search engine result pages. This is called PPC.

PPC, standing for pay per click, is an online advertisement model where clients are costed as a result of the hits on the ads they publish on various channels. PPC ads are not solely limited to Google ads. Ads published on

social media or other platforms can also be regarded under this title (Yilmaz, 2020).

PPC is the strategy where marketers give offers for keyword clusters, develop ads which will appear upon search queries, and pay the search engines each time a user clicks on an ad (Clarke & Clarke, 2014).

The second one is the application of certain techniques for increasing the ranking of the businesses' websites on search engines' organic results through the marketing activity entitled SEO. In this case, the search engines do not receive payment. In other words, the process of increasing the visibility of the website is called SEO. This consists of designing and altering websites for improving the search engine result page (SERP) rankings. Moreover, SEO can also be defined as the process in which the website's traffic volume and quality are improved through natural (organic) search results for the aimed keywords (Kritzinger, 2017). In order to appear on the top of the search engine result page lists, a website owner can invest in either one or both SEM strategies (Neethling, 2008).

According to Neethling (2008), both SEO and PPC have advantages as well as disadvantages. PPC can procure that a website is immediately accessible through a published ad. However, PPC does not always guarantee appearing on the first page of the search engine result pages. Therefore, search engine users can easily overlook them. Another disadvantage regarding PPC is that with the increased competition, PPC can be costly. On the other hand, SEO, while not guaranteeing being high on search engine lists, requires lesser financial expense over the long run compared to PPC.

One study conducted on website visibility and access to them through search engines is the model developed by Weideman (2009) which involves the components of SEO. This model encapsulates the factors which ensure websites ranking high on SERP (Weideman, 2009). Weideman's model defines both the positive and negative visibility components, moreover, ranks them based on their contributions to visibility. Accordingly, the positive elements contributing most to webpage visibility are ordered as follows: Inlinks, Body Keywords and AnchorText. The inlink quantity and quality are also important elements in generating webpage traffic (Weideman 2013).

One other model that has been developed regarding webpage visibility pertains to Busche (2017). This model comprises of three main categories and 15 related subcategories. According to this model, a SEO analysis depends on 15 ranking factors grouped in three main categories as Reputation, Relevance and Readability (Table 1) (Busche, 2017).

Table 1. SEO Analysis Factors

Categories	Scope	Related Factors
Reputation	Factors relating to the authority level assigned to webpages' domain names by search engines	Inbound Links; Outbound or External links; Internal Linking; Domain reputation; Visitor Engagement and Traffic; Social Metrics
Relevance	Factors relating to connections assigned by the search engine between the search queries and the webpage content in order to address the user's needs	In-page keyword and semantic keyword use; Heading use; Heading and "meta description" optimisation; URL structure; Content update; Image and media optimisation
Readability	Factors relating to the user's experience after accessing a certain piece of content in the webpage	PageSpeed; Content quality and length; Design and user experience

Source: (Busche, 2017)

Businesses, if they wish their website to rank high on the search engine listings, should build websites that are appropriate to the categories of being reputable; relevant to the customer's needs; readable and offering a quality experience (Busche, 2017).

2.1. Reputation

Reputation represents the level of authority assigned to a website's sphere of influence by search engines. These factors are the inbound links (links directing visitors to the website), outbound links (links directing the visitor away from the website) and internal linking (links directing the visitor from your website to another page of your website). Inbound links assist in ranking higher in the search engine result pages. Additionally, a websites reputation benefits from domain authority (search engine ranking point), and visitors' participation and traffic (Iddris, 2018).

SEO performance can be assessed based on time spend in a website and the number of reviewed pages (Ward, 2017). Furthermore, the number of

backlinks (inbound links) pertaining to a website can be good indicators which assist in the search engine ranking and strengthen the domain name reputation, popularity or importance (Busche, 2017).

2.2. Relevance

Relevance is connected to how search engines relate the user's requests to the website's content. Main factors for the Relevance category are noted by Busche (2017) as in-page keyword and semantic keyword use; heading use; heading and "meta description" optimisation; URL structure; content up-to-dateness; image and media optimisation.

Keywords of quality should be used in the content of the website and should contain words appropriate and distinctive for the page. The heading tags should match the topic of the page, each page should have an appropriate heading and their URLs should be short and meaningful, using ordinary keywords. The best way for SEO is optimizing the keywords within the website. Therefore, businesses should place words appropriate to the website content or in different tags of the website (Idris, 2018).

2.3. Readability

Readability relates to the experience of a user after they have clicked on a specific page on a website and have entered the page. This category is mainly about the page speed, content quality and length, appropriate design and user experience (Busche, 2017). According to Busche(2017), visitor participation such as staying on the website longer, low rates of leaving immediately and high page views have positive influence on the search engine ranking placements.

Kumar et al. (2017) have proposed a model for measuring the webpage traffic values of online shopping centers in a study they have conducted. According to this model, by taking into consideration the Traffic Ranking, Inbound Links, Competition, Speed and Keyword Statistics, the webpage performance of businesses can be quantitatively measured. Furthermore, it is important to include the consumers' individual (subjective) views in the measurement of web page performances. Hence, the method applied by Kumar et al. (2017) suggests combining both the objective and subjective data.

2.4. Factors (Criteria) Relating to This Study

The analysis factors applied in this study are based on the abovementioned literature. Within this context, the assessments have been conducted with seven SEO and one PPC analysis factors, in total eight, for which the quantitative data for could be accessed.

The first amongst the SEO factors is the **Webpage Speed**. This factor influences the satisfaction of a user's experience upon reaching a specific piece of content on the website. According to Kissmetrics, 40% of the visitors leave a website if the page takes longer than 3 seconds to load. Therefore, the webpage speed is crucial due to the below mentioned reasons (Hostinger, 2020):

1. Affects the SERP – Search engines have limited time for gathering results. If a page does not load in that short span of time, the webpage can end up ranking low on the search engine result pages.
2. Impacts the website traffic – Slow loading pages can risk missing 40% of potential visitors (and even worse, buyers)
3. Affects the SEO – Bad page loading speeds might affect the user experience of search engines and harm the reputation of the search engines.

Consequently, all e-commerce businesses should maintain an optimum level of website speed performance in order to provide the best possible user experience.

The second factor is **Traffic Ranking**. The Traffic Ranking is concerned with average of certain user count and page view counts per user over time. Based on these counts, global and national rankings for any time period (Kumar, Dash, &Seharawat, 2017).

The web traffic is considered to be an important economic indicator for the firm value, since without traffic and a significant crowd of visitors, it is impossible to form customer relations which can be transformed into sales revenues in the future (Rajgopal, Kotha, & Venkatachalam, 2000).

The third factor is the **Visitor Count**, which indicates the number of individuals visiting the webpage. Upon establishing a website, the most important thing is following the visitor count and investigating how these numbers can be increased.

The fourth factor is the **Visitors' Average Span of Staying on the Page**. This span being high indicates that the website contains interesting content for the visitors (Beşirli, 2014).

The fifth factor is the **Inbound Links**. The inbound links and backlinks are also called hyperlinks. These are the links on other webpages which direct customers and search engines to the business' webpage. A website containing more inbound links falls into a better category and is considered more valuable (Kumar, Dash, &Seharawat, 2017).

The sixth factor is the **Keyword Density**. The use of keywords is highly important in SEO. The webpage ranking can be directly impacted by the numerous or few uses of a keyword.

The seventh factor is the webpage's *SEO Ranking*. The SEO Rank is conceptually the same as the PageRank. PageRank is a score assigned to a website by Google, on a scale of 0 to 10. This score signifies the value of the webpage. Factors such as the content, links, the linking webpages, and many others can have impact on this score. SEO Rank is, like PageRank, a score which indicates the value of a website based on the quality of content, links, and their quality on a webpage. SEO rank signifies how valuable and of quality a website is (Moradan.com, 2018).

The eight factor is the *PPC Rank*, which indicates the success of an e-commerce business in the scope of the Pay Per Click advertising. The higher ranking score demonstrates that the business' performance in pay per click is as high.

The free SEO and PPC analysis versions of softwares such as **tools.pingdom.com**, **similarweb.com**, **ahrefs.com**, **ihs.com.tr**, **searchmetrics.com** have been utilized for the collection of the data relating to these factors. The data and related software is demonstrated in Table 3.

3. METHODOLOGY

3.1. Criteria and Methods Applied in the Research (ENTROPY and TOPSIS)

As has been mentioned above, 8 SEM performance criteria has been determined in the scope of literature and the calculations have taken place based on these criteria. The aim of this study, the criteria definitions towards such aim, and criteria labels are represented in Table 2.

Table 2. Criteria Applied in Research

Aim	Criteria Definition	Criteria Labels
Evaluating the SEM performances of businesses conducting e-commerce	The span it takes for the webpage to load (seconds)	LT
	Traffic ranking according to the visitor count to webpages	TR
	The visitor count of the webpage in the last month	VC
	The average span of visitors' stay on the webpage	ST

	The ranking based on inbound links to the webpage	IBR
	The webpage keyword density ranking	KDR
	The search engine optimization ranking of the webpage	SEOR
	The pay per click ranking of the webpage	PPCR

3.2. Entropy

A key point is finding the appropriate weight for each criterion, since it cannot be assumed that these criteria with varying meanings carry the same weights. Bearing in mind the assorted methods for determining the weights, it is possible to distinguish them in two as subjective and objective weighting. It is possible to utilize subjective methods such as the Delphi method, Analytic Hierarchy Process (AHP), etc., for the weighting of the criteria. Human factors can cause deviations in the criteria weights while using subjective methods. Objective weighting methods utilizes available data without factoring in the emotional human aspect. Epistemologically, Shannon's entropy can be applied as an objective weighting method, which has been done in this study (Li, et al., 2011; Lotfi&Fallahnejad, 2010). The calculating process has been undertaken as below explained.

1. The Normalisation of Data

Initially, it is necessary to normalise the data since the data regarding different criterion are not the same and therefore cannot be computed. The normalisation process has been conducted with the below equation;

$$P_{ij} = \frac{x_{ij}}{\sum_{p=1}^n x_{ip}}, j = 1, \dots, m, i = 1, 2, \dots, n \quad (1)$$

This process renders the different scales and units among the criteria into mutually measurable units for the sake of comparison of the criteria (Lotfi&Fallahnejad, 2010).

2. The Calculation of Entropy Value

Entropy, generally speaking, is the measure of uncertainty on a receiver, caused by a message sent by a transmitter. In the entropy method, a criterion with virtually similar values will have a higher entropy and a

lower weight compared to a criterion with highly varying values (Göral, 2016, p. 77). The below equation demonstrates the calculation of entropy.

$$e_j = -k \sum_{i=1}^n p_{ij} \ln p_{ij} \quad (2)$$

Here, the amount of information derived from each criterion is represented with the e_j entropy value. The \ln in the equation represents the natural logarithm; the k is the entropy coefficient which fulfils the condition of $0 \leq e_j \leq 1$ and is calculated by $k = 1/\ln m$ (alternative number).

3. The Calculation of d_j , the Degree of Deviation of the Inner Average Information Contained by Each Criterion

$$d_j = 1 - e_j \quad (3)$$

4. The Calculation of the Criteria Weights

$$W_j = \frac{d_j}{\sum_{j=1}^m d_j} \quad (4)$$

Epistemologically, the entropy weights represent the useful information regarding the criteria. Therefore, the higher the entropy weight is for a criterion, the higher its useful information (Li, et al., 2011).

3.3. TOPSIS

TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) is a method developed by Hwang and Yoon (1981) for the evaluation of alternative performances with similarity to ideal solution. The best alternative, according to this technique, would be the one closest to the positive-ideal solution and furthest from the negative-ideal solution. The positive-ideal solution is the one maximising the benefit criteria and minimising the cost criteria. Negative-ideal, on the other hand, maximises the cost criteria and minimizes the benefit criteria. As a result, the positive ideal comprises of all the best values reaching the criteria; while the negative ideal comprises of the worst values reaching the criteria (Krohling& Pacheco, 2015).

The TOPSIS evaluation follows the below explained steps;

1. Building the Decision Matrix

The lines on the decision matrix contains the alternatives, while the columns contain the criteria. For instance, the A decision matrix can be demonstrated as follows:

$$A_{ij} = \begin{bmatrix} a_{11} & a_{12} & \dots & a_{1n} \\ a_{21} & a_{22} & \dots & a_{2n} \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ \cdot & & & \cdot \\ a_{m1} & a_{m2} & \dots & a_{mn} \end{bmatrix}$$

2. Acquiring the Normalised Matrix

The data for the decision matrix A_{ij} are obtained from different sources, therefore in order to transform the matrix into a non-dimensional matrix which allows for the comparison of various criteria, it is necessary to normalise it. This process is conducted through the following formula.

$$r_{ij} = \frac{a_{ij}}{\sqrt{\sum_{k=1}^m a_{kj}^2}} \quad (5)$$

The normalised decision matrix R represents the relative ranking of the alternatives (Krohling & Pacheco, 2015). Following the normalisation, calculations are conducted for the weighted normalised decision matrix V_{ij} .

3. Building the Weighted Normalised Matrix

The V_{ij} matrix is built through multiplying the criteria values on each column with the criteria weights on the R matrix. The values on the V_{ij} matrix are calculated as follows:

$$V_{ij} = w_i * r_{ij} \quad i=1, \dots, m \quad \text{ve} \quad j=1, \dots, n \quad (6)$$

4. Forming the Ideal (A^*) and Negative Ideal (A^-) Solutions

In order to form the ideal solution set, the highest values on the column on the V matrix are selected (in case the related assessment factor is minimisation directed, then the lowest are selected). The below equation demonstrates how to achieve the ideal solution set:

$$A^* = \left\{ \left(\max_i v_{ij} \mid j \in J \right), \left(\min_i v_{ij} \mid j \in J' \right) \right\} \quad (7)$$

On the other hand, the negative ideal solution set is formed by selecting the lowest values on the weighted columns of the V matrix (in case the related assessment factor is maximisation directed, then the highest are selected) (Özdemir, 2014). The below equation demonstrates how to achieve the negative ideal solution set:

$$A^- = \left\{ (\min_i v_{ij} | j \in J), (\max_i v_{ij} | j \in J') \right\} \quad (8)$$

5. Calculating the Distance Values to Ideal and Negative Ideal Points

The deviation values in relation to the decision points obtained in the previous step are called Ideal Point (S_i^*) and Negative Ideal Point (S_i^-) values. The calculation of the ideal point (S_i^*) value and negative ideal point (S_i^-) value are conducted with the below equation (Li, et al., 2011).

$$S_i^* = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^*)^2} \quad S_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^-)^2} \quad (9)$$

The calculated S_i^* and S_i^- values here will naturally amount to the decision point value.

6. Calculating the Relative Proximity to the Ideal Solution

For the calculation of the relative proximity of each decision point to the ideal solution (C_i^*), the ideal and negative ideal point measures are utilized. The standard here is the share of the distinction value of the negative ideal within the sum of the distinction values. The calculation of the relative proximity value to the ideal solution is demonstrated with the below formula (Özdemir, 2014).

$$C_i^* = \frac{S_i^-}{S_i^- + S_i^*} \quad (10)$$

The C_i^* is valued in the scale of $0 \leq C_i^* \leq 1$ here. The best alternative is the one with the highest C_i^* value since it is closer to the positive ideal solution (Krohling & Pacheco, 2015).

3.4. Analysis

There are numerous software for the calculation of the performance scores of websites based on SEM criteria. In this study, the data for each e-commerce business has been acquired through these software between the dates of March 2-6, 2020 (below Table 3, the software used for acquiring the criteria is disclosed). The decision matrix, A_{ij} , which has been built through the obtained data is illustrated in Table 3.

Table 3. Decision Matrix for the Entropy and TOPSIS

Criteria	LT	TR	VC	ST	IBR	KDR	SEOR	PPCR
Hepsiburada.com.tr	4,86	20	233131000	6,10	81	1238	12	9
Amazon.com.tr	0,90	237	19811500	2,53	77	323	335	28
Mediamarkt.com.tr	0,81	240	19749000	3,10	71	52	322	71
Gittigidiyor.com.tr	2,18	27	137909900	4,16	81	625	25	39
N11.com.tr	23743,00	16	245229500	5,48	84	1290	30	55
Trendyol.com.tr	0,81	14	283659500	6,51	74	443	46	1
Teknosa.com.tr	1,46	180	262231000	3,00	67	531	225	48

LT: tools.pingdom.com, TR, VC, ST: similarweb.com, IBR: ahrefs.com, KDR: ibs.com.tr, SEOR, PPCR: searchmetrics.com

In the analysis stage, the weighting of the criteria used for the calculation of the SEM performance of e-commerce businesses has been conducted initially. Through the application of the equations (1), (2), (3), (4) on the decision matrix mentioned in the entropy weighting process above, the weighted criteria in Table 4 has been obtained. Accordingly, LT: 0,104, TR: 0,232, VC: 0,170, ST: 0,027, IBR: 0,001, KDR: 0,112, SEOR: 0,228, PPCR: 0,125 have been observed to be the weights of the criteria.

Table 4. The Entropy Weights of the Criteria (Wj)

CRITERIA WEIGHTS	LT	TR	VC	ST	IBR	KDR	SEO R	PPC R
Ej	0,886	0,74 7	0,81 5	0,97 0	0,99 9	0,87 8	0,751	0,864
dj=1-ej	0,114	0,25 3	0,18 5	0,03 0	0,00 1	0,12 2	0,249	0,136
Wj	0,104	0,23 2	0,17 0	0,02 7	0,00 1	0,11 2	0,228	0,125

As can be seen on Table 4, the criterion with the highest weight is Traffic Ranking, compiled from the total of visitor count of the webpage (within Turkey). The lowest weight, on the other hand, is the Inbound Link criteria which is compiled from the links leading to the webpages.

The second stage of the analysis consists of calculations regarding the SEM performances of the e-commerce businesses. Accordingly, through the application of the equations (5) and (6) on the A_{ij} (*Decision Matrix*), the V_{ij} (*Weighted Normalised Matrix*) has been obtained (Table 5).

Table 5. Weighted Normalised Matrix (V_{ij})

WEIGHTED NORMALISED MATRIX	LT	TR	VC	ST	IBR	KDR	SEO R	PPC R
Hepsiburada.com.tr	0,08 5	0,01 2	0,08 5	0,01 4	0,0005 2	0,06 8	0,005	0,010
Amazon.com.tr	0,01 6	0,14 3	0,00 7	0,00 6	0,0004 9	0,01 8	0,147	0,031
Mediamarkt.com.tr	0,01 4	0,14 5	0,00 7	0,00 7	0,0004 6	0,00 3	0,142	0,078
Gittigidiyor.com.tr	0,03 8	0,01 6	0,05 0	0,00 9	0,0005 2	0,03 4	0,011	0,043
N11.com.tr	0,02 9	0,01 0	0,09 0	0,01 2	0,0005 4	0,07 1	0,013	0,061
Trendyol.com.tr	0,01 4	0,00 8	0,10 4	0,01 4	0,0004 8	0,02 4	0,020	0,001
Teknosa.com.tr	0,02 6	0,10 9	0,01 0	0,00 7	0,0004 3	0,02 9	0,099	0,053

Afterwards, the Ideal (A^*) and Negative Ideal (A^-) solutions have been obtained through applying equations (7) and (8) (Table 6).

Table 6. Ideal and Negative Ideal Solution Points

DISTANCE TO IDEAL POINTS	LT	TR	VC	ST	IBR	KD R	SEO R	PPC R
Hepsiburada.com.tr	0,00 5	0,00 0	0,00 0	0,00 0	0,00 0	0,00 0	0,000	0,000
Amazon.com.tr	0,00 0	0,01 8	0,00 9	0,00 0	0,00 0	0,00 3	0,020	0,001
Mediamarkt.com.tr	0,00 0	0,01 9	0,00 9	0,00 0	0,00 0	0,00 5	0,019	0,006
Gittigidiyor.com.tr	0,00 1	0,00 0	0,00 3	0,00 0	0,00 0	0,00 1	0,000	0,002
N11.com.tr	0,00 0	0,00 0	0,00 0	0,00 0	0,00 0	0,00 0	0,000	0,004
Trendyol.com.tr	0,00 0	0,00 0	0,00 0	0,00 0	0,00 0	0,00 2	0,000	0,000
Teknosa.com.tr	0,00 0	0,01 0	0,00 9	0,00 0	0,00 0	0,00 2	0,009	0,003
DISTANCE TO NEGATIVE IDEAL POINTS	LT	TR	VC	ST	IBR	KD R	SEO R	PPC R
Hepsiburada.com.tr	0,00 0	0,01 8	0,00 6	0,00 0	0,00 0	0,00 4	0,020	0,005
Amazon.com.tr	0,00 5	0,00 0	0,00 0	0,00 0	0,00 0	0,00 0	0,000	0,002
Mediamarkt.com.tr	0,00 5	0,00 0	0,00 0	0,00 0	0,00 0	0,00 0	0,000	0,000
Gittigidiyor.com.tr	0,00 2	0,01 7	0,00 2	0,00 0	0,00 0	0,00 1	0,019	0,001
N11.com.tr	0,00 3	0,01 8	0,00 7	0,00 0	0,00 0	0,00 5	0,018	0,000
Trendyol.com.tr	0,00 5	0,01 9	0,00 9	0,00 0	0,00 0	0,00 0	0,016	0,006
Teknosa.com.tr	0,00 4	0,00 1	0,00 0	0,00 0	0,00 0	0,00 1	0,002	0,001

In the last stage of the analysis, the distance to the Ideal and Negative Ideal Points (S_i^* and S_i^-) in Table 7 have been calculated by applying equation (9), and each decision point's relative proximity to the ideal solution (C_i^*) have been calculated by applying equation (10).

Table 7. The SEM Performance Rankings of E-Commerce Businesses

	S_i^*	S_i^-	C_i^*	Performance Ranking
Hepsiburada.com.tr	0,074	0,230	0,756	3
Amazon.com.tr	0,227	0,085	0,274	6
Mediamarkt.com.tr	0,239	0,071	0,230	7
Gittigidiyor.com.tr	0,081	0,204	0,714	4
N11.com.tr	0,064	0,226	0,781	2
Trendyol.com.tr	0,049	0,236	0,828	1
Teknosa.com.tr	0,180	0,092	0,340	5

The entropy weighting and TOPSIS methods, with their strong processes and simple calculation steps, are appropriate methods for objectively evaluating the performances of the e-commerce businesses (Li, et al., 2011). As can be seen on Table 7, the SEM performance evaluation rankings of the e-commerce businesses are in descending order Trendyol, N11, Hepsiburada, Gittigidiyor, Teknosa, Amazon, Mediamarkt. The businesses with relatively lower SEM performances according to the evaluation results can observe which SEM strategy application they experience problems with and accordingly take precautions.

4. CONCLUSION

Websites are created with varying reasons. One of these is the conduct of commercial activities online representatively and through the websites. Even though a website is not seen as the only representative form of an e-commerce business, it is a valuable commercial asset for the e-commerce business to reach their customers and market their products. This online representation is crucial in determining how existing and potential customers perceive the businesses and how the customers are interacting with them. Therefore, e-commerce businesses should actively market their webpages in order to increase visibility.

For the marketing of their webpages, e-commerce businesses should systematically utilize the Search Engine Marketing strategies Search Engine Optimisation and Pay Per Click Advertising in a carefully balanced

and long-term manner. Through this, they can achieve higher rankings on search engine lists and higher counts of potential customers visiting their webpages (Kritzinger, 2017)

In this study, a performance ranking has been formed through the combined utilization of indicators crucial in the evaluation of e-commerce businesses' effective application of search engine optimisation and pay per click advertising strategies. This is because, when taken separately, the SEO and PPC indicators can result in different rankings of the businesses. In this context, this study is valuable for the model it offers for the combined evaluation of the SEM performance indicators. Moreover, the weighting and performance ranking methods utilized for determining the importance of the indicators in the model are conducted through the application of mathematical methods that are widely used in scientific research and therefore well accepted, which increases the importance of the study.

Another significant aspect of the study is that it demonstrates the weak and strong features of their SEM strategies to the managers of e-commerce businesses. Thus, the businesses can focus on developing the weak features of their search engine marketing applications using the analysis results.

REFERENCES

- 99firms.com*. (2019, 10 24). 03 12, 2020 tarihinde Search Engine Statistics: <https://99firms.com/blog/search-engine-statistics/#gref>
- Berman, R., & Katona, Z. (2013). The Role of Search Engine Optimization in Search Marketing. *Marketing Science* , Vol 32, No. 4, 664-651.
- Beşirli, Ö. (2014, 10 20). *Pazarlamasyon.com*. 03 06, 2020 tarihinde Web Setisi Analizi İçin Temel Ölçütler: <https://pazarlamasyon.com/temel-web-sitesi-analiz-jargonlari/>
- blog.kmk*. (2020). 03 06, 2020 tarihinde Türkiye'nin En Büyük E-ticaret Siteleri 2020: <https://blog.kmk.net.tr/turkiyenin-en-buyuk-e-ticaret-siteleri-2020>
- Busche, L. (2017). *Powering Content: Building a Nonstop Content Marketing Machine*. Sebastopol CA: O'Reilly Media.
- Clarke, T. B., & Clarke, I. (2014). A Competitive and Exhediertüiam Assignment in Search Engine Optimisation Strategy. *Marketing Education Review* , 24(1), 25-30.
- Dou, W., Lim, K. H., Su, S., Zhou, N., & Cui, N. (2010). Brand Positioning Strategy Using Search Engine Marketing. *MIS Quarterly* , Vol.34(2), 261-279.

- Göral, R. (2016). Turizm Destinasyonu Rekabetçilik Faktörleri ve Entropi Yöntemiyle Ağırlıklandırılması. *Ekonomi ve Yönetim Araştırmaları Dergisi* , Vol.5, No.2, 66-81.
- Hostinger. (2020, 02 14). 03 01, 2020 tarihinde En İyi 20 Site Hız Testi Aracı: <https://www.hostinger.web.tr/rehberler/site-hiz-testi/>
- Hwang, C. L., & Yoon, K. P. (1981). *Multiple Attributes Decision Making Methods and Applications*. Berlin: Springer-Verlag.
- İddris, F. (2018). Search Engine Optimisation (SEO) A Digital Marketing Strategy for Internationalisation of Higher Education. *The 22nd McGill International Entrepreneurship Conference* (s. 1-14). Halmstad University, Sweden: Halmstad University.
- Keptify.com. (2018, 03 23). 03 12, 2020 tarihinde Why Search Engine Marketing is Importance: <https://keptify.com/why-search-engine-marketing-is-important/>
- Kritzinger, W. T. (2017). Development of a Search Engine Marketing Model Using the Application of a Dual Strategy. Cape Town: Cape Peninsula University of Technology.
- Krohling, R. A., & Pacheco, A. G. (2015). A-TOPSIS- An Approach Based on TOPSIS for Ranking Evolutionary Algorithms. *Information Technology and Quantitative Management* , Vol.55, 308-317.
- Kumar, A., Dash, M. k., & Seharawat, R. (2017). Using Entropy and AHP-TOPSIS for Comprehensive Evaluation of Internet Shopping Malls (ISMs) and Solution Optimality . *International journal of Business Excellence* , Vol.11(4), 487-504.
- Li, X., Wang, K., Liu, L., Xin, J., Yang, H., & Gao, C. (2011). Application of the Entropy Weight and TOPSIS Method in Safety Evaluation of Coal Mines. *First International Symposium on Mine Safety Science and Engineering* (s. 2085-2091). Procedia Engineering (26).
- Lotfi, F. H., & Fallahnejad, r. (2010). Imprecise Shannon's Entropy and Multi Attribute Decision Making. *Entropy* , Vol.12, 53-62.
- Moradan.com. (2018, 02). 03 06, 2020 tarihinde SEO Rank Nedir? SEO Rank Nasıl Artırılır?: <https://www.moradam.com/20180211204017/seo-rank-nedir-seo-rank-nasil-artirilir>
- Neethling, R. (2008). User Profiles for Preferences of Search Engine Optimisation Versus Paid Placement. Cape Town, South Africa: Cape Peninsula University of Technology.

- Özdemir, M. (2014). TOPSIS. B. F. Yıldırım, & E. Önder içinde, *Operasyonel, Yönetmel ve Stratejik Problemlerin Çözümünde Çok Kriterli Karar Verme Yöntemleri* (s. 130-139). Bursa: Dora.
- Rajgopal, S., Kotha, S., & Venkatachalam, M. (2000). The Relevance of Web Traffic for Internet Stock Prices.
- Shiftdelete*. (2020, 02 10). 03 03, 2020 tarihinde En iyi 10 alışveriş sitesi: <https://shiftdelete.net/en-iyi-10-alisveris-sitesi>
- Ward, A. (2017). *The SEO Battlefield* . O'Reilly Media.
- Weideman, M. (2013). Academic Content- a Valuable Resource to Establish Your Presence on the Web. *The 2nd International Conference on Integrated Information* (s. Vol. 73, 159-166). Procedia-Social and Behavioral Sciences.
- Weideman, M. (2009). *Website Visibility: The Teory and Practise of Improving Rankings*. Oxford: Chandos Publishing.
- Yılmaz, M. (2020). *Metehanyilmaz.com.tr*. 03 08, 2020 tarihinde PPC Nedir?

THE IMPACT OF ONLINE ADVERTISING PERCEPTIONS AND PERSONALITY TRAITS ON PURCHASE INTENTION

Bora Aan & Duygu Talih Akkaya***

Introduction

Corresponding to developments in technology and the rapid spread of the internet, making it an important part of our daily lives, consumers no longer acquire knowledge of products and services solely through advertisements from different types of media tools such as newspapers, magazines, radio and television and similarly they do not purchase products or services only from physical sales locations and stores. They spend a major part of their time in online environments and carry out the majority of their purchases online.

The use of the internet by a wide public has together with developments in technology expanded opportunities to target an increasing number of consumers thereby also increasing the purchase effectiveness of advertisements. A large number of people may gather at popular websites, popular social media as well as websites with news and comments on shopping. While especially small- and medium-sized businesses could advertise by putting up with significant advertising costs and taking risks with regard to the return of advertising and marketing costs only two decades ago, they now have the ability to target online advertising followers based on demographics, location, psychographics and behavior regardless of the size, power and budget of the businesses (Interactive Advertising Bureau [IAB], 2018: 5).

The number of internet users worldwide has reached 4.54 billion people as of January 2020. This indicates that nearly 60% of the total global population is internet users. The number of internet users has increased by 7% in one year based on a comparison with January 2019 data (We Are Social, 2020). It seems inevitable that the number of internet users will continue to increase in the coming years.

Internet advertising has brought in more revenue in 2017 in the United States of America compared with each of the advertising media such as radio, television, newspapers, magazines, etc. (IAB, 2018: 19). The total internet advertising revenue in USA was about 58 billion dollars for the half year of 2019. Accordingly, there was an increase of 16.9% in online advertising revenue in comparison with the half year of 2018 (IAB, 2019: 3). It can be predicted that online advertising expenses will increase in

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favor of web advertisements at a higher rate than those of traditional media advertisement expenses.

According to the 2020 global digital report, it has been determined that an average internet user spends about 7 hours online a day using online supported devices and services (We Are Social, 2020). A sophisticated communication experience is now possible thanks to the internet which is one of the most widely used means of communication in our day. Individuals can instantaneously reach all kinds of information online; they continue to spend more time online every day and establish online communication.

It has been reported in a study that personality traits are consistent and that a time interval is negatively related with the consistency of personality traits (Roberts & DelVecchio, 2000: 3). Accordingly, personality traits preserve their consistency despite the amount of time that has passed. Therefore, personality can be used in consumer behavior analysis if a strong relationship is determined between specific personality traits and the product or brand preferences (Kotler, 2000: 170). The fact that internet usage has increased to reach important levels thereby becoming an important medium makes it an obligation for businesses to develop advertising content by understanding the personality traits of consumers as well as the factors that play a role in attitude and behaviors.

It was determined in studies carried out that online advertising perceptions are effective on attitude and purchase intention (Bright & Daugherty 2012; Cho et al., 2001; Ducoffe, 1996; Wang et al., 2009; Yang et al., 2017) and personality traits are effective on the purchase intention (Bosnjak et al., 2007; Temeloğlu, 2015; Tsao & Chang, 2010) and attitude towards online advertising (Souiden et al., 2017). Despite these findings and the rapid increase of online advertising in recent years, the number of studies on identifiers in online shopping environments is very low (Hasan, 2016: 224). Hence, the present study emphasizes the current impacts of the online advertising perceptions of consumers and the personality traits on purchase intention thereby making a significant contribution to the related literature. Developing an understanding of the impact of personality traits and online advertising content on the purchase intention of consumers will also influence online advertising strategies which will be perceived more positively by consumers.

1. Online Advertising

The rapid popularization of the internet in daily life has resulted in the differentiation of many routine behaviors and the changing of consumption habits, the communication tools used, the message content as well as communication media. On the other hand, it has also enabled businesses to

contact consumers online and to convey their advertising messages to the consumers online.

Banners, buttons, sponsorship, keywords, links, web sites, search engines, social media, email, electronic billboards, video advertisements, viral advertising, mobile advertising, and online advertising are considered among advertisements carried out in online media (Tayfur & Yilmaz, 2018: 205-210). In addition to being a classical tool for advertisements, the World Wide Web has become a medium which includes interactive advertisements such as search advertisements, video advertisements, social advertisements, user content, blogs, sponsorship, applications and widgets starting from its emergence during the 1990s (Li, 2011: 13).

Online advertisements may increase the purchasing probabilities of consumers by reminding them of the brand, encouraging brand relations and affecting and changing the attitudes of consumers towards the brand. Thus, the marketing power of the online environment as well as the communication advantages of advertising have transformed the internet into a new and strong advertising tool with a potential to create brands (Briggs & Hollis, 1997: 44).

Ducoffe (1996: 21) assumed that the internet environment potentially enables an increase in the value of advertisements, that it provides important opportunities for understanding how online advertising may support the process of meeting consumer demands since it is a newer medium in comparison with the other more traditional media and that it is possible for advertisers to receive positive responses that they expect. It has been concluded in another study that advertisements and compensation disclosures have different impacts on the perceptions of internet users with different sensitivity to social impacts (Pelt et al., 2014: 9).

It is indicated that the best way for measuring the responses of consumers to online advertising is the click rate since it is an easily observable behavioral response and it shows interest in the advertised brand. Moreover, there are also various other factors which may have an impact on this response. The clicking of an online advertisement by a consumer is similar to an indication of how many consumers visit a store that sells a product advertised on television. That is why; online advertisements should create awareness and form an image in order to result in a behavioral reaction in consumers towards them (Briggs & Hollis, 1997: 33-34). The ability of an advertisement to create awareness and an image is related with the positive perceptions of the consumer towards the advertisement content. Ducoffe (1996: 22) categorized the perceptive predictors of consumers towards online advertisements as informativeness, entertainment, irritation and advertising value.

1.1. Informativeness

Advertisements provide sufficient knowledge to consumers on the product and its characteristics. Consumers who acquire information on products from advertisements and have no other sources of information strive to purchase the product that will best meet their needs based on the information provided in advertisements. Thus, advertisements enable the pairing of products and consumers while also increasing the flexibility towards the product (Grossman & Shapiro, 1984: 63).

Consumers are of the opinion that advertisements which inform consumers on making highly satisfactory purchases are generally effective (Ducoffe, 1996: 22). Since informative advertisements have positive impacts on the pairing of consumers with products while also minimizing product differentiation, it is desired that advertisements have an informative content (Meurer & Stahl, 1994: 2).

1.2. Entertainment

“...Uses and gratifications research has demonstrated that the value of entertainment lies in its ability to fulfill audience needs for escapism, diversion, aesthetic enjoyment, or emotional release” (McQuail, 1983 cited by Ducoffe, 1996: 23). Entertainment, which is one of the precursors of advertisement value, is the perception of an advertisement as nice or pretty. Advertisements that are considered entertaining have a positive impact on consumer behaviors (Martins et al., 2019: 379). Entertainment services may increase customer loyalty by providing an added value. Therefore, consumers perceive the message in a more positive manner when it is entertaining which in turn affects their perceptions towards advertisement value (Liu et al., 2012: 24).

1.3. Irritation

Consumers may find an advertisement irritating when there are elements of insult or when excessively manipulative methods and techniques have been used (Ducoffe, 1996: 23). Advertisement effectiveness will decrease due to an increase in the level of irritation (Aaker & Bruzzone, 1985: 47). Consumers will be disturbed if the advertisement content is irritating and so it will not be possible for the advertisement to convince the consumer (Shareef et al., 2019: 61).

1.4. Advertising Value

Advertisement value which has a narrower scope than advertisement attitudes can be expressed as whether or not it meets the needs of the consumers, or in other words a cognitive evaluation on whether or not the advertisement gives consumers what they expect. From the perspective of the advertiser, advertisement value is based on the impact of that

advertisement on sales, while from the perspective of consumers it is based on a satisfying suggestion for change which is accepted as meeting or exceeding their expectations. Hence, advertisement value is indicated as a personal and general evaluation of the advertisement from the consumer perspective (Ducoffe, 1996: 22-24).

See-To and Ho (2014) carried out a study on creating value in social network web sites in which it was indicated that the created value has an impact on purchase intention. Purchase intention arising from the value and benefit perceptions of consumers plays an important role for predicting purchasing behavior (Chi et al., 2011: 3).

2. Personality Traits

Personality is defined as, “*the durable characteristics of the individual, for example, traits, values, attitudes, beliefs, needs, and dispositions*” (Gelso & Fassinger, 1992: 276). Personality is a mixture of long-term motives, behaviors, emotions and thoughts that represent a reaction and adaptation to people and events (Plotnik, 2009: 433). Personality is also defined as frequently repeated behaviors specific to the individual which set that individual apart from others (İslamoğlu & Altunışık, 2017: 154).

Trait theory and social cognitive theory focus on different aspects with regard to personality. While social cognitive theory shapes the development of personality by affecting the interpretation, organization and application of knowledge under learning, cognitive-personal factors and the interaction of behavior; trait theory carries out an analysis of personality by way of measuring, defining and classifying personality traits, differences and similarities (Plotnik, 2009: 457-462). Personality is classified into superego, ego and id by psychodynamic theorists, whereas trait psychologists classify it as extroversion, Machiavellianism and the like (Mayer, 1998: 126).

Personality traits are real and important. Discussions indicating that personality traits are relative, social structures and have minor relations with behavior are now a thing of the past (Funder, 2009: 121). The five-factor model of personality has especially become the primary model for explaining and predicting behaviors in our day (McCreery et al., 2012: 977). The five-factor model (the Big Five) which is obtained consistently from the acquired dataset puts forth the five traits of personality. These are conscientiousness-carelessness, neuroticism-emotional stability, openness-closedness, extraversion-introversion, and agreeableness-disagreeableness (Mayer, 1998: 121). Interest in the five-factor model especially increased from the 1980s with many studies putting forth the strength of the five-factor model as a result of which it was observed that the five factors received general approval (Digman, 1990: 421-422).

Today, many psychologists have reached a consensus that the general personality structure is comprised of the Big Five personality traits (Shimotsukasa et al., 2019: 81). The universality of the personality traits included in the five-factor personality model has been examined and it has been observed that these personality traits are common to all groups of individuals from different cultures save for some exceptions (McCrae & Terracciano, 2005: 547). The personality dimensions included in the five-factor model are expressed by the word OCEAN comprised of the initial letters of each personality trait (Burger, 2016: 253; McCreery et al., 2012: 977).

2.1. Openness to Experience

The characteristics of this personality trait also known as intellect are a strong imagination, curiosity and a tendency for research. The opposite trait of being closed to experience is being tough and having a tendency for tradition (McCrea & Costa, 2013: 16). Openness to experience is related with the components of aesthetic engagement and intellectual stimulation. While the aesthetic component directs individuals towards sensory and artistic experiences, reason may have various impacts on creativity (Batey & Hughes, 2017: 196). Hence, the tendency and skill for seeking, understanding and using emotional and abstract knowledge are expressed as openness to experience (Rustichini et al., 2016: 123). Those who are open to experience enjoy new ideas. They want to see new places, taste new food and reevaluate already existing values while staying away from tradition with rich emotions and flexible behaviors (McCrae & Costa, 1997: 832).

2.2. Conscientiousness

This trait is also known as reliability, constraint or the desire to succeed. Conscientious individuals are disciplined and have a goal. Laid back and irresolute individuals with no ambition fall into the opposite category (McCrea & Costa, 2013: 16). The ability and tendency to control behaviors and urges for reaching goals and obeying rules reflect the conscientiousness trait (Rustichini et al., 2016: 123). Therefore, conscientiousness is related to controlling urges. Urges are not naturally bad and it may even be necessary to act on urges under time limitations or when it is required to make sudden decisions. Highly conscientious individuals are very successful and they are considered to be reliable, smart individuals while staying away from distress. However, they may tend to be compulsive perfectionists and workaholic individuals. Moreover, highly conscientious individuals may be considered boring, while on the contrary, those who are not conscientious are criticized for their unreliability and the fact that they do not obey the rules (Williamson, 2018: 136-137).

2.3. Extraversion

Extraversion which encompasses liveliness, social self-esteem, socialization and social courage can be considered as the tendency to carry out social activities. As lively individuals are joyful when in public, socialized individuals tend to make many friends and socially courageous individuals tend to direct others around them (Ashton, 2013: 165-166). That is why, extraversion indicates award sensitivity. When it is considered that humane awards such as social belonging and status are factors with a social content, extraversion is generally expressed within the social context (Rustichini et al., 2016: 123). In short, extraverts are warm, social and joyful individuals. Introvert individuals are just the opposite and tend to be withdrawn, alone and somber (McCrea & Costa, 2013: 16).

2.4. Agreeableness

Agreeableness is identified as significant individual differences during daily activities carried out in interaction. This trait includes being thoughtful, sympathetic, polite and helpful (Graziano & Eisenberg, 1997: 815). Agreeableness shows the tendency for cooperation and altruism which is expressed as a disinterested and selfless concern for the well-being of others (Rustichini et al., 2016: 123). Agreeableness indicates a positive social and communal orientation towards others while it contains compassion on the one end and hostility on the opposite end (Ng, 2015: 743). Thus, agreeable individuals are generous, honest and modest. Contrary to this, those who are disagreeable tend to be arrogant, selfish and aggressive (McCrea & Costa, 2013: 16).

2.5. Neuroticism

The neuroticism trait is a scale for adaptation to emotional instability. This trait puts forth the tendency for psychological disorders, imaginary thoughts, excessive urges, excessive desires and incompatibilities when coping with negativities (Ng, 2015: 743). Characteristics such as sad and scared which express the high end of the neuroticism trait of personality are observed in patients diagnosed with neurosis. Whereas characteristics such as calm and decisive define the opposite end of this trait (McCrea & Costa, 2013: 16). Those with a high neuroticism trait level, experience more negative emotions such as anxiety, depression, shame, guilt, anger, etc., in comparison with those who are at lower levels. These individuals perceive the world negatively and experience high levels of stress while individuals at the opposite end with low levels of neuroticism are satisfied and experience lower levels of stress (Watson, 2001: 10609).

It is suggested that personality and socioeconomic variables such as income can be used for explaining the differences related to the preference of a certain product and for predicting consumer selections (Boyce et al.,

2019: 83). Bosnjak et al. (2007: 602-603) carried out a study for examining the impacts of the personality traits of internet users on their online purchases as a result of which it was concluded that the openness to experiences trait has a positive impact on online purchase intention, while the neuroticism and agreeableness traits have a negative impact. Tsao and Chang (2010: 1808) carried out a study for evaluating the level at which personality traits affect online purchasing behavior during which they observed that the participant consumers have a tendency to be motivated toward online shopping when they display high levels of neuroticism, agreeableness or openness to experience traits. Temeloğlu (2015: 172-173) carried out a study for examining whether there is a relationship between the personality traits of consumers purchasing touristic products in which a statistically significant relationship was observed between the personality traits of domestic tourists staying at four and five star hotels and their attitudes towards hotels in addition to observing a statistically significant relationship between attitude and the intention to repurchase a holiday from the same hotel. Souiden et al. (2017: 207) investigated how attitudes toward advertising affect attitudes towards online advertising and the mediating role of introversion and extraversion, which are among the personality traits, and revealed that attitudes towards advertising have a positive and significant effect on attitudes towards online advertising in general. Moreover, it was also indicated that the introversion trait does not have a moderate impact on the relationship between the two attitudes and that extraversion controls this relationship. Whereas Odabaşı and Barış (2019: 189) reported that personality is effective on whether an advertisement is liked or not. In accordance with the related literature, the following hypotheses were developed with regard to personality traits while forming the framework of the present study:

H₁: Personality traits have a statistically significant impact on purchase intention.

H₂: Personality traits have a statistically significant impact on perceptions towards online advertisements.

3. Purchase Intention

Purchase intention can be defined as “*the possibility that consumers will plan or be willing to purchase a certain product or service in the future*” (Wu et al., 2011: 32). Purchase intention is one of the important indicators which has an impact on the purchasing decision-making process. Purchase intention, actually an online purchasing segmentation variable used for expressing the possibility that consumers will purchase a product while shopping, is a useful psychographic element (Isaksson & Xavier, 2009: 23-24).

Purchasing probability increases when there is an increase in the purchase intention of consumers. Positive brand participation will support and encourage the purchasing behaviors of consumers in the case that consumers already have a positive purchase intention (Martins et al., 2019: 379). That is why, purchase intention can be used as a criterion by researchers for predicting consumer behavior (Wu et al., 2011: 32).

Cho et al. (2001: 45) carried out studies for examining the impacts of being subject to banner advertisements in responses to online advertisement such as advertisement perception, the click rate of advertisements, attitude towards the advertisement, attitude towards the brand and purchase intention. It was observed that being subject to high levels of forced banner advertisements provides a positive attitude towards the brand and high levels of purchase intention. Briggs and Hollis (1997: 44) put forth in their studies that online banner advertisements have a positive impact on consumer perceptions while increasing consumer loyalty in addition to being effective on generating a brand related advertisement consciousness. On the other hand, Bright and Daugherty (2012: 19) observed, based on the desire of consumers to control an advertisement type, that online advertisement stimulants have an impact on the consumer's attitude towards advertisement content, the interaction of consumers with online advertisements and the behavioral intention of consumers. Schlosser et al. (1999: 34) carried out a study as a result of which it was put forth that the attitudes of consumers towards internet advertising are affected by the informativeness and benefit of advertisements resulting in behavioral decisions to make a purchase. Wang et al. (2009: 63) carried out a study as a result of which it was concluded that the factors of informativeness and economy among perceptions towards online advertisements have a positive impact on attitudes, while it was also concluded that the value corruption factor has a negative impact. Moreover, a statistically significant relationship was determined between attitude and purchase intention. Wolin et al. (2002: 87) examined the attitudes and behaviors towards online advertisements as a result of which it was reported that the informativeness factor has a positive impact on attitude and behavior, while the value corruption factor has a negative impact. Also, while it was observed that the economy factor has no impact on attitude and behavior, a positive relationship was observed between attitude and behavior. Yang et al. (2017: 840) carried out a study examining the factors that have an impact on the attitudes of consumers towards advertisements as a result of which it was put forth that reliability, irritation and entertainment have an impact on purchase intention and purchasing behavior. Ünal et al. (2011: 361) carried out a study with an objective of examining the attitudes of adult and young consumers towards mobile advertisements as a result of which it was concluded that there is a positive

relationship between the factors of informativeness, entertainment, and reliability and the attitude towards mobile advertisements. The following hypothesis was developed in the light of the literature findings summarized above.

H₃: Perceptions towards online advertisements have a statistically significant impact on purchase intention.

4. Methodology

A consecutive three stage methodologic process was applied during the implementation of the study. The details of the study were first determined during the preparation stage; the questionnaire was prepared using the already existing literature after which the population and sample group of the study were determined. The questionnaire was applied during the application stage of the study and the primary data were acquired. The acquired data were analyzed and the findings and conclusions were put forth during the final stage of the process.

4.1. Purpose of the Study

The purpose of the study was to examine the impact of consumer' online advertising perceptions on purchase intention as well as the impact of personality traits on purchase intention and online advertising perceptions. For this purpose, the present study will act as a guide for businesses with regard to the factors that should be taken into consideration when developing their online marketing strategies.

4.2. Study Model

The study is based on the causal research model. A theoretical model was developed in the study based on the assumption that the online advertising perceptions of consumers have an impact on their purchase intention and that their personality traits have an impact on their purchase intention and online advertising perceptions (Figure 1).

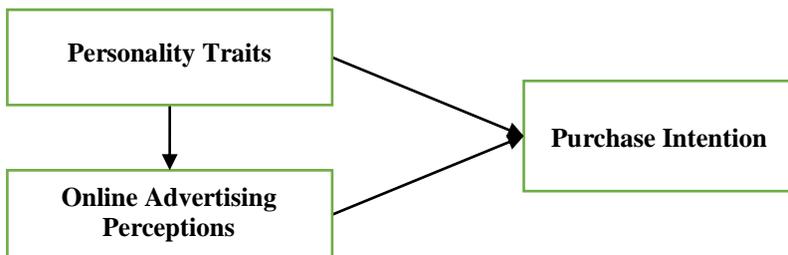


Figure 1. The model of the study

4.3. Population and Sample Group

The population of the study was comprised of one state university staff members. This state university is one of the newer universities in the Marmara Region, which is the most developed region of Turkey. According to the results of the 2018 “Household Information Technology Use Report” by TUIK (Turkish Statistical Institute), internet access at businesses (residences: 83.8%–businesses: 95.3%) and especially the rate of computer use (residences: 59.6%–businesses: 97%) are quite high in comparison with those of residences. In addition, members of a professional occupation and technicians along with office workers are ranked in the top three with an internet usage rate of 98.2% and a computer use rate of 95.4% (TUIK, 2018). Hence, it was assumed that the university academics and administrative staff may represent internet users.

The total number of staff at the state university where the research was conducted is 868 people with 555 academics and 313 administrative staff (Yalova Üniversitesi, n.d.). According to Sekeran (1992: 253), the acceptable sample group size is 269 for a population of 900. Approval for research and data acquisition was obtained from the university ethics board. The data were acquired via the convenience sampling method with the use of face-to-face questionnaires. A total of 278 questionnaires were included in the analysis after eliminating the erroneous and incomplete questionnaires from a total of 315 forms.

4.4. Data Acquisition Method and Scale

The questionnaire method was used for data acquisition. The questionnaire was comprised of four sections. The first section has 21 expressions for measuring personality traits, the second section has 20 expressions for measuring perceptions towards online advertisements and the third section has 9 expressions for measuring purchase intention. The final section of the questionnaire has questions on the demographic characteristics and internet usage of the participants.

In accordance with the purpose of the study, the questionnaire was developed using scales, the validities and reliabilities of which have been proven via scientific studies. The “Big Five” five-factor personality model scale developed by Rammstedt and John (2005) was included in the first section of the questionnaire so as to cover all variables of the study model for measuring personality traits; the scale developed by Ducoffe (1996) was utilized in the second section for measuring perceptions towards online advertisements; and the scale developed by Duffett (2015) was used in the third section for measuring purchase intention which is the dependent variable of the study. The purchase intention scale prepared for Facebook advertising was adapted to online advertising. All expressions in

each of the scales were prepared as 5-point Likert type questions with responses varying between “I do not agree at all = 1” and “I agree completely = 5”.

5. Results

5.1. Descriptive Statistics

Of the participants included in the study sample group, 63.7% were male and 36.3% were female with 56.5% being academic staff and 43.5% administrative staff. 55.7% of the participants were aged between 30 and 39, 20.9% were between 40 and 49, 13.7% between 20 and 29 and 8.3% between 50 and 59 with 1.4% aged 60 and above. Of the participants, 69.8% were married and 30.2% were single.

The daily internet usage times of the participants are provided in Table 1. As can be seen from the table, about one-third of the participants (29.1%) use the internet 2 hours daily. This group is followed by those who use the internet 4 hours a day on average with a ratio of 21.2%, 3 hours with a ratio of 19.1% and 5 hours with a ratio of 17.6%, while the ratio of those who use the internet for 1 hour or less per day was 13%.

Table 1. Daily Averages Usage Time of the Internet

Usage Time	Frequency	Percent (%)	Cumulative Percentage (%)
1 hour and less	36	13	13
2 hours	81	29.1	42.1
3 hours	53	19.1	61.2
4 hours	59	21.2	82.4
5 hours and more	49	17.6	100.0
Total	278	100.0	

More than half of the participants (57.6%) stated that they shopped during the previous year after being influenced by online advertisements (Table 2).

Table 2. Purchase Situations as Affected by Online Advertisements Per Years

Purchase Situations	Frequency	Percent (%)	Cumulative Percentage (%)
Never	107	38.4	38.4
1 year and less ago	160	57.6	96
2 years ago	7	2.5	98.5
3 years ago	1	.4	98.9
4 years ago	2	.7	99.6
5 years and before	1	.4	100.0

Total	278	100.0
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In addition, the participants were asked how many times they purchased products or services based on online advertisements. It can be observed in Table 3 that 29.4% of the participants who stated that they made a purchase after being influenced by online advertisements shopped twice during the previous year, 28.1% shopped once, 21.2% shopped five times or more, 17.5% shopped three times and 3.8% shopped four times.

Table 3. Purchase Situations of Products or Services Affected by Online Advertisements in the Last One Year

In the Recent Year	Frequency	Percent (%)	Cumulative Percentage (%)
Once	45	28.1	28.1
Twice	47	29.4	75.5
Thrice	28	17.5	85.6
Four time	6	3.8	87.8
Five times & more	34	21.2	100.0
Total	160	100.0	

5.2. Scale Reliability

The questionnaire applied on the population was comprised of scale expressions with previously developed and proven reliability and validity. The reliabilities of the expressions in the scale were measured using the Cronbach Alpha internal consistency coefficient. The scale is highly reliable if the Cronbach Alpha coefficient is between 0.80 and 1 (Karagöz, 2016: 941). According to the research model, each scale was examined as a single variable. All of the phrase items in the personality traits scale were evaluated together and the phrase items that contain negative meaning were reverse coded. Three negative phrase items in the purchase intention scale were reverse coded. Internal consistency reliability tests for each of the variables in the scale were determined via the Cronbach Alpha internal consistency coefficient. The internal consistency reliabilities for each of the variables in the scale are observed to be high with a Cronbach Alpha coefficient of 0.838 for online advertising perceptions, 0.815 for personality traits and 0.889 for purchase intention (Table 4). Therefore, it can be indicated that the scale variables have a high level of reliability in general.

Table 4. The Reliability of Scales Belonging to Study Model Variables

Variable No	Study Variables	Reliability Coefficient (Cronbach's Alpha)
1	Online Advertising Perceptions	0.838
2	Personality Traits	0.815

3	Purchase Intention	0.889
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Table 5 shows the averages for the online advertising perceptions, personality traits and purchase intention variables developed within the scope of the scale prepared in accordance with the study model along with the mean and standard deviations of the expressions included in these variables. As can be seen from the averages, the expression with the highest average in the personality traits variable for the participants was “*I see myself as someone who is generally trusting*” with (0.4821 ± 0.8584) . The expression, “*Online advertisements make product information immediately accessible*” has the highest average (3.885 ± 1.0779) in the online advertising perceptions variable. Whereas the expression with the highest average (3.342 ± 1.0347) in the purchase intention which is the dependent variable of the study was, “*I am likely to buy some of the products that are promoted with online advertisements*” (Table 5).

Table 5. Mean and Standard Deviations of Phrase Items in the Study Model

	Mean	Std. Dev.
Online Advertising Perceptions	3.001	1.0928
Online Advertising...		
...is a good source of product information	2.914	1.2016
...supplies relevant product information	2.917	1.0999
...provides timely information	2.910	1.1693
...is a good source of up-to-date product information	3.270	1.1026
...makes product information immediately accessible	3.385	1.0779
...is a convenient source of product information	3.050	1.1165
...supplies complete product information	2.525	1.0430
...is useful	3.245	1.0431
...is valuable	3.097	1.0203
...is important	3.266	1.0412
...is entertaining	3.029	1.1010
...is enjoyable	2.950	1.0736
...is pleasing	2.935	1.1027
...is fun to use	2.827	1.1042
...is exciting	2.608	1.0515
...insults people’s intelligence	2.629	1.1027
...is annoying	3.076	1.1199
...is irritating	3.090	1.1124
...is deceptive	3.162	1.0743
...is confusing	3.126	1.0991
Personality Traits	3.763	0.9814
I see myself as someone who...		
...is outgoing, sociable	3.824	1.0448
...generates a lot of enthusiasm	3.349	1.0599

...tends to be quiet *	2.892	1.1755
...is reserved *	3.655	1.1508
...is generally trusting	4.281	0.8584
...tends to find fault with others *	3.838	1.0402
...can be cold and aloof *	4.115	0.8630
...is sometimes rude to others *	3.755	1.0534
...does things efficiently	4.104	0.7058
...does a thorough job	3.986	0.8706
...makes plans and follows through with them	3.885	0.8376
...tends to be lazy *	3.845	0.9879
...gets nervous easily *	3.245	1.1947
...worries a lot *	3.371	1.1158
...is depressed, blue *	3.827	1.0642
...is relaxed, handles stress well	3.536	1.0110
...values artistic, aesthetic experiences	3.853	0.9518
...is curious about many different things	4.022	0.8494
...has an active imagination	3.989	0.8560
...is ingenious, a deep thinker	3.968	0.8297
...has few artistic interests *	3.691	1.0905
Purchase Intention	3.034	1.1156
I will buy products advertised as online in the near future	2.770	1.1670
I desire to buy products that are promoted with online advertisements	2.878	1.1044
The online advertisements do not increase the purchase intent of featured brands *	3.007	1.1432
Online advertisements have a positive influence on my purchase decisions	3.129	1.1198
I would buy the products that are advertised online if I had the money	2.806	1.1705
I do not intend to acquire products that are promoted with online advertisements *	3.115	1.1468
I am likely to buy some of the products that are promoted with online advertisements	3.342	1.0347
I plan to purchase the products that are advertised online	2.921	1.0819
Online advertisements have a negative influence on buying decisions *	3.338	1.0718
* Reverse-score		

5.3. Testing of the Hypotheses

The hypotheses created to examine the relationships between variables in the study model were tested by regression analysis. Homoscedasticity was not observed in the scatter plot, and the points in the residual plot graph were observed to be dispersed normally and independently.

It is assumed in the study model that personality traits have a statistically significant impact on purchase intention. Therefore, a univariate linear regression analysis was carried out for examining the impacts of personality

traits on purchase intention. According to the results of the regression analysis, the regression model is statistically significant since the F-value is 4.473 in the Anova table and the p-value (significance level) is 0.035. Thus, the H_0 hypothesis was rejected. Accordingly, the H_1 : “*Personality traits have a statistically significant impact on purchase intention*” hypothesis was accepted since predicting purchase intention based on personality traits variable was statistically significant. The t statistics results can be seen in Table 6. It can be observed that personality traits explain purchase intention at a low level (1.6%). In other words, it has low impact on purchase intention ($\beta = 0.126$).

Table 6. The Relation Between Personality Traits and Purchase Intention

Dependent Variable: Purchase Intention			
Independent Variables	Beta (β)	t	p (sig.)
Personality Traits	0.126	2.115	0.035
R	R ²	F	p (sig.)
0.126	0.016	4.473	$p \leq 0.035$

It is assumed in the model that personality traits have a statistically significant impact on perceptions towards online advertisements. Univariate linear regression analysis was carried out for examining the impacts of personality traits on perceptions towards online advertisements. It was concluded as a result of the analysis that the regression model is not statistically significant since the F-value was determined as 1.979 in the Anova table and the p-value was determined as 0.161. In other words, the H_0 hypothesis was accepted. Accordingly, the H_2 hypothesis was rejected since no statistically significant relationship could be determined between personality traits variable and online advertising perceptions variable.

It is assumed in the study that perceptions towards online advertisements have a statistically significant impact on purchase intention. For this purpose, univariate linear regression analysis was carried out for examining the impacts of the perceptions towards online advertisements on purchase intention. The regression model was observed to be statistically significant as a result of the regression analysis since the F-value was 181.185 in the Anova table and the p-value was 0.000. Accordingly, the H_0 hypothesis was rejected. Therefore, the H_3 : “*Perceptions towards online advertisements have a statistically significant impact on purchase intention*” hypothesis was accepted since there was a statistically significant relationship between online advertising perceptions variable and predicting purchase intention. The t statistics results are presented in Table 7. It can be observed that online advertising perceptions variable explains purchase intention (39.6%). The online advertising

perceptions variable has the important impact ($\beta = 0.630$) on purchase intention.

Table 7. The Relation Between Online Advertising Perceptions and Purchase Intention

Dependent Variable: Purchase Intention			
Independent Variables	Beta (β)	t	p (sig.)
Online Advertising Perceptions	0.630	13.461	0.000
R	R ²	F	p (sig.)
0.630	0.396	181.185	$p \leq 0.000$

6. Conclusion

The study was carried out to examine the impacts of online advertising perceptions on purchase intention and the impacts of personality traits on purchase intention and online advertising perceptions; in addition an evaluation was carried out with regard to the purchase decision-making process of the consumer. As a result of the study, it was determined that consumers are online for an average of several hours during the day and that they shop online. When this result was evaluated, it was observed in general that the importance of online advertisements has increased and continues to increase for businesses that want to convey their messages to consumers when it is taken into consideration that consumers who use the internet every day as an indispensable part of their lives are faced with online advertisements continuously.

It can be put forth as a result of the study that the relationship between purchase intention and online advertising perceptions variable is statistically significant; which in other words means that the perceptions towards online advertisements can be used for predicting the purchase intention. This result of this study indicating that online advertising perceptions have a statistically significant impact on purchase intention is consistent with the findings of studies by Bright and Daugherty (2012), Cho et al. (2001), Ducoffe (1996), Wang et al. (2009) and Yang et al. (2017).

Based on this result, businesses should take into consideration the informativeness, entertainment and advertisement value criteria for online advertisements while generating the advertisement content, evaluate the needs and expectations of the target consumer population and thereby develop strategies, policies and tactics for improving and enhancing the content, attractiveness and effectiveness of their advertisements. They should also refrain from messages that may be considered as irritating and increase the effectiveness of their advertisements.

Moreover, the relationship between perceptions towards online advertisements and personality traits which can have an impact on purchase intention resulting in purchasing behavior was also examined in this study. Even though it was understood as a result of the study, that personality traits do not have a statistically significant contribution to the model for predicting online advertising perceptions variable, it can be indicated that there is a statistically significant low relationship between the purchase intention and personality traits or in other words that the personality traits variable has a statistically significant, low impact on the purchase intention. This result of the study indicating that personality traits have a statistically significant impact on purchase intention is consistent with the findings of studies by Bosnjak et al. (2007), Temeloğlu (2015) and Tsao ve Chang (2010). Accordingly, businesses can reach consumers with different personality traits that make up their target population by developing marketing communications mix based on the personality differences of consumers.

In conclusion, businesses should take into consideration the important impact of online advertisements on purchase intention and provide online advertisements that will meet the expectations of consumers with different personality traits by carrying out online behavior analyses thereby ensuring that consumers with different personality traits develop more positive purchase intentions.

6.1. Limitations of the Study

Even though findings on the impacts of perceptions towards online advertisement on purchase intention and the impacts of personality traits on purchase intention have been acquired as a result of the study, it is a limitation of the study that different factors which may have an impact on purchase intention have not been examined. In addition, another limitation of the study is that it encompasses only academic and administrative staff and that it has been carried out in a single university. Thus, new studies should be carried out in order to generalize the results.

References

- AAKER, David A. and Donald E. BRUZZONE, (1985), "Causes of Irritation in Advertising", *Journal of Marketing*, Vol. 49, Issue 2, pp. 47-57. doi: 10.1177/002224298504900204
- ASHTON, M.C., (2013), *The Evolutionary Function of Personality, Individual Differences and Personality* (2nd. ed.), (pp. 153-177), Academic Press, London, UK. doi: 10.1016/b978-0-12-416009-5.00007-4

- BATEY, Mark and David J. HUGHES, (2017), "Individual Difference Correlates of Self-Perceptions of Creativity", In M. Karwowski & J. C. Kaufman (Eds.), *The Creative Self - Effect of Beliefs, Self-Efficacy, Mindset, and Identity* (pp. 185-218), Academic Press, London, UK. doi: 10.1016/b978-0-12-809790-8.00011-x
- BOSNJAK, Michael, Mirta GALESIC and Tracy TUTEN, (2007), "Personality Determinants of Online Shopping: Explaining Online Purchase Intentions Using a Hierarchical Approach", *Journal of Business Research*, Vol. 60, Issue 6, pp. 597-605. doi: 10.1016/j.jbusres.2006.06.008
- BOYCE, Christopher, Mikolaj CZAJKOWSKI and Nick HANLEY, (2019), "Personality and Economic Choices", *Journal of Environmental Economics and Management*, Vol. 94, pp. 82-100. doi: 10.1016/j.jeem.2018.12.004
- BRIGGS, Rex and Nigel HOLLIS, (1997), "Advertising on the Web: Is There Response before Click-Through?", *Journal of Advertising Research*, Vol. 37, Issue 2, pp. 33-45. Retrieved from <http://www.etchouse.com/mcma510/readings/briggs-1997.pdf>
- BRIGHT, Laura F. and Terry DAUGHERTY, (2012), "Does Customization Impact Advertising Effectiveness? An Exploratory Study of Consumer Perceptions of Advertising in Customized Online Environments", *Journal of Marketing Communications*, Vol. 18, Issue 1, pp. 19-37. doi: 10.1080/13527266.2011.620767
- BURGER, Jerry M., (2016), *Kişilik [Personality]* (İ.D. Erguvan Sarioğlu, Trans.), Kaknüs Yayınları, İstanbul, Turkey.
- CHI, Hsinking, Huery Ren YEH and Yi Ching TSAI, (2011), "The Influences of Perceived Value on Consumer Purchase Intention: The Moderating Effect of Advertising Endorser", *Journal of International Management Studies*, Vol. 6, Issue 1, pp. 1-6. Retrieved from <http://www.jimsjournal.org/13%20Yi%20Ching%20Tsai.pdf>
- CHO, Chang-Hoan, Jung-Gyo LEE and Marye THARP, (2001), "Different Forced-Exposure Levels to Banner Advertisements", *Journal of Advertising Research*, Vol. 41, Issue 4, pp. 45-56. doi: 10.2501/JAR-41-4-45-56
- DIGMAN, John M., (1990), "Personality Structure: Emergence of the Five-Factor Model", *Annual Review of Psychology*, Vol. 41, Issue 1, pp. 417-440. doi: 10.1146/annurev.ps.41.020190.002221
- DUCOFFE, Robert H., (1996), "Advertising Value and Advertising on the Web", *Journal of Advertising Research*, Vol. 36, Issue 5, pp. 21-35.

Retrieved from <http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=2&sid=4397867f-43b0-45bd-8615-6d5105c4cefe%40sdc-v-sessmgr03>

- DUFFETT, Rodney Graeme, (2015), "Facebook Advertising's Influence on Intention-to-Purchase and Purchase amongst Millennials", *Internet Research*, Vol. 25, Issue 4, pp. 498-526. doi: 10.1108/intr-01-2014-0020
- FUNDER, David C., (2009), "Persons, Behaviors and Situations: An Agenda for Personality Psychology in the Postwar Era", *Journal of Research in Personality*, Vol. 43, pp. 120-126. doi: 10.1016/j.jrp.2008.12.041
- GELSO, Charles J. and Ruth E. FASSINGER, (1992), "Personality, Development, and Counseling Psychology: Depth, Ambivalence, and Actualization", *Journal of Counseling Psychology*, Vol. 39, Issue 3, pp. 275-298. doi: 10.1037/0022-0167.39.3.275
- GRAZIANO, William G. and Nancy EISENBERG, (1997), "Agreeableness: A Dimension of Personality", In R. Hogan, J. A. Johnson and S. R. Briggs (Eds.), *Handbook of Personality Psychology* (pp. 795-824), Academic Press., London, UK. doi: 10.1016/b978-012134645-4/50031-7
- GROSSMAN, Gene M. and Carl SHAPIRO, (1984), "Informative Advertising with Differentiated Products", *The Review of Economic Studies*, Vol. 51, Issue 1, pp. 63-81. doi: 10.2307/2297705
- HASAN, Bassam, (2016), "Perceived Irritation in Online Shopping: The Impact of Website Design Characteristics", *Computers in Human Behavior*, Vol. 54, pp. 224-230. doi: 10.1016/j.chb.2015.07.056
- IAB Internet Advertising Bureau, (2018), IAB Internet advertising revenue report: 2017 full year results. Retrieved from https://www.iab.com/wp-content/uploads/2018/05/IAB-2017-Full-Year-Internet-Advertising-Revenue-Report.REV2_.pdf
- IAB Internet Advertising Bureau, (2019), Internet advertising revenue report: 2019 first six months results. Retrieved from <https://www.iab.com/wp-content/uploads/2019/10/IAB-HY19-Internet-Advertising-Revenue-Report.pdf>
- ISAKSSON, Jonna and Stephanie XAVIER, (2009), *Online Communities–Segments and Buying Behaviour Profiles* (Unpublished master's thesis). University of Borås, Sweden. Retrieved from <http://bada.hb.se/bitstream/2320/5178/1/2009MF26.pdf>

- İSLAMOĞLU, Hamdi and Remzi ALTUNIŞIK, (2017), *Tüketici Davranışları* [Consumer Behaviors] (5th ed.), Beta Basım Yayım Dağıtım, İstanbul, Turkey.
- KARAGÖZ, Yalçın, (2016), *SPSS 23 ve AMOS 23 Uygulamalı İstatistik Analizler* [SPSS 23 and AMOS 23 Applied Statistical Analysis], Nobel Akademik, Ankara, Turkey.
- KOTLER, Philip, (2000), *Marketing Management: The Millennium Edition* (10th ed.), Prentice Hall International, Upper Saddle River, NJ.
- LI, Hairong, (2011), “The Interactive Web - Toward a New Discipline”, *Journal of Advertising Research*, Vol. 51, Issue 1, pp. 13-26. doi: 10.2501/JAR-51-1-013-026
- LIU, Chia-Ling, Rudolf R. SINKOVICS, Noemi PEZDERKA and Parissa HAGHIRIAN, (2012), “Determinants of Consumer Perceptions toward Mobile Advertising - a Comparison between Japan and Austria”, *Journal of Interactive Marketing*, Vol. 26, Issue 1, pp. 21-32. doi: 10.1016/j.intmar.2011.07.002
- MARTINS, Jose, Catarina COSTA, Tiago OLIVEIRA, Ramiro GONÇALVES and Frederico BRANCO, (2019), “How Smartphone Advertising in Fluences Consumers’ Purchase Intention”, *Journal of Business Research*, Vol. 94, pp. 378-387. doi: 10.1016/j.jbusres.2017.12.047
- MAYER, John D., (1998), “A Systems Framework for the Field of Personality”, *Psychological Inquiry*, Vol. 9, Issue 2, pp. 118-144. doi: 10.1207/s15327965pli0902_10
- McCRAE, Robert R. and Paul T. COSTA, (1997), “Conceptions and Correlates of Openness to Experience”, In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of Personality Psychology* (pp. 825-847), Academic Press, London, UK. doi:10.1016/b978-012134645-4/50032-9
- McCRAE, Robert R. and Paul T. COSTA, (2013), “Introduction to the Empirical and Theoretical Status of the Five-Factor Model of Personality Traits”, In T.A. Widiger and P.T. Costa (Eds.), *Personality Disorders and the Five-Factor Model of Personality* (3rd. ed.). (pp. 15-27). doi: 10.1037/13939-002
- McCRAE, Robert R. and Antonio TERRACCIANO, (2005), “Universal Features of Personality Traits From the Observer’s Perspective: Data from 50 Cultures”, *Journal of Personality and Social Psychology*, Vol. 88, Issue 3, pp. 547–561. doi: 10.1037/0022-3514.88.3.547

- McCREERY, Michael P., Kathleen S. KRACH, P. G. SCHRADER and Randy BOONE, (2012), "Defining The Virtual Self: Personality, Behavior, and the Psychology of Embodiment", *Computers in Human Behavior*, Vol. 28, Issue 3, pp. 976-983. doi: 10.1016/j.chb.2011.12.019
- McQUAIL, Dennis, (1983), *Mass Communication Theory: An Introduction*, Sage, London, UK.
- MEURER, Michael and Dale O. STAHL, (1994), "Informative Advertising and Product Match", *International Journal of Industrial Organization*, Vol. 12, Issue 1, pp. 1-19. doi: 10.1016/0167-7187(94)90023-x
- NG, Weiting, (2015), "Neuroticism" In J. D. Wright (Ed.) *International Encyclopedia of the Social & Behavioral Sciences* (2nd ed.). (pp. 743-748). Oxford, UK: Elsevier doi: 10.1016/b978-0-08-097086-8.25021-6
- ODABAŞI, Yavuz and Gülfidan BARIŞ, (2019), *Tüketici Davranışı [Consumer Behavior]* (19th. ed.), Baskın Bıçakçı (Ed.), Kapital Medya Hizmetleri, İstanbul, Turkey.
- PELT, Natalie M. Van, Amaradri MUKHERJEE and Thomas D. JENSEN, (2014), "The Effect of Compensation Disclosures and Advertisements in an Online Product Review on Readers' Perceptions of the Endorser, Site, and Product" (Abst.), *Marketing and Public Policy Conference Proceeding*, Vol. 24, pp. 9-10. AMA: Boston. Retrieved from <http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=2&sid=8e5f95e7-657f-4fad-870f-7a8a68f8ba69%40sdc-v-sessmgr03>
- PLOTNIK, Rod, (2009), *Psikolojiye Giriş [Introduction to Psychology]* (T. Genç, Trans.), Kaknüs, İstanbul, Turkey.
- RAMMSTEDT, Beatrice and Oliver P. JOHN, (2005), "Kurzversion des Big five Inventory (BFI-K): Entwicklung und Validierung eines ökonomischen Inventars zur Erfassung der fünf Faktoren der Persönlichkeit", *Diagnostica*, Vol. 51, Issue 4, pp. 195-206. doi: 10.1026/0012-1924.51.4.195
- ROBERTS, Brent W. and Wendy F. DELVECCHIO, (2000), "The Rank-Order Consistency of Personality Traits from Childhood to Old Age: A Quantitative Review of Longitudinal Studies", *Psychological Bulletin*, Vol. 126, Issue 1, pp. 3-25. doi: 10.1037/0033-2909.126.1.3
- RUSTICHINI, Aldo, Colin G. DEYOUNG, Jon E. ANDERSON and Stephen V. BURKS, (2016), "Toward the Integration of Personality

- Theory and Decision Theory in Explaining Economic Behavior: An Experimental Investigation”, *Journal of Behavioral and Experimental Economics*, Vol. 64, pp. 122-137. doi: 10.1016/j.socec.2016.04.019
- SCHLOSSER, Ann E., Sharon SHAVITT and Alaina KANFER, (1999), “Survey of Internet Users’ Attitudes toward Internet Advertising”, *Journal of Interactive Marketing*, Vol. 13, Issue 3, pp. 34-54.
- SEE-TO, Eric W.K. and Kevin K.W. HO, (2014), “Value Co-Creation and Purchase Intention in Social Network Sites: The Role of Electronic Word -of-Mouth and Trust - a Theoretical Analysis”, *Computers in Human Behavior*, Vol. 31, pp. 182-189. doi: 10.1016/j.chb.2013.10.013
- SEKERAN, Uma, (1992), *Research Methods for Business: A Skill Building Approach* (2nd ed.), John Wiley & Sons, New York, NY.
- SHAREEF, Mahmud Akhter, Bhasker MUKERJI, Yogesh K. DWIVEDI, Nripendra RANA and Rubina ISLAM, (2019), “Social Media Marketing: Comparative Effect of Advertisement Sources”, *Journal of Retailing and Consumer Services*, Vol. 46, pp. 58-69. doi: 10.1016/j.jretconser.2017.11.001
- SHIMOTSUKASA, Tadahiro, Atsushi OSHIO, Masayuki TANI and Mayuko YAMAKI, (2019), “Big Five Personality Traits in Inmates and Normal Adults in Japan”, *Personality and Individual Differences*, Vol. 141, pp. 81-85. doi: 10.1016/j.paid.2018.12.018
- SOUIDEN, Nizar, Saber CHTOUROU and Bernard KORAI, (2017), “Consumer Attitudes toward Online Advertising: The Moderating Role of Personality”, *Journal of Promotion Management*, Vol. 23, Issue 2, pp. 207-227. doi.: 10.1080/10496491.2016.1267676
- TAYFUR, Gıyasettin and M. Kemal YILMAZ, (2018), *Reklamcılık, Kavram-Araçlar– Yönetim* [Advertising, Concept - Tools – Management] (6th ed.), Seçkin Akademik ve Mesleki Yayınlar, Ankara, Turkey.
- TEMELOĞLU, Erdem, (2015), “Tüketicilerin Kişilik Özellikleri, Risk Algıları ve Yeniden Satın Alma Davranışları Arasındaki İlişkinin İncelenmesi: Otel İşletmelerinde Bir Araştırma” [Examination of the Relationship between Consumers' Personality Traits, Perceptions of Risk and Repurchase Behavior: A Research in Hotel Businesses]. *İşletme Araştırmaları Dergisi*, Vol. 7, Issue 2, pp. 157-179. Retrieved from https://www.isarder.org/2015/vol.7_issue.2_article06_full_text.pdf
- TSAO, Wen-Chin and Hung-Ru CHANG, (2010), “Exploring the Impact of Personality Traits on Online Shopping Behaviour”, *African Journal*

- of Business Management*, Vol. 4, Issue 9, pp. 1800-1812. Retrieved from http://www.academicjournals.org/app/webroot/article/article1380814476_Tsao%20and%20Chang.pdf
- TUIK Turkish Statistical Institute, (2018), Statistical Tables and Dynamic Search. Retrieved from http://www.turkstat.gov.tr/PreTablo.do?alt_id=1028
- ÜNAL, Sevtap, Aysel ERCİŞ and Ercan KESER, (2011), “Attitudes towards Mobile Advertising - A Research to Determine the Differences between the Attitudes of Youth and Adults”, *Procedia Social and Behavioral Sciences*, Vol. 24, pp. 361-377. doi.:10.1016/j.sbspro.2011.09.067
- WANG, Ying, Shaojing SUN, Weizhen LEI and Mark TONCAR, (2009), “Examining Beliefs and Attitudes toward Online Advertising among Chinese Consumers”, *Direct Marketing: An International Journal*, Vol. 3, Issue 1, pp. 52-66. doi: 10.1108/17505930910945732
- WATSON, D., (2001), “Neuroticism” In N.J. Smelser & P.B. Baltes (Eds.) *International Encyclopedia of the Social & Behavioral Sciences*. (pp. 10609-10612), Elsevier, Oxford, UK. doi: 10.1016/b0-08-043076-7/01771-x
- WE ARE SOCIAL, (2020), Special Reports - Digital 2020: 3.8 Billion People Use Social Media. Retrieved from <https://wearesocial.com/blog/2020/01/digital-2020-3-8-billion-people-use-social-media>
- WILLIAMSON Jeanine Mary, (2018). “Self-Reflection as a Way of Improving Instruction”, *Teaching to Individual Differences in Science and Engineering Librarianship* (pp. 133-145). Cambridge, MA: Chandos Publishing. doi: 10.1016/b978-0-08-101881-1.00009-1
- WOLIN, Lori D., Pradeep KORGAONKAR and Daulatram LUND, (2002), “Beliefs, Attitude and Behaviour towards Web Advertising”, *International Journal of Advertising*, Vol. 21, Issue 1, pp. 87-113. doi:10.1080/02650487.2002.11104918
- WU, Paul S.C., Yeong-Yuh Gary YEH and Chieh-Ru HSIAO, (2011), “The Effect of Store Image and Service Quality on Brand Image and Purchase Intention for Private Label Brands”, *Australasian Marketing Journal*, Vol. 19, Issue 1, pp. 30-39. doi: 10.1016/j.ausmj.2010.11.001
- Yalova Üniversitesi, (n.d.), Sayılarla Üniversitemiz [University with Numbers]. Retrieved from <http://ubs.yalova.edu.tr/BIP/BusinessIntelligence/Home/Index>
- YANG, Keng-Chieh, Chia-Hui HUANG, Conna YANG and Su Yu YANG, (2017), “Consumer Attitudes toward Online Video

Advertisement: YouTube as a Platform”, *Kybernetes*, Vol. 46, Issue 5, pp. 840-853. doi: 10.1108/K-03-2016-0038

**IS ORGANIZATIONAL CITIZENSHIP BEHAVIOR AFFECTED
BY POLITICAL SKILL?
A QUANTITATIVE STUDY IN PUBLIC BANKS**

*Erdal Alga**

INTRODUCTION

Organizations are structures created by people to achieve certain common goals (Akdur, 2003: 2; Karakoç, 1991: 12; Aydın, 1986: 5; Aydın, 1984: 14). People have common goals corresponding to organizational goals in organizations, as well as individual goals. These individual goals can sometimes conflict with organizational goals and individual goals of others. In the event that individual goals and organizational goals contradict, goals must be harmonized without deviating from organizational goals and without ignoring individual goals of people. In case individual goals differ and contradict on the basis of individuals, ensuring that each individual meets individual goals of other individuals and reconciles with minimum commons, without deviating from organizational goals. In addition, organization must provide equal opportunities to each individual by opening up space for them to achieve individual goals related to organization. It is people, especially managers, carrying out activities within organization to eliminate these contradictions regarding goals and harmonize them. The Instrument that managers and employees in organization will need in this process is communication in the most general sense, social skill when specialized to some extent, and political skill when determined within the framework of organization.

When goals of organizations are analyzed in general, efficiency, effectiveness, profitability, growth and quality are organizational goals coming to mind first. As long as employees can contribute to these goals of organization, their presence in the organization becomes meaningful and permanent. An employee ignoring organizational goals and concentrating only on his or her individual goals can't be expected to promote and even can't continue to work in organization. Therefore, even employees focusing a lot on their individual goals should show that they seem to care and contribute to organizational goals at least. Thus, even if he/she is not sincere in the real sense, the effort to appear sincere, one dimension of political skill, has somehow been brought to the agenda.

It is imperative for employees to cooperate in order to achieve organizational goals. One, and perhaps the most important one of individual goals

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of employees expected to cooperate is career progression. While employees who want to progress in their careers have to cooperate for organizational purposes, they have to compete with each other for scarce upper positions in organizations. Competitive and conflicting individual interests inevitably turn organizations into a field of struggle, and hence organizations spontaneously become a political area. In order to exist in political area and to win struggle, perhaps at least not to be loser of struggle, employees must exhibit political behavior and have political skill. Zaleznik (1971: 52) stated that every organization is a political structure, while Oruç and Özen Kutunis (2015: 37) pointed out that organizations gained a political structure identity as complexity and uncertainties increased. Mintzberg (1985: 133) stated that in this political area, political skill together with conflict are important factors transforming organizations into political arena. Another important concept turning organizations into a political arena or structure is power relations taking place within organizations. Employees of organizations sometimes try to obtain and use power to achieve organizational goals, individual goals and different combinations of both, and to be closer to power when they do not have the ability to obtain it. The skill that employees use to gain or be close to power are political skill. Networking ability, interpersonal influence, social astuteness and apparent sincerity, dimensions of Political Skill Inventory, are used by employees in organizations.

In addition to written rules and duties of organization, organizational citizenship behavior is to exhibit an extra set of behaviors helping organization achieve its goals. There is a general acceptance that these behaviors should be displayed on voluntary basis. These behaviors, whether voluntary or involuntary, are those indirectly contributing to organization's efficiency, effectiveness, profitability, growth and achievement of its quality goals. There are studies Herawati and Sulastri (2019), Chelagat and Korir (2017), Khodabandeh and Ardabili (2015), Li and Kong (2015) showing that organizational citizenship behaviors are related to political skill, which is competency to affect others within organization. However, these studies have been carried out abroad and are limited in number. Limited number of studies abroad examining relationship between organizational citizenship behavior and political skill with their absence in Turkish organizational literature indicate that there is a clear gap in organizational literature. Primary purpose of this study is to respond to this gap. Another aim of the study is to reveal relationships between political skill and its dimensions, and organizational citizenship behavior and its dimensions. In order to achieve these goals, banking sector having intense human relations and high working tempo, has been determined as study field. The reason why state banks are chosen as study field is the expectation that political skill and organizational citizenship

behavior can be exhibited in this field due to the concept of dignity that may be attributed by public employees.

CONCEPTUAL FRAMEWORK

Political Skill

Foundations of political skill concept started to be laid by studies of researchers such as Mayes and Allen (1977), Pfeffer (1981) and Mintzberg (1985), who talked about existence of political space in organizations (Özdemir & Gören, 2016: 334). These researchers focused on definition of political behavior, political intention and political skill and their relations with each other. Mintzberg (1983), focusing on political intention and political behavior, stated that in order for individuals to be effective and successful in the organization, they should have political intentions and political behaviors in line with this political intentions (Akçakanat & Uzunbacak, 2017: 790). Treadway and his colleagues introduced the first model in 2000s that included political intentions, political skill and political behaviors (Atay, 2009: 893).

Political behavior is the activities of employees not depending on their organizational roles in which they try to influence distribution of advantages and disadvantages within organizations (Farrell and Petersen, 1982: 405). In organizations, individuals or groups display political behaviors to achieve resources and personal interests (Vigoda, 2000: 327). Political behavior generally occurs when goals are inconsistent, resources are scarce, and goals, decision processes, performance criteria and rewards are uncertain (Evans & Qureshi, 2013: 36). Mintzberg (1983) defined political skill as introducing necessary energy for political purposes (Atay, 2010: 66). Political skill is defined as “the ability of an employee to influence other employees by using their knowledge about them to act for his/her own and organization's goals” (Ferris et al., 2005: 127). Political skill is one of two premises of political behavior along with political intention (Atay, 2009: 892-893).

Political skill is not explicit behavior, but rather unnoticed behavior (Ferris et al., 2005: 127). People with political skill have a high ability to persuade, manipulate, negotiate and seem sincere. People with a high political skill have the ability to analyze both themselves and other people in organization well (Cingöz, 2013: 155). Another characteristic of people with high political skill is that they can be flexible in different situations and against different people (Akçanakat & Uzunbacak, 2017: 791). These characteristics include wide range of relationship networks of these people, and this may cause them to get reward such as promotion and wage increases more easily (Cingöz, 2013: 173).

It is stated that political skill can be acquired through education and

socialization (Perrewe & Nelson, 2004: 374) and developed with counseling and coaching although it is a congenital feature of individuals (Atay, 2010: 68). However, study of Hartley and his colleagues (2007: 8) shows that political skill mostly develops as a result of lessons learned from mistakes and crises experienced at work.

Although political skill is one of social skills, it differs from other social skills in terms of its emergence in the field of organization (Ferris et al., 2000: 31). Political skill plays an important role in organization's efficiency and effectiveness, and employees' success and career goals. The fact that concepts such as changing environment, flexible organizational structures and teamwork's gaining weight in today's world of organizations has made political skill even more important.

Political skill is a type of skill that interpersonal communication is central. Communication does not have to be face-to-face communication. The intensive use of communication technologies in doing business in organizations has increased necessity and importance of political skill on telephone or online communication. (Ferris et al., 2000: 31)

Political skill consists of four basic dimensions: social astuteness, interpersonal influence, networking ability and apparent sincerity (Özdemir & Gören, 2016: 335). Employees with high social astuteness are also capable of observing others and adapting to social environments. These people assess social environments and interpersonal relations very well. Their reasoning skills and personal awareness are high (Atay, 2010: 67). People with social astuteness are sensitive to others and intelligent in their relations with them (Ferris et al., 2007: 292). Employees with high interpersonal influence are competent to direct others and their behavior in a certain direction. People with network ability can easily make new friends and establish internal coalitions for these purposes. Apparent sincerity is of great importance in mobilizing others in a certain direction. People suspected of intimacy lose power to influence others.

Organizational Citizenship Behavior

Organizational citizenship behavior is the behavior providing psychological and social contributions to working environment of organization other than technical efforts directly related to work (Blakey et al., 2005: 259). Organizational citizenship behavior is "*the behavior that will support social and psychological environment ensuring task performance*" (Organ, 1997: 95). Unlike many definitions of organizational citizenship behavior made before, this definition of Organ has placed limits of organizational citizenship behavior in a more specific framework by not including expressions such as "voluntary and excluded from official reward system" (Podsakoff et al., 2009: 122).

Organizational citizenship behavior has also been denominated as overproductive behaviors, social organizational behavior, organizational spontaneity behavior, civil organizational behavior, prosocial behavior and contextual performance in different studies (Oplatka, 2011: 224; Mayfield & Taber, 2010: 742; Wagner & Rush, 2000; Somech & Drach-Zahavy, 2004; Finkelstein & Penner, 2004; Goodman & Svyantek, 1999 cited by Sezgin, 2005: 318).

While personal desire, voluntary effort and sincere behavior are determining factors in organizational citizenship behavior; job and job descriptions, determined roles, official job performance and external reward expectation are non-explanatory elements in expressing organizational citizenship behavior (Sezgin, 2005: 318-320). In order to talk about existence of organizational citizenship behavior, job and job descriptions, determined roles and formal task performance must be fulfilled and an extra voluntary and sincere contribution must be made to organization. In other words, it is not possible to call an employee behavior that does not fulfill requirements of job and job descriptions, determined roles and formal job performance as organizational citizenship behavior due to not being sincere. It is not also considered as organizational citizenship behavior that employees do the works overtime hours that they have to do during normal working hours. Therefore, although the behaviors required by job and job descriptions, determined role and formal task performance are not organizational citizenship behavior, they are prerequisite for organizational citizenship behavior. In the event that such behaviors are exhibited, if there are extra contributions to organization, existence of organizational citizenship behavior can be mentioned; If there is no extra contribution to organization, it is not possible to talk about existence of organizational citizenship behavior. In absence of such behavior, existence of extra behavior does not mean that of organizational citizenship behavior.

Organizational citizenship behavior has nothing to do with the expectation of external reward, and sanctions are not applied when not done. Because organizational citizenship behavior is not a part of official reward system (Karaaslan et al., 2009: 138-139; Gürbüz, 2007: 7; Sezgin, 2005: 320; Organ, 1990: 46). However, managers of organization can reward organizational citizenship behavior with various rewards such as supplement or promotion. Sometimes, these rewards can be giving more financial resources than the rewards in official reward system, since voluntary performance of employees within the framework of organizational citizenship behavior is considered as more valuable by managers (MacKenzie et al., 1991; Padsakoff & MacKenzie, 1994 quoted Gürbüz et al., 2014: 5). This rewarding does not harm feature of its being organizational citizenship behavior. As a matter of fact, this reward is not

a mandatory one defined in official reward system.

It is possible to classify organizational citizenship behavior under two main titles as organizational citizenship behavior towards individual and organizational citizenship behavior towards organization (Williams & Anderson, 1991: 601-602). While helping others lies at the core of organizational citizenship behaviors towards individual, presenting possible ideas to contribute to the development and progress of organization lie at the core of organizational citizenship behaviors towards organization (Finkelstein, 2006: 604).

It is stated in organizational literature that there are over thirty types of organizational citizenship behavior (Podsakoff et al., 2000: 516). Classification generally accepted in terms of organizational citizenship behavior is five-dimensional one made by Organ (Güçel, 2013: 176). According to this classification, dimensions of organizational citizenship behavior are courtesy, sportsmanship, altruism, conscientiousness and civic virtue. Courtesy is the behavior of informing other people who are likely to be affected by the activity carried out in organization (Schaneke & Dumler, 1993: 352-353). Sportsmanship means not to complain and be tolerant when faced with troubling events and situations (Çınar Altıntaş, 2006: 85). Altruism means that employees of an organization help other in it to do their duties and solve their problems without waiting nothing from them (Podsakoff et al., 2000: 517; Bolino, 1999: 83; Deluga, 1994: 316). Conscientiousness includes sensitivity in subjects such as voluntary work exceeding official working time (Organ, 1988: 4), attendance to work, regular work, punctuality and apt use of rest times. Civic virtue is to participate actively in management of organization and to monitor opportunities and threats around organization (Bitmiş et al., 2014: 6).

PURPOSE OF STUDY

Having examined relevant literature, studies investigating relationship between political skill and organizational citizenship behavior were limited in number abroad and there are no such studies in Turkey. Although these limited number of studies abroad reveal relationship between the two variables, they didn't examine relationships between dimensions of these two variables. For this reason, in this study based on opinions of employees, relationship between political skill and its dimensions, and organizational citizenship behavior and its dimensions were examined. In this context, answers to following questions were sought in the study.

- 1) What are opinions of participants regarding their political skill and its dimensions, and organizational citizenship behavior and its dimensions?
- 2) Are there significant relationship between political skill and its

dimensions, and organizational citizenship behavior and its dimensions?

- 3) Do political skill and its dimensions affect organizational citizenship behavior and its dimensions? If so, to what extent do they affect?

HYPOTHESES OF STUDY

Within the scope of the study, following hypotheses were determined and it was aimed to examine relationships between political skill and its dimensions, and organizational citizenship behavior and its dimensions. For this purpose, following hypotheses have been developed:

H1: There is a positive relationship between employees' political skill and their organizational citizenship behavior.

H2: There is a positive relationship between employees' networking ability and their organizational citizenship behavior.

H3: There is a positive relationship between employees' interpersonal influence and their organizational citizenship behavior.

H4: There is a positive relationship between employees' social astuteness and their organizational citizenship behavior.

H5: There is a positive relationship between employees' apparent sincerity and their organizational citizenship behavior.

H6: There is a positive relationship between employees' political skill and their courtesy.

H7: There is a positive relationship between employees' networking ability and their courtesy.

H8: There is a positive relationship between employees' interpersonal influence and their courtesy.

H9: There is a positive relationship between employees' social astuteness and their courtesy.

H10: There is a positive relationship between employees' apparent sincerity and their courtesy.

H11: There is a positive relationship between employees' political skill and their sportsmanship.

H12: There is a positive correlation between employees' networking ability and their sportsmanship.

H13: There is a positive correlation between employees' interpersonal influence and their sportsmanship.

H14: There is a positive relationship between employees' social astuteness and their sportsmanship.

H15: There is a positive relationship between employees' apparent sincerity and their sportsmanship.

H16: There is a positive relationship between employees' political skill and their altruism.

H17: There is a positive relationship between employees' networking ability and their altruism.

H18: There is a positive correlation between employees' interpersonal influence and their altruism.

H19: There is a positive correlation between employees' social astuteness and their altruism.

H20: There is a positive relationship between employees' apparent sincerity and their altruism.

H21: There is a positive relationship between employees' political skill and their conscientiousness.

H22: There is a positive relationship between employees' networking ability and their conscientiousness.

H23: There is a positive relationship between employees' interpersonal influence and their conscientiousness.

H24: There is a positive relationship between employees' social astuteness and their conscientiousness.

H25: There is a positive relationship between employees' apparent sincerity and their conscientiousness.

H26: There is a positive relationship between employees' political skill and their civic virtue.

H27: There is a positive relationship between employees' networking ability and their civic virtue.

H28: There is a positive relationship between employees' interpersonal influence and their civic virtue.

H29: There is a positive relationship between employees' social astuteness and their civic virtue.

H30: There is a positive relationship between employees' apparent sincerity and their civic virtue.

METHOD

This study is designed according to screening model, which aims to explain whether employees' political skill affects their organizational citizenship behavior, and if so, to what extent it affects. In this context, study data was analyzed with quantitative approach using SPSS and AMOS package programs.

Working Group

This study was conducted with voluntary participation of 732 employees working in public bank branches in Aydin, Ankara, Denizli, Diyarbakir, Elazig, İstanbul, Izmir and Istanbul provinces in January 2018, January, February, March, April and May 2018.

Table 1. Demographic Features of the Participants

		n	%
Gender	Female	307	41.94
	Male	425	58.06
Marital Status	Married	489	66.80
	Single	243	33.20
Age	26 and below	31	4.24
	27-31	190	25.96
	32-36	226	30.87
	37-41	124	16.94
	42 and above	161	21.99
Education	High School and	96	13.11
	Associate and	585	79.92
	Postgraduate	51	6.97
Work	1-5 Year	176	24.04
	6-10 Year	271	37.02
	11-15 Year	137	18.72
	16 Year and above	148	20.22

The participants are between ages of 18-61, and mean of their age is 35.46. As seen in Table 1, 307 (41.94%) of participants are female and 425 (58.06%) are male. 489 (66.80%) of the participants are married, 243 (33.20%) of them are single. 96 (13.11%) of the participants are graduated from high school and below degrees, 585 (79.92%) of them are graduated from associate degree and undergraduate and 51 (6.97%) of them are postgraduates. 176 (24.04%) of the participants own 1-5 years, 271 (37.02%) own 6-10 years, 137(18.72%) own 11-15 years and 148 (20.22%) own 16 years and over work experience.

Data Collection Tools

Political Skill Inventory

Political Skill Inventory (PSI) developed by Ferris and his colleagues (2005) was used to determine the political skill levels of participants. PSI, a seven-point Likert scale, consists of four different dimensions, namely networking ability (6 items), interpersonal influence (4 items), social astuteness (5 items), apparent sincerity (3 items) and 18 items. The adaptation of the PSI to Turkish was done by Özdemir and Gören (2016) based on the opinions of 325 participants. Getting high scores from the scale indicates high level of political skill; low scores indicate low level of political skill. In the original work of PSI, Cronbach alpha values were calculated as .90 for political skill, .87 for networking ability, .78 for interpersonal influence, .79 for social astuteness and .81 for apparent sincerity. In the study of Özdemir and Gören (2016), LISREL was compatible with the original version of the scale's four-factor structure and items with confirmatory factor analysis with 8.8 version [$\chi^2=447.97$; $SD=126$; $X^2/Sd=3.5$; $AGFI=.82$; $GFI=.87$; $NFI=.96$; $CFI=.97$; $IFI=.97$; $RMR=.18$; $RMSEA=.08$] and PSI's Cronbach alpha value was found to be 0.94. With the confirmatory factor analysis, the 4-dimensional and 18-item structure of the scale was confirmed.

In this study, Cronbach alpha values of PSI were found to be .91, .83, .75, .74 and .75 respectively, of networking ability, interpersonal influence, social astuteness and apparent sincerity. KMO and Bartlett Test were applied to the data to determine the suitability of PSI for factor analysis. The KMO value was 0.866, and the sample size was sufficient for factor analysis, and the Bartlett Test value (947,525, $p < 0.001$) was found to be significant. The variance rate announced by PSI is 64.83%. The variances explained by PSI's networking ability, interpersonal influence, social astuteness and apparent sincerity are 17.43%, 14.92%, 19.18% and 13.30% respectively. According to dimensions of the scale, factor loads are .69-.87 for networking ability, .71-.82 for interpersonal influence, .76-.84 for social astuteness and .63-0.79 for apparent sincerity. Confirmatory factor analysis performed after explanatory factor analysis showed that fit index of the model ($\chi^2/df=3.284$, $GFI=.846$, $CFI=.872$, $NFI=.833$, $RMSEA=.079$) were found to meet compliance criteria. Confirmatory factor analysis revealed parallel results with Özdemir and Gören's study (2016) in terms of dimensions and items of the scale.

Organizational Citizenship Behavior Scale

For the measurement of the level of organizational citizenship behavior, Organizational Citizenship Behavior Scale, which was developed by Podsakoff et al. (1990) based on five dimensions of Organ (1988), and adapted to Turkish by Bitmiş and his colleagues (2014), was used.

Organizational Citizenship Behavior Scale (OCBS), a five-point Likert scale, consists of 21 items and 5 dimensions—courtesy (5 items), sportsmanship (5 items), altruism (4 items), conscientiousness (4 items) and civic virtue (3 items). Getting high scores from the scale indicates high level of organizational citizenship behavior; low scores indicate low level of organizational citizenship behavior. The overall reliability coefficient of the scale is 0.88 Cronbach alpha; Cronbach Alpha value of the dimensions of Organizational Citizenship Behavior Scale is .82, .82, .85, .76 and .75 for courtesy, sportsmanship, altruism, conscientiousness and civic virtue respectively. Based on the five-factor structure of the scale based on calculated and standardized estimation results of the scale, based on the confirmatory factor analysis conducted in the study of Bitmiş and his colleagues (2014), fit indices of the model ($\chi^2/df=2.319$, GFI=.92, CFI=.93, RMSEA=.05, AIC=519.72) were found to meet the compliance criteria (Bitmiş et al., 2014: 11). With the confirmatory factor analysis, 5-dimensional and 21-item structure of the scale was confirmed.

In this study, Cronbach alpha values of OCBS were found to be .90, .76, .79, .72, .70 and .77, respectively. KMO and Bartlett Tests were applied to the data in order to determine suitability of OCBS for factor analysis. KMO value was 0.823, and sample size was sufficient for factor analysis and Bartlett Test value (1102.038, $p < 0.001$) was found to be significant. The variance rate announced by OCBS is 61.46%. The variances explained by the courtesy, altruism, sportsmanship, conscientiousness and civic virtue dimensions of the OCBS are 14.29%, 13.65%, 11.57%, 12.01% and 9.94% respectively. According to the dimensions of the scale, it was determined that factor loads were .77-.85, .73-.82, .70-.88, .67-.77, .74-.89 for courtesy, altruism, sportsmanship, conscientiousness and civic virtue respectively. Confirmatory factor analysis performed after explanatory factor analysis calculated fit index of model determined to be statistically significant according to calculated and standardized estimation results ($\chi^2/df=2.831$, GFI=.892, CFI=.916, NFI=.869, RMSEA=.066) have been found to meet fit criteria (Balkan Akan and Oran, 2017: 81). Confirmatory factor analysis made showed results in parallel with the study of Bitmiş and his colleagues (2014) in terms of dimensions and items of the scale.

Data Analysis and Transactions

Filling of data collection tools by employees is provided online or in paper. The study data were collected in 2018 and in January, February, March, April and May. Employees voluntarily participated in the study. The data collection tool took approximately 10 minutes to complete. In the research, the data collected from the participants were analyzed with linear regression and hierarchical multiple regression techniques as well as

descriptive statistics such as mean, standard deviation and percentage value. Before the analysis of the data, extreme value and lost data analyzes were made and the problems found were resolved. In order to determine the suitability of the data for multivariate analysis, normality and coexistence analyzes were also performed. In scatter diagram, it was determined that the research variables showed an ellipse-like distribution. Based on this data, it was seen that the data set showed normal distribution and had linearity features. In order to examine covariance, variance-covariance matrices were used. In the tests performed, the result of the Box M test was not significant ($p>.025$). This result was interpreted as the variance-covariance matrices are not homogeneous. In this context, it was observed that the study data were suitable for multivariate analysis.

FINDINGS

Descriptive Statistics of Variables

Means and standard deviations of the political skill and organizational citizenship behavior of the participants are presented in Table 2.

Table 2. Descriptive Statistics of Political Skill and OCB

	Mean	Standart Deviation
1-Political Skill	5.12	0.73
2-OCB	3.83	0.63
3-Networking Ability	5.02	0.87
4-Interpersonal Influence	5.16	0.93
5-Social Astuteness	5.20	0.81
6-Apparent Sincerity	5.11	0.96
7-Courtesy	3.87	0.76
8-Sportsmanship	3.84	0.73
9-Altruism	3.72	0.89
10-Conscientiousness	3.84	0.75
11-Civic Virtue	3.91	0.97

As can be seen in Table 2, the participants' mean of political skill is 5.12 (SD=.73) and that of organizational citizenship behavior is 3.83 (SD=.63). Mean of dimensions of political skill and organizational citizenship behavior are as follows: network ability 5.02 (SD =.87), interpersonal influence 5.16 (SD=.93), social astuteness 5.20 (SD=.81), apparent sincerity 5.11 (SD=.96), courtesy 3.87 (SD=.76), altruism 3.72 (SD=.89), sportsmanship 3.84 (SD=.73), conscientiousness 3.84 (SD=.75) and civic virtue 3.91 (SD=.97). Accordingly, level of political skill and organizational citizenship behavior of participants and dimensions of both variables are quite high.

Power of Political Skill to Predict Organizational Citizenship Behavior and Its Dimensions

The relationship between dependent variables-organizational citizenship behavior, courtesy, altruism, sportsmanship, conscientiousness and civic virtue- and independent variable-political skill- was tested by linear regression analysis (Table 3). The models that political skill predicted organizational citizenship behavior (Model 1), courtesy (Model 2), sportsmanship (Model 3), altruism (Model 4), conscientiousness (Model 5) and civic virtue (Model 6) were found statistically significant. According to analysis, determination coefficient of Model 1 is $R^2=.395$ and 39.5% of organizational citizenship behavior; determination coefficient of Model 2 is $R^2=.288$ and 28.8% of courtesy; determination coefficient of Model 3 is $R^2=.292$ and 29.2% of sportsmanship; determination coefficient of Model 4 is $R^2=.184$, and 18.4% of altruism; determination coefficient of Model 5 is $R^2=.277$ and 27.7% of conscientiousness; determination coefficient of Model 6 is $R^2=.173$ and 17.3% of civic virtue is explained by political skill, independent variable in the models. According to results of the regression analysis, a one-unit increase in political skill results in an increase of .63 unit in organizational citizenship behavior; .54 unit in courtesy; .54 unit in sportsmanship; .43 unit in altruism; .53 unit in conscientiousness and .52 unit in civic virtue. According to this; H1, H6, H11, H16, H21 and H26 hypotheses were accepted.

Table 3. Results on Power of Political Skill to Predict OCB and Its Dimensions

Model	Variables	B	Sd	β	t	R	R²	F	p
Model 1	<i>(OCB)</i>	2.584	0.308		8.384				0.000
	Political Skill	0.543	0.060	0.628	9.099	0.628	0.395	82.790	0.000
Model 2	<i>(Courtesy)</i>	2.583	0.400		6.449				0.000
	Political Skill	0.555	0.078	0.536	7.160	0.536	0.288	51.261	0.000
Model 3	<i>(Sportsmanship)</i>	2.592	0.388		6.686				0.000
	Political Skill	0.543	0.075	0.540	7.230	0.540	0.292	52.277	0.000
Model 4	<i>(Altruism)</i>	2.540	0.172		5.054				0.000
	Political Skill	0.521	0.044	0.429	5.359	0.429	0.184	28.715	0.000
Model 5	<i>(Conscientious.)</i>	2.592	0.401		6.459				0.000
	Political Skill	0.542	0.078	0.527	6.984	0.527	0.277	48.773	0.000
Model 6	<i>(Civic Virtue)</i>	2.642	0.555		18.883				0.000
	Political Skill	0.554	0.107	0.416	-2.379	0.416	0.173	26.622	0.000

Power of Political Skill's Dimensions to Predict Organizational Citizenship Behavior

Hierarchical multiple regression analysis was used to determine to what extent employees' political skill explain their organizational citizenship behavior. In the first, second, third and fourth steps of the model, four dimensions of political skill (interpersonal influence, networking ability, social astuteness and apparent sincerity) were entered sequentially as the main predictor. The results are presented in Table 4.

Table 4. Results on Power of Political Skill's Dimensions to Predict OCB

Organizational Citizenship Behavior (OCB)								
Predictive Variables	Model 7		Model 8		Model 9		Model 10	
	β	t	β	t	β	t	β	t
<i>Model 7</i>								
Networking Ability	.578	7.980*	.389	4.169*	.273	2.528**	.261	2.390**
<i>Model 8</i>								
Interpersonal Influence			.286	3.066*	.241	2.552**	.229	2.371**
<i>Model 9</i>								
Social Astuteness					.208	2.078**	.197	1.943*
<i>Model 10</i>								
Apparent Sincerity							.055	.666
R ²	.334		.380		.401		.403	
R ² Change	.334		.046		.021		.002	
F	63.683*		38.646*		27.881*		20.929*	

*p<.01, ** p<0.05

As can be seen in Table 4, interpersonal influence is a significant predictor of organizational citizenship behavior and explains 33.4% of variability in organizational citizenship behavior alone (R²=.334, F=63,683, p<.01). Standardized regression coefficient of the model also supports this result (β =.578, p<.01). In Model 8, in which networking ability and interpersonal influence variables are tested together whether they are significant predictors of organizational citizenship behavior, 38% of variability in organizational citizenship behavior is explained by these

two variables ($R^2=.380$, $F=38.646$, $p<.01$). Therefore, it was observed that networking ability in Model 8 contributed 4.6% to explanation of organizational citizenship behavior. When standardized regression coefficient value of Model 8 is examined, it is seen that both variables are significant predictors of organizational citizenship behavior ($\beta=.29$, $p<.01$). When the results of Model 9, in which social astuteness was added to networking ability and interpersonal influence variables, were analyzed, it was observed that 40% of variability in organizational citizenship behavior was significantly predicted by these three variables ($R^2=.401$, $F=27.881$, $p<.01$). Therefore, it was determined that social astuteness contributed 2.1% to explanation of variability in organizational citizenship behavior. It is seen that standardized regression coefficient of Model 9 is also significant ($\beta=.21$, $p<.01$). In Model 10, relative contribution of apparent sincerity to explanation of organizational citizenship behavior was questioned. Results of the analysis show that adding apparent sincerity to the model does not make a significant contribution ($R^2=.403$, $F=20.929$, $p>.05$). Standardized regression coefficient of Model 10 also supported this result ($\beta=.06$, $p>.05$). Therefore, apparent sincerity is not a significant predictor of organizational citizenship behavior. According to this; H2, H3 and H4 hypotheses were accepted; H5 hypothesis was rejected.

Power of Political Skill's Dimensions to Predict Organizational Citizenship Behavior's Dimensions

Hierarchical multiple regression analysis was used to determine to which extent political skill's dimensions of employees explain their dimensions of organizational citizenship behavior-courtesy, sportsmanship, altruism, conscientiousness and civic virtue. In the first, second, third and fourth steps of the models, four dimensions of political skill-interpersonal influence, networking ability, social astuteness and apparent sincerity- were entered sequentially as the main predictor. The results are presented in Table 5-9.

Power of Political Skill's Dimensions to Predict Courtesy

As a result of analysis, two statistically significant models (Model 11 and Model 12), in which political skill's dimensions predict courtesy, were determined. As can be seen in Table 5, interpersonal influence is a significant predictor of courtesy and explains 25.5% of variability in courtesy alone ($R^2=.255$, $F=43.494$, $p<.01$). Standardized regression coefficient of Model 11 supports this result ($\beta=.505$, $p<.01$). In Model 12, in which networking ability and interpersonal influence are tested together whether or not they are significant predictors of courtesy, it is seen that 30.1% of variability in courtesy is explained by these two variables

($R^2=.301$, $F=27.067$, $p<.01$). Therefore, it was observed that networking ability in Model 12 contributed 4.5% to sportsmanship. When standardized regression coefficient of Model 12 is examined, it is seen that both variables are significant predictors of courtesy ($\beta=.284$, $p<.01$). Social astuteness and apparent sincerity did not contribute to formation of a statistically significant model to explain courtesy. Therefore, social astuteness and apparent sincerity are not significant predictors of courtesy. According to this; H7 and H8 hypotheses were accepted; H9 and H10 hypotheses were rejected.

Table 5. Results on Power of Political Skill's Dimensions to Predict Courtesy

Predictive Variables	Courtesy			
	Model 11		Model 12	
	β	t	β	t
<i>Model 11</i>				
Interpersonal Influence	.505	6.595*	.318	3.207*
<i>Model 12</i>				
Networking Ability			.284	2.860*
R ²	.255		.301	
R ² Change	.255		.045	
F	43.494*		27.067*	

* $p<.01$, ** $p<0.05$

Power of Political Skill's Dimensions to Predict Sportsmanship

As a result of analysis, two statistically significant models (Model 13 and Model 14), in which political skill's dimensions predict sportsmanship, were determined. As can be seen in Table 6, interpersonal influence is a significant predictor of sportsmanship and explains 27.4% of variability in sportsmanship alone ($R^2=.274$, $F=47.820$, $p<.01$). Standardized regression coefficient of Model 13 supports this result ($\beta=.523$, $p<.01$). In Model 14, in which social astuteness and interpersonal influence variables are tested together, whether they are significant predictors of sportsmanship, it is seen that 30.6% of variability in sportsmanship is explained by these two variables ($R^2=.306$, $F=27.766$, $p<.01$). Therefore, it was observed that social astuteness in Model 14 contributed 3.2% to explanation of sportsmanship. When standardized regression coefficient of Model 14 is examined, it is seen that both variables are significant predictors of sportsmanship ($\beta=.253$, $p<.05$). Networking ability and apparent sincerity did not contribute to formation of a

statistically significant model to explain sportsmanship. Therefore, networking ability and apparent sincerity are not significant predictors of sportsmanship. According to this; H13 and H14 hypotheses were accepted; H12 and H15 hypotheses were rejected.

Table 6. Results on Power of Political Skill's Dimensions to Predict Sportsmanship

Predictive Variables	Sportsmanship			
	Model 13		Model 14	
	β	t	β	t
Model 13				
Interpersonal Influence	.523	6.915*	.345	3.308*
Model 14				
Social Astuteness			.253	2.424**
R ²	.274		.306	
R ² Change	.274		.032	
F	47.820*		27.766*	

*p<.01, ** p<0.05

Power of Political Skill's Dimensions to Predict Altruism

As a result of analysis, three statistically significant models (Model 15, Model 16 and Model 17) in which political skill's dimension predict altruism, were determined. As can be seen from Table 7, interpersonal influence is a significant predictor of altruism and explains 8.7% of variability in altruism alone ($R^2=.087$, $F=12.088$, $p<.01$). Standardized regression coefficient of Model 15 supports this result ($\beta=.295$, $p<.01$). In Model 16, in which networking ability and interpersonal influence variables are tested together whether they are significant predictors of altruism, 19% of variability in altruism is explained by these two variables ($R^2=.190$, $F=14.819$, $p<.01$). Therefore, it was observed that networking ability in Model 16 contributed 10.4% to explanation of altruism. When standardized regression coefficient of Model 16 is examined, it is seen that both variables are significant predictors of altruism ($\beta=.428$, $p<.01$). When the results of Model 17, to which apparent sincerity was added, it was observed that 21.9% of variability in altruism was explained by these three variables ($R^2=.219$, $F=11.688$, $p<.01$). Therefore, it was found that apparent sincerity contributed 2.9% to explanation of variability in altruism. While standardized regression coefficient of networking ability ($\beta=.375$, $p<.01$) and apparent sincerity ($\beta=.199$, $p<.05$) in Model 17 are significant, that of interpersonal influence ($\beta=.050$, $p>.05$) are not. Social astuteness did not contribute to formation of a statistically significant model

to explain altruism. Therefore, interpersonal influence and social astuteness variables are not significant predictors of altruism separately. According to this; H17 and H20 hypotheses were accepted; H18 and H19 hypotheses were rejected.

Table 7. Results on Power of Political Skill's Dimensions to Predict Altruism

Predictive Variables	Altruism					
	Model 15		Model 16		Model 17	
	β	t	β	t	β	t
Model 15						
Interpersonal Influence	.295	3.477*	.012	.115	-.050	-.455
Model 16						
Network Ability			.428	4.114*	.375	3.473*
Model 17						
Apparent Sincerity					.199	2.141**
R ²	.087		.190		.219	
R ² Change	.087		.104		.029	
F	12.088*		14.819*		11.688*	

*p<.01, ** p<0.05

Power of Political Skill's Dimensions to Predict Conscientiousness

As a result of analysis, three statistically significant models (Model 18, Model 19 and Model 20) in which political skill's dimensions predict conscientiousness, were determined. As can be seen in Table 8, interpersonal influence is a significant predictor of conscientiousness and explains 26.3% of variability in conscientiousness alone ($R^2=.263$, $F = 45.301$, $p<.01$). Standardized regression coefficient of Model 18 also supports this result ($\beta=.513$, $p<.01$). In Model 19, in which social astuteness and interpersonal influence variables are tested together, whether they are significant predictors of conscientiousness, 31.3% of variability in conscientiousness is explained by these two variables ($R^2=.313$, $F = 9.159$, $p<.01$). Therefore, it was observed that social astuteness in Model 19 contributed 5% to explanation of conscientiousness. When standardized regression coefficient of Model 19 is examined, it is seen that both variables are significant predictors of conscientiousness ($\beta=.314$, $p<.01$). When the results of Model 20 to which apparent sincerity was added was observed that 31.9% of variability in conscientiousness was explained by these three variables ($R^2=.319$, $F=1.219$, $p<.01$). Therefore, although apparent sincerity makes 0.7% small contribution to explanation of conscientiousness, standardized regression coefficient ($\beta=-.095$, $p>.05$) of Model 20 does not make sense, indicating that apparent sincerity is not a

significant predictor of conscientiousness. Networking ability did not contribute to formation of a statistically significant model to explain conscientiousness. Therefore, networking ability is not a meaningful predictor of conscientiousness. According to this; H23 and H24 hypotheses were accepted; H22 and H25 hypotheses were rejected.

Table 8. Results on Power of Political Skill's Dimensions to Predict Conscientiousness

Predictive Variables	Conscientiousness					
	Model 18		Model 19		Model 20	
	β	t	β	t	β	t
Model 18						
Interpersonal Influence	.513	6.731*	.292	2.811*	.322	3.001*
Model 19						
Social Astuteness			.314	3.026*	.338	3.189*
Model 20						
Apparent Sincerity					-.095	-1.104
R ²	.263		.313		.319	
R ² Change	.263		.050		.007	
F	45.301*		9.159*		1.219*	

*p<.01, ** p<0.05

Power of Political Skill's Dimensions to Predict Civic Virtue

As a result of analysis, two statistically significant models (Model 21 and Model 22), in which political skill's dimensions predict civic virtue, were determined. As can be seen in Table 9, interpersonal influence is a significant predictor of civic virtue and explains 17.1% of variability in civic virtue alone ($R^2=.171$, $F=26.194$, $p<.01$). Standardized regression coefficient of Model 21 also supports this result ($\beta=.414$, $p<.01$). In Model 22, in which apparent sincerity and interpersonal influence are tested whether they are significant predictors of civic virtue, 20.2% of variability in civic virtue is explained by these two variables ($R^2=.202$, $F=5.195$, $p<.01$). Therefore, it was observed that apparent sincerity in Model 22 contributed 3.1% to explanation of civic virtue. When standardized regression coefficient of Model 22 is examined, it is seen that both variables are significant predictors of civic virtue ($\beta=.202$, $p<.01$). Networking ability and social astuteness did not contribute to formation of statistically significant models to explain civic virtue. Therefore, networking ability and social astuteness are not significant predictors of civic virtue. According to this; H28 and H30 hypotheses were accepted;

H27 and H29 hypotheses were rejected.

Table 9. Resultson Power of Political Skill’s Dimensionsto Predict Civic Virtue

Predictive Variables	Civic Virtue			
	Model 21		Model 22	
	β	t	β	t
<i>Model 21</i>				
Interpersonal Influence	.414	5.118*	.315	3.463*
<i>Model 22</i>				
Apparent Sincerity			.202	2.214*
R ²	.171		.202	
R ² Change	.171		.031	
F	26.194*		15.195*	

*p<.01, ** p<0.05

CONCLUSION

In this study based on opinions of 732 employees working in public bank branches in Aydın, Ankara, Denizli, Diyarbakir, Elazig, Istanbul and Izmir relationships between political skill and its dimensions, and organizational citizenship behavior and its dimensions were examined. In the study, first of all, the answer to the question of level of political skill and organizational citizenship behavior was sought.

The findings show that mean of participants' political skill and its four dimensions were between 5.02-5.20 on seven-point Likert scale. Dimension with the highest mean is social astuteness, while dimension with the lowest mean is networking ability. Mean of political skill is 5.12. Accordingly, it can be said that the participants’ political skill and its dimensions are quite high. Results of the study regarding level of political skill didn’t overlap with research results of Yıldız (2018), Yıldıztaşı (2017), Özdemir and Gören (2016), Braddy and Campbell (2014), and Brouer (2007) due to moderate mean; overlap with research results of apparent sincerity of Yıldız (2018), Yıldıztaşı (2017) Braddy and Campbell (2014), and research results of Koçmar and his colleagues (2019: 183) and Alga and Özdemir (2018) due

to high mean.

The findings show that mean of the participants' organizational citizenship behavior and its dimensions is between 3.72-3.91 in the 5-point Likert scale. Dimension with the highest mean is civic virtue, while dimension with the lowest mean is altruism. Mean of organizational citizenship behavior is 3.83. Accordingly, it can be said that the participants' organizational citizenship behavior and its dimensions are quite high. Mean results of organizational citizenship behavior and its dimensions of the study supported the research results of Bitmiş and his colleagues (2014) (although means are higher), Muthuraman and Al-Haziazi (2017: 418) (except for moderate courtesy level), Lian and Tui (2012: 71) (only in the context of the mean of organizational citizenship behavior) and Brouer (2007) (due to its moderate level);

In the study, it was stated that there is a statistically significant moderate positive relationship between political skill and organizational citizenship behavior; statistically significant low positive relationship between courtesy, sportsmanship, altruism, conscientiousness and civic virtue. This finding can be considered as an indication that political skill of the participants and organizational citizenship behavior and its dimensions are in a significant relationship. In other words, as employees' political skills tend to increase, their organizational citizenship behavior and dimensions increase. The finding of the study on the positive relationship between political skill and organizational citizenship behavior is supported that of Herawati and Sulastrı (2019: 533), Chelagat and Korir (2017: 39), Khodabandeh and Ardabili (2015: 56), and Li and Kong (2015).

In addition, in this study, it was found that there are significant relationships between dimensions of political skill and dimensions of organizational citizenship behavior to some extent. There is a statistically significant positive and moderate relationship between interpersonal influence, and courtesy, sportsmanship, conscientiousness and civic virtue; positive and low relationship between networking ability and courtesy; positive and moderate relationship between social astuteness and conscientiousness; positive and low relationship between social astuteness and sportsmanship; positive and low level relationship between apparent sincerity, and altruism and civic virtue.

According to this, it is seen that interpersonal influence comes to the fore because it explains all dimensions of organizational citizenship behavior moderately compared to other dimensions of political skill. Finally, in this study, the analysis of the level of political skill and its dimensions, interpersonal influence, networking ability, social astuteness and apparent sincerity predict organizational citizenship behavior and its dimensions of employees' sportsmanship, conscientiousness and civic

virtue. Accordingly, interpersonal influence (25.5%) with networking ability (4.5%) explain 30.1% of courtesy; interpersonal influence (27.4%) with social astuteness (3.2%) explain 30.6% of sportsmanship; interpersonal influence (8.7%) with networking ability (10.4%) and apparent sincerity (2.9%) explain 21.9% of altruism; interpersonal influence (26.3%) with social astuteness(5%) and apparent sincerity (0.7%) explain 31.9% of conscientiousness; interpersonal influence (17,1%) with apparent sincerity (3,1%) explain 20.2% of civic virtue. From these results, it can be said that interpersonal influence is the political skill that highly explains five dimensions of organizational citizenship behavior.

LIMITATIONS AND RECOMMENDATIONS

This study is limited to the views of 732 participants working in public banks. Studies that reveal the relationship between political skill and organizational citizenship behavior are not available in the country and limited abroad. For these reasons, it is considered that studying relationship between political skill and organizational citizenship behavior in different samples and sectors can contribute more to the literature. In addition, studying relationship between these two variables with intermediary variables can help clarify the nature of them. In addition, according to the results of the study, it was seen that political skill of the employees was effective on organizational citizenship behavior. It will be a good approach to raise political skill levels of employees in order to provide extra contribution to organization by exhibiting organizational citizenship behavior. For this, it would be beneficial for managers to provide training to improve political skill of employees, especially interpersonal influence.

REFERENCES

- AKCAKANAT, T. & UZUNBACAK, H.H. (2017). "Proaktif Kişiliğin Politik Beceri Üzerine Etkisi". *BMIJ*, 5(3),786-807.
- AKDUR, R. (2003). Sağlık Ocağı Hizmetlerinde İzleme Değerlendirme ve Eğitim Klavuzu. Onur Matbaacılık Ofset Ltd. Şti., Ankara.
- ALGA, E. & ÖZDEMİR, M. (2018). "Özel Sektör Örgütlerinde Politik Beceri ile İzlenim Yönetimi İlişkisi". *Yönetim Bilimleri Dergisi*, 16(31), 309-329.
- ATAY, S. (2009). "Politik Yeti Envanterinin Türkiye'de Test Edilmesi". 17. Ulusal Yönetim ve Organizasyon Kongresi, 891896.
- ATAY, S. (2010). "Geliştirilebilir Yönetim Becerisi: Teorik ve Ampirik Yönelerle Politik Yeti". *Amme İdaresi Dergisi*, 43(2),65-80.
- AYDIN, M. (1984). *Örgütlerde Çatışma*. Bas-Yay Matbaası, Ankara.
- AYDIN, M. (1986). *Eğitim Yönetimi*. IM Eğitim Araştırma Yayın

Danışmanlık A.Ş., Ankara.

- BİTMİŞ, M.G., A.SOKMEN, A. & TURGUT, H. (2014). “Örgütsel Vatandaşlık Davranışı Ölçeği: Geçerlilik ve Güvenilirliğinin Yeniden Değerlendirilmesi”. Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 16(2), 1-14.
- BLAKELY, G.L., M.C. ANDREWS, M.C. & MOORMAN, R.H. (2005). “The Moderating Effects of Equity Sensitivity on The Relationship Between Organizational Justice and Organizational Citizenship Behaviors”. Journal of Business and Psychology, 20(2), 259-273.
- BOLINO, M.C. (1999). “Citizenship and Impression Management: Good Soldiers or Good Actors?”. Academy of Management Review, 24(1), 82-98.
- BRADY, P.W. & M. CAMPBELL, M. (2014). “Using Political Skill to Maximize and Leverage Work Relationships”, Center For Creative Leadership, <http://www.ccl.org/wp-content/uploads/2015/04/UsingPoliticalSkill.pdf>, (23.10.2019).
- BROUER, R.L. (2007). The Role of Political Skill in the Leadership Process-Work Outcomes Relationships. Unpublished Phd Dissertation, Florida State University College of Business, USA.
- CHELAGAT, L.J. & KORIR, M.K. (2017). “Effect of Employee Political Skills, Organizational Citizenship Behavior Strategy on Affective Commitment in Kenyan Public Universities”. International Journal of Economics, Commerce and Management, V(4), 28-42.
- CİNGOZ, A. (2013). “Politik Yetenekler ve Öz-Yönlendirmenin (Kendini Kurgulamanın) Algılanan Kariyer Başarısı Üzerindeki Etkisini Belirlemeye Yönelik Bir Araştırma”. Selçuk Üniversitesi İktisadi ve İdari Bilimler Dergisi, 13(26), 153-179.
- ÇINAR ALTINTAŞ, F. (2006). “Hizmet Çalışanları Olarak Hemşirelerin Örgütsel Vatandaşlık Davranışı Boyutlarını Belirlemeye Yönelik Bir Analiz”. Yönetim Bilimleri Dergisi, 4(2), 81-90.
- DELUGA, R.J. (1994). “Supervisor Trust Building, Leader-Member Exchange and Organizational Citizenship Behaviour”. Journal of Occupational and Organizational Psychology, 67, 315-326.
- EVANS, N. & QURESHI, A.M.A. (2013). “Organizational Politics: The Impact on Trust, Information and Knowledge Management and Organisational Performance”. Proceedings of the European Conference on Information Management and Evaluation, 34-40.
- FARRELL, D. & PETERSEN, J.C. (1982). “Patterns of Political Behavior in Organization”. Academy of Management Review, 7(3), 403-412.

- FERRIS, G.R., PERREWE, P.L., ANTHONY, W.P. & GILMORE, D.C. (2000). "Political Skill at Work". *Organizational Dynamics*, 28(4), 25-27.
- FERRIS, G.R., TREADWAY, D.C., KOLODINSKY, R.W., HOCHWARTER, W.A., KACMAR, C.J., DOUGLAS, C. & FRINK, D.D. (2005). "Development and Validation of the Political Skill Inventory". *Journal of Management*, 31(1), 126-152.
- FERRIS, G.R., TREADWAY, D.C., PERREWE, P.L., BROUER, R.L., DOUGLAS, C. & LUX, S. (2007). "Political Skill in Organizations". *Journal of Management*, 33(3), 290-320.
- FINKELSTEIN, M.A. (2006). "Dispositional Predictors of Organizational Citizenship Behavior: Motives, Motive Fulfillment and Role Identity". *Social Behavior and Personality*, 34(6), 603-616.
- GÜÇEL, C. (2013). "Örgütsel Bağlılığın Örgütsel Vatandaşlık Davranışına Etkisi Örgütsel Adaletin Aracılık Rolü: İmalat İşletmelerine Yönelik Bir Araştırma". *İşletme Araştırmaları Dergisi*, 5(2), 173-190.
- GÜRBÜZ, S. (2007). *Yöneticilerin Örgütsel Vatandaşlık Davranışlarının İş Tatmini ve Algıladıkları Örgütsel Adalet ile İlişkisi*. Yayınlanmamış Doktora Tezi. İstanbul Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.
- GÜRBÜZ, S., AYHAN, O. & SERT, M. (2014). "Örgütsel Vatandaşlık Davranışı ve Örgütsel Bağlılık İlişkisi: Türkiye’de Yapılan Araştırmalar Üzerinden Bir Meta Analizi". *İş ve İnsan Dergisi*, 1(1), 3-20.
- HARTLEY, J., FLETCHER, C. WILTON, P., WOODMAN, P. & UNGEMACH, C. (2007). "Leading with Political Awareness: Developing Leaders Skills to Manage the Political Dimension Across All Sectors". Chartered Management Institute, 1-12. www.managers.org.uk (10.11.2019).
- HERAWATI, L. & SULASTRI, F. (2019). "The Effect of Emotional Intelligence and Political Skill on Organizational Citizenship Behavior with Job Involvement as Mediating Variable". *Advances in Economics, Business and Management Research*, 97, 525-537.
- KARAASLAN, A., ERGUN ÖZLER, D. & KULAKOĞLU, A.S. (2009). "Örgütsel Vatandaşlık Davranışı ile Bilgi Paylaşımı Arasındaki İlişkiye Yönelik Bir Araştırma". *Afyon Kocatepe Üniversitesi İ.İ.B.F. Dergisi*, XI(II), 135-160.
- KARAKOÇ, N. (1991). *Yönetimde Yeniden Örgütlenme*. MEY Ofset, İzmir.
- KHODABANDEH, M. & ARDABILI, F.S. (2015). "The Mediating Role of Organizational Commitment and Political skills in Occupational Self-

- efficacy and Citizenship Behavior of Employees”. *International Journal of Organizational Leadership*, 4, 47-59.
- KOÇMAR, S., ÜNSAR, S. & OĞUZHAN, A. (2019). “Politik Beceri ve Kariyer Tatmini İlişkisi: Bir Alan Çalışması”. *Akademik Bakış Dergisi*, 71, 170-190.
- LI, X. & KONG, M. (2015). “The Effect of Employee’s Political Skill on Organizational Citizenship Behavior”. *Nankai Business Review International*, 6(4), 350-363.
- LIAN, L.K. & TUI, L.G. (2012). “Leadership Styles and Organizational Citizenship Behavior: The Mediating Effect of Subordinates’ Competence and Downward Influence Tactics”. *Journal of Applied Business and Economics*, 13(2), 59-96.
- MAYFIELD, C.O. & TABER, T.D. (2010). “A Prosocial Self-Concept Approach to Understanding Organizational Citizenship Behavior”. *Journal of Managerial Psychology*, 25(7), 741-763.
- MINTZBERG, H. (1985). “The Organization As Political Arena”. *Journal of Management Studies*, 22(2), 133-154.
- MUTHURAMAN, S. & AL-HAZIAZI, M. (2017). “Examining the Factors of Organizational Citizenship Behavior with Reference to Corporate Sectors in Sultanate of Oman”. *International Review of Management and Marketing*, 7(1), 413-422.
- OPLATKA, I.S.M., (2011). “The Components and Determinants of Preschool Teacher Organizational Citizenship Behavior”. *International Journal of Educational Management*, 25(3), 223-236.
- ORGAN, D.W. (1990). “The Motivational Basis of Organizational Citizenship Behavior”. *Research in Organizational Behavior*, 12, 43-72.
- ORGAN, D.W. (1997). “Organizational Citizenship Behavior: It’s Construct Clean-Up Time”. *Human Performance*, 10(2), 85-97.
- ORUÇ, E. & ÖZENKUTANİS, R. (2015). “Pozitif Psikolojik Sermayenin Örgüt İçi Politik Davranışlara Etkisi: Akademisyenler Üzerine Bir Araştırma”. *İşletme Araştırmaları Dergisi*, 7(3), 36-58.
- ÖZDEMİR, M. & GÖREN S.Ç. (2016). “Politik Beceri ve Psikolojik Sermaye Arasındaki İlişkinin Öğretmen Görüşlerine Göre İncelenmesi”. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 31(2), 333-345.
- PODSAKOFF, P.M., MACKENZIE, S.B., PAINE, J.B. & BACHRACH, D.G. (2000). “Organizational Citizenship Behaviors: A Critical Review of the Theoretical and Empirical Literature and Suggestions for Future Research”. *Journal of Management*, 26(3), 513-563.

- PODSAKOFF, N.P., WHITING, S.W., PODSAKOFF, P.M. & BLUME, B.D. (2009). "Individual -and Organizational- Level Consequences of Organizational Citizenship Behaviors: A Meta-Analysis". *Journal of Applied Psychology*, 94(1), 122-141.
- PERREWE, P.L. & NELSON, D.L. (2004). "Gender and Career Success: The Facilitative Role of Political Skill". *Organizational Dynamics*, 33(4), 366-378.
- SCHNAKE, M.E. & DUMLER, M.P. (1993). "The Relationship Between Traditional Leadership, Super Leadership, and Organizational Citizenship Behavior". *Group & Organizational Management*, 18(3), 352-366.
- SEZGİN, F. (2005). "Örgütsel Vatandaşlık Davranışları: Kavramsal Bir Çözümleme ve Okul Açısından Bazı Çıkarımlar". *GÜ Gazi Eğitim Fakültesi Dergisi*, 15(1): 317-339.
- VIGODA, E. E. (2000). "Organizational Politics, Job Attitudes, and Work Outcomes: Exploration and Implications for the Public Sector". *Journal of Vocational Behavior*, 57(3), 326-347.
- WILLIAMS, L. & ANDERSON, S.E. (1991). "Job Satisfaction And Organizational Commitment Its Predictors of Organizational Citizenship and In-Role Behaviors". *Journal of Management*, 17(3), 601-617.
- YILDIZ, K. (2018). "Political Skill and Social Loafing Behavior of University Students". *International Online Journal of Educational Sciences*, 10(2), 59-80.
- ZALEZNIK, A. (1971). "Power and Politics in Organizational Life". *Mckinsey Quarterly*, 7(4), 52-69.

SMART UNIVERSITY, INDUSTRIAL TRANSFORMATIONS AND NEW HUMAN RESOURCE COMPETENCIES

Ezgi Yildirim & Osman Yildirim***

Introduction

Industrial transformations create devices that can change human life in many ways. The biggest changes occur in undisputed forms of production and means of production, and therefore, the job capacities of the employees also change. To put it from another perspective, industrial transformations raise the necessity of changing the competencies of the employees. In other words, workforce competencies are transforming in parallel with industrial transformations. The Industry 4.0 transformation has changed the production processes and launched unmanned factories that have defined definitions such as "Smart Factory" or "Light Out Manufacturing" for some. Applications offered by Industry 4.0 components accelerated digital transformation and brought, for example, "Smart University", "Light Out Education" or "Virtual University" structures to our agenda in higher education. For this reason, human resource administrations that make up the labor force will have to handle 21st century competencies carefully.

Industrial transformations took place in the form of opening the steam power to the industry (Industry 1.0), the use of electricity in the industry (Industry 2.0), the use of automation systems in the industry (Industry 3.0), and finally the application of the internet and smart systems to the industry (Industry 4.0) (Lasi et al. 2014). These transformations eventually emerged from unmanned working environments (unmanned factories). Digital infrastructure facilities directed the human resources to gain digital competencies. Human resources managers tend to make the "Training and Development" functions more functional in order to respond to their work capacity in changing industrial activities (Yildirim, 2006).

Human resources managers provide behavioral or technical trainings in the areas needed to ensure the development of the workforce in order to realize the training and development function. For example, human resources managers can increase their efficiency by organizing stress training for their employees when the stress perceived by their employees reaches high levels, or they can increase their performance by organizing emotional intelligence trainings when the sales performance of the sales department decreases (Yildirim, 2007). Human resources managers will

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revise their training and development activities in line with the requirements of Industry 4.0 transformations according to new workforce competencies, especially digital competence.

There have been developments in the technologies used in industry and developments and changes throughout the history of humanity. Of course, these developments have had a major impact on society and the economy. It is accepted that the fourth of the industrial revolutions that started with the use of steam technology for energy production in the 18th century started with the inclusion of internet and information technologies in the production processes. Each industrial revolution has been the result of different technological and sociocultural developments, and it does not only have great contributions but also has adverse effects especially in manufacturing. In order to better understand the fourth industrial revolution that prevails today, we need to examine the three industrial revolutions that took place in previous periods.

I. Industrial Revolutions

First Industrial Revolution: In the past, manpower was among the most important components of production. However, in England, the inventor named James Watt developed the steam engine in 1763 and caused changes in labor supply (Hobsbawn, 2013: 280). This machine, developed by Watt, is the first machine that enables smooth circular movement and allows a certain number of rotations per minute with a constant power (Türkcan, 2009: 127). There are many different reasons such as the rapid population growth that provides infrastructure for the industrial revolution, the ready labor force created by immigration to cities, the increase in the demand for fast-moving consumer goods, and the middle class starting to prosper (Eğilmez, 2018). With the first industrial revolution, the production systems that have been developed and the reduced production costs have reached / caused an unprecedented increase in prices and a decrease in prices.

Second Industrial Revolution: Until the end of the 19th century in production, the steam power used for energy production was replaced by electricity in time and the production processes changed to a different dimension. With the introduction of machines powered by electricity, there has been a growth and expansion in production scale and a decrease in costs. Although this new production line, powered by electricity, was first used in slaughterhouses in the USA (Eğilmez, 2018), its first use was made with serial production lines established in Ford engine plants owned by Henry Ford. For this reason, Industry 2.0 transformation is also called Fordism. Germany's success in automobile production is based on the transformations it has made in the second industrial revolution (Özdoğan, 2017).

Third Industrial Revolution: The First Industrial Revolution, which started with the production of energy from steam power in manufacturing, was followed by the Second Industrial Revolution, which used mechanization in electrical energy production. In the last quarter of the 20th century, the development of microprocessor-based programmable logic circuits (PLCs), which enable the transfer of information to machines in line with the needs, has enabled the establishment of automation systems and thus the tracking of production needs in an easy way. The Third Industrial Revolution took place with the use of software and automation systems in production systems.

During the Third Industrial Revolution process, the trend towards different production techniques such as “Just in Time Production”, “Lean Production” and “Six Sigma” increased in order to ensure optimum production in the financial crisis environment caused by the decreasing demands resulting from the Second World War (Öztuna, 2017). One of the important issues that came up with Industry 3.0 was renewable energy sources. During the industrial revolutions that took place in the past, the search for a new energy source has begun with the increase in destruction in the ecological balance as a result of an unconscious consumption of natural resources. For this reason, the use of renewable energy sources is also considered as one of the main components of Industry 3.0 to ensure a sustainable environment.

*Fourth Industrial Revolution:*The common point of the industrial revolutions developing in the history is that the new technologies developed have been designed to make their production systems faster, more efficient and less manpowered. The foundations of the Fourth Industrial Revolution were laid with the use of production elements, which are much more advanced than the first three industrial revolutions, in communication with each other, in the production systems. Conceptually, the use of this term took place for the first time at the Hannover fair in Germany in 2011. Theoretically, Industry 4.0 was laid for / first introduced with the first time with their work in 2011 with Kagerman et al (Kagerman, et al., 2011).

With the Third Industrial Revolution, the production systems that started to become digital have become “smart” with the use of information technologies and the Internet in manufacturing. Intelligent machines and intelligent robots produced with artificial intelligence algorithms, whose ability to understand, learn and make decisions rapidly increase. With the help of these systems, big data analysis, cloud computing systems, Internet of Things (IoT) technology, cyber-physical systems, smart (light out) factories independent of human power have been established. All these developments, which form the basis of Industry 4.0, require digital

transformation in manufacturing and aim to achieve zero error and increase in productivity thanks to the machines that are self-managing and able to take decisions where necessary.

Artificial intelligence: Technologies that have the ability to learn, understand and deduce meaning from what they understand, and that can imitate the human brain are defined as artificial intelligence. This concept emerged for the first time in the USA and the decision scenarios occurring in all areas of the industry have evolved to the present day (Dagmac and Ekmen, 2019). It is the most critical technology element of digital transformation in the manufacturing industry with its capabilities such as deep learning, machine learning, artificial intelligence algorithms that can be developed thanks to artificial neural networks, natural language processing and autonomous planning. With the increasing use of artificial intelligence algorithms in manufacturing, it is possible to develop fast and effective problem solutions. In addition, the need for the workforce decreased and possible errors could be predicted. As a result, security has increased in the processes.

Internet of Things: The concept of Internet of Things is that the components in the sensor, exciter and machine network communicate with each other via the internet or a similar network. This concept was first mentioned in 1999 by Kevin Ashton in the presentation where the benefits of RFID (Radio Frequency Identification - RFID) technology were defined (Aktaş, Çeken, Erdemli, 2016). Industry 4.0 transformation necessitates intensive use of the Internet (Kagermann, Wahlster and Helbig, 2013).

Big Data: With the increasing use of the Internet today, there has been a huge increase in the amount and speed of data produced and collected. New and improved big data analysis algorithms are needed to analyze all these data sets and to obtain outputs that can support decision making mechanisms. Big data analysis serves many areas such as finding the main cause of errors in production systems, analyzing the purchasing tendencies of consumers accurately and effectively, calculating the risk of investments to be made, and preventing errors before they affect the whole process (Witkowski, 2017: 767).

Cloud Communication Systems: Due to the large amount and much faster data production compared to previous periods, storing and protecting this data has become a critical issue. Data storage costs, which increase with the increase in the amount of data, pose an important problem. Cloud computing systems, which can be defined as digital storage areas and enable users to access all kinds of information and data from any location via the Internet, provide a solution to this problem. The increase and widespread use of the cloud servers enabled the use of big data analysis in the industry. Cloud Computing serves businesses as a source of

information technologies such as server, storage, network, software in response to manufacturing industry demands (Zhang, Luo, Tao, & Liu, 2012, 174; Mell & Grance, 2011).

Cyber-physical systems: Systems that connect the real (real) world to the virtual (cyber) world through sensors and accumulators are called cyber-physical systems. The network of objects and systems connected to each other through the internet, and cyber-physical systems created with the help of simulating behaviors with objects in the real world, are one of the most important components of Industry 4.0, which opens the way to eliminate the boundaries between the virtual and the real world. Cyber-Physical Systems can be expressed as systems that are in close contact with the physical world and use data access and data processing services on the Internet (Monostori et al., 2016, 621).

Smart factories: One of the biggest effects of the fourth industrial revolution in manufacturing is the production systems consisting of smart machines that are digitally connected to each other through various networks and in instant communication. In this way, the tracking and control of physical and organizational processes becomes easier, and thanks to the real-time tracking structure, adaptation to environmental changes can be achieved quickly and easily. These smart factories, which have the ability to continuously optimize their performance, have become the areas where a number of decisions are made by automation systems (Avcı, 2019). The production processes are almost unmanned at Siemens Amberg Factory, which is one of the world's first digital factories established in Germany in 1989. The term smart factory started with industry 4.0. During the production, manufacturing and supply chain stages, a new unmanned automation system, which has been created with the help of the Internet of Things, Internet use, and network-based information technologies, has been created. Therefore, the factory with this new automation system has been named the smart factory (Davis, Edgar, Porter, Bernaden and Sarli, 2012, 145; Kagermann, Wahlster and Helbig, 2013). Light out factory, also known as Smart Factory, is a new unmanned factory model controlled by the Internet of Things and a series of smart software (Noël, Manbir and Lamond, 2007, 162; Shirley, Petersen and Hoells, 1995, 2).

Intelligent (Autonomous) Robots: With the development of artificial intelligence and information technologies, there have been great improvements in the effectiveness of robots. Until the end of the 20th century, the robots used in production were called industrial robots. At the Industry 4.0 transformation, industrial robots started to be able to communicate with operators with the help of the internet, and they could evaluate the decision making scenarios created with the help of embedded

software. For this reason, industrial robots have been named smart robots of the new age (Banger, 2018).

Augmented reality: Moving the environments in the real world to the virtual environment through computer technologies is expressed as augmented reality technology. Today, it is predicted that this technology, which feeds on emotional inputs and enables virtual reality to be felt more vividly and dynamically, will take place in our lives much more in the future. The steps to be taken in order to increase the awareness needed to expand and develop the manufacturing processes compatible with Industry 4.0 processes, which are still valid today, have also begun to take place rapidly in state policies.

Fifth Industrial Revolution: If we consider the developments brought by the technological age we are in, digital transformation that will take place with Industry 4.0 will cause more and more smart societies to be formed (Büyüksulu, 2018). The concept of Community 5.0, which is based on the fact that societies learn to live with and benefit from this technology instead of looking at this developing technology with prejudice and seeing it as a threat, was mentioned for the first time at CEBIT Information Fair in Germany. The expression of Community 5.0, which can also be considered as the transition phase from Industry 4.0 to Industry 5.0, stems from the necessity of providing a social life integrated with technology.

II. Digital Transformation in Turkey

Digital conversion has become the most important agenda of Turkey as well as all over the world. The boundaries of what we can do with the spread of the Internet in our social life and manufacturing are expanding day by day. The existence of unmanned digital technologies and their added value in manufacturing will have positive reflections on the country's economy and society.

In 2018, Science, Industry and Technology Ministry, to develop technologies that are used in the manufacturing industry and to ensure compliance with the industrial transformation has released Digital Turkey Road Map. Roadmap to ensure that Turkey's digital transformation aims to create a country with a high-quality public and private sectors. Digital Turkey Road Map, is expressed by the six main components inside digital conversion. These components are listed below (T.R.Ministry of Science, Industry and Technology, 2018):

Infrastructure: Infrastructure component is related to data communication capacity and storage capacity of big data.

Suppliers: Another variable of the digital transformation program is the development of the supply capacity in accordance with the technology and innovation capacity of the country.

Users: The dimension of users, who expressed that digital transformation efforts and formations should be supported, was expressed as another stage of the digitalization program.

Governance: Another dimension included in the country digitalization program is the governance dimension. In this regard, strengthening corporate governance seems to be an important step.

III. Competence and Pioneering Studies

The concept of competence was first used in human resources with the research of White (1959). The concept of competence started to become widespread with McClelland's (1973) work in the field of human resources. After the McClelland studies, Boyatzis (1982)'s research used the concept of competence and its connection with personality was revealed through models. The competence models of Boyatzis (1982) are based on (a) Impulse and property level, (b) self level, (c) social roles and skill level. The components of competence models made by Carroll and McCrackin (1998) are (1) core competencies, (2) teamwork competence, (3) leadership competencies, and (4) job-specific competencies.

Competency, the sum of knowledge, skills, experience, judgment, attitude, and character traits (Klifman, 2009: 8) can be defined as the performance or knowledge displayed by the individual in the area of responsibility, characteristics created by career experience, skills and personal attribute components (Dresselhaus, 2010: 19). Lucia and Lepsinger (1999: 7) regulated the concept of competence in the form of a pyramid. In the bottom step of the pyramid, he included talents and personality traits, while in the second step he included skills and knowledge. According to this definition, behaviors took place at the peak of the pyramid. In their study, Spencer and Spencer (1993: 11) have suggested the observable competencies as the top of the iceberg (knowledge, skill) by comparing the competencies to the iceberg, while suggesting the hidden components of the competencies (motives, personal characteristics, self-view) as the invisible part of the iceberg.

In Viceri (1987)'s competency model, he emphasized the process of selecting subordinates for the job and the development of aces, while Lawson and Limbrick (1996) developed the competence model by working with the American human resources management association. Ulrich et al. (1995), in a striking study, the relationship of employees' competencies with performance was examined. Associating employee competencies with job performance has been an important task for human resources managers. The human resources manager associates the skills that should be in the workforce with the organization's strategy (Gangani, McLean and Braden, 2006: 127), or diverts the workforce competencies at hand to competence development training in accordance with the organization's

strategy (Rodriguez et al., 2002: 313). Competency-based assessment is taken into account in the remuneration of employees.

IV. Smart University and 21st Century Competencies

The Industry 4.0 transformation has led human resources management to review not only hiring processes but also retention and backup strategies. The features defined with 4C for learning and innovation skills are (1) Creativity and Innovation, (2) Critical Thinking and Problem Solving, (3) Communication and (4) Collaboration (OECD, 2005). According to OECD (2005) report, in 4C definition;

- An individual's ability to use technology interactively,
- An individual's ability to manage and resolve conflicts,
- Individual's ability to use information and information interactively,
- Close to collaboration and having the ability to work with the team,
- Have the ability to do independent work,
- The individual respects and values the values and beliefs of others,
- The ability of the individual to exercise his rights,
- Features such as understanding existing solutions and offering alternative solutions are presented.

Care et al. (2018) made the following conclusions in his research on 21st century competencies;

- Transition to twenty-first century skills in educational systems has taken place;
- There has been a need for teacher training and review of strategies;
- In addition to the opportunities provided by technology, it has also brought difficulties;
- The need for new measurement and evaluation methods has arisen;
- The transformation that came with 21st century competencies has started to move into a classroom environment.

It has twenty-first century skills and competence defined in many areas with the participation of many countries on a global scale. Industry needs, technological skills and future workforce skills were explored to reveal these competencies (Kozma, 2011; Griffin et al. 2012; Griffin and Care 2015). Hesse et al. (2015) research examined the collaboration in terms of task analysis cognitive skills. Care and Kim (2018) highlighted the major challenges of measuring 21st century skills in the field of education. Regarding Critical Thinking and Problem Solving, Krkovic et al. (2018) discussed the online problem solving assessment.

Hesse et al. (2015) examined the 21st century competency in the sense of collaboration. Care and Kim (2018) measured 21st century skills in the higher education. In his study on Critical Thinking and Problem Solving, Krkovic et al. (2018) discussed the online problem solving assessment.

Searching 21st century skills is not a new topic. Trilling and Fadel (2009) studied 21st Century skills by dividing into three groups such as (1) learning and innovations skills, (2) digital literacy skills and (3) life and career skills.

(Learning and innovation skills, digital literacy skills, and skills defined as life and career skills did not go beyond enabling learning and teaching processes to become effective. However, the industry 4.0 transformation has turned 21st century competencies into key competencies in many areas. Devices created with the Industry 4.0 transformation, for example, have led to the emergence of a smart university structure in higher education.)

Graesser et al. (2018) revealed the differences between problem solving and collaborative problem solving. Tan et al. (2018) examined the relationship between creativity and collaborative problem solving. Comfort and Timms (2018) suggested that the twenty-first century competencies would not bring success in higher education. On the other hand, Scoular and Care (2018) have put forward that systems' twenty-first century skills will make teaching effective.

In his study, Wagner (2008) proposed seven skills named 7C. These skills are; (1) critical thinking and problem solving, (2) leadership through networking and influence, (3) agility and adaptability, (4) activity and entrepreneurship, (5) effective oral and written communication, (6) access to information and analysis and (7) curiosity and imagination.

Results

When the development times of the industrial revolutions are analyzed, it took quite long to reach Industry 1.0 and transition to Industry 2.0. However, transition times to Industry 3.0 and Industry 4.0 have been gradually shortened. In other words, the period of realization of industrial transformations is getting shorter. As in all fields, the old structure in higher education will change in accordance with industrial transformations and continue its activities, especially education.

Today, applications brought by the rapid development in Industry 4.0 transformations and unmanned smart systems (especially Smart Factory, Smart University, cyber-physical structure that will serve the society, etc.) will take place in many stages of our life. Therefore, it can be argued that those who have reached the competence of using smart and technological structures can be hired by human resources.

The top management of the organizations and the human resources managers, who switch from staff to command, will develop a strategy and go for the provision of manpower suitable for smart systems. For example, a digital university structured as a smart university will continue its life with faculty members who can use digital media effectively. In fact, the digital university will carry out its activities on the camp unmannedly (Light Out Education) through digital channels.

With the help of artificial intelligence and similar algorithms, the digital university will be able to acquire the ability to plan lessons suitable for the personality traits. Human resources managers will be able to employ teaching staff with new competencies defined by 4C or 7C in higher education.

References

Documents

OECD (2005). The definition and selection of key competencies: Executive summary, Retrieved 10 May, 2020 from <http://www.oecd.org/pisa/35070367.pdf>

KAGERMANN, H., LUKAS, W. and WAHLSTER, W. (2011). Industrie 4.0 –Mit dem Internet der Dinge auf dem Weg zur 4. Industriellen Revolution. VDI Nachrichten, Berlin.

KAGERMANN, H., WAHLSTER, W. and HELBIG, J. (2013). Recommendations for implementing the strategic initiative INDUSTRIE 4.0 Final Report of the Industrie 4.0 Working Group.

T.C. Bilim, Sanayi ve Teknoloji Bakanlığı (2018). Türkiye'nin Sanayi Devrimi "Dijital Türkiye" Yol Haritası, Bilim, Sanayi ve Teknoloji Bakanlığı: Ankara

Books, Thesis and Research Papers

AKTAŞ, F., ÇEKEN C , ERDEMLİ EMRE, Y. (2016). Nesnelerin İnterneti Teknolojisinin Biyomedikal Alandaki Uygulamaları " Düzce Üniversitesi Bilim ve Teknoloji Dergisi cilt 4 sayı 1, 37-54.

AVCI, N. (2019). İnsan Kaynaklarından Yetenek Yönetiminde Endüstri 4.0, 1. Basım, İstanbul: Kriter Yayınları, 24.

BANGER, G. (2018). Endüstri 4.0 ve Akıllı İşletme, Dorlion Yayınevi, Ankara.

BOYATZIS, R. E., (1982), The Competent Manager, New York, John Wiley and Sons.

- BÜYÜKUSLU, A. (2018). Dijital Dönüşüm, 1.Basım, İstanbul: Der Yayınları, 51.
- CARE, E., & KIM, H. (2018). Assessment of 21st century skills: The issue of authenticity. In E. Care, P. Griffin, & M. Wilson (Eds.), Assessment and teaching of 21st century skills: Research and applications. Dordrecht: Springer.
- COMFORT, K. & TIMMS, M. (2018). A 21st skills lens on the common core standards and the next generation science standards. In E. Care, P. Griffin, & M. Wilson (Eds.), Assessment and teaching of 21st century skills: Research and applications. Dordrecht: Springer.
- DAĞITMAÇ, M. ve EKMEN, Ş. (2019). Dijital Psikolojik Devrim, 2.Basım, İstanbul: Motto yayınları, 129.
- EĞİLMEZ, M. (2018) Tarihsel Süreç İçinde Dünya Ekonomisi ISBN: 978-975-14-1876-0
- GRAESSER, A., FOLTZ, P. W., ROSEN, Y., SHAFFER, D. W., FORSYTH, C. & GERMANY, M. (2018). Challenges of assessing collaborative problem-solving. In E. Care, P. Griffin, & M. Wilson (Eds.), Assessment and teaching of 21st century skills: Research and applications. Dordrecht:Springer
- GRIFFIN, P., McGAW, B., & CARE, E. (Eds.). (2012). Assessment and teaching of 21st Century Skills. Dordrecht: Springer.
- GRIFFIN, P., & CARE, E. (Eds.). (2015). Assessment and teaching of 21st century skills: Methods and approach. Dordrecht: Springer.
- HESSE, F., CARE, E., BUDER, J., SASSENBERG, K., & GRIFFIN, P. (2015). A framework for teachable collaborative problem solving skills. In P. Griffin & E. Care (Eds.), Assessment and teaching of 21st century skills: Methods and approach. Dordrecht: Springer.
- HOBBSAWN, E.J. (2013), Sanayi ve İmparatorluk, Dost Kitabevi: Ankara
- CARROLL, A. and McCRACKİN, J. (1998). The Competent Use of Competency-Based Strategies for Selection and Development. Performance Improvement Quarterly, 11(3), 45-63.
- DAVIS, J., EDGAR, T., PORTER, J., BERNADEN, J. and SARLI, M. (2012). Smart manufacturing, manufacturing intelligence and demand-dynamic performance. Computers and Chemical Engineering, 47, 145-156.
- DRESSELHAUS, L. Global Talent Management And The Role Of Social Networks, The Netherlands, School of Management and Governance

- University of Twente, Business Administration, 2010, p.19 , (Master Thesis).
- GANGANI, N., McLEAN, G. N. and BRADEN, R. A. (2006). A Competency-Based Human Resource Development Strategy. *Performance Improvement Quarterly*. 19 (1), 127-140.
- KLIFMAN, S. Talent Management In A Multigenerational Workforce, Tilburg., Tilburg University, 2009, p. 8, (Master Thesis).
- KOZMA, R. B. (2011). A framework for ICT policies to transform education. In *Transforming education: The power of ICT policies*. Paris: UNESCO.
- KRKOVIC, K., MUSTAFIC, M., WÜSTENBERG, S., & GREIFF, S. (2018). Shifts in the assessment of problem solving. In E. Care, P. Griffin, & M. Wilson (Eds.), *Assessment and teaching of 21st century skills: Research and applications*. Dordrecht: Springer
- LASI, H., FETTKE, P., KEMPER, H. G., FELD, T. and HOFFMANN, M. (2014). Industry 4.0., *Business & Information Systems Engineering*, vol. 2, no. 6, 239-242.
- LAWSON, T.E., LIMBRICK, V., (1996), Critical competencies and developmental experiences for top HR executives, *Human Resource Management*, Vol. 35, No.1, Spring, 68.
- LUCIA, A.D. and LEPSINGER, R. (1999). *The Art and Science of Competency Models: Pinpointing Critical Success Factors in Organizations*. San Francisco: Jossey Bass Pub., 7.
- MELL, P. and GRANCE, T. (2011). *The NIST Definition of Cloud Computing, Recommendations of the National Institute of Standards and Technology*. Gaithersburg: NIST Special Publication.
- McCLELLAND, D. C., (1973). Testing for Competence Rather Than for Intelligence, *American Psychologist*, 28(1), 1-14.
- MONOSTORI, L., KÁDÁR, B., BAUERNHANSL, T., KONDOH, S., KUMARA, S., REINHART, G. (2016). Cyberphysical systems in manufacturing. *CIRP Annals*, 65(2), 621-641.
- NOËL, M., MANBIR, S. And LAMOND, B. F. (2007). Tool planning for a lights-out machining system. *Journal of Manufacturing Systems*, 26(3-4), 161-166.
- ÖZDOĞAN, O. (2017). *Endüstri 4.0 Dördüncü Sanayi Devrimi ve Endüstriyel Dönüşümün Anahtarları*, 1.Basım, İstanbul: Pusula 20 Teknoloji Yayınları, 35.

- ÖZTUNA, B. (2017). Endüstri 4.0: Dördüncü Sanayi Devrimi ile Çalışma Yaşamının Geleceği, Ankara, Gece Kitaplığı, 32-47.
- RODRIGUEZ, D., PATEL, R., BRIGHT, A., GREGORY, D. and GOWING, M. K. (2002). Developing Competency Models to Promote Integrated Human Resources Practices. *Human Resource Management*. 41(3), 309-324.
- SCOULAR, C. & CARE, E. (2018). Teaching 21st century skills: Implications at system levels in Australia. In E. Care, P. Griffin, & M. Wilson (Eds.), *Assessment and teaching of 21st century skills: Research and applications*. Dordrecht: Springer.
- SHIRLEY, D. A., PETERSEN, B. L. And HOELLS, M. R. (1995). Electron Spectroscopy Into the Twenty-First Century. *Journal of Electron Spectroscopy and Related Phenomena*, 76, 1-7.
- SPENCER, L.M. & SPENCER, S.M. (1993). *Competence at Work: Models for Superior Performance*. Newyork: John Wiley and Sons Inc.
- TAN, J. P., CALEON, I., KOH, E., POON, C. L., & NG, H. L. (2018). Collective creativity and collaborative problem-solving among Singapore secondary school students. In E. Care, P. Griffin, & M. Wilson (Eds.), *Assessment and teaching of 21st century skills: Research and applications*. Dordrecht: Springer
- TRILLING, B. and FADEL, C. (2009). *21st Century Skills: Learning for Life in Our Times*, Publisher: Jossey-Bass, Year: 2009, ISBN: 0470475382,9780470475386
- TÜRKCAN, E., *Dünya'da ve Türkiye'de Bilim, Teknoloji ve Politika*. İstanbul, İstanbul Bilgi Üniversitesi Yayınları. 2009.
- ULRICH, D., BROCKBANK, W., YEUNG, A.K. and LAKE, D.G., (1995), Human resource competencies: an empirical assessment, *Human Resources Management*, 34-4, 473-495
- VICERE, A.A. (1987). Break The Mold: Strategies For Leadership, *Personnel Journal*, May, 67-73.
- YILDIRIM, O. İşletmelerde eğitimin etkinliğine etki eden faktörler ve bir araştırma, İstanbul Üniversitesi, Sosyal Bilimler Enstitüsü, İşletme Anabilim Dalı, İnsan Kaynakları Yönetimi Bilim Dalı, Yayınlanmamış Doktora Tezi, 2006, İstanbul
- YILDIRIM, O. (2007). Discriminating emotional intelligence-based competencies of IT employees and salespeople, *Journal of European Industrial Training*, Vol. 31 No. 4, pp. 274-282. <https://doi.org/10.1108/03090590710746432>

- ZHANG, L., LUO, Y., TAO, F. and LIU, Y. (2012). Cloud manufacturing: A new manufacturing paradigm. *Enterprise Information Systems* 8 (2), 167-187.
- WAGNER, T. (2008). *The Global Achievement Gap: Why Even Our Best Schools Don't Teach the New Survival Skills Our Children Need--And What We Can Do About It*, basic Books, ISBN: 0465002293,9780465002290,9780786731749
- WHITE, R. (1959). Motivation Reconsidered: The Concept of Competence, *Psychological Review*, (66), 279-333.
- WITKOWSKI, K. (2017), Internet of Things, Big Data, Industry 4.0 - Innovative Solutions in Logistics and Supply Chains Management, *Procedia Engineering*, Vol: 182, 763–769.

PACKAGING PHENOMENON IN MARKETING; SILENT SELLER

*Filiz Aslan Çetin**

Introduction

Human being has been trying for many years to create various practices and add new ones to influence other people, specific groups, and whole societies. The aim in creating these practices is to meet human needs and demands. The fact of meeting these needs has taking place rapidly, particularly since the Industrial Revolution, serving to the differences occurring in the consumer behaviors.

Improvements in technology, information and communication have rendered it difficult for today's marketers to have a place in the minds of the consumers. In this sense, marketers use all the tools carefully and in an original way, to reach more consumers and become permanent.

Today's consumption culture has enabled the packaging to be used as an effective marketing tool for persuading customers. The packaging of a product waiting to be preferred among many brands on retail shelves serves for protecting, promoting, drawing attention, informing, encouraging, and persuading to purchase. Therefore, if due diligence is exercised on certain properties such as the material, design, and color of the packaging that performs all these important functions, the packaging of the product can bring the highest market share.

In this context, packaging, which is the subject of this study, is one of the promotion tools that requires an expertise and brings the product to the forefront in a significant way. Related to a wide range of disciplines from industrial design to computer technologies, the packaging is a subject that needs to be studied interdisciplinary. In addition, since it is an important sales development tool, it is particularly handled by marketers.

In the study, it was initially examined how the concept of packaging emerged together with its development stages, then the importance of the concept of packaging in terms of marketing was addressed. Subsequently, the relationship between purchasing and packaging was examined. Finally,

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the concept of packaging was detailed in terms of marketing communication.

DEVELOPMENT OF PACKAGING CONCEPT

Businesses, which want to keep their products in the market through the continuous expansion of product ranges or the introduction of different versions of the same product, understand the importance of packaging day by day. Each product in the market needs a packaging that will explain the product in a short time, distinguish it from the competitors and enable the product to be purchased. Therefore, packaging successfully performs these tasks if it attracts the attention of the consumer and creates a desire to buy (Yayan and Ceylan, 2018: 874).

Packaging is a marketing element that is largely ignored. Packaging is not only a means of communication but also contributes to the perceived total understanding of the business. Many business trends point that packaging, as a tool, plays a role in the growth of the businesses. These are the trends pointing that packaging increases the decisions for purchasing products on store shelves, decreases in advertising expenditures, and increments the capacity of differentiating and establishing business identity (Underwood, 2003: 62).

Additionally, packaging itself is also seen as the most important promotional tool of products as well as an element that has become an expertise in the packaging of products. Packaging is an overall term including plastic glass, metal carriers, cardboard boxes and large cardboard boxes that contain the product. In today's packaging approach, it is claimed to be an industrial and marketing technique that defines agricultural, industrial, and final consumer products, also facilitating sales and distribution. Because packaging is a communication and advertising tool that contains all the information about the product and the manufacturer (Düz, 2012: 20-21).

In a general framework, packaging is covering, wrapping, and combining with a material that protects the product, facilitating the transportation, storage and sale of the product that can then be partially or completely disposed of or recycled. In other words, packaging is an element that distinguishes the product from others, raises the consumer's awareness with the information on it and protects the product, providing standardization of size, weight and quality (Alagöz and Ekici, 2009: 85-86).

Consumers tend to buy the packaged product not only for its functional properties but also because it contains symbolic meanings. Because the packaging bears the name of both the business and the brand for the consumer. Therefore, business managers recognize the importance of packaging and the difference it brings to the business, creating a business identity (Ceylan and Eliri, 2014: 411).

Packaging in this context has become a powerful marketing tool. A well-designed packaging creates convenience and promotional value. Certain factors have been influential in the increasingly important use of packaging as a marketing tool (Kotler, 2000: 418);

* *Self-service*: Many of the increasing number of products are sold according to the self-service procedure. Considering that 53% of purchases are impulse buying, it is possible for an effective packaging to perform its task of selling.

* *Consumer welfare level*: The increase in consumer welfare level triggers a desire to pay a little more for better-made packaging.

* *Company and brand image*: Packaging contributes to the recognition of a company or brand.

* *Innovation opportunity*: Innovative packaging provides great benefits to consumers and great profits to manufacturers.

In summary, packaging is now an important complement for businesses, which greatly affects the cost and sales of the product. Today, the term *product* is used as an “*integrated product*” including packaging and package itself. Therefore, packaging has become a necessity in modern economies because packaging is a means of obtaining and managing demand (Tek and Özgül, 2007: 329).

INCREASING SIGNIFICANCE OF PACKAGING

Businesses around the world consider the concept of packaging as a part of their product policy. This policy is of great importance in terms of bringing the consumer into the company. Before being ready to impress the consumer, packaging is undergoing many arrangements such as robustness, shape, size, weight, color, and graphic design. In this context, packaging has an aspect that facilitates marketing operations.

Started to draw attention particularly after 1980, packaging has made significant progress today. Certain fallacies such as “*packaging increases*

costs” or “*packaging is actually a waste of money*” have changed. The diligence shown in the packaging points the quality understanding and production experience of the manufacturer company. Packaging is not a waste of money, instead, it is a waste of money for the company if the product is kept under insufficient protection and storage conditions, without the ease of use and without complying with the hygiene rules due to a problematic packaging (Örücü and Tavşancı, 2001).

The marketing value of packaging should not be underestimated. Other than the manufacturer, many other parties in the market are interested in packaging with different expectations. Wholesalers and retailers expect the product to be easy to carry, stow and line up on the shelves, while the manufacturer draws attention to the cost element. On the other hand, the consumer expects the product to be recognized, transported, stored, and used. The society expects packaging to be environmentally sensitive and less polluting, and to be used as a precaution against extravagance (Alagöz and Ekici, 2009: 86).

Retailing of our day, however, is an environment where competition is fiercely experienced. Consumers face thousands of items and packages on each visit to retailers. According to studies, nine out of every ten customers often make purchases on impulse and show unscheduled buying behavior. This situation emphasizes that the competitive environment is challenging, along with the persuasion opportunities of the sales points. It is important to present the right product and brand to the consumer through the packaging (Nancarrow et al., 1998: 110).

Packaging of a product is the final stage that the business can use to impress the customer. Packaging is now seen as a marketing tool that can be used as effectively as television ads or social media (Clow and Baack, 2016: 45). Therefore, packaging has now become an industry. Considering its large role in the purchasing process, it can be said that packaging design has become almost a science (Taekwar, 2017: 148).

RELATIONSHIP BETWEEN PACKAGING AND PURCHASING

Packaging is a means of protecting the product as well as selling it. It simply shouldered the responsibility of a silent marketer for the product. It is the duty of packaging to attract the attention of the consumers and convince them to buy the product. A well-planned packaging strategy doubles the profitability of the business. The important point at this stage is that there is a harmony between the expectations of the consumers and

what they find in the product. If this can be achieved, packaging can be used to create a positive determination in the consumer and have a direct effect on sales (Yayan and Ceylan, 2018: 874).

In fact, packaging makes the product sell more by attracting the attention of the consumer and making the product useful. In this sense, three important features of packaging come to the fore. These features are listed as the information on the packaging, the shape and the color of the packaging, or the technology used during the production of the packaging. Some studies have shown that packaging helps the consumer keep the brand and product in mind. As a result, packaging motivates consumers to buy (Gökalp, 2007: 82).

As a “*salesperson on the shelf*”, packaging accounts for almost half of the turnover from retail products in impulse buying at sale points (Tek and Özel, 2007: 329).

Packaging also plays a major role in distinguishing products that are like each other. If packaging arrangements are made according to the specific needs and wishes of the consumers, the sale of the product can be increased further. For example, easy-to-open lids or suitable packages for consumers who want to purchase small amounts increase the demand (Erbaş, 2014: 180).

In this context, each product needs packaging that will increase its sales and make it noticeable in seconds. As can be seen, the packaging shoulders the task of selling. Just like the information presented by a sales representative, the packaging on the shelves informs the consumer (Ceylan and Eliri, 2014: 411).

Therefore, the packaging is called silent salesperson. Purchasing occurs for the purpose of arousing interest in the product or even for using the packaging in other products. It is said that the effect of packaging is intense, especially during the trial phase when the product is introduced to the market for the first time (Gökalp, 2007: 84).

PACKAGING AS A MEANS OF MARKETING COMMUNICATION

Daily life requires constant communication. The knowledge created by human beings since ancient times has led to a boom in technology and communication today, diversifying the phenomenon of communication. The purpose of communication is to deliver the message to the receiver in a clear, economical, and aesthetic way. At the same time, the use of visual

elements that combine function and aesthetics in communication has become especially important (Düz, 2012: 20).

In this sense, packaging is also one of the important elements of marketing, which demonstrate the product, business and brand image in the best way when planned and designed well. The purpose of the communication, which is implemented particularly through packaging, is to raise interest in the product of the business or to increase the existing interest. This situation once again reveals the importance of packaging.

Additionally, the items on the packaging such as color, writing, graphics constitute important communication tools. The goal here is to best address consumer perceptions and emotions. In fact, it is necessary to examine economic, sociological, or psychological factors related to consumers using marketing research (Alagöz and Ekici, 2009: 86).

As mentioned, packaging assumes the role of communicating with the consumer and performs the functions of modern advertising, such as surprising, persuading and informing. It also creates positive emotions in the consumer by meeting the consumer's aesthetic needs (Ceylan and Ceylan, 2015: 130).

One of the most important functions of packaging is that it can give almost all the information about the image of the product. Consumers tend to be willing to pay more for products with packaging that they perceive better in terms of appearance and reputation (Taekwar, 2017: 150).

Unfortunately, when the rich studies examining the role of advertising in communication are examined, it is seen that limited attention is paid to packaging in terms of marketing literature. Even advocating that packaging is a means of communication is a source of competition among scientists. Some scientists describe packaging as a feature of the product, while others describe packaging as an external element of the product. In another view, packaging is a feature other than the five brand elements comprising the brand identity.

To the contrary, packaging today is positioned as a product-related feature, an aspect that is often critical to the creation and communication of the product's brand identity. Based on the current situation, it is seen that consumers are getting functional, experiential, and symbolic brand advantages directly from product packaging, both mediated and through experience with the product. As a result, packaging also plays a key role in

the creation and development of the consumer-brand relationship (Underwood, 2003: 63-64).

Conclusion

Businesses operating today tend to use packaging as an effective marketing tool in terms of their products and brands. As mentioned in the study, packaging is the visible side of the business and is the silent salesperson.

Especially in domestic and foreign markets, the importance of packaging is increasing and with the realization of this concept, great developments are taking place in terms of “*contemporary packaging*”. In fact, with the rapid development in production technologies and as the consumption outruns production, supply has faced the problem of not being demanded. Applying different means to find a solution to this problem, marketing sees packaging as a starting point.

Since all products and brands perform almost the same functions and are not different in terms of shape or quality, consumers need to distinguish and like the product or brand in some way. Thus, the consumer feels more special.

As a result, when well designed and presented, the packaging, called *silent seller*, is thought to play an important role in both buying and being distinguished.

References

- Alagöz, S. B., & Ekici, N. (2009). “Ambalaja İlişkin Tutum ve Davranışlar: Karaman İli Araştırması”. *Karamanoğlu Mehmetbey Üniversitesi Sosyal ve Ekonomik Araştırmalar Dergisi*, 11 (17), 84-94.
- Ceylan, İ. G., & Ceylan, H. B. (2015). “Ambalaj Tasarımında Bilinçaltı Mesaj Öğelerinin ve Nöropazarlama Yaklaşımının Kullanımlarının Karşılaştırılması”. *Electronic Turkish Studies*, 10 (2), 123-142.
- Ceylan, İ. G., & Eliri, İ. (2014). “Ambalaj Tasarımında Kullanılan Subliminal Mesaj Öğeleri ve Satın Alma İlişkisi”. *Akademik Sosyal Araştırmalar Dergisi*, 2 (8), 410-419.
- Clow, K., & Baack, D. (2016). *Bütünleşik Reklam, Tutundurma ve Pazarlama İletişimi*. Çeviri Edi. Gülay Öztürk. Ankara: Nobel Akademik Yayıncılık.

- Düz, N. (2012). “Ambalaj-Reklam İlişkisi ve Tasarım Eğitimindeki Yeri”. *Batı Anadolu Eğitim Bilimleri Dergisi*, 3 (6), 19-52.
- Erbaşlar, G. (2014). *Pazarlama Yönetimi*. Ankara: Nobel Akademik Yayıncılık.
- Gökalp, F. (2007). “Gıda Ürünleri Satın Alma Davranışında Ambalajın Rolü”. *Ege Akademik Bakış*, 7 (1), 79-97.
- Kotler, P. (2000). *Pazarlama Yönetimi*. Çev. Nejat Muallimoğlu. İstanbul: Beta Basım Yayım Dağıtım AŞ.
- Nancarrow, C., Wright, L. T., & Brace, I. (1998). “Gaining Competitive Advantage from Packaging and Labelling in Marketing Communications”. *British Food Journal*, 100 (2), 110-118.
- Örücü, E. & Tavşancı, S. (2001). “Gıda Ürünlerinde Tüketicinin Satın Alma Eğilimini Etkileyen Faktörler ve Ambalajlama”. *Muğla Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (3).
- Tek, Ö. B. & Özgül, E. (2007). *Modern Pazarlama İlkeleri; Uygulamalı Yönetimsel Yaklaşım*. İzmir: Birleşik Matbaacılık.
- Tekvar, S. O. (2017). “Pazarlama Odaklı Halkla İlişkilerde Ürün Paketleme ve Sergileme Stratejilerinin Önemi”. *Kesit Akademi Dergisi*, 3 (7), 145-159.
- Underwood, R. L. (2003). “The Communicative Power of Product Packaging: Creating Brand Identity Via Lived and Mediated Experience”. *Journal of Marketing Theory and Practice*, 11 (1), 62-76.
- Yayan, G. & Ceylan, H. B. (2018). “Ambalaj Tasarımında İnteraktif Yaklaşımlar ve Tasarım Öğrencilerinin Konu Hakkındaki Farkındalığının İncelenmesi”. *İdil Sanat ve Dil Dergisi*, 7 (47), 873-879.

THE LINK BETWEEN EFFECTIVE TAX RATES AND FOREIGN DIRECT INVESTMENT FOR TURKEY

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Introduction

With the accelerating globalization, increased factor mobility among countries and the removal of non-tax barriers, the importance of tax differences for FDI inflows has increased. Countries have gone on a quest to take advantage of the growing FDI flow globally. What motivates foreign investors to invest in a country? The question gained more prominence after the 1990s. Taxes are important determinants on FDI when other factors (The quality of the workforce, infrastructure and the legal environment, political stability, labor cost, economic indicator etc.) determining FDI are fixed as *ceteris paribus*. Investment would react on taxes goes back to the neoclassical investment theory. Corporate tax is a tax that has the most impact on FDI. This is because it is the tax paid by foreign investors that determines the amount of earnings to be distributed.

The statutory tax rate is a necessary element for determining the amount of tax. However, in taxation theory, the statutory corporate tax rate alone is not sufficient to determine the amount of tax payable. The tax burden depends on both the tax rate (statutory tax rate) and the tax base. Therefore, the investors mislead to invest the fact that the investors only take into account statutory corporation tax to decide the investment. The statutory tax rate will not provide details of the complex tax system affecting FDI. For this reason, it would be more accurate for the studies to receive effective tax rates (Mooij, Ederveen, 2001):7). Effective tax rates are also able to provide comparative information about the competitiveness of the tax system (OECD, 2019:18). The main indicator of tax burden in a country is effective tax rates. Effective tax rates were comprehensively analyzed by Devereux and Griffith (2003). The effective tax rate is a parameter including tax incentives (Tax exemptions and exceptions, tax holidays, accelerated depreciation etc.), statutory tax rate and inflation that takes into account tax (Devereux, 2004:73-74). Thus, the investor takes into account the effective tax rate. For example, DeAngelo and Masulis (1980) in their work, point out that there are no empirical studies on how lower statutory corporate tax rates can make companies use their capital without borrowing. They base this view on the grounds that corporate tax rates do not change very often. However, they argue that non-debt tax incentives can reduce the taxable income of companies to zero in the model they are developing. Governments also use effective tax rates to establish tax

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policies and assess the fairness of the tax system (Cao, Cui, 2017:1001). In addition, effective tax rates are used to research some topics such as measurement of long-term corporate tax avoidance (Dyreg and Hanlon, 2008) and predictions of future earnings (Bauman and Shaw, 2005). Cao Cui (2017) in their work added the preferred tax rate, investment gains, non-operating expenses, and provisions for impaired assets among the effective tax rate new setters.

Effective tax rates can be divided into two groups: The effective average tax rate (EATR) and the effective marginal tax rate. EATR are more suitable to measure tax burden. Also, EMART is more sensitive to tax laws. In most studies, EMART is used. For this reason EMART is based on in this paper.

Corporate tax is a tax that has the most impact on FDI. This is because it is the tax paid by foreign investors that determines the amount of earnings to be distributed. For this reason, the studies in this area are generally focused on corporate tax. This study will also be based on corporate tax. This paper is aimed to examine the relationship between FDI and EATR comparing EU members for Turkey after 2000's. In the study, there are two main reasons why EU countries should be taken. The first is that some of the EU member states are approximately, the same as Turkey economically, while some of them are more developed countries. Thus, it will be possible to compare with countries of different levels of development. The second is that they form the group of countries that ranked first in FDI inflows to Turkey as described below. Studies in the literature to examine the relationships between FDI and tax are generally based on corporate statutory tax rate and tax revenue. There are no studies on Turkey showing the relationship between FDI and EATR. This will increase the contribution of the study to the relevant field. The rest of the paper is organized as follows: Section 1 presents theoretical framework the related to effective tax rates and FDI, Section 2 includes some literature review, Section 3 the analysis of the effective tax rates and FDI in turkey compare with EU countries, Section 4 concludes.

I. Theoretical Background the Relationship between Effective Tax Rates and FDI

Today, the neoclassic approach in international trade has changed. International trade in the neoclassical framework focuses on goods, not other factors. Factor mobility has increased with liberalization in international trade. With the shift from closed economy to open economies, the change in the nature of international trade has caused both tax policies and the importance of FDI to change. FDI don't not only increase investments but also create opportunities for advanced technology to come to the country and to develop foreign trade. Foreign investments are divided into foreign portfolio investment and FID. FDI is directly related

to economic development. Foreign direct investments are especially crucial for developing countries, because these countries need more capital and new technologies that are not sufficient for them. Export platform FDI is more important for economies. According to the technology diffusion model, the growth rate of less developed countries increases with the application and internalization of technology in developed countries (Ergül, Soylu, Okur, 2016:41).

FDI can be divided into three groups according to their subjects in theoretical framework: The first was FDI, which went from country where capital was plentiful to country where capital was scarce in order to seek more revenue. The second is that in order to get the ability to export its products, the FDI has shifted from regions where the currency is strong to regions where it is weak. Third is FDI, which wants to integrate into locational factors such as transportation costs, the size of the host country with ownership the advantages (Esiyok, 2011:9).

With the globalization process, the mobility of capital has increased. When production factors especially capital are mobile, the sensitivity of factors increase to the tax burden. Tax competition has increased between countries to attract FDI. The tax burden is a crucial item for FDI. There are two elements of the tax, the tax rate and the tax base. When thinking about the tax that affects foreign investor earnings, not only does it look at the tax rates in the country, but it also looks at the tax incentives that affect the tax base. Effective tax rate is a measure of tax incentives to investment provided by tax law (Slemrod, 1987:127). Tax is one of the factors that determine the earnings of entrepreneurs as a result of their investments. The governments are expected to behave strategically towards FDI while they set their taxes. There are many studies the impacts of taxes on FDI flows. For example Multinationals in particular are shifting from high-tax to low-tax countries (Botman, Klemmb and Baqir, 2010; Zhang, 2012; Dharmapala and Riedel, 2013). It has reached a significant and positive relationship between preferential tax incentives and FDI. While it was reached a significant and positive relationship between preferential tax incentives such as tax holiday, tax exemption, accelerated depreciation, allowances and deductions and FDI.

Therefore, foreign direct investments are closely related to the tax system of their destination country. As in some countries, if the tax incentives given for FDI are the same as those given to the domestic investors, this will not be preferential tax incentives for FDI (Zhang, 2012:24)

In order to attract FDI, governments have offered various tax incentives. Developing countries use tax incentives as a means of creating an appropriate investment climate for FDI. The main reasons for effective application of tax incentives in attracting FDI can be listed as follows (Yelpaala, 2007:5; Alfaro, Chen, 2010:1):

- Tax incentives, relatively infrastructure investments, qualified labor can be put into practice more easily than factors such as.

- Tax incentives do not include real expenditures such as funds and subsidies, which are direct types of incentives. Tax incentives do not include real expenditures such as funds and subsidies, which are direct types of incentives. With this feature, the short term may not be a direct burden on the state budget.

- With tax incentives, they will help to reduce investment costs and create funds to be provided in investment financing.

- The use of tax incentives as a means to attract multinational companies which are more advantageous to the country in the face of economic crises.

Tax incentives also have a cost to governments in the short term. FDI inwards are expected to cover these costs. It is worth noting that the success of tax incentives in attracting FDI depends on exceeds of their cost benefits (Tuomi, 2011:138).

The effective tax rate indicates the tax incentives that taxpayers benefit from. The effective tax rate incidences the cost of capital (Fullerton, 1986:291). Effective tax rates can be useful to measure the effects of taxes and incentives that are implemented by countries. Effective tax rates are also a tool used to determine firm size. There are empirical studies on this subject as well (Wu et al, 2012). Effective tax rates are lower than statutory tax rate because of tax incentives which reduce the tax burden of tax payers. While the statutory tax rate is the same for all industries, effective tax rate can be different between industries.

The effective tax rate refers to the ratio of the difference between the pre-tax and post-tax income ratios to the pre-tax income ratio (Musgrave and Musgrave, 1985: 424). According to another definition, Effective tax rates are defined as the amount of tax paid as a percentage of income (Spooner, 1986:293).

Effective tax rates can generally be classified into two types: EATR and effective marginal tax rate. In studies, the EATR is preferred over marginal effective marginal tax rate due to some advantages they have. Examples of these advantages are: simplicity, measuring capital distribution distortions (Lammersen, Schwager, 2010:16; Fullerton, 1984:25). Although effective marginal tax rates depend on future indicators such as income from investment, anticipated inflation and the size of firm, EATR is related to actual income and inflation. In additional, EATR is more suitable to measure the distribution of tax burden (Fullerton, 1984:25; Spooner, 1986:293; Egger, Loretz, Pfaffermayr, 2009:825; Lammersen, Schwager, 2010:16). For this reason, EATR is usually used in many studies.

The EATR is defined as follows (Botman, Klemmb and Baqir, 2010:176):

$$EATR = \frac{R^* - R}{p/(1+r)}$$

R^* is the present discounted value of the economic rent earned without taxation, R is the same in the presence of taxation, p is the pretax net profit and r is the real interest rate.

Devereux and Griffith (1998, 2003) were the first to conduct extensive research on effective tax rates. A government that wants to improve welfare from a macro-economic standpoint wants to increase FDI by making the average effective tax rates as high as possible (Egger, Raff, 2015:779).

II. Literature Review

Although there are many studies on the economic effects of FDI for both Turkey and other countries, the studies taking into account the impact of taxes are fairly limited. The studies conducted are also often aimed at measuring the relationship between the tax rate and income and the FDI. In addition, some of the empirical studies are at the firm level based on microdata. There are no studies on Turkey indicating the relationship between FDI and EATR at the level of macroeconomic. This will increase the contribution of the study to the relevant field. This study will thus be able to close the gap in the relevant area, unlike others. Table 1 presents the previous Table 1 presents the past literature on this subject in the literature.

Table 1: Literature Review

Author	Sample	Subject and Methodology
Davis (1987)	Canada	Effectives tax rates as determinants of Canadian capital structure with cross-sectional evidence.
Devereux, Lockwood, Redoano (2004)	OECD	Competition over corporate tax among countries.
Wijeweera & Clark (2006)	America	To investigate long run and short run relationships between the corporate income tax rate and foreign direct investment inflows using time series.
Wijeweera, Dollery, Clark (2007)	America	To investigate the impact of corporate tax rate and tax incentives on FDI using panel data.
A. Yavuz, S. Çiçek (2009)	Some Europe countries and Turkey	Foreign direct investments and tax correlation.

Botman, Klemmb and Baqir, (2010)	Philippines	Investment Incentives and Effective Tax Rates in the Philippines
Şişman, Öztürk, (2010)	Turkey and Some Country Group	The relationship between corporate statutory tax rate and foreign direct investment.
Esiyok, 2011	Turkey	Determinants of FDI in Turkey by panel data analysis
Klemm, Parys (2012)	Latin American, Caribbean and African countries	Empirical evidence on the effects of tax incentives: Panel data analysis.
N. Koşar, M.H. Van (2012)	Turkey	The relationship between international tax competition and foreign direct investments: Regression analysis.
Zhang (2012)	112 Countries	Property Rights, Tax Incentives and Bogus Foreign Direct Investment
Abbas and Klemm (2013)	Emerging and developing countries	Corporate Tax Developments in Emerging and Developing Economies
Dyreng, Hanlon, Maydew, Thornock (2014)	Amerika	Changes in Corporate Effective Tax Rates Over the Past Twenty-Five Years
Dornean and Oanea (2014)	EU Countries	Impact of Fiscal Policy on FDI using panel data analysis.
E. Ögrül, M. Eryiğit (2015)	Turkey	The Factors on Foreign Direct Investment In Turkey with Using Regression Analysis.
Egger and Raff (2015)	OECD countries	Tax rate and tax base competition for foreign direct investment
N. Abdioğlu, M. Biniş, M. Arslan (2016)	OECD countries	The Effect of Corporate Tax Rate on Foreign Direct Investment: A Panel Study For OECD Countries
B. T. Yücememiş, K.Okan Erol (2017)	Turkey	The correlation between economic integration and tax revenues from point of a fiscal federalism perspective in Turkey

Davis (1987) tested DeAngelo and Masulis's hypothesis that effective tax rates were more effective and found results that supported this hypothesis. In their empirical studies, Devereux, Lockwood, Redoano (2004) concluded that there is an inverse relationship between foreign capital in a country and openness and corporate tax rates.

Wijeweera & Clark (2006) examined corporate tax rates and FDI flow with the help of short-and long-term time series. They concluded that tax

rates have a meaning negative effect on FDI for the US. According results, a 1% decrease in the corporate tax rate would increase 2.4% in FDI. Wijeweera, Dollery, Clark (2007) searched the impacts of corporate tax rate and tax exemption and tax credit for the US using a panel of nine capital exporting countries (Australia, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands and the United Kingdom) over the period 1982–2000. Their finding showed that a 1% increase in the US corporate income tax rate would decrease FDI inflows by 1%.

The study of Yavuz and Çiçek (2009) was not based on empirical research. The study was to evaluate Turkey's tax policies, which are important among the investment incentive measures implemented by some of the former Central and eastern European countries, which may be considered a rival for attracting direct investments. It was stated in the study that Poland, Czech Republic, Romania have been relatively successful in attracting direct investments. It has been suggested that Turkey should develop tax incentives as well as other elements such as tax awareness.

Botman, et al. (2010) as a result of their work, state that the tax incentive in the form of tax breaks is a more effective type of incentive for FDI and new investments. Şişman, Öztürk, (2010), concluded that the decrease in corporate tax rates had an effect on the increase in their FDI in their studies using 1985-2009 data for Turkey and the four country groups. Esiyok (2011) examined the determinants of FDI in Turkey with panel data analysis. Since he could not find effective tax rate data for Turkey in his study, he used statutory corporate tax rates in his analysis. He did not find any significant effect of the reduction in corporate tax on FDI in Turkey.

Klemm, Parys (2012) tried to prove by empirical analysis the effects of tax incentives on FDI in the period 1985-2004 for 40 countries using panel data. They found that lower corporate tax rates and longer tax holidays as tax incentives are effective in attracting FDI in Latin America and the Caribbean but not in Africa. Koşar, Van (2012), They analyzed the relationship between tax competition and FDI based on variables such as the number of FDI arrivals to Turkey, its share in tax revenues and corporate tax reductions. As a result, they found a negative correlation between in FDI and corporate tax rate for Turkey. Since the study is based on monthly data, it appears that corporate tax revenue is taken instead of the corporate tax rate. Zhang (2012) examined the relationship between FDI and political stability, preferential tax incentives, and property rights protections for 112 countries from Europe, America, Asia and Africa in his work. As a result of the study, the difference in FDI reports between the host and the source country is positively correlated with the host country's preferential tax incentives, and negatively associated with property rights protection and political stability.

Abbas and Klemm (2013) reached that the effective marginal tax rate does not significantly affect FDI, but reductions in average effective tax rate positively affect inward FDI for 50 emerging and developing countries during 1996-2007. Dyreng et al. (2014) have tried to explain the reductions in effective tax rates. According to the study findings, foreign statutory tax rates and changes in the nature of the firm had little effect in explaining the effective tax rate decrease. Dornean and Oanea (2014) examined the effects of public spending and tax revenues on FDI, which are fiscal policy instruments, using data from the Eastern and Central European countries of the EU Member States from 1995-2012 by panel data analysis. According to result, public spending and tax revenues have been seen to have a significant impact on FDI.

Öğrül, Eryiğit (2015), in their empirical studies, analyzed the factors affecting FDI in Turkey with sectoral comparison and regression analysis with 1995-2012 period data. The study included corporate tax as a variable. According to finding of study, Tax had a significant but negative effect on FDI in Turkey. Egger and Raff (2015) in their work which includes 43 OECD countries over the period 1982-2005 was to determine whether governments are behaving strategically in attracting FDI when setting tax policies. As a result, it was been proven that governments behave like this. Abdioğlu M. Biniş, M. Arslan (2016) searched the effects of only corporate tax rate on FDI in the OECD countries by using panel regression and GMM method. Their finding gives us a negative relation between tax rate and FDI level. Yücememiş ve Erol (2017) calculated the effective average tax rates on Labor and capital in their studies. They concluded that while the labor force average increased due to global economic integration, the capital average could change in line with the business cycle. It is also stated that there is no evidence of the height of the tax burden of capital.

As seen above, previous studies largely agree on a negative relationship between FDI and corporate tax rates. There are studies specifying that FDI is not affected by taxes, although there is a limited number.

III. The Analysis of Effective Average Tax Rates and Foreign Direct Investment inflows in Turkey and EU Countries

Some data is used to find the relationship between FDI and EATR. These data include statutory corporate tax rates, EATR, FDI and their share in gross domestic product (GDP) during the 2000s. Statutory corporate tax rates and EATR data are obtained from Eurostat and OECD statistics. FDI inflows indicators are taken by UNCTAD Investment Report 2019.

III.1. The Analysis of Statutory Tax rates and Effective Average Tax Rates in Turkey with Comparison EU Countries

After the second half of the 1990s, it is seen that statutory corporate tax rates have been reduced in EU countries. Corporate income tax rate in the

EU was 38% in 1990. It dropped to 33% in early 2000s. The EU average has also fallen from 25.2% in 2005 to 21.7% in 2019 (Table 1). Governments have cut corporate tax rates due to increasing competitive pressures. But there is still no harmonization in corporate tax rates between EU countries. Similarly, corporate tax rate in Turkey has fallen in this period. However, Turkey raised its corporate tax rate to 22% in 2018, above the EB-28 average (21.7%).

In Latvia, Portugal and Turkey, statutory corporate tax rates increased from 2017 to 2018. The largest decreases in the statutory corporate tax rate between 2017 and 2018 were France with 10 %.

Table 2 indicates the trend of EATR for Turkey and EU countries in the period 2005-2018. Although, with global progress, tax competition has increases across countries, EATR has fallen in most EU countries during this time. As the data in Table 1 shows, countries reduced their statutory corporate tax rates. Due to keep their tax revenue level, they have reduced tax incentives so that this does not reflect on tax revenues. This means that the tax base has been widened mostly. The reflection of these developments is the decrease in EATR (Egger, Raff, 2015:777).

EU countries such as France, Germany, Belgium, Italy and Netherlands with a high EATR generally appear to be more developed countries. As shown in Table 1, the statutory corporate tax rate is comparatively lower in less developed EU countries. These countries show that they do not give other tax incentives much place within the tax system.

The EATR of EU countries has decreased as of the period 2005-2018. This development also applies to Turkey. While the EATR for Turkey was 26.8% in 2005, this rate decreased to 19.2% in 2018. However, in Turkey, EATR is below the EU average. That is, tax incentives in Turkey are less than in the EU. As a result of this situation, in Turkey, the tax burden on potential investors is high as compared to the EU-28 averages except 2005, 2018 (Table 2).

The country rankings where the EATR had the most differences between the periods 2005-2018 are as follows: United Kingdom (-8,7), Italy (-8,1), Malta (-7,8), Turkey (-7,6) and Germany (-6,9). Turkey is ranked fourth in this ranking.

Table 1: The Statutory Corporate Tax Rate in AB Countries and Turkey (2000-2019)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Avustria	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0
Belgium	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	29,6	29,6
Bulgaria	15,0	15,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0
Czech Rep.	26,0	24,0	24,0	21,0	20,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0
Croatia	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	18,0	18,0	18,0
Cyprus	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Denmark	28,0	28,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	24,5	23,5	22,0	22,0	22,0	22,0
Germany	38,4	38,4	38,4	29,4	29,4	29,5	29,6	29,6	29,6	29,7	29,8	29,8	29,9	29,9	29,9
Estonia	24,0	23,0	22,0	21,0	21,0	21,0	21,0	21,0	21,0	21,0	20,0	20,0	20,0	20,0	20,0
Finland	26,0	26,0	26,0	26,0	26,0	26,0	26,0	24,5	24,5	20,0	20,0	20,0	20,0	20,0	20,0
France	35,0	34,4	34,4	34,4	34,4	34,4	36,1	36,1	38,0	38,0	38,0	34,4	44,4	34,4	32,0
Greece	32,0	29,0	25,0	35,0	35,0	24,0	20,0	20,0	26,0	26,0	29,0	29,0	29,0	29,0	28,0
Hungary	17,5	17,5	21,3	21,3	21,3	20,6	20,6	20,6	20,6	20,6	20,6	20,6	10,8	10,8	10,8
Ireland	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Italy	37,3	37,3	37,3	31,4	31,4	31,4	31,4	31,3	31,3	31,3	31,3	31,3	27,8	27,8	27,8
Latvia	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	20,0	20,0

Lithuania	15,0	19,0	18,0	15,0	20,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0
Luxembourg	30,4	29,6	29,6	29,6	28,6	28,6	28,8	28,8	29,2	29,2	29,2	29,2	27,1	26,0	24,9
Malta	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0
Netherlands	31,5	29,6	25,5	25,5	25,5	25,5	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0
Poland	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0
Portugal	27,5	27,5	26,5	26,5	26,5	29,0	29,0	31,5	31,5	31,5	29,5	29,5	29,5	31,5	31,5
Romania	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0
Slovakia	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	23,0	22,0	22,0	22,0	21,0	21,0	21,0
Slovenia	25,0	25,0	23,0	22,0	21,0	20,0	20,0	18,0	17,0	17,0	17,0	17,0	19,0	19,0	19,0
Spain	35,0	35,0	32,5	30,0	30,0	30,0	30,0	30,0	30,0	30,0	28,0	25,0	25,0	25,0	25,0
Sweden	28,0	28,0	28,0	28,0	26,3	26,3	26,3	26,3	22,0	22,0	22,0	22,0	22,0	22,0	21,4
United King.	30,0	30,0	30,0	28,0	28,0	28,0	26,0	24,0	23,0	21,0	20,0	20,0	19,0	19,0	19,0
Turkey	30,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	22,0	22,0
EU-28	25,2	25,1	24,4	23,7	23,7	23,2	23,0	22,9	23,2	22,9	22,8	22,5	22,2	21,9	21,7

Source: EuroStat, Data on Taxation, 2020 and OECD Database 2020.

Table 2: Average Effective Tax rates in EU Countries and Turkey (2000-2018)

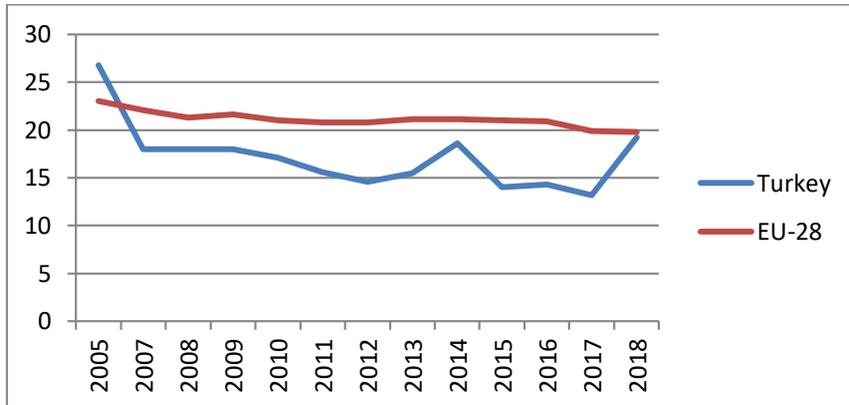
	2005	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2005- to 2018
Avustria	23,0	23,0	23,0	22,7	22,7	23,0	23,0	23,0	23,0	23,0	23,1	23,1	23,1	0,1
Belgium	29,5	25,4	24,9	24,7	25,3	25,9	26,3	26,5	26,7	27,8	28,3	29,3	24,8	-4,7
Bulgaria	13,2	8,8	8,9	8,8	8,8	9,0	9,0	9,0	9,0	9,0	9,0	9,0	9,0	-4,2
Czech Rep.	22,7	21,0	18,4	17,5	16,7	16,7	16,7	16,7	16,7	16,7	16,7	16,7	16,7	-6,0
Croatia	16,5	16,5	16,5	16,5	16,5	16,5	16,5	16,5	16,5	16,5	16,5	14,8	14,8	-1,7
Cyprus	10,6	10,6	10,6	10,6	11,6	11,6	11,9	15,2	15,2	12,7	13,1	12,5	13,0	2,4
Denmark	25,1	22,5	22,6	22,6	22,6	22,6	22,0	22,0	22,2	21,3	20,0	20,0	19,8	-5,3
Germany	35,8	35,5	28,2	28,0	28,0	28,2	28,2	28,2	28,2	28,2	28,2	28,8	28,9	-6,9
Estonia	24,0	17,3	16,5	16,5	16,5	16,5	16,5	16,5	16,5	15,7	15,7	15,7	15,7	-3,1
Finland	24,5	24,5	24,5	23,6	23,9	24,7	23,3	22,6	18,6	18,9	19,1	19,5	19,6	-4,9
France	35	34,6	34,6	34,7	32,8	32,8	34,2	34,7	38,3	38,3	38,4	33,4	33,4	-1,4
Greece	27,8	21,7	21,8	30,5	21,0	17,5	17,5	24,1	24,5	27,5	27,6	27,6	27,6	-0,2
Hungary	16,6	19,5	19,5	19,5	19,1	19,3	19,3	19,3	19,3	19,3	19,3	11,1	11,1	-5,5
Ireland	14,3	14,4	14,4	14,4	14,4	14,4	14,4	14,4	14,4	14,1	14,1	14,1	14,1	-0,2

Italy	31,8	31,8	27,3	27,5	27,5	24,9	25,1	25,1	24,2	23,8	23,6	23,7	23,7	-8,1
Latvia	15,0	14,3	13,8	13,8	11,8	12,2	12,4	12,1	14,3	14,3	14,3	14,3	16,7	2,4
Lithuania	15,0	15,2	12,7	16,8	12,7	12,7	12,7	13,6	13,6	13,6	13,6	13,6	13,6	1,1
Luxembourg	26,5	25,9	25,9	25,0	25,0	24,9	24,9	25,5	25,5	25,5	25,5	23,7	22,8	-3,7
Malta	32,2	32,2	32,2	32,2	32,2	32,2	32,2	32,2	32,2	32,2	32,2	24,3	24,4	-7,8
Netherlands	28,4	23,1	23,1	22,2	22,2	21,8	22,6	21,6	22,6	22,5	22,5	22,5	22,5	-5,9
Poland	17,1	17,4	17,4	17,5	17,5	17,5	17,5	17,5	17,5	17,5	17,5	17,5	17,5	-0,4
Portugal	27,5	23,7	23,7	23,7	26,2	26,2	28,4	28,4	28,4	26,6	26,6	20,0	21,4	-3,2
Romania	14,7	14,8	14,8	14,8	14,8	14,8	14,8	14,8	14,8	14,8	14,7	14,7	14,7	0,0
Slovakia	16,8	16,8	16,8	16,8	16,8	16,8	16,8	20,3	19,4	19,6	19,6	18,7	18,7	1,9
Slovenia	22,1	20,9	20,0	19,1	18,2	18,2	16,4	15,5	15,5	15,5	15,5	17,3	17,3	-4,8
Spain	36,5	34,5	32,8	32,8	32,8	31,9	32,4	32,9	32,6	32,7	30,1	30,1	30,1	-6,4
Sweden	24,6	24,6	24,6	23,2	23,2	23,2	23,2	19,4	19,4	19,4	19,4	19,4	19,4	-5,2
United King.	29,3	29,3	28,0	28,3	28,4	26,9	25,2	24,3	22,4	21,5	21,5	20,5	20,6	-8,7
Turkey	26,8	18,0	18,0	18,0	17,1	15,6	14,6	15,5	18,6	14,0	14,3	13,2	19,2	-7,6
EU-28	23,0	22,1	21,3	21,6	21,0	20,8	20,8	21,1	21,1	21,0	20,9	19,9	19,8	-3,2

Source: EuroStat, Data on Taxation, 2020.

Figure 1 shows the development trend of EATR in the 2000s by comparing Turkey and the EU. In the EU, EART is on a more stable course. From the point of view of Turkey, EART fell in Turkey until 2012. The second most significant decline in this rate was in 2015 and then fell again and rose again in 2018.

Figure 1: Average Effective Tax rates in EU Countries and Turkey



For Turkey and EU countries, EATR are lower than the statutory tax rates over all years. The EATR as EU average (19.8%) is 2.1 percentage points lower than the average statutory tax rate (21.9%) in 2018. The change in Turkey is similar to the EU average. The EATR Turkey average (19.2%) is 2.8 percentage points lower than the average statutory tax rate (22%) in 2018.

It is seen that the corporate statutory tax rates of countries with high EATR rate are also high. For example, the ranking of countries with high corporate tax in 2018 is Malta, France, Germany, Belgium and Greece. The ranking of countries with EATR in 2018 is France, Spain, Germany, Greece and Belgium. This means that countries with a high legal tax rate tend towards tax incentives.

III.2. The Analysis of FDI in Turkey with Comparison EU Countries

FDI flows consist of inflows and outflows stocks. Especially important for developing countries is the flow of FDI into the country. Because these countries have problems such as insufficient capital, unemployment, declining productivity due to lack of technology as stated above. FDI is used to solve these problems. Like other developing countries, FDI is of great importance in Turkey.

In order to evaluate the development of FDI in Turkey, it will be compared with the EU countries. As seeing to Table 3 below, the countries with the highest share of FDI inflows to Turkey are the Union countries. This is the main reason why EU countries are taken when FDI analysis is

made. Table 3 shows that 64,8 % of total FDI of Turkey in 2018 and 58,9 % in 2019 came from EU countries.

Table 3 Distribution of the Foreign Direct Investment Inflows in Turkey by Country Groups (Million Dollars, %)

Bölge	2018	2018 (%)	2019	2019 (%)
Avrupa	4.240	64,8	3.305	58,9
-AB Ülkeleri	3.869	59,2	2.986	53,2
-Diğer Ülkeler	371	5,6	319	5,7
Amerika	484	7,4	464	8,3
Asya	1.750	26,8	1.808	32,2
Diğer	66	1,0	34	0,6

Source: Ministry of Industry and Technology, Investment Statistics, 2020.

Table 4 indicates FDI inflows for Turkey and EU countries. With the effect of globalization and liberalization, the flow of FDI has increased throughout the world. In real terms, FDI increases in Turkey started after the 2000s. EU countries have taken part in the first FDI coming from Turkey (Table 3). The crises have adversely affected FDI's flows for countries. In Turkey, due to 2001 national crisis, 2001 the FDI inflows was 3.352 million dollars in 2001, it was fallen 1.082 million dollars in 2002.

In 2007, FDI reached its highest level in both Turkey and the majority of EU countries. This is also seen in the share of FDI in GDP (Table 4 and 5). However, the 2008 economic financial crisis broke out as a global crisis. The 2008 crisis is an important one that affects the whole world in a negative way. Like many economic parameters, it has created severe contraction on FDI in worldwide. FDI inflows fell in both Turkey and EU countries during the 2008 global crisis. It is impossible to say that there is a stable course in all countries. The 2008 crisis with a global scale caused FDI to react on a larger scale than national crises. The nearly 40% fall in World trade has also affected the flow of FDI (Poulsen and Hufbauer, 2011:1).

Poulsen and Hufbauer (2011) have argued that three main factors were effective in the negative effects of the 2008 economic financial crisis on the introduction of FDI:

- The global crisis limited the liquidity of multinationals, significantly weakening investment capacity and negatively affecting FDI flow.
- The decline in the economic growth rates of countries has broken the investment willingness of multinationals.

Table 4: The Foreign Direct Investment inflows in Turkey and AB Countries (Million Dollars)

	2002	2003	2005	2007	2008	2010	2012	2015	2016	2017	2018
Avustria	138	6.195	10 784	2 130	1 598	7 226	2 575	5 719	4 577	1 487	-8 170
Belgium	16 250	33 476	34 370	93 430	-13 857	43 230	6 515	23 533	50 986	-5 762	4 872
Bulgaria	922	2 088	3 920	12 388	9 855	1 549	1 697	2 660	1 109	2 607	2 058
Croatia	957	1 791	1 786	4 632	5 317	1 155	1 509	269	1 807	2 036	1 159
Cyprus	1 038	891	1 169	2 226	1 934	17 268	47 199	7 465	7 714	6 949	3 285
Czech Rep.	8 482	2 102	11 653	10 443	6 451	6 140	7 984	465	9 814	9 521	9 478
Denmark	6 637	2 610	7 533	6 638	-742	-8 977	776	3 616	38	3 447	1 789
Germany	53 522	32 376	47 449	80 212	8 127	65 643	28 181	41 443	23 500	36 931	25 706
Estonia	288	928	2 799	2 311	1 829	1 508	1 564	35	1 095	1 712	1 309
Finland	8 046	3 319	4 750	12 451	-1 144	7 358	4 154	1 483	9 249	-609	1 225
France	21 514	7 855	33 228	63 499	37 593	13 890	16 062	45 346	23 061	29 802	37 293
Greece	39	1 275	623	2 111	4 498	329	1 739	1 267	2 763	3 610	4 256

Hungary	2 993	2 137	7 709	3 950	6 327	2 192	14 409	-14 797	-5 752	3 260	6 389
Ireland	29 323	22 781	-31 689	24 707	-16 452	42 804	48 883	217 781	39 388	-1 249	-66 346
Italy	17 054	19 424	23 291	43 849	-10 835	9 178	92	19 628	28 449	21 968	24 275
Latvia	209	279	706	2 324	1 264	378	1 108	707	173	732	879
Lithuania	725	180	685	1 984	1 964	799	700	870	263	652	905
Luxembourg	4 243	4 291	4 644	-29 679	7 117	39 128	25 497	12 494	31 878	-6 798	-5 615
Malta	-418	959	25 083	39 620	12 688	5 409	14 183	5 067	4 245	3 566	4 061
Netherlands	25 038	32 899	39 047	114 161	-6 776	-7 184	25 013	178 784	64 329	58 189	69 658
Poland	4 030	3 982	8 203	19 836	12 283	12 796	12 423	15 270	15 690	9 178	11 476
Portugal	1 636	7 983	3 463	2 875	3 548	2 424	8 858	6 926	6 309	6 945	4 894
Romania	1 140	2 196	6 152	9 732	13 491	2 997	3 198	3 838	4 997	5 406	5 887
Slovakia	5 864	2 975	3 109	4 017	4 868	1 769	2 981	106	805	2 276	475
Slovenia	1 569	271	561	757	1 218	105	339	1 674	1 245	782	1 418
Spain	39 222	25 819	25 020	64 264	76 992	39 872	25 696	11 911	27 658	20 918	43 591

Sweden	12 273	5 280	11 516	28 592	36 946	97	6 256	7 313	17 335	12 164	11 148
United King.	19 683	16 590	-	176 838	92 158	58 200	55 446	39 185	196 131	101 238	64 486
Turkey	1 082	1 702	10 031	22 047	19 851	9 086	13 745	18 989	13 705	11 478	12 944
EU-28	282 428	242 960	287 573	546 291	823 662	303 893	386 750	434 755	376 462	345 034	265 618

Source:Unctad,World Investment Report, 2019. <https://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx>

- The crisis has fostered entrepreneurs to be more cautious. This has led to a shift away from high-risk projects to safer ones.

Turkey has attracted an important amount of FDI after 2005. The main reason of this case has occurred increased the privatization activities.

A country's success in attracting FDI is measured by the ratio of FDI inflows within the country's GDP. Table 5 shows the FDI inflows as percentage of GDP for EU countries and Turkey with the effect of liberalization. Turkey would increase FDI inflows especially in the 2000s. However, FDI's share in GDP is not sufficient. The share of FDI in GDP in Turkey remained below the EU average as shown in Figure 3. This difference appears to have fallen in 2018(0,2%) compared to 2007 (1,6 %).

Table 5: The Foreign Direct Investment Inflows as a Percentage of GDP

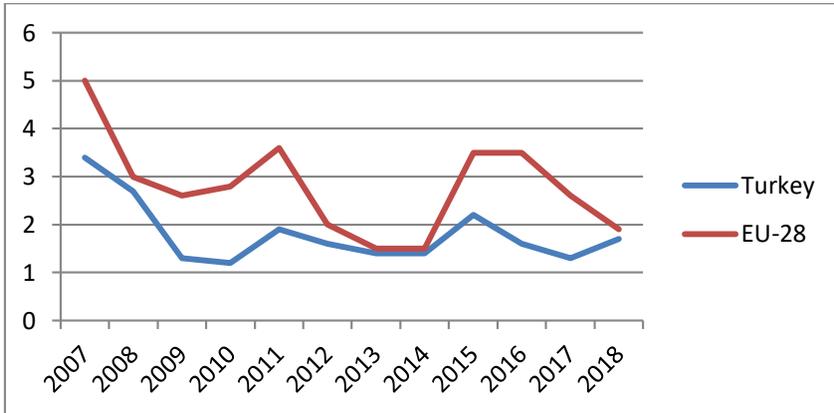
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Avustria	8,3	1,7	2,3	0,7	2,5	1,0	1,4	1,1	0,3	-2,1	3,6	0,5
Belgium	20,3	38,2	13,0	27,4	45,9	-5,3	-13,1	-7,8	-15,5	12,6	1,0	3,2
Czech Rep.	5,8	2,9	1,4	3,0	1,0	3,9	1,7	2,6	0,2	5,0	4,4	3,9
Denmark	3,8	0,5	0,4	-2,9	3,3	0,2	0,3	1,3	1,2	0,1	1,1	0,7
Germany	2,4	0,2	0,7	1,9	1,8	0,8	0,3	-0,1	0,0	0,4	0,9	0,3
Estonia	12,4	7,2	9,4	7,7	4,3	6,8	3,1	2,6	0,2	4,4	7,2	4,9
Finland	5,1	-	0,3	3,0	0,9	1,6	0,0	6,8	0,9	3,6	1,1	-1,5
France	3,7	2,3	1,1	0,5	1,1	0,6	1,2	0,1	1,9	0,9	1,2	1,3
Greece	0,7	1,3	0,7	0,1	0,4	0,1	1,2	1,1	0,6	1,4	1,7	1,8
Hungary	4,0	4,1	1,7	1,8	4,7	11,4	2,7	5,7	-11,8	-4,3	2,6	5,4
Ireland	9,0	-	10,9	19,3	9,9	21,7	21,2	18,6	74,7	13,1	15,7	-7,3
Italy	1,9	-	0,9	0,4	1,5	0,0	1,1	1,1	1,1	1,5	1,2	1,6
Latvia	-	-	-0,1	1,8	5,2	4,0	3,0	2,8	2,7	0,9	2,2	2,9
Lithuania	-	-	-1,2	2,7	4,1	1,9	1,1	-0,4	2,5	1,0	2,2	2,1

Luxembourg	-	19,4	40,2	67,0	22,2	35,3	31,3	37,3	56,7	40,2	-	-
Netherlands	15,3	0,5	4,5	-0,8	2,7	2,4	5,8	51,	23,4	3,9	7,2	12,5
Poland	5,5	2,8	2,7	2,7	3,5	1,4	0,5	3,2	2,5	3,7	1,8	2,7
Portugal	1,3	1,8	0,6	0,6	2,4	3,8	3,6	2,0	4,6	2,8	2,9	2,5
Slovenia	3,2	3,6	-0,9	0,2	2,1	0,7	-0,3	2,1	3,9	2,8	1,8	2,5
Spain	4,5	4,8	0,9	2,8	2,2	1,9	2,1	1,6	0,7	2,6	3,0	3,2
Sweden	6,0	7,6	2,3	0,0	2,3	3,0	0,7	0,7	1,7	3,7	2,6	0,6
United King.	7,1	3,4	3,7	2,4	1,6	2,1	1,9	0,8	1,4	9,7	3,8	2,3
Turkey	3,4	2,7	1,3	1,2	1,9	1,6	1,4	1,4	2,2	1,6	1,3	1,7
EU-27-28	5,0	3,0	2,6	2,8	3,6	2,0	1,5	1,5	3,5	3,5	2,6	1,9

Source: OECD, OECD International Direct Investment Statistics 2012, 2020

Figure 3 represents the FDI inflows between EU-28 and Turkey from 2007 to 2018. In terms of FDI inflows share in GDP, both the EU and Turkey are on a similar trend. The share of FDI in GDP fell below the 2007 level. There is significant decline due to the global crisis of 2007.

Figure 3: The Foreign Direct Investment Inflows as a Percentage of GDP for Turkey and EU-28



In light of the evaluations made above, it is seen that there is a relationship between EATR and FDI inflows. It is seen that countries that are more developed within the EU have higher rates. The countries with the highest EATR in 2005 is as follows: Spain (36,5), Germany (35,8), France (35), Malta (32,2), Italy (31,8) and United Kingdom (29,3). The same situation is valid in 2018: France (33,4), Spain (30,1), Germany (28,9), Greece (27,6) and Belgium (24,8).

EU countries with FDI inflows in 2005 can be listed as follows: Germany (53.522), Spain (39.222), Ireland (29.323), Netherlands (25.030) and France (21.514). The country that attracted the most FDI in 2018 is as follows: Netherlands (69.658), United Kingdom (64.486), Spain (43.591), France (37.293) and Germany (25.706).

As can be seen, despite of the fact that the country rankings vary, the countries with high EATR, which are more developed countries, can attract more FDI. This result shows that tax incentives are more important than statutory tax rates in attracting FDI to the country. Less developed EU countries have fewer FDI inflows despite relatively lower corporate taxes. When evaluated within Turkey, it has a low EATR and does not attract enough FDI.

The covid-19 outbreak has become a health problem in essence, affecting the whole world. The outbreak of Covid-19 again showed signs of

economic recession in the world and the possibility of it turning into a crisis appeared. It is possible to see this both in the statements made by economists about countries and in the analyses of international institutions and organizations. For example, the OECD has announced that a sharp 2.4% decline in the world economy. The US economy is projected to fall 3.3% by 2020, and 2% in GDP in Austria, for example, even in countries where the epidemic is less frequent within the EU (Sauer, 2020:1). The economic recession seen in the world especially in EU countries will be reflected in Turkey. Italy, which has Europe's third-largest economy, has an estimated loss of 3-5% of GDP for the first two quarters of the year (Biehl, 2020). Considering the efforts that the economic crises have also had negative effects on FDI, the tax measures that must be taken to attract FDI to the country are becoming more important.

Conclusion

FDI which are especially important for developing countries with capital shortages became much more important with the globalization process that began in the 1990s. It is also an important tool for advanced technology, which is essential for economic efficiency today. This case of FDI has caused it to become the subject of many academic studies. However, the majority of studies focus on the economic parameters that effect on FDI in general. Tax is an important factor affecting FDI. Tax is the most important source of public income for governments, but it is a profit-reducing factor for investors. When deciding to invest in a country, the foreign investors account their tax burden. Considering at the past literature to investigate the relationship between tax and FDI, in the studies between taxes and FDI as a fiscal policy tool, the statutory tax rate and tax revenues were taken as variable. There are two factors that determine the tax an investor will pay: The statutory tax rate and tax base. Therefore, only analysis of statutory tax rates is not to be sufficient to know the actual tax burden. It is also necessary to take into account the factors affecting the tax base. Foreign investors emphasize the preferential tax incentives afforded to their in host country as well as the corporate tax rate. Effective tax rates are used in the literature to measure the actual tax burden. The effective tax rate is a parameter including tax incentives (Tax exemptions and exemptions, accelerated depreciation etc.), statutory tax rate and inflation that takes into account tax. According to theoretical and empirical studies, corporate tax is the type of tax that has most impact on FDI relatively. Corporate tax was also used in this study. This paper examines the relationship between FDI and EATR comparing EU members for Turkey after 2000's. Because EATR is a preferred type of effective tax rate in academic studies due to its advantages, this rate was used in the analysis. Since the 1990s, statutory corporate tax rates have been reduced in both EU countries and Turkey. But, current statutory corporate tax rate (22%) still rises than EU average

(21.7%). Similarly, the level of EART fell in the period 2005 to 2018 for both EU countries and Turkey. However, in Turkey, EATR is below the EU average. That is, tax incentives in Turkey are less than in the EU. As a result of this situation, in Turkey, the tax burden on potential investors is high as compared to the EU-28 except some years. EU countries France, Germany, Belgium and Italy with a high EATR generally appear to be more developed countries.

Although more economically developed EU countries such as Germany, France, Belgium and Italy have lower statutory corporate tax rates, they have higher EATR rates. These countries show that tax incentives are included in more their corporate tax legislations. The analysis shows that there is a positive correlation between EATR and FDI inflows. EU countries with high EART, which are more developed countries, can attract more FDI. This result shows that tax incentives are more important than statutory tax rates in attracting FDI to the country. Less developed EU countries have fewer FDI inflows despite relatively lower corporate taxes.

Turkey would increase FDI inflows especially in the 2000s. However, FDI's share in GDP is not sufficient. The share of FDI in GDP in Turkey remained below the EU average during 2000's. The countries with the highest share of FDI inflows to Turkey are the Union countries. In additional, Increased FDI inflows offer new opportunities for countries to exit from the crisis. Expanding the scope of preferential tax incentives for FDI in our country will help us exit the economic recession following the Covid-19 outbreak. In Turkey, in particular, the tax incentives for FDI, which will promote advanced technology, specific sectors and regional development, should be revised again.

References

- Abbas, A. and Klemm, A. (2013), "A Partial Race to the Bottom: Corporate Tax Developments in Emerging and Developing Economies", *International Tax and Public Finance*, V.20, pp.596–617.
- Abdioğlu N., Biniş, M., Arslan, M. (2016), "The Effect of Corporate Tax Rate on Foreign Direct Investment: A Panel Study for OECD Countries", *Ege Akademik Bakış / Ege Academic Review*, V.16, I.4, pp.599-610.
- Bauman, M. and Shaw, K. W. (2005), "Disclosure of Managers' Forecasts in Interim Financial Statements: A Study of Effective Tax Rate Changes", *Journal of the American Taxation Association*, V.27, I.2, pp.57–82.
- Biehl, D. (2020), "Italy, Worst-Case Scenario?", *A Journey Through Europe*, https://www.robert-schuman.eu/en/doc/divers/FRS_seen_from_italan_scenario.pdf, (01.05.2020).

- Botman, D., Klemmb, A. and Baqir, R. (May, 2010), "Investment Incentives and Effective Tax Rates in the Philippines: A Comparison with Neighboring Countries", *Journal of the Asia Pacific Economy*, V.15, I.2, pp.166–191.
- Cao, J., Cui, Y. (2017), "An Alternative View on Determinants of the Effective Tax Rate: Evidence from Chinese Listed Companies", *Emerging Markets Finance & Trade*, V.53, pp.1001–1014.
- DeAngelo, H. and Masulis, R. W. (March, 1980), "Optimal Capital Structure under Corporate and Personal Taxation", *Journal of Financial Economics*, pp.3-29.
- Dharmapala, D. and Riedel, N. (2013), "Earnings Shocks and Tax-Motivated Income-Shifting: Evidence from European Multinationals", *Journal of Public Economics*, V.97, pp.95-107.
- Devereux, M. P., and Griffith, R. (1998), "Taxes and the Location of Production: Evidence from a Panel of US Multinationals," *Journal of Public Economics*, V.68, I.3, pp.335-367.
- Devereux, M. P., and Griffith, R. (2003), "Evaluating Tax Policy for Location Decisions," *International Tax and Public Finance*, V.10, I.2, pp.107-126.
- Devereux, M. P. (2004), "Debating Proposed Reforms of the Taxation of Corporate Income in the European Union", *International Tax and Public Finance*, V.11, pp.71-89.
- Devereux, M. P., Lockwood, B., Redoano, M. (2004), "Do Countries Complete over Corporate Tax Rates?", *CEPR Discussion Paper*.
- Dornean, A., Işan V., Oanea, D.-C. (2014), "Emerging Markets Queries in Finance and Business. The Impact of Fiscal Policy on FDI in the Context of the Crisis. Evidence from Central and Eastern European Countries", *Procedia Economics and Finance*, V.15, pp.406-413.
- Dyreg, S. D., and Hanlon, M. (2008), "Long-Run Corporate Tax Avoidance", *Accounting Review*, V.83.I.1, pp.61–82.
- Dyreg, S. D., Hanlon, M., Maydew, E. L., Thornock, J.R. (2014), "Changes in Corporate Effective Tax Rates over the Past Twenty-Five Years", *Proceedings. Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association*, V.107, pp.1-58.
- Egger, P., Loretz, S., Pfaffermayr, M. (2009), "Bilateral Effective Tax Rates and Foreign Direct Investment", *International Tax Public Finance*, V.16, pp.822–849.
- Egger, P., Raff, H. (2015), "Tax Rate and Tax Base Competition for Foreign Direct Investment", *International Tax Public Finance*, V.22, pp.777–810.
- Ergül, M., Soyulu, Ö.B., Okur, F. (Winter, 2016), "The Effect of Foreign Direct Investment (FDI) on Economic Growth: The Case of Turkey", *The MacrotHEME Review*, V.5, I.4, pp.41-48.

- Esiyok, B. (2011),. *Determinants of Foreign Direct Investment in Turkey: A Panel Study Approach*, MPRA. https://mpra.ub.uni-muenchen.de/36568/1/MPRA_paper_36568.pdf (10.05.2020).
- EuroStat (2020), *Data on Taxation*, https://ec.europa.eu/taxation_customs/business/economic-analysis-taxation/data-taxation_en
- Fullerton, D. (March, 1984), “Which Effective Tax Rate”, *National Tax Journal*, V.37, I.1, pp.23-41.
- Fullerton, D. (September, 1986), “The Use of Effective Tax Rates in Tax Policy”, *National Tax Journal*, V.39, I.3, pp.285-292.
- Klemm, A., Parys, S. V. (2012), “Empirical Evidence on the Effects of Tax Incentives”, *International Tax Public Finance*, V.19, pp.393–423.
- Koşar, N., Van, M.H. (2012), “Uluslararası Vergi Rekabetinin Doğrudan Yabancı Sermaye Yatırımları Üzerindeki Etkilerinin Türkiye Açısından Değerlendirilmesi”, *Yönetim ve Ekonomi Araştırmaları Dergisi*, V.18, pp.1-19.
- Lammersen, L., Schwager, R. (2010), *The Effective Tax Burden of Companies in European Regions*, An International Comparison, Mannheim: Publications Series of the Centre for European Economic Reseach.
- Ministry of Industry and Technology (2020), *Investment Statistics*.
- Mooij, R. A., Ederveen, S. (2001). ‘Taxation and Foreign Direct Investment: A Synthesis of Empirical Research’, *CESifo Working Paper*, No. 588.
- Musgrave, R. & P., Musgrave (1985), *Public Finance in Theory and Practice*, Singapore: Mc Graw-Hill.
- OECD, (2019). *Corporate Tax Statistic*. <https://www.oecd.org/tax/beps/corporate-tax-statistics-database.htm> (06.05.2020).
- Öğrül, E., Eryiğit, M. (Autumn, 2015), “The Factors That Effect on Foreign Direct Investments In Turkey (Sectoral Comparisons)”, *Theoretical and Applied Economics*, V.XXII, I.3, pp.251-272.
- Poulsen, L. S. and Hufbauer, G. C. (2011), “Foreign Direct Investment in Times of Crisis”, *Working Paper*, Washington D.C.:
- Sarısoy, İ., Koç, S. (Ağustos-Aralık, 2010), “Doğrudan Yabancı Sermaye Yatırımlarının Kurumlar Vergisi Gelirleri Üzerindeki Etkisinin Ekonometrik Analizi”, *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, S.36, ss.133-153.
- Sauer, B. (2020), “As Much Freedom as Possible, as Many Restrictions as Necessary”, *A Journey Through Europe*. https://www.robert-schuman.eu/en/doc/divers/FRS_seen_from_italan_scenario.pdf, (01.05.2020).
- Slemrod, J. (March, 1987), “On Effective Tax Rates and Steady-State Tax Revenues”, *National Tax Journal*, V.40, I.1, pp.127-132.

- Spooner, G. M. (September, 1986), "Effective Tax Rates from Financial Statements", *National Tax Journal*, V.39, I.3, pp.293-306.
- Şişman, M., Öztürk, O. (2010), "Doğrudan Yabancı Sermaye Yatırımları ve Uluslararası Vergi Rekabeti: Bir Literatür Araştırması", *Marmara Üniversitesi İ.İ.B.F. Dergisi*, C.XXIX, S.II, ss.47-75.
- Tuomi, K. (2011), "The Role of the Investment Climate and Tax Incentives in the Foreign Direct Investment Decision: Evidence from South Africa", *Journal of African Business*, V.12, pp.133-147.
- Wu, L., Wang, Y., Luo, W. and Gillis, P. (June, 2012), "State Ownership, Tax Status and Size Effect of Effective Tax Rate in China", *Accounting and Business Research*, V.42, I.2, pp.97-114.
- Wijeweera, A., & Clark, D. P. (June, 2006), "Taxation and Foreign Direct Investment Inflows: Time Series Evidence from the US", *Global Economic Review*, V.35, I.2, pp.135-143.
- Wijeweera, A, Dollery, B., Clark, D.P. (2007), "Corporate Tax Rates and Foreign Direct Investment in the United States", *Applied Economics*, V.39, pp.109-117.
- Yavuz, A., Serdar, Ç. (2010), "Doğrudan Yabancı Yatırımlar-Vergi İlişkisi: Bazı Avrupa Birliği Ülkeleri ve Türkiye", *Gaziantep Üniversitesi Sosyal Bilimler Dergisi*, C.9, S.1, ss.69-85.
- Yücememiş, B., Erol, T., Okan, K. (2017), "Average Effective Tax Rates of Turkey in Eu Accession Process", *İktisat Fakültesi Mecmuası*, C.67, S.1, ss.24-42.
- Zhang, H. (2012), "Property Rights, Tax Incentives and Bogus Foreign Direct Investment," *Transnational Corporations Review*, V.4, I.4, pp.19-45.

INTERNATIONAL INFORMATION EXCHANGE AND OECD MODEL AGREEMENT: EVALUATIONS OF TURKEY AND USA IN THE FRAMEWORK OF GLOBAL FORUM WORKS*

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INTRODUCTION

International information exchange agreements are the tax-related agreements between the tax authorities of the countries for the solution of problems related to tax crimes between countries and the prevention of international double taxation. These agreements contain on how and under which conditions the information exchange will be made for countries.

By setting standards on information exchange, the goal of ensuring effective and transparent information exchange between tax administrations emerges. However, it is not only in exchange of information on demand; in order to provide faster information exchange between tax administrations, developments in automatic information exchange are still continuing. The most important source for international information exchange in terms of the subject discussed is the OECD model agreement. Accordingly, the OECD model agreement, which is the largest resource, is being examined, since it contains common provisions on information exchange. In spite of the fact that the information exchange is out of order in the provisions of the OECD model agreement, the legal basis and application infrastructure for automatic information exchange are tried to be established with the Global Forum studies by not being considered sufficient with globalization.

Accordingly, the study primarily deals with the theoretical framework of the international information exchange within the scope of its conceptual dimension, historical process and legal basis. Later on, OECD model is discussed in detail due to the effort to create a model for information exchange. In this context, Global Forum's work with other organizations are examined in the framework of a comparison of the USA and Turkey.

1. INFORMATION EXCHANGE IN GENERAL

Information exchange agreements, include information subject to change among tax authorities. However, although the exchange of

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information is not a very new phenomenon, it seems that it takes time for countries to adopt it. In this context, firstly conceptual explanations are given in this part of the study. Then, legal basis and historical process of international information exchange are specified.

1.1. Conceptual Information Exchange between International Tax Administrations

With the capital mobility and globalization process, countries make tax agreements in order to prevent problems arising from taxation and the number of such tax agreements is rapidly increasing. In this context, as the most important common points of tax agreements; it appears as the prevention of international double taxation and subsequent cooperation between tax administrations. At the same time, these common points constitute the aims of tax agreements (Keen & Ligthart, 2006:81). The desire to attract foreign investors, which is one of the main objectives of globalization, causes competition among countries. Therefore, the competition process increases in direct proportion with the rate of foreign investors drawn. In this context, taxpayers who want to benefit from the competition between countries tend to pay less or no tax. Another reason for such negative situations in terms of tax administrations is the lack of assistance between tax administrations (Öner, 2010:25).

In this context, it is possible to show globalization and increasing capital mobility among the reasons for the emergence of international information exchange agreements. The information exchange article, which is handled within the scope of international double tax prevention agreements, which is increasing rapidly, and which is kept within the scope of evaluation in all most agreements, is also considered within this framework. Thus, a solution can be resolved with the exchange of information between the tax administrations of the negative situations that arise with the increased tax competition. In addition, with the exchange of information, accessing information about taxpayers at an international level can facilitate the solution of taxation problems for countries.

In this framework, the exchange of information between tax administration is considered as an important factor in order to establish an effective international tax system. The reason for this is that it is possible to consider the problems that are encountered in the solution of tax evasion and tax avoidance problems that arise due to the countries' difficulties in following up international investments. Although there are various forms of cooperation agreement for exchange of information, in practice, countries often add information exchange between tax administrations as an additional article or just an explanation to international double agreements. Information exchange added to the international double tax prevention agreements as an article or clause is deemed to be accepted by

the states parties to the agreement. Since this method is included in the OECD model agreement, the agreements in question show that they adhere to the OECD model agreement (Bacchetta & Espinoza, 2000:275). Information exchange is organized within the provisions of the OECD model agreement. In this regard, countries have taken the first step towards information exchange with the international double tax prevention agreements they have prepared under the OECD model agreement. The objectives and targets of the exchange of information are specified under the said article. Considering the main purpose of the OECD model agreement, the most important reason for the exchange of information article in the model agreement provisions is that a model can be created for countries.

In this context, information exchange in the OECD model agreement is defined in 26. article. The article in question includes the sharing of all kinds of information regarding taxes and tax descriptions in order to ensure that the competent authorities of the contracting states, the provisions of the contract or the domestic law provisions of the contracting states are properly applied. Again, according to the same article, the reasons for adding the subject of information exchange to double taxation agreements are explained in two ways. The first of these, in the case that the contracting states need administrative assistance, such assistance can be provided. Another reason arises as the inevitable necessity of mutual sharing of information on domestic law provisions, even if assistance is not required for the states parties (OECD, 2017a:491). Based on these statements, information exchange is defined as cross-border transfer of tax authorities with information about tax payers. The said transfer of information can only be made on tax-related issues. In this context, information exchange refers to the sharing of taxpayers' information tax-related issues among international tax authorities.

1.2. Legal Basis and Historical Process of International Information Exchange

There are many documents that will form a legal basis for the international exchange of informations, between the two states or through transnational institutions. The first of these UN and OECD model agreements that underpin the information exchange model. Although the main purpose of these agreements is to prevent international double taxation, it is aimed to regulate the exchange of information between tax administrations (Öner, 2010:27). In particular, 26. article of the OECD model agreement is the model for the exchange of information. In the first paragraph of the article in question, the reasons for the introduction of information exchange articles are explained. In this context, firstly, administrative aids are specified for the implementation of the information

exchange model agreement provisions. In the event that no assistance is required on how to apply the model agreement provisions, the states parties to the agreement can exchange information about the implementation of the domestic law provisions in taxation (OECD, 2017a:491). For these reasons, information exchange is organized within the model agreement.

In addition to the UN and OECD model agreements, “2002 Model Agreement on Information Exchange on Tax Issues”, “Council of Europe/OECD Convention”, “Scandinavia Aid Convention”, “CIAT (Centre of Inter-American Tax Administration) Model Agreement” and “Mutual Cooperation and Solidarity in Russian Federation” can form the basis for information exchange agreements. In addition, the “European Community Directive on Mutual Assistance” and “International Legal Assistance Agreements” that provide administrative assistance in tax crimes constitute the legal basis of the information exchange agreements. However, the exchange of information can also be provided by the regulations made in the domestic law rules of the countries. Some countries may become a party to an exchange of information agreement with other countries, provided that they are mutual in domestic law or that tax privacy is protected (Öner, 2010:27).

When the international information exchange agreements are analyzed in the historical process, it is seen that it is included in the international double tax prevention agreements. In this context, it is included in the provisions of international double tax prevention agreements between Belgium and France in 1843 and between Belgium and Netherlands in 1845. The agreement between Belgium and France appears to be the oldest tax agreement. According to the provisions of the mentioned agreement, information exchange is obligatory in real estate and registration taxes. At the same time, it is seen that mutual exchange of information is obligatory in the provisions of the prevention of double taxation between Belgium and the Netherlands in 1845 (Richelle & Traversa, 2013:57). Although information exchange is tried to be provided with the provisions put in place in bilateral tax agreements, a model agreement covering all countries needs to be established. The most important reason underlying this is; is the effort of creating ideas for other countries by spreading the exchange of information in global area. For this reason, transnational institutions have accelerated their studies and modelling studies that cover both developed and developing countries have been reflected in the historical process.

In order to base the exchange of information on stronger foundations, the League of Nations first undertook the mission of organizing the exchange of information through bilateral tax agreements. In 1927, the

committee's technical staff specializing in tax evasion and double taxation proposed four different models. Finally, in 1928, the committee and its experts introduced the international double tax prevention model agreement through bilateral agreements. Following these developments, it can be stated that the structure of the international tax regime is based on the work of the OECD. Although the four models created by the League of Nations are very different from each other, it can be observed that the attitude towards preventing taxation is basically quite clear. There are two model tax agreements put forward by the League of Nations, one of which is the Mexican Draft of 1943 and the other of the London Draft of 1946. It can be seen that the necessary combination can be achieved with a single agreement model with these two drafts (Oberson, 2015:4-5). In this framework, the exchange of information that came to the fore with the international double tax prevention agreements between Belgium and France and then between Belgium and Netherlands, was later emphasized in the model agreements created by the League of Nations and OECD. The two drafts created by the League of Nations are not only for tax agreements; it is also important in terms of organizing mutual administrative aid among tax administrations. Also, it can be said that the information exchange organized in the League Nations model is an information exchange on demand.

However, the information exchange provisions in the modern tax agreements are based on the 1963 OECD model agreement provisions and the information exchange is regulated in 26. article of the model agreement issued in 1963 (Jogarajan, 2015:263). It is evident that the role of the OECD is important in the historical process of the exchange of information in order to regulate the exchange of information specifically. OEEC published its recommendations on the prevention international double taxation for the first time on 25 February 1955. In 1963, after OEEC got the name OECD; "A Draft Double Taxation Convention on Income and Capital" has been prepared. The model agreement published in 1963 is important in that it is the first model agreement published by the OECD. At the same time, it can be stated that the 26. article of the draft prepared by the OECD constitutes the framework of the international exchange of information on additional tax in the following periods. The main feature of the information exchange in the OECD model is that it predicts the exchange of information on demand. The said information exchange; it is carried out to fulfill the terms of the contract or to apply the contract terms according to the domestic law rules of the requesting state (Urinov, 2015:73).

In this context, while the exchange of the information obtained by requesting information about the fulfillment of the contract provisions is defined as the exchange of information in a narrow sense; the exchange of

information obtained by requesting information about the contractual state's ability to apply contractual clauses in accordance with the rules of domestic law is defined as the exchange of information in a broad sense (Oberson, 2015:5). In other words, when it comes to exchange of information on demand, sharing the information requested only by one of the parties to the agreement within the scope of international double tax prevention agreements is defined as narrow change; extensive definition of change can be made for the information shared on demand regarding the application of the agreement articles. It is observed that some countries are not willing to share extensive information, considering that taxpayers will have more advantages in tax reduction. In this context, it is observed that these countries share only the specific information requested about taxpayers by preferring narrow information exchange regarding information exchange.

OECD published another model agreement in 1977. Although this model agreement shows similarities with the 1963 model agreement on information exchange, it also contains some important differences. The first of these differences; for the exchange of information in 26. article defined in the 1977 model agreement, it is also possible to exchange information about third country taxpayers or taxpayers who are not subject to full or partial taxation defined in the articles of the agreement. However, the exchange of information for these taxpayers can only be regarding the taxes defined under the agreement. Again, in the 1963 model agreement information exchange includes taxation and tax collection. On the other hand, in the 1977 model agreement, it is possible to exchange information on tax appeal and prosecution. In this context, according to the 1977 model agreement, there is a provision that the information obtained by exchange of information can be shared with public courts and can be announced by judicial decisions. In 1980, a model agreement was published by the UN to cover developed and developing countries. The UN model agreement is similar to the OECD model agreement on information exchange. Further revisions of the OECD and UN model agreements also contain important similarities in information exchange. Thus, similar provisions on information exchange can be applied regardless of whether international double tax avoidance agreements are based on the UN or OECD basis (Lennard, 2009:10). With the acceleration of liberalization in capital mobility in the 1990s, the taxation authority of the source subject to tax became complicated due to the difficulty in direct taxation of the mobility in question, and therefore OECD started to work in 1998 to prevent harmful tax competition. Accordingly, information exchange is the focus of OECD's work on tax havens and harmful tax competition in 1998 (Oberson, 2015:6). In 2000, significant revisions were made for the 26. article regulating the exchange of information with the OECD model

agreement. In this context, the exchange of information has been applied to the local authority and political subdivisions of the states parties to the agreement. Subsequently, the UN model agreement was published in 2001 to cover the same revisions (Urinov, 2015:77).

However, in 2000, OECD published a report titled “Improving Access to Banks’ Information for Taxation”. According to the report in a question, in order to exchange information about tax irregularities, this irregularity must be defined in the laws of the parties to the agreement. In addition, it can be said that some support is provided by the OECD on the exchange of information on demand. After these works, in 2000, “Exchange of Information and Transparency Global Forum” was formed and then OECD published “Tax Information Exchange Agreement (TIEA)” in 2002. In addition to being a bilateral and multilateral model, TIEA provides the opportunity to exchange information demand without being subject to objections against the bank privacy rules of the requested state, and the request for information exchange also meets certain requirements according to the rules of the requesting state. In this context TIEA, represents a major global development in the exchange of information on demand (Oberson, 2015:7). The principles of transparency and effective information exchange in exchange of information on tax issues on demand were originally set out in the 2002 OECD model agreement. Some standards are introduced for information exchange with subsequent revisions. Accordingly, for the exchange of information on demand, predictable information should be found on the implementation of the domestic law rules for the tax administrations of the parties to the agreement. In addition, the demand for information exchange cannot be rejected on grounds of information exchange on demand, such as bank confidentiality of tax obligations under domestic law. In addition to these reasons, if a state has signed 12 tax agreements, it can be said that the internationally accepted tax standard is applied (Berget, 2016:8).

2. INFORMATION EXCHANGE WITHIN THE FRAMEWORK OF THE OECD MODEL AGREEMENT

Firstly, states can exchange information depending on the application of the articles in the international double tax prevention agreement texts, which are signed within the framework of the OECD or UN model. However, they can also add information exchange articles to international double tax prevention agreement texts outside the OECD and UN model framework. In addition, information exchange agreements can be made regardless of a particular model. Accordingly, states generally apply OECD and UN model agreement provisions regarding information exchange. In addition, information exchange agreements can also be made with countries, which are considered as tax havens, in order to prevent tax

competition and prevent the emergence of taxable earnings. In addition, although OECD and UN model agreements have not been adopted, bilateral tax agreements are aimed to exchange information in addition to additional articles.

When the information exchange is considered in terms of the OECD model agreement, it is seen that the information exchange provisions on taxes on income and wealth are included in 26. article. In the first paragraph of 26. article, the reasons for the regulation of the exchange of information to which the parties to the agreement are parties to avoid international double taxation are explained. These reasons; the need to exchange information regarding the problems to be faced in the implementation of the terms of the agreement and the ability of the states to request information while applying the national tax provisions within the framework of globalizing economic relations. However, the model agreement not only deals with the exchange of information for tax purposes; it also addresses the issue of administrative assistance on tax collection in 27. article (OECD, 2017a:489). In this respect, The OECD model agreement covers the exchange of information on taxes on income and capital, and it also constitutes the source of information exchange among tax administrations regarding tax collection. Information exchange can be made within the scope of the implementation of the model agreement on the exchange of information on income and on capital taxes and the implementation of tax provisions in domestic law. In addition, in order to prevent problems that may arise while collecting taxes in the international context, information exchange can also be made through cooperation between tax administrations.

In 2002, the OECD Financial Affairs Committee made re-examinations in order to become aware of the fact that 26. article covers the current country practices. While conducting these reviews, the OECD Global Forum Working Group's efforts to increase efficiency in information exchange and compliance standards for accessing bank information defined in the "Bank Information Access Improvement Report" for tax purposes were also taken into account (OECD, 2017a:489). In the revisions made to date, OECD has made arrangements in 26. article, including the work of the Global Forum. In this context, the most important development is to include the exchange of information owned by banks and financial institutions in the subject of information exchange. From this point of view, it can be said that OECD supports Global Forum studies and tries to increase its international applicability through model agreements. Accordingly, in this part of the study, the scope and methods of information exchange according to the OECD model agreement are explained.

2.1. Scope of Information Exchange According to OECD Model Agreement

26. article of the OECD model agreement includes provisions for information exchange, and therefore the scope of information exchange is examined in accordance with the provisions of 26. article. According to the first paragraph of 26. article, the competent authorities of the states parties to the agreement can share information about any tax and tariffs in connection with the tax laws in the domestic law of the states parties to the agreement, for the purpose of applying the provisions of the agreement in a predictable manner. The foreseeable relationship standard is designed to provide the widest possible exchange of information on tax issues and at the same time to clarify that states parties do not have the liberty to investigate, or that the requested information is not related to a particular taxpayer's tax transactions (OECD, 2017a:492). In this context, if the exchange of information has a predictable relationship for the reasons specified in the terms of the agreement, exchange of information can be made. With the predictable relationship of the information requested, it is aimed to impose certain restrictions on the freedom of states to exchange information. However, it is limited to the fact that the exchange of information, which is described as a random investigation, is prevented from the exchange of information and that the requested information is related only to the relevant taxpayer.

Within the scope of the exchange of information requested, the information must have a predictable relationship when the request is made; in other words, the information requested should be related to the subject. When the requested information is provided, the predictable relationship can be meaningless. However, when the requested information is requested on the grounds of ongoing investigation into the final assessment of a situation, the requested information can not be rejected (OECD, 2017a:492). At the same time, the information requested within the framework of the predictable relationship should be related to the subject of request. Therefore, the predictable relationship has to be associated before information is requested. In addition, if the requested information is important for the continuation of an audit or investigation, the request for information can not be rejected by the requested state by other party to the agreement.

Unauthorized information exchanges may cause the information request to fail. In this context, any actions and processes in the information exchange process must be made in accordance with the law and procedure. As a matter of fact, any irregularity or unlawfulness experienced in this process may affect the validity of the exchange of information (Öner, 2010:74).

The types of taxes to be included in the scope of information exchange differ according to the information exchange agreements. While the OECD model covers taxes on income and wealth only; in the first paragraph of the model, there is a provision that alternative formulas can be applied, as long as necessary and relevant, with a predictable relationship that is compatible with the treaty states of the parties to the treaty. In addition, information exchange may cover all tax issues, without prejudice to the general rules and legal provisions governing the rights of the accused and witnesses. The exchange of information on tax penalties is based on bilateral or multilateral agreements that include mutual legal assistance. In order to ensure exchange of information within the framework of the OECD model agreement, in cases where the information is not contrary to the contract, only the countries' domestic tax laws are not contrary to the model agreement provisions (OECD, 2017a:494). According to this paragraph, although the OECD model agreement was prepared to form a model for taxes on income and wealth, information exchange is also permitted for other taxes, provided that it is not in violation of the terms of the agreement and that it is not against the rules of the states. In addition, legal aid on tax issues can be provided through bilateral or multilateral agreements.

In the model agreement, it is emphasized that the exchange of information can not be limited to the application of the terms of the agreement or any tax and tariff related to the domestic tax laws. In this context, the authorities can request information on these issues or exchange information to increase tax compliance in other matters involving tax administrations. These issues are; risk analysis techniques or tax evasion and tax avoidance (OECD, 2017a:493). In addition, within the scope of 26. article of the model agreement, information regarding the application or administration of the domestic law provisions in relation to all taxes collected on behalf of the political subunits of the parties to the agreement or local governments of the exchange of information is subject to change (GIB, 2014:36). In this context, the competent authorities of the parties to the agreement can exchange information regarding the implementation of the terms of the agreement or the rules of the domestic law, provided that such taxes are not in violation of the agreement.

2.2. Information Exchange Methods According to OECD Model Agreement

Within the scope of the OECD model agreement, information exchange is done in three different ways. In this respect, requested information exchange, automatic information exchange and spontaneous information exchange emerge as information exchange methods defined in the OECD model agreement. These methods can be summarized as follows:

- ***Requested Information Exchange:*** Most of 26. article and bilateral tax agreements are based on this method. The most important reason for this is that the requested information exchange is more compatible with international standards and can be applied more effectively. This method refers to the exchange of information on a specific subject between the competent authorities of countries. The information requested should have predictable relationship and not be covered by general information. Therefore the requested information must have a predictable relationship with the relevant taxpayer or related subject. In the case of an information request that does not have a predictable relationship, the requested information can be rejected. Given a special case for the requested information exchange, it is necessary to reach agreement are based on valid domestic tax procedures before the information is requested from the other state (OECD, 2017a:498). Therefore, the information requested is in accordance with the terms of the agreement and the domestic law rules of the parties to the agreement, but must be available within the scope of national information sources. Before the information parties request the information, the parties to the agreement must have communicated to the other state that they will use all available national resources to access such information and a consensus has to be reached on this issue. In addition, it is essential that the request is in writing, but it can be requested verbally in exceptional cases. If the requested information can not be obtained despite all possibilities, the situation should be communicated to the party requesting the information as soon as possible. The limited determined as the duration of these change is 90 days. Information must be provided within 90 days of the day on which the request for information is submitted; in case it can not be provided, the situation requesting the information must be informed to the party requesting the reason (Öner, 2010:74).

- ***Automatic Information Exchange:*** This method is defined as the systematic transfer of this type of information on the income classification obtained in one of the states parties to the agreement was received by the other country. In other words, it refers to the regular transfer of information about taxpayers from the country of origin to the country of residence (Feinsreiber & Kent, 2013:27). In this context, automatic information exchange is based on systematic information exchange between the states. Within the scope of this method, there is no separate institution for information exchange; within the scope of the agreement, there is a certain period of time that competent authorities change the information on the matters concerning the parties to the agreement. The purpose of this method is to check whether the taxpayers who submit declarations in foreign countries are correctly transmitted. The information obtained by the country of origin is controlled by the country of residence. With this

method, international cooperation between tax administrations has been around for a long time, but it is tried to be standardized by including it in model agreements. In this way, preventing tax evasion through offshore transactions is among the main targets of OECD (Ateş, 2015:668).

- ***Spontaneous Information Exchange:*** According to the OECD model agreement, this method is defined as the sharing of information that is considered relevant for the other country as a result of the audit conducted in one country (OECD, 2017a:498). In other words, during the audits, it is the other state party's sharing the information, which obtains the information related to a state party to the agreement (GİB, 2014:365). This method is similar to automatic information exchange. In this context, the method involves the transfer of information to a country when the information obtained in a country, especially in tax administrations, during the regular business process and potentially relevant to the other party is obtained. Therefore, in order for this transfer to be made, it is not required for states to sign a separate agreement. The method requires the active participation of tax officers in both countries. In this way, the information provided can be binding as tax officers are dependent on the competent authority of the country concerned (Öner, 2010:80).

3. GLOBAL FORUM WORKS: TURKEY AND USA

The implementation of the terms of the agreement and the correct application of the domestic laws of the parties to the agreement are guaranteed by the exchange of information for taxes under the agreement. In this context, the information can not be controlled through information exchange can be used as the most important tax evasion weapon. At this point, unsystematic exchange of information can not be done frequently and information exchange can be a burden for governments, but it can be time consuming. The fact that the country, which will apply its own legislation and make legal arrangements under the pressure of time for the situation where the information is requested, causes the information request to be made for general purposes. The negative effects of the requested information exchange required the development of the OECD model agreement. Thus it will be possible to exchange information more effectively and attain international standards.

The OECD information exchange agreements were based on "Mutual Administrative Assistance on Tax Issues Multilateral Model Agreement" and 26. article in the model agreements (Berget, 2016:9). At the same time OECD worked on all methods of information exchange for many years. Especially since 2009, progress has been made towards increasing transparency and improving requested information exchange with the contributions of OECD, EU and The Global Forum on Transparency and Exchange of Information for Tax Purposes (OECD, 2017b:9). The Global

Forum is characterized as a continuation of a forum created to work on addressing tax compliance risks due to non-cooperating countries with the OECD. The main members of Global Forum are OECD countries that accept the exchange information on transparency and tax issues and the jurisdictions of those countries. Based on this, the Global Forum was restructured in September 2009 on the call made by the G20 countries in order to strengthen the implementation of these standards and ensure their continuity. The Global Forum at the moment, there are 150 members it is well located Turkey. The purpose of the Global Forum is to ensure the implementation of internationally accepted transparency tax exchange standards and to establish a certain level for non-member states (OECD, 2018a:1). In this context, Global Forum classifies its activities on requested information exchange and automatic information exchange.

3.1. Requested Information Exchange from Global Forum Perspective (EOIR)

The requested information exchange can be described as the most important and practical tool for tax administrations and judicial bodies in the fight against international tax crimes in situations related to a particular taxpayer or certain taxpayer group. While examining the cooperation of countries with tax administrations in the another country, the Global Forum evaluates the countries on the basis of equivalent countries, considering the access to the information requested according to the agreed international standards, obtaining the information for the body requested by the tax administrations, and the exchange of such information in accordance with the agreement. In concluding the reviews in the first round, the Global Forum is implementing a faster and easier expedited procedure in order to make further progress in implementing the requested information exchange. This evaluation, called quick examination, allows temporary scoring before proceeding with the second round of evaluation (OECD, 2018b:1).

However, the Global Forum aims to set specific standards for the requested information exchange. The standards of the requested information exchange, ensure that the administration has a predictable relationship or that domestic tax law rules are applied for the requested group. Requesting and exchanging general purpose information is not accepted. In addition, all reliable information is shared, including all bank information with predictable relationship requirements. While making the information exchange, it is not checked whether there are domestic law rules or tax standards within the scope of the related subject. With the 2012 revision made to 26. article of the OECD model agreement, a predictable relationship standard is also introduced for information exchange requests made especially for groups. In this regard, in addition to the main source

of standards, a series of documents were prepared on how to apply the standards, especially on transparency. These documents provide guidance on account transparency where reliable accounting information can be found. Also secondary resources; “OECD and Global Forum Information Exchange Handbook” published between 2006 and 2013, “2004 Guidance Notes” published by the Harmful Tax Practices Forum, “2012 Financial Action Task Force Comments” and “Transparency and Useful Property Handbook” (OECD, 2016a:16-17).

The legal basis for the work of the Global Forum is again the 26. article of the OECD model agreements. Also, secondary sources published can be shown as legal basis. However, the Global Forum evaluates countries in terms of requested information exchange, according to specified criteria.

The exchange of information for tax purposes can be effective when it comes to reliable information, which has the legal mechanisms that provide the needs of the requesting authority in accordance with the prescribed time, the acquisition and exchange of information. In this context, the factors that transparency and exchange of information are evaluated; access to information, ensuring Access to information and presence of information exchange mechanisms (OECD, 2016a:17).

In other words, information should be available, tax authorities should be able to access the information and a basis for information exchange should be established. If any of these issues are missing, information exchange is not effective. In this context, countries are compared with similar countries and countries can be graded through rapid inspection and rating tours. Within the scope of the determined standards, the Global Forum has made the requested information exchange (EOIR) rating round twice upon. These are called as “EOIR rating round 1” and “EOIR rating round 2”. Global Forum was completed 2010 by the rating results in the first round, Turkey to set standards “partially compliant” as has been described. The second round of ratings which began in July 2016 and the first half of 2020 has been identified for Turkey. On the other hand, for the USA, it was rated as “largely compliant” as a result of the first and second round ratings (CYC, 2018:1).

The Global Forum examines the ratings of countries under three main topics. The first of these topics is the accessibility of information, the second is the acquisition of information and the third is the exchange of information. For Turkey, the stage of possessing the information that constitutes the A1 article, which is evaluated under the topic of accessibility of information, does not provide the necessary conditions. Turkey provides the conditions needed to A2 article (financial accountability stage) and A3 article (Access to the bank information stage). In the topic acquisition of information, B1 article, which has the title of

accessing information power has been partially completed; however, the necessary conditions for the B2 article titled rights and guarantees are provided. The necessary conditions are largely provided for the C1 article named tools used, that is under the topic of the information exchange. C2 article is related to establishment of the network of contracts necessary for the exchange of information and Turkey required to necessary condition. C3 article contains the privacy requirement and Turkey required to necessary condition. Turkey is largely completed the C4 article which constituting the condition of rights and guarantees. For the C5 article which covers the instant information exchange, the grade not evaluated has been deducted. In contrast, while the USA is largely compatible with A1 and A2 articles, it is considered to be fully compatible for all other articles (OECD, 2016b:23-24).

Although Turkey largely completed these conditions, the reason for the ‘partially compatible’ grade in the general evaluation is the detection of at least one of article deficiency that has a significant effect (OECD, 2016a:83). This deficiency results from any of the deficiencies in the legal, regulatory structure or practice, and the actual and potential impact on the request information exchange needs to be examined. A deficiency arising from these issues affects the request information exchange negatively in practice. This situation for Turkey is due to lack of legal regulation in the article and the stages of having information in A1 article. On the other hand, accessibility to information power and exchange of information provided completely for the USA.

3.2. Automatic Information Exchange from Global Forum Perspective (AEOI)

In the requested information exchange, countries need to define exactly what information they will request in order to depend on the request to information. In this respect there is a possibility that the taxpayer or financial institution who has missed taxes may leak information. The reasons for not having the request in the relevant institution or restricting access to bank information may prevent access to information. Therefore, automatic information exchange has features superior to the requested information exchange. Therefore in April 2013, Finance Ministers and Central Bank Governors of G20 countries approved automatic information exchange. Following the decision of the G20 countries, the Model 1 Intergovernmental Agreement (Model 1 IGA) was developed between France, Germany, Italy, UK and USA in order to increase international tax compliance and implement The Foreign Account Tax Compliance Act (FATCA). A Step Change in Tax Transparency Report by the OECD General Secretariat was published by G8 leaders in June 2013, which demonstrates the concrete steps that need to be taken to implement the

global information exchange model globally. Accordingly, G8 leaders have committed in September 2013 that they will fully support the automatic information exchange and the OECD works as the new global standard, together with the G20 countries. In February 2014, Finance Ministers and Central Bank Governors of G20 countries, accepted “Common Reporting Standards for Automatic Information Exchange on Tax Issues (CRS)” in the document “Standard for Automatic Exchange of Financial Account Information”. Finally, in May 2014, it was decided to quickly implement a common reporting standard (OECD, 2017b:12).

The global information exchange model is a model related to financial account information and it can exchange information with the exchange partners of many countries that are or are not members of OECD or regionally different income categories. However, it can automatically exchange a lot of information such as change of residence, purchase or disposal of real estate, value added tax refunds. CRS is parallel with FATCA application in order to maximize efficiency and reduce costs for financial institutions. The differences between CRS and FATCA are due to the fact that FATCA has special aspects, is not based on citizenship and adopts a comprehensive withholding procedure (OECD, 2017b:14).

Turkey has signed “Mutual Administrative Assistance Convention” that is the most important legal basis for the automatic information exchange by the Global Forum. Also in this direction, Turkey has signed “Multilateral Competent Authority Agreement (MCAA)”. When evaluated in terms of automatic information exchange, USA has signed “Mutual Administrative Assistance Convention” but not the MCAA. The reason for this is that, since 2015, USA realized automatic information exchange through FATCA application and intergovernmental agreements. Through the intergovernmental agreements created by USA, it is aimed to provide mutual automatic information exchange with the USA equivalent authorities. In this context, the aim is to adopt regulations for automatic information exchange commitments and to establish relevant legislation to achieve the level of automatic information exchange with equivalent institutions (CYC, 2018:1).

In this direction Turkey efforts to create the automatic information exchange through OECD and to implement it. On the other hand USA aims to expand the FATCA application through intergovernmental agreements and provide automatic information exchange. In this context, it has not signed the MCAA created by OECD and Global Forum; but made commitments. However, there is no specified commitment date. In this respect, USA is considered as the only country that has no commitment date and does not sign MCAA. However, while USA government has access to the information exchange network; Turkey does not have access

to automatic information exchange network for the exchange of information has not yet begun.

3.2.1. Model Component Authority Agreement (Model CAA)

The automatic information exchange network tried to be created by OECD has a CRS title. In this context, “Multilateral Component Authority Agreement (MCAA)” must be made. “Model Component Authority Agreement (Model CAA)” was created by OECD in order to create a model for MCAA. Therefore, the first issue developed by OECD in terms of establishing a legal basis for automatic information exchange is Model CAA. The mentioned model is explained with comments and tables and published in the form of a user manual. The Model CAA aims to improve international tax compliance by automatic exchange of financial account information between competent authorities.

The Model CAA consists of seven sections, with provisions containing the exchange methods necessary to ensure that the appropriate flow of information takes place. These provisions are related to internal reporting and diligence rules that support the exchange of information as required by the competent authority agreement. However, the provisions; it represents the establishment of the necessary infrastructure for the relationship of confidentiality, assurances and effective information exchange. From the seven sections mentioned; the first includes definitions, the content required in the second for information to be subject to change, the third is the section change time and the limits of information exchange, the fourth is cooperation and implementation in collaboration and the fifth is the privacy and protection of information for the information in question. However, in the sixth section, the amendments and suspensions to be made within the scope of the agreement and the conditions of the agreement are discussed in the seventh section. In the definitions part that is the first section of the Model CAA; according to the terms of the agreement, there are definitions about the countries, definitions for the citizens of the countries, definitions of competent authority and reportable accounts (OECD, 2017b:19-23).

Information mentioned in the second section of the agreement; the taxpayer’s name, address, date of birth, place of residence, account number, identification number, account balance and values as of the end of the relevant calendar year or other reporting period (OECD, 2017b:25).

According to the third part of agreement, the amount and qualifications of the payments made for the account subject to the exchange of information must be determined in accordance with the domestic law rules and jurisdiction laws of the country that exchanges the information. The relevant amount for each shared information is defined in currency. In

addition, the information must be changed within nine months from the end of the calendar year to which it is associated, to be changed in the coming years. In terms of the scope and reporting of the exchange of information, it is necessary to share it without any time limit in case a matter requiring reporting is detected in the relevant calendar year (OECD, 2017b:29).

The important point in the fourth section is that when a false or incomplete notification of the information is caused by an error arising from the competent authority, or if a reporting reason is found that the reporting institution's reporting requirements are not complied with, the other competent authority should be notified. In this context, the competent authority notified is obligated to take all measures to eliminate such errors or noncompliance (OECD, 2017b:30).

According to the fifth section, with the provision that restricts the use of all information subject to change, the confidentiality rules and other safeguards envisaged in the vehicles used with the agreement are protected in order to ensure the protection of personal data in addition to the protection measures determined by the competent authority in the domestic law rules. Both competent authorities are obligated to promptly inform sanctions and remedial actions in case of any violation of privacy or protection measures (OECD, 2017b:30).

For any difficulties in implementing or interpreting the agreement under the sixth section, the competent authorities may negotiate the development of appropriate measures to ensure that the agreement has been fulfilled. In addition, the agreement can be changed with the written agreement of the competent authorities. Unless otherwise agreed, such a change takes effect on the first business day following the completion of the one week period after the written agreement is signed, or on the day after the notification of the amendment of the objectives of the written agreement (OECD, 2017b:31).

In the last section of the agreement, it is stated that the notifications provided by the competent authorities can enter into force on the date later than specified in the agreement. One of the competent authorities may suspend the exchange of information within the scope of the agreement by notifying in writing that the other competent authority does not substantially comply with the agreement or that there are noncompliances. In this context, the suspension process is realized by the decision of suspension. In addition, the competent authority may terminate the agreement by giving written notice of termination to the other competent authority. The agreement is terminated on the first business day of the month following the 12 month period of notice of termination. However,

the information shared during the agreement must remain confidential (OECD, 2017b:31).

3.2.2. Common Reporting Standard (CRS)

Another issue stated in the report created by OECD to establish a legal basis for automatic information exchange is the “Common Reporting Standard (CRS)”. It is aimed to enable the exchange of financial account information by creating CRS and qualified rules. In this context, CRS frequently mentioned in Model CAA, includes reporting and due diligence standards that form the basis of the automatic exchange of financial account information. Financial institutions in the country implementing the CRS are responsible for reporting information in accordance with the specified rules and implementing due diligence procedures consistent with the specified procedures (OECD, 2017b:19).

Financial institutions within the scope of CRS; custody institutions, deposit institutions, investment institutions and certain insurance companies. Financial information on reportable accounts; interest and dividends, account and value balances, income from certain insurance products, sales income of financial assets, assets held in the account and other account income. Reportable accounts include accounts held by individuals and organizations. According to the standards, passive institutions should be checked in order to report on the administrators. If the financial institution is passive, then the residence of the administrators must be checked (OECD, 2017b:19). Whether financial institutions are active or passive is specified in the legislation of the countries. Non financial institutions can also be defined for passive institutions (OECD, 2018d:8). According to CRS, the residence of the person who manages the passive financial institution is important for reporting passive institutions. Reportable information for active institutions; account of information of individuals and organizations.

At the same time, in order to determine reportable accounts within the scope of CRS, due diligence procedures to be performed by reporting financial institutions are examined. In this context, financial institutions evaluate existing and new accounts separately. Financial institutions should also consider that it is more difficult and costly to obtain the information of the current account holders in the process of requesting information after the account is opened. However, the rules and administrative procedures should be in the authority of implementation are specified to ensure the effective implementation and compliance of the standards (OECD, 2017b:21).

In this context, within the scope of CRS, the sections are explained in detail and supported by annotations. In addition, the problems that may

occur with the help of technical information and tables are discussed in detail and solutions are specified. Due to the fact that it contains a lot of technical information and details in CRS, some definitions are missing. In this context, OECD tries to complete the missing definitions with a text titled frequently asked questions about CRS. Therefore, Turkey's legal basis and procedures for implementation of automatic information exchange agreements signed by the CRS and MCAA adopted.

3.2.3. Multilateral Competent Authority Agreement (MCAA)

Signed by Council of Europe member states and OECD member countries, MCAA appears as an independent multilateral agreement designed to promote international cooperation between tax authorities while respecting the fundamental rights of taxpayers. MCAA in order to combat tax evasion; provides all administrative cooperation between the parties in the evaluation and collection of taxes such as requested information exchange, automatic information exchange and spontaneous information exchange. The agreement was replaced by a protocol that entered into force on 1 June 2011 and 117 countries have signed the agreement so far (OECD, 2018c:1).

Although USA signed the MCAA in 1989, it has not improved in terms of implementation of the agreement and enforcement of the regulated agreement. Accordingly, the protocol of the agreement was signed in 27 May 2010, but the agreement did not enter into force as the acceptance and compliance stages were not completed. This shows that USA is only a symbol in this list and does not want to provide mutual administrative assistance.

Turkey, the MCAA process of mutual administrative assistance for the creation of a moment ago, began remitting it to deal with the procedures and agreement signed in 3 November 2011. Following its approval by the Turkish Grand National Assembly, "Mutual Administrative Assistance Agreement on Tax Issues" numbered 7018 was approved by the Council of Ministers on 3 May 2017 and published in the Official Gazette on 20 May 2017. Then, the deposit tools to be used for mutual administrative assistance were approved on 26 March 2018 and the effective date of the Council of Ministers was determined as 1 July 2018. Turkey signed the MCAA's main objective; providing administrative assistance on tax issues, including simultaneous tax reviews and exchange of information for participation in foreign tax investigations, collective assistance including protection measures and tax notification. Therefore, simultaneous tax inspection can be made with the competent authorities of other countries that are parties to the agreement. Since the simultaneous tax inspection and crossborder inspection are counted among the information exchange methods, the exchange of information gains legal basis with this

agreement. In addition, it is aimed to ensure cooperation between tax administrations in terms of tax collection.

There is a right not to provide assistance for taxes that are not included in domestic taxation Powers listed under the agreement. The right not to provide assistance is limited to tax receivables and administrative fines. However, there is a right not to provide assistance regarding the reservations specified under the agreement. In this context, Turkey has and income and corporate tax and value added tax in relation to the administrative assistance agreed to “Appendix A” also has declared; and stated their reservations for other tax types when signing the agreement. In addition, provided that is notified to the general Secretary of the Council of Europe or the OECD General Secretary, persons subject to exchange of information can be informed that their information will be exchanged. According to the agreement, the states can share information without requesting information.

The state party to the agreement, which applied for information exchange, is obliged to convey the necessary information in order to ensure the effective exchange of information. In this context, the information exchange method is specified, along with the taxpayer and tax information about the institution and the person requesting the information. However, in order to exchange information within the scope of the agreement, it is necessary to state that the legislation and administrative practice are appropriate.

Within the scope of the agreement, it is seen that the domestic law rules and administrative practices have priority in terms of the state parties to both agreements. In addition, it is not possible to share information that would violate public order or make professional secrets public. Shared information may not contradict international double taxation agreements, but information that may cause discrimination among citizens of the states parties can not be shared. At the same time, within the scope of information exchange, it is not possible to share information that is more than its cost benefit. Therefore, it can be said that provisions compelling states were avoided under the agreement.

CONCLUSION

The information exchange is defined as the transfer of information between tax authorities, which can be done in various ways between countries and on tax-determined issues. Accordingly, the information exchange can be made requested, automatically and spontaneously. In order to exchange information requested, the requesting state must make a written request to the other state. The other state should also share the information if it considers it appropriate by evaluating the

request for information. In this context, the request for information exchange is made again in terms of each new information. The spontaneous information exchange takes place when a state's tax administration encounters information that alongs the another state and may be of interest to that state during the usual workflow, and transmits this information to the tax administration of that state. Although spontaneous information exchange is not continuous, in order to exchange information, the state needs to reach information about the other state and be willing to sahare it. Automatic information exchange is based on periodic information exchange between countries. Therefore, information exchange can be made easier and and more effective with this method. Although, the requested information exchange is based on meeting the request within the specified period, the bureaucratic process it is seen as an obstacle to the exchange of information. In this context, the fact that the information exchange defined in the international double taxation agreements is on request causes the need to make different agreements. In addition, the globalization of economies makes it difficult to track resource transfer and problems such as tax evasion may arise through offshore accounts. In this direction, automatic information exchange network needs to be implemented effectively and transparently.

OECD and Global Forum are working to increase the effectiveness of information exchange. In this context, the Global Forum evaulates countries in terms of requested information exchange certain criteria. Turkey is partially compliant grade ratings made on tour. The reason is that Turkey is the lack of available information and are having problems with instant information on the stage. In this context, in 2020 Turkey will be subject to assessment under the qualification rounds again. USA is defined as largely compatible. In this context, information can be accessed and information exchange mechanisms exit. On the other hand, the difficulties experienced in accessing information constitute an obstacle for the USA to be considered as completely compatible. Within this framework, USA should increase tha accessibility of information exchange with revisions covering financial institutions.

In terms of automatic information exchange, OECD created the CRS based on the USA FATCA agreement. Automatic information exchange can be made between the tax administrations of the countries that comply with CRS and in tersms of CRS, all countries shoul regulate their legal regulations within the scope of automatic information exchange. Accordingly, OECD published the Model CAA. With the Model CAA, it is aimed to create a model in order to provite information exchange effectively by accessing financial account information within the scope of countries' automatic information exchange. This agreement is made multilaterally, not between the two countries. Turkey in terms of the CRS,

“Mutual Administrative Assistance Convention” signed by a party that is committed to the multilateral automatic information exchange. However, Turkey has yet to exchange information under the CRS. Turkey is under the automatic information exchange in order to fulfill the commitments it has made, it is necessary to begin to make the necessary domestic legislation to exchange information. On the other hand, USA signed the agreement in 2010, but does not specify the effective date. Therefore, criticisms are made for USA that it is symbolic in terms of mutual administrative assistance. On the other hand, it is possible that the USA does not need a mutual administrative cooperation agreement with FATCA since it creates its own information exchange network. However, although effective information exchange is possible with FATCA, it is important that it cooperates with OECD as an example for other countries.

REFERENCES

- ATEŞ, L. (2015). “Vergisel Bilgilerin Otomatik Değişim Standardı ve Türkiye”, *İnönü Üniversitesi Hukuk Fakültesi Dergisi*, Cilt 2, Özel Sayı, ss. 665-682.
- BACCHETTA, P. & ESPINOZA, M. P. (2000). “Exchange of Information Clauses in International Tax Treaties”, *International Tax and Public Finance*, Vol. 7, Issue 3, pp. 275-293.
- BERGET, J. V. (2016). *Tax Evasion: Responses to Tax Information Exchange Agreements*, <https://www.duo.uio.no/bitstream/handle/10852/53910/Berget-Jrgen.pdf?sequence=5&isAllowed=y>,
- CYC.(2018).*TaxCo-operation*,
<http://compareyourcountry.org/taxcooperation?cr=oeed&lg=en&page=1&visited=1>.
- FEINSREIBER, R. & KENT, M. (2013). “OECD’s Strategic Initiatives for Tax Information Exchange”, *Corporate Business Taxation Monthly*, Vol. 14, Issue 2, pp. 25-28.
- GİB. (2014). *Gelir ve Servet Üzerinden Alınan Vergilere İlişkin Model Anlaşma*, https://www.gib.gov.tr/sites/default/files/fileadmin/user_upload/Mevzuat_DisIliskiler/OECD_ModeYorum_Kitabi_2014.pdf,
- JOGARAJAN, S. (2015). “The Drafting of the 1925 League Nations Resolutions on Tax Evasion”, *Studies in the History of Tax Law*, Vol. 7, Issue 1, pp. 253-292.
- KEEN, M. & LIGTHART, J. E. (2006). “Information Sharing and International Taxation : A Primer”, *International Tax and Public Finance*, Vol. 13, Issue 1, pp. 81-110.
- LENNARD, M. (2009). “The UN Model Tax Convention as Compared with the OECD Model Tax Convention Current Points of

Difference and Recent Developments”, *Asia-Pacific Tax Bulletin*, Vol. 9, Issue 2, pp. 4-11.

OECD. (2016a). *Exchange of Information on Request, Handbook for Peer Reviews 2016-2020*, <http://www.oecd.org/tax/transparency/global-forum-handbook-2016.pdf>.

OECD. (2016b). *Jurisdictions That Have Undergone Both 1 and 2 Phase Reviews*, <http://www.oecd.org/tax/transparency/GFratings.pdf>,

OECD. (2017a). *Model Tax Convention on Income and on Capital: Condensed Version 2017*, https://read.oecdilibrary.org/taxation/model-tax-convention-on-income-and-on-capital-condensed-versio2017_mtc_cond-2017.

OECD. (2017b). *Standard for Automatic Exchange of Financial Account Information in Tax Matters*, Second Edition, https://read.oecdilibrary.org/taxation/standard-for-automatic-exchange-of-financial-account-information-in-tax-matters-second-edition_9789264267992-

OECD. (2018a). *Global Forum on Transparency and Exchange of Information for Tax Purposes*, <http://www.oecd.org/tax/transparency/>

OECD. (2018b). *Global Forum on Transparency and Exchange of Information for Tax Purposes - Exchange of Information on Request*, <http://www.oecd.org/tax/transparency/exchange-of-information-on-request/>

OECD. (2018c). *Convention on Mutual Administrative in Tax Matters*. <http://www.oecd.org/ctp/exchange-of-tax-information/convention-on-mutual-administrative-assistance-in-tax-matters.htm>,

OECD. (2018d). *CRS-Related Frequently Asked Questions*, <https://www.oecd.org/tax/exchange-of-tax-information/CRS-related-FAQs.pdf>,

OBERSON, X. (2015). *International Exchange of Information in Tax Matters: Towards Global Transparency*, Edward Elgar Publishing.

ÖNER, C. (2010). *Uluslararası Alanda Vergi İdareleri Arası Bilgi Değişimi*, Yetkin Yayınları, Ankara.

RICHELLE, I. & TRAVERSA, E. (2013). *The History of Double Taxation Conventions in Belgium*, Anthemis, Belgium.

URINOV, V. (2015). *Ensuring Compliance in a Globalized World: The International Automatic Exchange of Tax Information*,

[http://digitool.library.mcgill.ca/webclient/StreamGate?folder_id=0&dvs=1561557805449~959,](http://digitool.library.mcgill.ca/webclient/StreamGate?folder_id=0&dvs=1561557805449~959)

INTER-ORGANIZATIONAL TRUST AND ORGANIZATIONAL AMBIDEXTERITY RELATIONSHIP: RESEARCH ON MEDICAL TECHNOLOGY INDUSTRY

*Hale Alan**

1. Introduction

It has become increasingly clear that inter-organizational trust is an important factor affecting the actions and performance of organizations. Issues associated with organizational trust have generated a great deal of broad scholarly interest in the field, as evidenced by the dozens of articles and special issues of the leading journals that have been devoted to the theme of trust. Scholars and Researchers from many disciplines -from strategic management and organization theory to economics and marketing -have conceptually and empirically addressed the role that inter-organizational trust, as well as trust in general, plays in firm behavior and performance. In this chapter, it was looked broadly at the scholarship in the area of inter-organizational trust, with special attention to the organizational ambidexterity on firms in the medical sector.

As a requirement of competitive business conditions lately, a single focus is no longer sufficient for businesses. “Organizational ambidexterity” is being handled with an increasing interest in the organization literature as a result of the overwhelming competition under global economic conditions. Organizational ambidexterity is an organizational feature that every organization wants to have today and it needs to make a lot of effort for it (Zhao, 2013). It is especially closely related to the continuation of the organizations and their continuous growth. Trust is an increasingly interesting concept in the literature and considered a prerequisite for inter-organizational relations. Trust increases the exploration and recent knowledge acquisition to gain new competence (O’Reilly, Chatman, and Caldwell, 1991).

It is stated that organizations set up cooperation and partnerships with other organizations to be ambidextrous, and trust in these relations supports organizational ambidexterity by focusing on the primary activities of organizations, innovation, and efficiency (Kauppila, 2011). Low levels of trust and a top level of insecurity negatively affect any relationship between organizations (Vlaar, Van den Bosch and Volberda, 2007). Although the organizational ambidexterity literature is increasing day by day, there are still gaps in the literature (Lavie, Stettner & Tushman, 2010; Raisch & Birkinshaw, 2008). One of these gaps emerges from the lack of studies investigating the relationships between organizational

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ambidexterity and inter-organizational trust, which represent the relational dimension of social capital. In this study, the relationship between ambidexterity and inter-organizational trust was examined. Research questions of the study are as follows;

- **RQ1:** Is there a relationship between inter-organizational trust and organizational ambidexterity (contextual)? ”
- **RQ2:** Which type of trust between organizations affects contextual ambidexterity?
- **RQ3:** Which type of trust among organizations is more effective in which type of ambidexterity?

2. THEORETICAL FRAMEWORK

2.1. The Concept of Trust and Inter-Organizational Trust

Trust is a meso concept that is frequently studied in both organizational theory and organizational behavior. I use the relational dimension of social capital concerning the structure of personal relationships developed between people and express the personal relationships people develop with each other through interaction (De Carolis and Saporito, 2006: 44). Trust is defined as the key dimension of social capital by Coleman, Putnam, and Bourdieu (Field, 2006: 91-92). Concepts such as risk, uncertainty, belief, and ability are characteristics that define trust. Ring and Van De Ven (1994) defined trust as the belief in the integrity of others in their studies, where they examined the development process of cooperative organizations. Referring to the importance of mutual interactions in the formation of trust, Ring and Van De Ven (1994) suggested that trust is the key source of social capital. When the social capital of organizations is analyzed from an internal and external perspective, internal social capital originates from the organization's relationship with its employees; external social capital is resources that organization gets from its relations with its competitors, customers, and suppliers, and it integrates the internal social capital approach with the concept of trust (Adler and Kwon, 2002).

Cohen and Prusak (2001) stated that social capital is based on trust. To create social capital in the organization, it is necessary to establish and maintain trusting relationships. The positive role of trust comes to the fore in establishing cooperation in organizations (La Porta, Lopez-De-Silanes, Shleifer, and Vinsky, 1997). In the most important definition of trust, we see that the concepts such as cooperation, expectation, and legitimacy among the business partners or actors are mostly emphasized. Although intra-organizational trust is frequently mentioned in the literature (Cook & Wall, 1980; Lewicki & Bunker, 1996; Tan & Tan, 2000; Huff & Kelley, 2003), there are few studies related to inter-organizational trust (Adobor, 2005). Relations between organizations based on trust are very important

in the formation of social capital. Trust is seen as a concept that reinforces the inter-organizational network identity (Biggiero, 1999). Organizations are affected by many factors arising from uncertainty and variability in their environment. The trust form the relations, cooperation, and mutual obligations that shape social capital. There is a need for trust among organizations to share organizational skills (Uzzi & Lancaster, 2003). Inter-organizational trust can be defined as the fact that one organization has a positive expectation for another organization, arising from the relations of organizations with each other.

Within this study, trust between organizations is based on benevolence and competency based. Benevolence-based trust encourages organizations to share their resources by shaping their interaction patterns. It is the trust that makes organizations willing to research, make discoveries, and share. To achieve mutual benefits among organizations, collaborative work and inter-organizational coordination should replace the tendency to gain pressure and power (Sözen, 2007: 53). Organizations benefit from each other by sharing their basic skills because they trust each other with competence-based trust. Inter-organizational trust reflects the relationships of establishment and loyalty that enable new searches and inventions (Kale, Singh, & Perlmutter, 2000; Uzzi, 1997: 14). Because of the provider of competencies comprising resources and knowledge is trusted, it develops in the relations between them (Das and Teng, 1998; Mcevely & Marcus, 2005).

Trust makes an organization more understandable (Dore, 1983; Ouchi, 1979). In literature, trust organizations such as buyer-supplier relations, collaborations, and business partnerships are frequently emphasized (Boersma, Buckley, Ghauri, 2003; Bönte, 2008).

2.2. Organizational Ambidexterity

Organizational ambidexterity by researchers has emerged as a metaphor concept for the first time in the ability of people to use both hands at the same time. These organizations are ambidextrous. Ambidexterity is the ability of organizations to use existing skills at the same time and to search unfamiliar tasks, seeking unknown talent, efficiency and effectiveness, alignment and adaptation, incremental and radical innovations at the same time (McDonough and Leifer, 1983; Gibson and Birkinshaw, 2004; He and Wong, 2004).

The beginning of ambidexterity studies is based on March's (1991) study (Lavie, Stettner & Tushman, 2010). In his study, March (1991), investigated that the survival and development of the organization depend on balancing both activities and the effect of ambidexterity on organizational learning processes. Later, Tushman and O'Reilly (1996)

conducted the first study that led to the development of the concept of ambidextrous organization.

While organizations continue their activities with their knowledge and experience, they are looking for ways to adapt to the rapid changes in environmental conditions and to manage these changes well. The way for organizations to survive and achieve sustainable success is through this ambidextrous perspective. In this way, organizations both benefit from their current experience (exploitation) and gain new competencies (exploration) and gain an advantageous position against their competitors. Current skills are the primary characteristics that distinguish organizations from other organizations. Organizations are making incremental innovations with their existing skills, and acquiring new knowledge and skills, making radical innovations (Smith & Tushman, 2005).

For the organization to survive, it is necessary to balance the two activities that make ambidextrous organizations (March, 1991). According to this concept, organizations should be able to gain unknown talents while using their existing talents by integrating them with their experiences.

Gibson and Birkinshaw (2004) divided ambidexterity into structural and contextual dimensions. The structural dimension concerns the internal characteristics of the organization, while the contextual dimension includes factors such as size, technology, environment, organizational goals, strategy, mission, and organizational culture. Structural ambidexterity focuses on reducing the clashes between the alignment and compatibility of processes and systems that combine contextual ambidexterity discipline, trust, and support while emphasizing the importance of structural elements (Gibson & Birkinshaw, 2004; Tushman & O'Reilly, 1996). Organizational context is systems, processes, and beliefs that shape behavioral reactions in the organization (Gibson and Birkinshaw, 2004: 212). Organizations can combine their competencies and organizational contexts to become ambidextrous at the same time by balancing their activities. Organizations create contextual features that will provide ambidexterity (Ghoshal & Bartlett, 1994).

According to literature, to maintain organizational ambidexterity related to their performance in balancing both activities including structural and contextual mechanisms, organizations balance conflicting demands and actions (He & Wong, 2004). It is seen that studies focus on the contextual dimension of organizational ambidexterity (Gibson & Birkinshaw, 2004; Smith & Tushman, 2005; Gupta, Smith & Shalley, 2006; Jansen, van den Bosch & Volberda, 2006), creating contextual ambidexterity also increases individuals' behavioral capacities. Contextual ambidexterity provides support created by influencing the culture that covers the entire organization (Smith, Binns, et al., 2010).

2.3. The Relationship between Inter-Organizational Trust and Organizational Ambidexterity

It is known that organizations are constantly looking for ways to develop trust to develop processes that continuously add value. Adler et al. (1999) emphasized the importance of trust to be ambidextrous. Overcoming the difficulty of being an ambidexterity organization is based on establishing relations between organizations on solid foundations. (Tushman and O'Reilly, 2004). Ghosal and Bartlet (1997) argued that socializing organizations with other organizations influenced their ambidexterity. Having strong ties between organizations leads to ambidexterity. When organizations are ambidextrous, they affect their success and performance and other organizations. Organizations being selective in their relations with other organizations can affect their funding performance. Integrating of information from inside and outside of the organization plays a significant role in external intermediaries. It is stated that the most trusted organization plays a broker role in the network during the inter-organizational information sharing process (Hargadon & Fanelli, 2002). According to Mom et al. (2007), contextual ambidexterity between organizations can be created with reliable ties. Since trust arises from the contextual characteristics of the organization, the individuals in the organization have a great contribution in the formation of trust for the organization to be an ambidextrous organization (Gibson & Birkinshaw, 2004).

According to Raisch et al. (2009), contextual ambidexterity focuses on cultural features rather than structural features. In the literature, it is seen that trust adds value to the organization (Zhao, 2013). The number of studies that have found that trust affects organizational ambidexterity activities positively (Dyer & Chu, 2003). Balancing both activities (exploitation and exploration) is easier for organizations with a high level of trust to become ambidextrous. In his doctoral thesis, Tempelaar (2010) examined trust as an independent variable and investigated its effect on organizational ambidexterity. Im and Rai (2008) found that sharing information for activities to test existing skills and seek new competencies positively influences long-term inter-organizational relationships. Gibson and Birkinshaw (2004) got a very important place in the literature by making the first study, which states that there is a positive relationship between trust and contextual ambidexterity.

According to the literature, trust affects contextual ambidexterity positively, which increases the organization's success. In Ghosal and Bartlett's (1994) and Gibson and Birkinshaw's (2004) study, trust is considered as one of the factors affecting contextual ambidexterity. Contextual ambidexterity affects organizational structures such as size,

technology, environment, organizational goals, strategy, mission, and organizational culture. The level of trust between organizations has a direct impact on the contextual factors of organizations to gain ambidextrous characteristics. Accordingly, the first proposition of the study is:

Proposition 1: A direct relationship between organizational trust and contextual ambidexterity is expected.

The fact that organizations have ambidexterity traits, having inter-organizational trust, has a significant effect to decrease transaction costs (Kamphuis, 2007). According to Adobor (2005), the trust ensures successful relations between organizations and is more effective than contracts in forming alliances between organizations. In inter-organizational environments where there is a high level of trust, cooperation takes place much faster, more effectively, and easily. If the organizations don't have enough level of trust, and the mechanism of trust that provided ambidexterity functionality, they experience the low rules of trust would include formal rules, legal regulations, and large monitoring and control costs.

According to Uzzi and Lancaster (2003), the effects and results of trust differ according to trust types. While social trust is more about evaluating available opportunities, competency-based trust is important for gaining new competencies. Competence-based trust shows the individual's belief that another person is knowledgeable in a particular subject area. That an organization has a positive expectation for another organization brings forward competence-based trust. Exploration and exploitation require distinct types of trust. According to Kamphuis (2007), it is likely that the level of trust and the role of trust is different for these two activities, and the organizational structure, systems and processes are different. According to Bin (2008), trust has an important effect on both activities. The competency-based trust at the inter-organizational level is more meaningful. There must be competence-based trust among organizations to share organizational skills (Uzzi & Lancaster, 2003). The key to competency-based trust is to build relationships with more knowledgeable and superior people in the needed field. With competency-based trust in relations between organizations, the organization prefers choices that will provide the highest benefit for itself. The competence-based trust provides more opportunities for the organization to gain ambidexterity than benevolence-based trust. In line with these explanations, the second proposition of the study is:

Proposition 2: Competence-based trust has a more positive impact on contextual ambidexterity.

Competence-based trust is closely related to the search for new competence. According to the knowledge-based approach, organizations acquire their new competence through inter-organizational relations. In their study, Levin and Cross (2004) emphasized that competency-based trust speeds up the information flow required for the source of searching for new skills. Trust reduces uncertainty, increases risk-taking, and enables new skills to be acquired (Dirks & Ferin, 2001). Since new skills-seeking activities are based on recent information (March, 1991), a high level of competence-based trust among organizations is required for the effectiveness of these activities. Klein (2007) and Renzl (2008) stated that trust facilitates information sharing. Trust allows for new competence seeking activities that involve recent inventions and searches rather than using existing talents (Marzec, 2013). According to Easterby-Smith et al. (2008), trust positively affects the new skill-seeking activity, which is perilous by reducing risk and creating a reliable environment. Strong ties-based trust plays an active role in transferring of new inter-organizational competencies (Marzec, 2013). According to Adler and Kwon (2002), trust improves the repetition of change between actors. In his doctoral thesis, Blarr (2011) emphasizes that exploration activity is more important than the evaluation of the existing competencies, because it gives organizations new relationships based on trust. In line with these explanations above, the last proposition of the study is:

Proposition 3: Competency-based trust is expected to be more effective in the process of exploration.

3. Research Model

In this study, because of the literature review, it is seen that contextual ambidexterity, competency-based inter-organizational trust, and exploration activities are emphasized. In the study, inter-organizational trust (competency-based) expresses the independent variable, and ambidexterity (contextual) refers to the dependent variable. The model of the research, which was compiled from the literature and based on previous research results, is as follows:

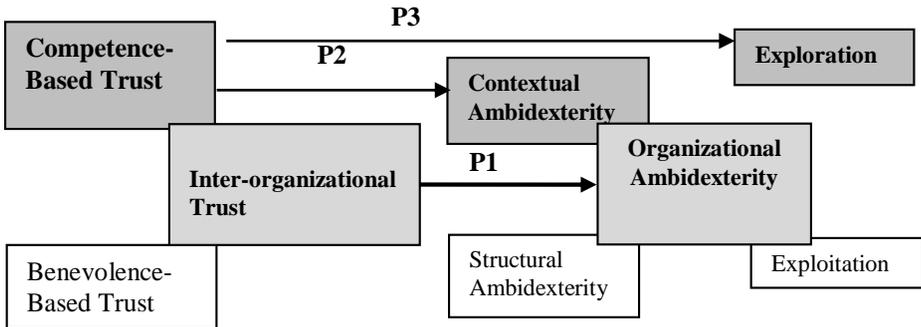


Figure 1: Research Model

4. Research Method

The fundamental purpose of this research is to determine the relationship between organizational ambidexterity and inter-organizational trust. In the research, semi-structured interviews were held with 11 company officials operating in the medical cluster, which is one of the 7 clusters in Organized Industrial Zone in Ankara. However, there are clusters under 7 different headings in Ankara Organized Industrial Zone to provide specialization in defense and aviation, rail systems, medical, business and construction machinery, communication technologies, energy, and rubber technologies. Clusters, which have become a focus of knowledge and experience within the industry in which they operate, provide the most efficient communication and interaction environment for the development of innovative products and projects. I have decided to conduct research on the medical cluster as it is a sector that conducts current researches to reveal organizational ambidexterity and inter-organizational trust and is also a sector that is strategically important and suitable for keeping its current competence or products in balance.

Face-to-face interviews was conducted between May and September 2019. An e-mail template and interview protocol have been prepared in order to facilitate communication and this protocol includes information about the interviewer and the date, place, and duration of the interview.

Before the interviews, I asked entrepreneurs for permission to record the interview for scientific and accuracy purposes. It provides reliability to the interviewees by declaring that their personal data will not be made available to any third party or made public. At the end of the meeting, the participants were asked whether they would like to add comments and forecasts that they thought were appropriate for the topic and the topic. Whenever possible, it was attempted to meet the owner or founders, and sometimes, meetings were held with one of the senior management. I asked

the participants about the importance and use of organizational ambidexterity and inter-organizational trust in their relationships. Interviews usually lasted between one and a half to three hours.

It generated research questions and propositions based on scientific literature analysis to explicitly investigate the phenomenon of research and understand how participants define organizational ambidexterity and trust relationships in their work environment through their real-life experiences. For this reason, in this study, a semi-structured interview method and an inductive coding method were examined. As the inductive approach adopts an interpretive perspective, it is aimed to more clearly understand the relationship between the participants' ambidexterity and inter-organizational trust. The fundamental purpose of an interpretative approach is not to discover the truth, but to emphasize the meaning and concepts used by social actors in real-life environments (Rynes & Gephart, 2004). Interpretive research is to find, define, and interpret the meanings that people produce and use in proper environments instead of producing quantitative facts to evaluate hypotheses. In the first stage, I made scientific explanations from an interpretive research perspective. In this context, the interpretative approach focuses on personal experiences, culture, and interactions between individuals (Saunders, Lewis & Thornhill, 2016).

5. Research Findings

Before the extensive amount of data from the interviews was analyzed, the notes kept in the interview process were arranged in order. Later, titles of themes were created. I got these themes from the interview but were consistent with the literature. For this reason, I observed it that there was a continuous harmony between theory and literature throughout the analysis process. This continuous comparative approach to analysis (Silverman, 2005) involves a repeated review of data with emerging categories and concepts. The analysis started with the identification information. On the tables, code names are used to represent the participants. I kept the actual names of the participants confidential. Table 1 summarizes an overview of the participants' information and activities.

Table 1. The respondents in the study

No	Name	Position	Age	Working Experience	Year	Entrepreneurial field
1	Ali	Founder	35	10	2009	Manufactures Wireless Mobile Ultrasound Device.
2	Eren	Owner	42	12	2010	Mobile phone application for health services at home.
3	Murat	CEO	58	8	2012	Rehabilitation robot technologies and artificial intelligence technologies
4	Azime	Founder	46	20	2011	Magnetic and polymer nanoparticles; micelles; nanogels; diagnosis and treatment applications
5	Yasin	Partner	41	17	2007	Titanium and subperiostal implant production
6	Selim	Owner	51	25	2002	Medical clothing production (Varicose socks, support socks, varimed travel socks, anti embolism socks.)
7	Nesim	Manager	34	12	2000	Medical Imaging and Microwave Breast Tomography
8	Ufuk	R&D Manager	53	26	1999	Medical and Aesthetic Device Production
9	Ayhan	Founder	61	35	2006	Design, production, Smart Correction technology of orthopedic solutions
10	Selçuk	Owner	50	24	2014	Production of Biological Safety and Clean Air Cabinets
11	Mustafa	Owner	31	8	2003	Sterilization container and accessory production

Table 1 shows the information of the participants interviewed. The average age of the participants is 45, and the average experience is determined as 28 years, and this has enabled the selected participants to be experienced to be beneficial for the study. I have collected the information from the owners or founders of the companies operating actively in the medical sector. Table 2 below shows the themes formed under four headings.

Table 2. Coding themes and scheme

Inter-organizational Trust		Organizational Ambidexterity	
Competence-Based Trust	Benevolence-Based Trust	Contextual Ambidexterity	Structural Ambidexterity
-Competency or Ability	-Ambiguity	-Ambidextrous Culture	-Hierarchy
-Risk factor	-Beliefs	-Trust	-Limited flexibility
-Reciprocity	-Sharing	- Recent product innovation	-Autonomous structural units
-Cooperation	-Working together	-Support	-Sequential
-Equity	-Reduce conflict	-Experience	-Structural separation
-Solidarity	-Opportunistic behavior	-Complementary	- Defined roles
-Communication and information sharing		-Integrative	
-Reliability		-Productivity	
-Efficient choices		-Performance	
-Reducing transaction costs		-Systems	
-Creativity		-Improving Processes	
-Quick to opportunities		-Balance	
-Experience		-Continuity	
-Facilitating improvement		-Shared ambition	
-Solve problems		-Interaction	
		-Alignment and adaptability	
		- Flexible roles	

As a result of 11 interviews mentioned in Table 2, the key themes were determined. These themes were created by sorting and organizing the data from each interview. Table 2 shows how the respondents ranked the key themes about inter-organizational trust and organizational ambidexterity they were presented within the interviews. Table 2 was created from the responses of the participants during the interview. It is seen that the most important results are grouped under competence-based trust and contextual ambidexterity. In Table 2, it is seen that themes got from the interviews have increased the features of producing more beneficial results such as competitive advantage, cooperation, high performance, and efficiency. It can also be said that these results are compatible with the literature. Based on the themes mentioned above, the interviewees' comments on competence-based trust and contextual ambidexterity, which are the focus of the research, are presented in tables 3 and 4 as illustrative evidence.

Table 3 shows the competence-based trust description according to participants' comments.

Table 3. Participants' comments on Competence-based Trust

No	Name	Position	Reasons for Competence-Based Trust (illustrative evidence)
1	Ali	Founder	The competence-based trust may be task-specific, benevolence-based trust deals with more stable relationships.
2	Eren	Owner	Inter-organizational trust is that employees trust other company employees. Goodwill is the foundation of trust in beneficial relationships. As a condition of trust, it is the belief that the approaches of other companies to their work are professionalism and dedication.
3	Murat	CEO	Showing alignment and adaptability in all business units simultaneously increases the behavioral capacity.
4	Azime	Founder	Employees who trust the organization they work with provide strong inter-organizational trust to other employees and supervisors.
5	Yasin	Partner	People rely on the behavior of others to determine how much to trust a change, then those seeking information with more work experience in a particular department rely more on these perceived behaviors. Competence-based trust is the expectations of partners to have the technical skills, experience, and reliability required to fulfill their obligations.
6	Selim	Owner	Trust, which affects performance expectations, builds up. A sign of the competence failure we have is we obtain information about the competence of other companies if the level of trust is high.
7	Nesim	Manager	Competence-based trust increases the trust that a partner will perform tasks in a particular area correctly. Competence-based trust increases with the knowledge and experience of other companies in performing certain tasks.
8	Ufuk	R&D Manager	Higher levels of competency-based trust are related to partners' desire for more innovation. Competence-based trust is technical and rational, so there may be a wide variety of technical details, information, or problems.
9	Ayhan	Founder	Competence-based trust makes our job easier, enabling us to be informed about the capabilities of other companies, and knowing about competence-

			based trust people and processes in advance. Therefore, partners with a high level of competence-based trust can spend a lot of time and effort on these benefits.
10	Selçuk	Owner	Stakeholders with a high level of competence-based trust can protect them from dependence on resources that encourage more value creation through collaboration and creative problem-solving.
11	Mustafa	Owner	Competence-based trust is a confidence that other companies have with the competencies, technical skills, and experience. Competence-based trust comes about with "reliable performance", which occurs.

According to the definitions (table 3), they emphasized positive results about competency-based trust. Among the results, I have claimed it that companies increase their activities and improve performance. At below, table 4 shows the participants' views and opinions on contextual ambidexterity.

Table 4. Participants' comments on contextual ambidexterity (illustrative evidence)

No	Name	Position	Reasons for Contextual Ambidexterity (illustrative evidence)
1	Ali	Founder	Inter-organizational and intra-organizational approaches to ambidexterity are complements rather than substitutes.
2	Eren	Owner	Contextual ambidexterity allows individuals in the firm to make a dynamic and flexible decision about how time should be distinguished between their valuable activities, such as making recent inventions or developing existing products.
3	Murat	CEO	Contextual conditions require acting as an intermediary who always wants to make connections.
4	Azime	Founder	The interaction of trust and ability to balance exploration and exploitation requires an organizational context, and it provides a supportive organizational context that encourages individuals to make their own decisions about how best to divide their time among conflicting demands.
5	Yasin	Partner	Contextual ambidexterity is a function of an organizational culture that promotes flexibility and control at all units.

6	Selim	Owner	Contextual ambidexterity gains value based on organizational culture and provides long-term benefits to the firm.
7	Nesim	Manager	Contextual power has a direct positive impact on both financial and non-financial performance.
8	Ufuk	R&D Manager	I aim it to reveal the synergies between the alignment and adaptation of the inter-firm contextual talent management system, goals, resources and activities, and to create an appropriate context for cooperation, value creation among companies.
9	Ayhan	Founder	Contextual ambidexterity emerges for industry and intercultural differences and as an element of heterogeneous resources and capabilities at the business unit level.
10	Selçuk	Owner	Contextual ambidexterity is effective in the emergence of both incremental and radical innovations in inter-firm information exchange. The competitiveness of the company is positively influenced by cooperation with other companies.
11	Mustafa	Owner	Contextual ambidexterity provides an opportunity to pursue radical innovation. It requires individual managers to recognize and understand the information presented by their colleagues in the company. Contextual factors can be effective in performance.

It shows conceptual explanations about contextual ambidexterity in table 4. They frequently mentioned the importance and benefit of contextual factors in their statements.

Interpretation and Summative Synthesis

According to the description and definition mentioned above in table 3 and 4, we can claim that there is an expected direct relationship between inter-organizational trust and contextual ambidexterity. Competence-based trust has a positive impact on contextual ambidexterity. In addition, competency-based trust is expected to be more effective in the process of exploration.

In this study, competency-based aspects stand out, showing that distinct types of trust have different effects on the relationship between increased activity and improved performance. The trust is formed at an inter-organizational level depending on other contextual factors that concern the organization. It has shown that trust based on competence turns into a multi-dimensional structure. We should not neglect the importance of contextual conditions. It has emerged that medical technology production

firms establish collaborations and relationships by giving importance to others' competencies. I found answers. The propositions are compatible with both the literature and the research findings. I can say that competencies and contextual conditions give direction and shape to the relations between organizations. I carried this study out in the sector is on the agenda like the medical sector and which has to develop continuously, has provided significant results. The appropriateness of the chosen industry affects the verification of the research proposals. Firms selected for the research made it easier to find answers to research questions and propositions.

Conclusion

The concept of organizational ambidexterity is becoming increasingly important. As strengthening inter-organizational relations, I have attempted trust to explain by different theoretical perspectives. The aim of this study is to reveal the relations between organizational ambidexterity and inter-organizational trust comprehensively. The content of the study is limited by the effects of inter-organizational trust on organizational ambidexterity in reinforcing and sustaining the ambidextrous process. According to study findings, I observe that trust has an effective role in ambidexterity in inter-organizational relations and contextual ambidexterity, competence-base trust, exploration activities are stood out. This study aims to be the first comprehensive study in this area in native literature, in addition, it presented a comprehensive evaluation of organizational ambidexterity and inter-organizational trust.

There are also indications in this study that regional and cultural differences affect the effects and results of inter-organizational trust. Contextual ambidexterity is of great importance for recent product innovation and corporate success, especially in medical companies operating in a dynamic and variable environment. Contextual ambidexterity (i.e. simultaneous discovery and exploitation within a business unit) is not only possible but also a requirement for long-term success in high-tech firms that have no choice but to exploit existing qualifications and simultaneously explore new qualifications for short-term commercial benefits. As stated in Gibson and Birkinshaw (2004), contextual ambidexterity is associated with the acquisition of new competencies. The positive effect of trust was emphasized in acquiring new competencies.

Organizations should not structurally separate their exploration and exploitation activities, but create a context that allows employees to discover and exploit simultaneously within the same unit. These results are consistent with the literature (see Birkinshaw and Gibson 2004; Birkinshaw and Gupta 2013; Gibson and Birkinshaw 2004). Contextual

ambidexterity enables firms to benefit from the expertise and knowledge of the entire workforce. Therefore, we see that our example companies shift their focus towards contextual ambidexterity whenever the perceived (potential) number of opportunities and uncertainty around them is high.

REFERENCES

- Adler, P. S., and S. W. Kwon. (2002), "Social capital: Prospects for a new concept". *Academy of Management Review*, Vol. 27 issue, 1 pp. 17-40.
- Adler, P. S., B. Goldoftas, and Levine, D. I. (1999), "Flexibility versus Efficiency: a Case Study of Model Changeovers in the Toyota Production System". *Organizational Science*, Vol. 10 issue, 1 pp. 43-68.
- Adobor, H. (2005), "Trust as sensemaking: the microdynamics of trust in interfirm alliances", *Journal of Business Research*, Vol. 58 pp. 330-337.
- Biggiero, L. (1999), "Markets, hierarchies, networks, districts: A cybernetic approach", *Human Systems Management*, Vol. 43 pp. 71-86.
- Bin, X.Y. (2008), "Creation of Principal-Agency Relationship Value: Social Capital and Dynamic Learning Capability Perspectives", Master thesis of Philosophy in Marketing and International Business Lingnan University"
- Birkinshaw, J., and Gibson, C., (2004), Building Ambidexterity into an Organization", *MIT Sloan Management Review*, Vol. 45 issue, 4 pp. 47-55.
- Birkinshaw, J., and Gibson, C. (2005), The Ambidextrous Organisation, *Advanced Institute of Management Research*, London.
- Birkinshaw, J., and Gibson, C. (2004), Building Ambidexterity Into an Organization, *MIT Sloan Management Review*, Vol. 45, no. 4, pp. 47-55.
- Blarr, W. H. (2011), "Organizational Ambidexterity Implications for the Strategy- Performance Linkage", Dissertation HHL-Leipzig Graduate School of Management
- Boersma, M.F. Buckley, P.J., and Ghauri, P.N. (2003), "Trust in international joint venture relationships", *Journal of Business Research*, Vol. 56 pp. 1031- 1042.
- Bönte, W. (2008), "Inter-Firm Trust in Buyer–Supplier Relations: are Knowledge Spillovers and Geographical Proximity Relevant?", *Journal of Economic Behavior & Organization*, issue, 67 pp. 855-870.

- Cohen, D, and Prusak, L (2001), In *Good Company: How Social Capital Makes Organizations Work*. *Harvard Business Press*.
- Cook, J. and T. Wall (1980), “New Work Attitude Measures of Trust, Organizational Commitment and Personal Need Non-Fulfillment”, *Journal of Occupational Psychology*, Vol. 53 pp. 39-52.
- Das, T. K, and Teng, B.S. (1998), “Between trust and control: developing confidence in partner cooperation in alliances”, *Academy of Management Review*, Vol. 23, pp. 491-512.
- De Carolis, D. M., and Saporito, P. (2006), “Social Capital, Cognition, and Entrepreneurial Opportunities: A Theoretical Framework”, *Entrepreneurship Theory and Practice*, Vol. 30, issue, 1, pp. 41-56.
- Dyer, Jeffrey H., and Wujin Chu. (2003), “The Role of Trustworthiness in Reducing Transaction Costs and Improving Performance: Empirical Evidence from the United States, Japan and Korea”, *Organization Science*. Vol. 14 issue, 1 pp. 57-68.
- Dirks, K. T. and Ferrin, D. I. (2001), “The Role of Trust in Organizational Settings”, *Organization Science*, Vol. 12, issue, 4 pp. 450-467.
- Dore, R. (1983), “Goodwill and the Spirit of Market Capitalism”, *British Journal of Sociology*, Vol. 34, pp. 459-482.
- Easterby-Smith, M., Lyles, M. A., and Tsang, E. W. K. (2008), “Inter-Organizational Knowledge Transfer: Current Themes and Future Prospects”, *Journal of Management Studies*, Vol. 45, pp. 677-690.
- Field, J. (2006), *Social Capital*. İstanbul Bilgi Üniversitesi Yayınları.
- Gibson, C. B., and Birkinshaw, J. (2004), “The Antecedents, Consequences, and Mediating Role of Organizational Ambidexterity”, *Academy of Management Journal*, Vol. 47, pp. 209-226.
- Ghoshal, S., and C. A. Bartlett, (1994), “Linking organizational context and managerial action: The dimensions of quality in management”, *Strategic Management Journal*, Vo. 15, issue, 2, pp. 91-112.
- Gupta, A.K., Smith, K.G. and Shalley, C.E. (2006), “The Interplay between Exploration and Exploitation”, *Academy of Management Journal*, Vol. 49 issue, 4 pp. 693-706.
- Hargadon, A., and Fanelli, A. (2002). “Action and possibility: Reconciling dual perspectives of knowledge in organizations”, *Organization Science*, Vol. 13, pp. 290-302.
- He, Z. L., and Wong, P. K. (2004), “Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis”, *Organization Science*, Vol. 15, pp. 481-494.

- Huff, L. and L. Kelley, (2003), "Levels of Organizational Trust in Individualist versus Collectivist Societies: A Seven Nation Study", *Organization Science*, Vol. 14 issue, 1.
- Im, G., and Rai, A. (2008), "Knowledge Sharing Ambidexterity in Long-Term Interorganizational Relationships", *Management Science*, Vol. 54 issue, 7 pp. 1281-1296.
- Jansen, J.J.P., van den Bosch, F.A.J., and Volberda, H.W. (2006), "Exploratory innovation, exploitative innovation, and performance: effects of organizational antecedents and environmental moderators", *Management Science*, Vol. 52, No. 11, pp. 1661-74.
- Kale, P., Singh, H., and Perlmutter, H. (2000), "Learning and protection of proprietary assets in strategic alliances: building relational capital", *Strategic Management Journal*, Vol. 21, pp. 217-237.
- Kamphuis, M. (2007), "Exploration and Exploitation Activities The influence of Structural, Cognitive and Relational Factors", University of Maastricht, Master's thesis.
- Kauppila, O. P. (2011), "*Creating Ambidexterity through Interorganizational Partnering*", Aalto University School of Economics, Main Building, Assembly Hall.
- Krackhardt, D. (1992), "The strength of strong ties: the importance of philos in organizations". In N. Nohria & R. G. Eccles (Eds.), *Networks and organizations* (pp. 216-239). Boston, MA: Harvard Business School Press.
- Lane, C. and Bachmann, R. (1997), "Cooperation in Inter-Firm Relations in Britain and Germany: The Role of Social Institutions", *British Journal of Sociology*, Vol. 48 issue, 2 pp. 226-254.
- La Porta, R. Lopez-De-Silanes, F. Shleifer, A. and Vinsky, R. (1997), "Trust in Large Organizations", *Aea Papers and Proceedings*, pp. 333-339.
- Lavie, Dovev, Stettner, Uriel and Tushman, Michael L. (2010), "Exploration and Exploitation Within and Across Organizations", the *Academy of Management Annals*, Vol. 4, issue, 1 pp. 109-155.
- Levin, D. Z., and Cross, R. (2004), "The Strength of Weak Ties You Can Trust: The Mediating Role of Trust in Effective Knowledge Transfer", *Management Science*, Vol. 50, issue, 11, pp. 1477-1490.
- March, J. (1991), "Exploration and Exploitation in Organizational Learning", *Organization Science*, Vol. 2 issue, 1, pp. 71-87.

- March, J.G. and Simon, H.A. (1958), *Organizations*, John Wiley and Sons, New York.
- Marzec, P. E. (2013), "A Knowledge-Based View of Process Improvement: A Mixed Methods Study into the Role of Social Networks and Knowledge Acquisition", University of Nottingham, Doctorate Thesis.
- McDonough III, E. F. and Leifer, R. P. (1983), "Effective Control of New Product Projects: The Interaction of Organization Culture and Project Leadership", *Journal Product Innovation Management*, Vol, 3 pp. 149-157.
- Mcevily B, and Marcus A. (2005), "Embedded ties and the acquisition of competitive capabilities", *Strategic Management Journal*, Vol. 26 pp.1033-1055.
- Mom, T. J. M., van den Bosch, F. A. J. and Volberda, H. W., (2007), "Investigating managers' exploration and exploitation activities: The influence of top-down, bottom-up, and horizontal knowledge inflows", *Journal of Management Studies*, Vol. 44, issue, 6, pp. 910-931.
- O'Reilly, C. A., Ill, and Tushman, M. L. (2013), "Organizational ambidexterity: Past, present and future", *Academy of Management Perspectives*.
- O'Reilly, C. A., Chatman, J., and Caldwell, D. F. (1991), "People and organizational culture: A profile comparison approach to assessing person-organization fit", *Academy of Management Journal*, Vol. 34, issue, 3: pp. 487-516.
- Ouchi, W.G. (1979), "A Conceptual Framework for the Design of Organizational Control Mechanisms", *Management Science*, Vol. 25, pp. 833-848.
- Raisch, S., and Birkinshaw, J. (2008), "Organizational Ambidexterity: Antecedents, Outcomes, and Moderators", *Journal of Management*, Vol. 34, pp. 375-409.
- Raisch, S., Birkinshaw, J., Probst, G., and Tushman, M., (2009), "Organizational Ambidexterity: Balancing Exploitation and Exploration for Sustained Performance", *Organization Science*, Vol. 20 issue, 4.
- Ring, P. S., and Van de Ven, A. H. (1994), "Developmental Processes of Cooperative Interorganizational Relationships", *Academy of Management Review*, Vol. 19, pp. 90-118.
- Saunders, M. L., Lewis, P. and Thornhill, A. (2016), *Research methods for business students*, 5th ed. London: Prentice Hall.

- Silverman, D. (2005), *Doing Qualitative Research: A Practical Handbook*. London: Sage.
- Smith, W., and Tushman, M. (2005), "Managing Strategic Contradictions" *Organization Science*, Vol. 16, issue, 5, pp. 522-536.
- Sözen, H.C. (2007), Bağlam kapsamında örgütler arası ağ düzenekleri: dayanıklı ev aletleri sektörü örneği, Başkent Üniversitesi, Yönetim Organizasyon Doktora Tezi.
- Tan, H., and C.S Tan, (2000), "Towards the Differentiation of Trust in Supervisor and Trust in Organization", *Genetic, Social and General Psychology Monographs*, Vol. 126, issue, 2 pp. 241-260.
- Tempelaar, M. (2010), "Organizing for Ambidexterity, Studies on the Pursuit of Exploration and Exploitation through Differentiation, Integration, Contextual and Individual Attributes", Erasmus University Rotterdam Doctorate thesis.
- Tushman, M. L. and O'Reilly, C. A. (1996), "The ambidextrous organization: Managing evolutionary and revolutionary change", *California Management Review*, Vol. 38 pp. 1-23.
- Tushman, M. L. and O'Reilly, C. A. (2004), *the Ambidextrous Organization*, Harvard Business Review,
- Uzzi, Brian and Lancaster, Ryon, (2003), "Relational Embeddedness and Learning: The Case of Bank Loan Managers and Their Clients", *Management Science*, Vol. 49, issue, 4 pp. 383-399.
- Uzzi B. (1997), "Social structure and competition in interfirm Networks", *Administrative Science Quarterly*, Vol. 42, pp. 35-67.
- Vlaar, P.W. L., Van den Bosch, F. A. J., and Volberda, H.W. (2007), "On the evolution of trust, distrust, and formal coordination and control in interorganizational relationships: Toward an integrative framework". *Group & Organization Management*, Vol. 32 issue, 4, pp. 407-429.
- Zhao, J. (2013), "Individual Ambidexterity and Knowledge Transfer Effectiveness: The Mediating Role of Trust", University of Amsterdam, Masters's Thesis.

RETURN AND VOLATILITY SPILLOVERS BETWEEN THE BALTIC STATES: AN APPLICATION WITH MGARCH AND DY MODEL

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Introduction

Globalization plays an important role in the world trade thanks to its integrative effect on economics, politics and cultures. However, it does not have only advantages but disadvantages as well. It is clear that the financial crisis spreads suddenly all around the world due to globalization (Davulis, 2012). While markets have interrelations and depend on each other, the risk and uncertainty stemming from the integration increase (Kropas, 2007). 2008 Global Financial Crisis and the European Debt Crisis are a good example of that.

In the years of 2000, mortgages provided for low-income families to buy a house to be valued. However, when the housing prices fell into decline, the credit market called subprime mortgages collapsed in 2008. This collapse also affected the banks holding many subprime mortgages and bankrupted important banks such as Lehman Brothers. The crisis was not restricted with the USA, it spread to European countries and created a huge effect on the countries. The bankruptcy of three major banks in Iceland within a night is just one of them (Dimitriou and Metaxas, 2017). Following the Federal Reserve System of USA, the Bank of Great Britain and the European Central Bank reduced the basic interest rate in an attempt to prevent the growth of the market interest rate (Davulis, 2012).

While the destructive impact of the 2008 Global Financial Crisis continues on the financial markets and the countries, another crisis that will reach the large masses arose in late 2009. After Greek Prime Minister George Papandreou announced the incompatibility of Greece's debt with the reported ones, some countries which have similar debts to Greece such as Portugal, Spain and Italy started to be worried about their debt (Beker, 2014). Frieden and Walter (2017) claim that the crisis in 2009, called as European Debt Crisis or Eurozone Crisis, stems from the political economy of European monetary integration and the problem is uncertainty about the management of common currency under the unresolved conflicts.

Esposito (2014) explains that the common Euro paved the way for free trade and while this integrity increases wealth for the capital-based nations,

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it also caused speculative bubbles and overspending in the Southern nations. The reason for the crisis is shown by Purfield and Rosenberg (2010) as bank lending and the rise in domestic demand. Expectations for high income and provided very low real borrowing rates on euro-denominated loans stimulated the credit demand. At the end of the process, the member states of the European Union could not discharge their debt on their own and be in need of the European Central Bank and International Monetary Fund.

The impact of the crisis has differed from country to country because of many reasons such as differences in the country size, power of the national bank, economic structure, labor markets, etc. (Friedrich and Reiljan, 2015). In this sense, there are many studies that show the crisis impact on the countries mostly focusing on Greece, Portugal, Spain and Italy (Kayral, 2020; Beker, 2014; Leahy, Healy and Murphy, 2012; Trabelsi, 2012). However, the studies discussing that effect on the Baltic States are limited.

In this sense, our study aims to show the spillover effect in the 2008 Global Financial Crisis and European Debt Crisis on the Baltic States (Estonia, Latvia and Lithuania) by taking years between 2004 and 2018. For this purpose, we use both MGARCH models (CCC-GARCH) and Diebold-Yilmaz (DY) model. Therefore, we present the presence of the spillover effect between the Baltic States returns and volatilities and check the robustness of our analysis.

This paper consists of four sections. In the second section, the literature review is conducted. The third section explains the data and methodology. The fourth section provides the results obtained from the empirical study. The fifth section concludes our study.

2. Literature Review

Although there are several studies on the impact of the 2008 Global Financial Crisis and European Debt Crisis, these analyses mostly focus on Greece, Portugal, Spain, Italy and Ireland (Kayral, 2020; Beker, 2014; Leahy et al. 2012; Trabelsi, 2012). Kayral (2020) shows that Greece has some problems in its stock market in the 10th year of the 2008 Global Financial Crisis. Caporale et al. (2015) examine the effects of the macro news on stock returns in eight EU countries by using a VAR-GARCH-in-mean model.

However, according to Macys (2012), Baltic states were affected deeply by the crises. It is stated that Latvia experienced the largest 17.7% decline in the economy in 2009. Moreover, the inflation rate reached the critical levels as 14.1% in Latvia, 9.6% in Estonia and 8.1% in Lithuania (Koyama, 2010).

Even though some studies support that these three states have similar characteristics and problems, the reaction of each state to the crises is different. Depending on that, the sphere of influence and outcome of crises varied from state to state. Macys (2012) stated that Lithuania is the worst affected state by the crisis because its policy led to fall in the internal consumer market by giving real estate credits to young working families and standing off these people to decrease the expenditure of the companies. The fall in consumption created a huge negative effect on GDP in 2009 and unprecedented public debt occurred.

The Lithuanian economy affected also by the fall in consumption of other countries was in trouble for export and this was another factor that triggers the economic depression (Davulis, 2012). Purfield and Rosenberg (2010) assert that the slow policy implementation of the authorities overheated mostly Latvia which experienced a 25% decline in cumulative output in 2008-2009. From this perspective, Lithuania and Latvia have similar characteristics in terms of taking anti-crisis measures because the policy of both is based on fiscal policy and saving (Davulis, 2012). Dissimilarly, Estonia overcame the crisis by giving fewer losses (Macys, 2012).

Friedrich and Reiljan (2015) indicate that while the interrupted financial markets, tightened credit standard and less accessible stock markets stemming from the crisis affected the Estonian economy negatively, a budget surplus policy which is carried out instead of cutting tax showed the difference of this policy with standard anti-cyclical policy. Moreover, the success of this policy paved the way for assistance from the European Union and the electoral support of the government.

To understand the effect of crises and financial market risk better, forecasting the volatility and analysing it is important. In this sense, Aktan et al. (2010), in the study on the Baltic stock markets, demonstrates that increasing the returns of the rise in the risk is not absolute by using GARCH-family models. Also, it is found that while negative returns increase the volatility for Lithuania and Latvia, volatility is increased by positive returns in Estonia.

We see that various studies in the literature examine the presence of the spillover effect with univariate and multivariate GARCH models (Huo and Ahmed, 2017; Efimova and Serletis, 2014; Mensi et al., 2014; Ewing and Malik, 2013; Min and Hwang; 2012). Some studies show that the multivariate GARCH (MGARCH) models can estimate the volatilities with better performance than univariate GARCH models (Kayral and Tandogan, 2019; Almedia et al., 2018; Su and Huang, 2010). In addition to traditional and conditional correlation approaches, after 2008 Global Financial Crises, the spillover index methodology of Diebold and Yılmaz

(2009, 2012) is used in different studies to evaluate market spillovers (Zhang et al.,2012; Yarovaya et al., 2016; Wang et al., 2016).

3. Data and Methodology

3.1. Data Collection

We use daily closing data of the OMXTGI Index (Estonia), OMXRGI Index (Latvia) and OMXVGI Index (Lithuania) for the period of 01/01/2004 - 12/31/2018 including both 2008 Global Financial Crisis and the European Debt Crisis. This period is analysed for the whole data but it is examined in four sub-periods as pre-crisis period (2004-2007), double-acting crisis period including both 2008 Global Financial Crisis and European Debt Crisis (2008-2010), crisis period including only European Debt Crisis (2011-2015) and the post-crisis period (2016-2018) to compare spillover effects in crises. Related data is obtained from the Thomson Reuters Eikon database.

3.2. Unit Root Tests

In this study, Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) unit root tests are used to determine the existence of unit root in the time series. ADF unit root test checks the stationarity of a series (Dickey and Fuller, 1981).

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \delta_1 \Delta y_{t-1} + \delta_2 \Delta y_{t-2} + \dots + \delta_p \Delta y_{t-p} + \varepsilon_t \quad (1)$$

This equation includes the variables which consist of time series to be tested, y_t , a constant term, α , the coefficient on a time trend, β , the coefficient of interest, γ , the parameter of the augmented lagged first difference of y_t , δ_i , the lag order of the autoregressive process, p , and the white noise error term, ε_t . The hypotheses are in that H_0 : the series contain a unit root, H_a : the series is stationary. The null hypothesis is rejected when the ADF unit root test statistics are larger than the critical values in absolute value.

To prevent the problem of serial correlation and heteroskedasticity in the errors in ADF unit root tests, we also applied the Phillips-Perron (PP) unit root test. It is formulated in two ways, Z_t and Z_α .

$$Z_t = \sqrt{\frac{\hat{\sigma}^2}{\hat{\lambda}^2}} t_{\hat{\alpha}} - \frac{1}{2} \left(\frac{\hat{\lambda}^2 - \hat{\sigma}^2}{\hat{\lambda}^2} \right) \left(\frac{n(s.e.(\hat{\alpha}))}{\hat{\sigma}^2} \right) \quad (2)$$

$$Z_\alpha = n\hat{\alpha} - \frac{1}{2} \left(\frac{n(s.e.(\hat{\alpha}))}{\hat{\sigma}^2} \right) (\hat{\lambda}^2 - \hat{\sigma}^2) \quad (3)$$

This test is hypothesized in that H_0 : unit root against, H_a : stationary about deterministic trend (Phillips and Perron, 1988).

3.3. ARCH Effect

We analyse the ARCH effect after applying unit root tests. ARCH-LM test is applied to eliminate the alternative models and analyse the fit of the model (Engle, 1979). It is formulated as;

$$e_t^2 = \beta_0 + (\sum_{s=1}^q \beta_s e_{t-s}^2) + v_t \quad (4)$$

where e_t represents the residuals and consists of squared residuals from auxiliary regression, the constant squared residuals, lagged squared residuals in the q^{th} degree. Multiplying the number of observations obtained in the analysis by R^2 gives the value of LM. It is hypothesized in that H_0 : There is no ARCH effect, H_a : There is ARCH effect. The result of the hypothesis test shows the existence of the heteroscedasticity problem. The ARCH effect is required to apply the GARCH model.

3.4. Mean Equations and Return Spillovers

We constitute three (VAR based) different mean equations to check the presence of the return spillovers. These equations are used in our GARCH analysis to obtain volatilities of stock markets. It is formulated as;

$$r_{i,t} = \delta_{i,0} + (\sum_{j=1}^3 \delta_{i,j} r_{j,t-1}) + v_{i,t} \quad i,j = 1,2,3 \quad (5)$$

where $r_{i,t}$ represents stock returns and $\delta_{i,0}$ shows constant term of the mean equation.

3.5. Variance Equation and CCC-GARCH Model

After Engle (1982) introduced autoregressive conditional heteroskedasticity (ARCH) model which provides information for the forecast of one-period through the recent past, Bollerslev (1986) introduced a new model including more flexible lag structure, which is called as generalized autoregressive conditional heteroskedasticity (GARCH) model. It is represented as in follows;

$$\varepsilon_t | \Psi_{t-1} \sim N(0, h_t) \quad (6)$$

$$h_t = \omega + \alpha \varepsilon_{t-1}^2 + \beta h_{t-1}, \quad \omega > 0, \quad \alpha \geq 0, \quad \beta \geq 0 \quad (7)$$

This equation consists of variables including the shocks in the related variable in the previous period on the volatility in the current period, α , the effect of volatility in the previous period on the volatility in the current period, β , and constant term in the variance equation, ω . For the good estimation of the model, the sum of α and β should be less than 1 which means the wide-sense stationarity.

Instead of the traditional GARCH model, we analyse our data with the CCC-GARCH model to find both volatilities and volatility spillovers of the Baltic States' Stock Markets. Bollerslev (1990) proposed this model that predicts the conditional correlation matrix to obtain a conditional

covariance matrix. It is assumed that the conditional correlation matrix is constant in the CCC-GARCH model. This model is showed (one lagged in our study) as in follows;

$$h_{i,t} = \omega + \sum_{j=1}^3 A_j \varepsilon_{t-1}^2 + \sum_{j=1}^3 B_j h_{t-1} \quad (8)$$

ω shows $N \times 1$ dimension vector, A_j and B_j represent $N \times N$ dimension diagonal matrices. In this model conditional covariance matrix is defined as follows;

$$H_t = D_t P D_t \text{ where } D_t = \text{diag}(h_{1,t}^{1/2}, \dots, h_{N,t}^{1/2}) \text{ and } P = |\rho_{i,j}|_{i,j=1,2,3} \quad (9)$$

3.6. Diebold and Yilmaz (DY) Spillover Index

In addition to GARCH models, we also obtain spillover indices and examine return and volatility spillovers between the Baltic States. Diebold and Yilmaz (2009 and 2012) propose the generalized forecast error variance decomposition (GFEVD) framework to obtain the volatility spillover index. The DY model measures the spillovers with the VAR framework using Cholesky factor orthogonalization.

$$A_i = \omega_1 A_{i-1} + \omega_2 A_{i-2} + \dots + \omega_p A_{i-p} \text{ with } A_{i-p} = 0 \text{ for } i < 0. \quad (10)$$

Where A_i is an $N \times N$ matrix of a recursive pattern, The DY model calculates the H-step-ahead GFEVD as follows;

$$\theta_{ij}^g(H) = \frac{\sigma_{ij}^{-1} \sum_{h=0}^{H-1} ((e_i^t A_h \Sigma e_j)^2)}{\sum_{h=0}^{H-1} ((e_i^t A_h \Sigma A_h^t e_i)^2)} \quad (11)$$

Then, spillover index calculates using GFEVD, as follows;

$$S^g(H) = \frac{\sum_{i,j=1} \widehat{\theta}_{i,j}^g(H)}{N} * 100 \quad (12)$$

We use this calculation in our analysis and we also use the net spillovers to all markets j from i is shown in Equation (13):

$$S_i^g(H) = S_{ij}^g(H) - S_{ji}^g(H) \quad (13)$$

$S_{ij}^g(H)$ is the directional spillover to market i from all other markets j and $S_{ji}^g(H)$ is the directional spillover to all other markets j from market i . The difference between the two values will give us the net spillovers.

4. Results

4.1. Descriptive Analysis

In our study, we use the daily closing prices and obtained stock returns. It is calculated as shown below;

$$SPR_t = \ln SP_t - \ln SP_{t-1} \quad (14)$$

SPR_t in the 14th equation shows the return on the day of the related stock exchange and SP_t shows the closing value on the day t of the stock exchange. The returns related to the stock indices within the scope of the study from the 14th equation are shown in Figure 1.

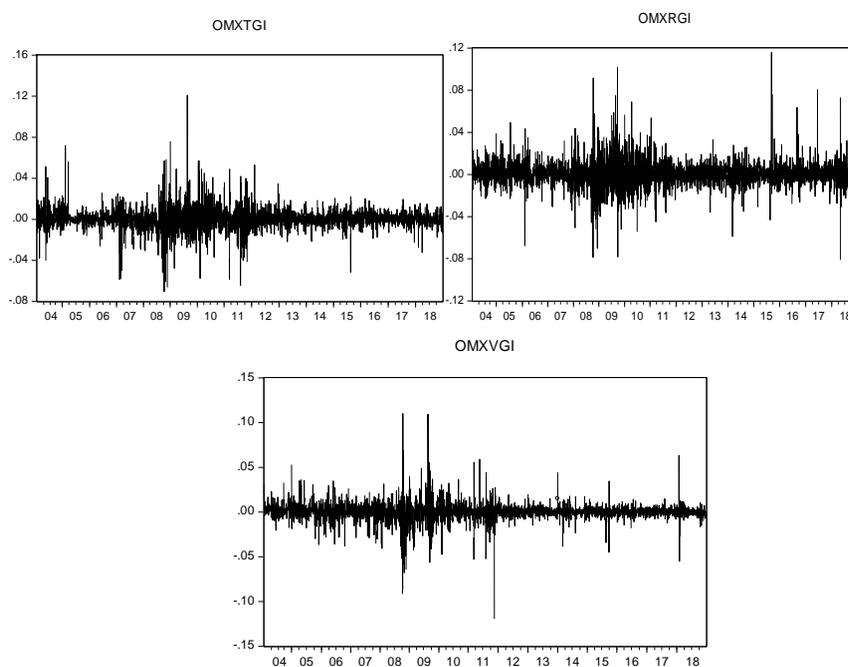


Figure 1. Stock Market Returns

Source: Authors' calculations.

When Figure 1 is analyzed, it is seen that stock market returns show a similar structure especially between the years of 2008 and 2012. On the other hand, OMXRGI returns show excessive fluctuations in the period between 2015 and 2018. These excessive fluctuations are also observed in OMXTGI for the years of 2004 and 2007.

Table 1. Stock Market Returns Descriptive Statistics

Descriptive Statistics	OMXTGI	OMXRGI	OMXVGI
Mean	0.000385	0.000322	0.000352
Median	0.000482	0.000250	0.000387
Maximum	0.120945	0.115963	0.110015
Minimum	-0.070459	-0.081048	-0.119378
Std. Dev.	0.010563	0.012326	0.010391
Skewness	0.2277	0.4745	-0.3536

Kurtosis	15.6114	13.1509	25.0336
Jarque-Bera	24107.29***	15734.09***	73564.93***
Number of Observations	3633	3633	3633

***statistical significance at the 1% level.

Source: Authors' calculations.

Table 1 shows the descriptive statistics of the stock market returns. According to the results, for the period of 2004 and 2018, the mean of the stock market returns are ranked as OMXTGI, OMXVGI and OMXRGI from the highest to the lowest.

The results of the probability distribution deviation (skewness) indicate that OMXTGI and OMXRGI returns are left-skewed but OMXVGI return is right-skewed. When the results of kurtosis are analyzed, it is shown that there is excessive kurtosis in all these stock indices. These results demonstrate that the returns of OMXTGI, OMXRGI and OMXVGI returns are similar to financial time series.

The value of Jarque–Bera indicates that these stock market returns are not normally distributed. Conditional heteroscedasticity model structure is proven strongly by descriptive statistics.

4.2. Unit Root Tests

For the stationarity, Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests are used by analysing the returns of the stock indices. The results of these tests are shown in Table 2.

Table 2. Stock Market Returns Stationarity

Tests		OMXTGI	OMXRGI	OMXVGI
ADF	Intercept	-53.4055***	-64.2558***	-51.9354***
	Trend and Intercept	-53.4101***	-64.2477***	-51.9430***
PP	Intercept	-56.6136***	-64.5510***	-56.5489***
	Trend and Intercept	-56.6004***	-64.5430***	-56.5322***

***statistical significance at the 1% level.

Source: Authors' calculations.

In these two unit root tests, the closing prices of the stock indices at the level $I(0)$ are considered. The results indicate that all of the values is significant. The hypotheses are rejected, which means not to contain unit roots and to be provided stationarity condition.

4.3. Mean Equations and ARCH Effects

After obtaining the stationarity of the return series, we use the least-squares method to get the most suitable conditional mean equation. Akaike

Information Criterion (AIC) and Schwarz Criterion (SIC) are approached to determine the mean equation taking part in the CCC-GARCH. As shown in Table 3, we determine the one-lagged model for each stock exchange is shown in equation 5 as the best model. The values in Table 3 show that the coefficients for all indices are found as significant at the 1% level.

Table 3. OLS Model and ARCH-LM Test Results

Parameters and Statistics	OMXTGI	OMXRGI	OMXVGI
δ	0.0003*	0.0003	0.0003
$r_{1,t-1}$	0.0861***	0.0837***	0.0781***
$r_{2,t-1}$	0.0122	-0.1156***	0.0006
$r_{3,t-1}$	0.0596***	0.1221***	0.1072***
ARCH (5) - F-statistic	71.0708***	70.8427***	190.5876***
ARCH (5) - Obs*R ²	324.1333	323.1856	758.9601

***statistical significance at the 1% level. *statistical significance at the 10% level, **Note:** r_1 , r_2 and r_3 show OMXTGI, OMXRGI and OMXVGI, respectively. Source: Authors' calculations.

The results of the ARCH LM test, which is also shown in Table 3, indicate that the ARCH effect has been tested and the hypothesis has been rejected which means the absence of ARCH effect at the 1% level. The ARCH effect has been found on the model of all stock indices.

4.4. CCC-GARCH Results, Return and Volatility Spillovers

Autoregressive conditional heteroskedasticity (ARCH) models are generally used in to model volatility because these models solve the heteroscedasticity and ineffectiveness problems. Thus, these models play an important role in the analysis of the relationship between the uncertainty and the return in the financial data including stock exchange returns. In this sense, our study which is analysed whole data used the CCC-GARCH model to estimate the volatilities and found the return and volatility spillovers.

Table 4 shows the results of CCC-GARCH model. The results show that all coefficients (both mean equation and variance equation) are significant at 1% and 5% level. According to mean equation results, we find that all stock markets' returns in Baltic States are affected by other stock markets' lagged values in our analysis period.

According to the results of the variance equation part in Table 4, the ranking of A values from the highest to the lowest is as follows that OMXRGI, OMXTGI and OMXVGI with 0.107204, 0.096022 and 0.092146 respectively. The most powerful shocks are seen in OMXRGI. However, the lowest B value is also found in OMXRGI. The most powerful

effect of volatility in the previous period on the volatility in the current period is seen in OMXVGI that has the highest B value (0.905639).

Table 4. CCC-GARCH Model Results

Mean Equation		
Variable	Coefficient	Prob.
$\delta_{1,0}$	0.000241	0.0280
$\delta_{1,1}$	0.069828	0.0000
$\delta_{1,2}$	0.040253	0.0001
$\delta_{1,3}$	0.033302	0.0133
$\delta_{2,0}$	0.000564	0.0004
$\delta_{2,1}$	0.103749	0.0000
$\delta_{2,2}$	-0.135375	0.0000
$\delta_{2,3}$	0.052673	0.0044
$\delta_{3,0}$	0.000332	0.0040
$\delta_{3,1}$	0.066849	0.0000
$\delta_{3,2}$	0.029885	0.0000
$\delta_{3,3}$	0.082079	0.0000
Variance Equation		
ω_1	1.16E-06	0.0000
A_1	0.096022	0.0000
B_1	0.896711	0.0000
ω_2	5.16E-06	0.0000
A_2	0.107204	0.0000
B_2	0.860982	0.0000
ω_3	1.02E-06	0.0000
A_3	0.092146	0.0000
B_3	0.905639	0.0000
$\rho_{1,2}$	0.197179	0.0000
$\rho_{1,3}$	0.353236	0.0000
$\rho_{2,3}$	0.213530	0.0000

Source: Authors' calculations.

In CCC-GARCH models, rho (ρ) gives the information about covariances of the stock markets. Also, this coefficient shows the volatility spillovers and their signs. All rho coefficients are found significant and positive signs. We find that positive volatility spreads between stock markets and its direction will be from OMXTGI to OMXRGI and

OMXVGI, also from OMXRGI to OMXVGI. The conditional covariances that obtain with the CCC-GARCH model are shown in Figure 2.

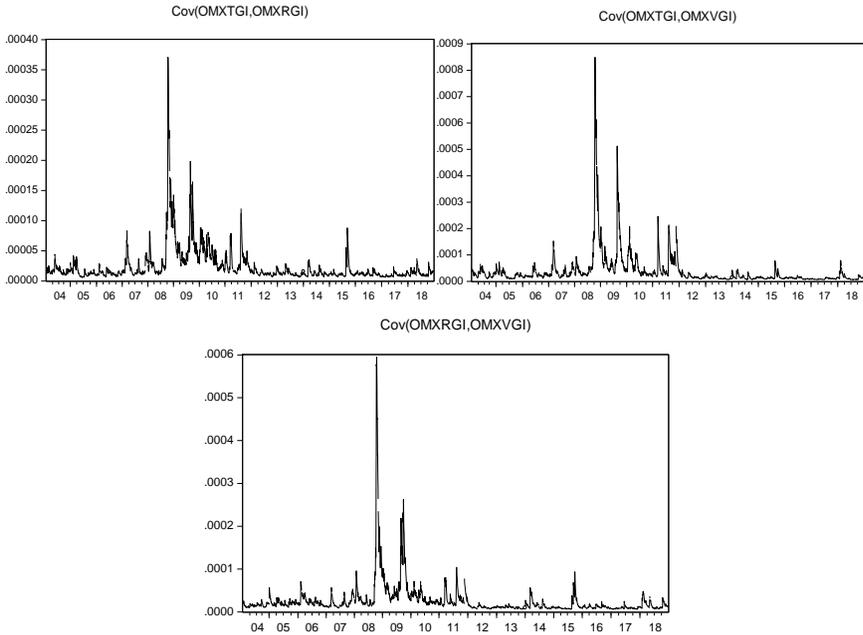


Figure 2. CCC-GARCH Conditional Covariances

Source: Authors’ calculations.

When Figure 2 is analyzed, it is seen that stock market covariances show a similar structure, especially for the crises periods. We show that the highest volatilities are seen in double-acting crisis period including both the 2008 Global Financial Crisis and European Debt Crisis (2008-2010). European Debt Crisis (2011-2015) follows this period. In other sub-periods (pre-crisis and post-crisis), volatilities and volatility spillover effect diminish.

4.5. DY Model, Return and Volatility Spillover Indices

We show that the return and volatility spillovers between the Baltic States with the CCC-GARCH model. We also estimate the spillover indices for returns and volatilities of stock markets with a DY framework. We measure the return and volatility spillover using a forecast horizon five days with a VAR lag structure of five. A 200-day rolling window is used in our analysis as some other studies (Elsayed and Yarovaya, 2019; Zhang & Broadstock, 2018). The spillover connectedness table for returns is shown in Table 5.

Table 5 shows the results of the average spillover analysis for the Baltic States returns. We obtain the net contribution to each stock market's return taking the difference between "Contribution to others" and "From Others".

Table 5. The Spillover Connectedness for Returns

	OMXTGI	OMXRGI	OMXVGI	From Oth.
OMXTGI	99.1	0.1	0.8	0.9
OMXRGI	7.3	91.8	0.9	8.2
OMXVGI	26.9	3.1	69.9	30.1
Contribution to others	34.3	3.3	1.6	39.2
Net Contribution (To – From)	33.4	-4.9	-28.5	
Contribution including own	133.4	95.0	71.5	13.1%

Source: Authors' calculations.

Regarding Table 5, the average spillover index is found as 13.1%. The average spillovers index for the whole sample (2004-2018) shows that 13.1% of the total variance of the forecast errors is explained by the connectedness of shocks across Baltic States markets, while the remaining 85.9% is explained by idiosyncratic and external shocks. Regarding net contribution results, OMXTGI is the only positive net contributor in returns analysis. These results make the OMCXTGI as the highest contributor to other stock markets. OMXRGI and OMXVGI are net receivers for the whole period. The spillover connectedness table for volatilities is shown in Table 6.

Table 6. The Spillover Connectedness for Volatilities

	OMXTGI	OMXRGI	OMXVGI	From Oth.
OMXTGI	94.6	3.5	1.9	5.4
OMXRGI	6.6	89.7	3.8	10.3
OMXVGI	28.0	10.2	61.8	38.2
Contribution to others	34.6	13.7	5.6	53.9
Net Contribution (To – From)	29.2	3.4	-32.6	
Contribution including own	129.2	103.4	67.4	18.0%

Source: Authors' calculations.

Table 6 shows the results of the average spillover analysis for the Baltic States volatilities. We use the same methodology to obtain the net contribution with returns analysis. The average spillover index is found as

18%. The average spillover index shows that 18% of the total variance of the forecast errors is explained by the connectedness of shocks across Baltic States markets, while the remaining 82% is explained by other shocks. Whereas two different stock markets (OMXTGI and OMXRGI) have positive net contributions scores, the OMCXTGI is still the highest contributor to other stock markets. OMXVGI is a net receiver for the whole period.

The results of return and volatility total spillover indices' calculations are shown in Figure 3.

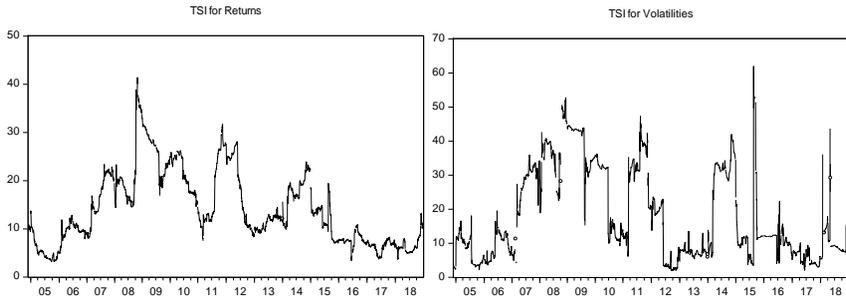


Figure 3. Total Spillover Index with DY Framework

Source: Authors' calculations.

When Figure 3 is analyzed, most of the highest values of return TSI are seen double-acting crisis period (including both 2008 Global Financial Crisis and European Debt Crisis (2008-2010)) and only European Debt Crisis (2011-2015) period. We find the highest value as 41 on 10/24/2008. Then, it decreases but we see the different local peaks in 11/15/2011, 05/14/2012 and 05/20/2010 and 10/30/2014 with 32, 28, 26 and 24 respectively. Regarding Figure 3, most of the highest values of volatilities TSI are also found in crises periods. We measure that the highest value as 62 in 08/25/2015. We see more local peaks in volatilities than returns analysis. We also show the summary of the total spillover indices in Table 7.

Table 7. Summary Table for TSI

Return				Volatility			
Period	mean	max	min	Period	mean	max	min
2004-2007	10.50	23.35	3.17	2004-2007	13.59	35.92	14.63
2008-2010	23.17	41.38	14.40	2008-2010	32.60	52.74	9.26
2011-2015	15.38	31.74	6.99	2011-2015	17.72	62.00	1.99
2016-2018	6.92	13.23	3.41	2016-2018	8.76	43.68	2.06

Source: Authors' calculations.

In addition to the highest values, Table 7 shows that the returns of total stress spillovers fluctuate at a level of more than 23% in the double-acting crisis period. The second highest value is seen in the European Debt Crisis period. When we examine the volatility of total stress spillovers, the highest level of fluctuations with more than 32% are also seen in the 2008-2010 period. We estimate the second-highest value with approximately 18% in the European Debt Crisis period.

Considering all indices, the highest return and volatility spillovers are seen in the double-acting crisis period. In the post-crisis period, all spillover effects fall even less than the pre-crisis period.

Conclusion

This study aims to indicate the spillover effect of the 2008 Global Financial Crisis and European Debt Crisis on the Baltic States (Estonia, Latvia and Lithuania) by taking years between 2004 and 2018. Although we apply our analysis for the whole period, the period is evaluated under four periods as pre-crisis period (2004-2007), double-acting crisis period including both 2008 Global Financial Crisis and European Debt Crisis (2008-2010), crisis period including only European Debt Crisis (2011-2015) and the post-crisis period (2016-2018).

In this study using the CCC-GARCH model, daily closing data of OMXTGI Index (Estonia), OMXRGI Index (Latvia) and OMXVGI Index (Lithuania) is analysed to obtain volatilities. According to the results of the CCC-GARCH model, we find that all stock markets' returns in the Baltic States are affected by other stock markets' lagged values in our analysis period. Also, we find that the most powerful shocks are seen in OMXRGI and the most powerful effect of volatility in the previous period on the volatility in the current period is seen in OMXVGI. Regarding the CCC-GARCH model, positive volatility spreads between stock markets and its direction will be from OMXTGI to OMXRGI and OMXVGI. OMXTGI is the net sender, whereas OMXVGI is the net receiver.

In our analysis, we also use the DY model to calculate the total spillover index and net spillovers between stock markets' returns and volatilities. The return and volatility average spillover indices are found as 13.1% and 18% respectively. In all calculations, OMXTGI is found as the highest contributor to other stock markets. These results support our CCC-GARCH model results, as well.

When we interpret the return and volatility of total stress spillovers, we find that total spillovers fluctuate at a level of more than 23% and 32% in double-acting crisis period for returns and volatilities. The second highest values are seen in the European Debt Crisis period. The further studies need to approach different countries and models by focusing on other

analysis periods to obtain results about stock market returns and volatilities spillover effects.

References

- Aktan, B., Korsakiene, R., & Smaliukiene, R. (2010), "Time-varying Volatility Modelling of Baltic Stock Markets", *Journal of Business Economics and Management*, 11(3), 511-532.
- Almeida, D., Hotta, L., & Ruiz, E. (2018), "MGARCH Models: Tradeoff between Feasibility and Flexibility", *International Journal of Forecasting*, 34(1), 45-63.
- Beker, V. (2014), "The European Debt Crisis: Causes and Consequences", *Journal of Stock & Forex Trading*, 3(2), 1-9.
- Bollerslev, T. (1986), "Generalized Autoregressive Conditional Heteroskedasticity", *Journal of Econometrics*, 32, 307-327.
- Bollerslev, T. (1990), "Modeling the Coherence in Short-run Nominal Exchange Rates: A Multivariate Generalized ARCH Model", *Review of Economics and Statistics*, 72, 498-505.
- Caporale, G. M., Ali, F. M., & Spagnolo, N. (2015), "Oil price uncertainty and sectoral stock returns in China: a time-varying approach", *China Econ. Rev.*, 34, 311–321.
- Davulis, G. (2012), "Global Crisis and Economic Processes in Lithuania and Other Baltic Countries", *Business Systems and Economics*, 2(1), 134-146.
- Dickey, D.A., & Fuller, W.A. (1981), "Likelihood Ratio Statistics for Autoregressive Time Series with A Unit Root", *Econometrica*, 49(4), 1057-1072.
- Diebold, F. X., & Yilmaz, K. (2012), "Better to give than to receive: Predictive directional measurement of volatility spillovers", *International Journal of Forecasting*, 57-66.
- Diebold, F. X., & Yilmaz, K. (2009), "Measuring Financial Asset Return and Volatility Spillovers, with Application to Global Equity Markets", *The Economic Journal*, 158-171.
- Dimitrou, G., & Metaxas, T. (2017), "Iceland's response to economic crises: A success story?", *MPRA*, Paper No. 78758.
- Efimova, O., & Serletis, A. (2014), "Energy markets volatility modelling using GARCH", *Energy Economics*, 43, 264-273.
- Engle, R.F. (1979), "A General Approach to The Construction of Model Diagnostics Based Upon The Lagrange Multiplier Principle", *The*

- Engle, R.F. (1982), “Autoregressive Conditional Heteroskedasticity with Estimates of the Variance of United Kingdom Inflation”, *Econometrica*, 50(4), 987-1007.
- Elsayed, A. H., & Yarovaya, L. (2019), “Financial stress dynamics in the MENA region: Evidence from the Arab Spring”, *Journal of International Financial Markets, Institutions and Money*, 62, 20–34.
- Esposito, M. (2014), *The European Financial Crisis Analysis and a Novel Intervention*, Harvard University, USA.
- Ewing, B. T., & Malik, F. (2013), “Volatility transmission between gold and oil futures under structural breaks”, *Int. Rev. Econ. Finance*, 25, 113–121.
- Frieden, J., & Walter, S. (2017), “Understanding the Political Economy of the Eurozone Crisis”, *The Annual Review of Political Science*, 20, 19.1-19.20.
- Friedrich, P., & Reiljan, J. (2015), “Estonian Economic Policy during Global Financial Crises”, *CESifo Forum*, 4, 37-44.
- Huo, R., & Ahmed, A. D. (2017), “Return and volatility spillovers effects: Evaluating the impact of Shanghai-Hong Kong stock connect”, *Economic Modelling*, 61, 260-272.
- Kayral, I.E. (2020), “The Comparison of Ireland, Spain and Greece Stock Market Volatilities in the 10th Year of 2008 Global Financial Crisis”, *Future of The European Union Integration: A Failure or A Success? Future Expectations*, 183-197, Peter Lang Publishing.
- Kayral, I.E., & Tandogan, N.S. (2019), “MGARCH Modelleri ile Volatiliterin Modellenmesi: BİST Sektör Endeksleri Üzerine Bir Çalışma”, *Sosyal Bilimler Alanında Araştırma Makaleleri-2*, 299-316, Gece Kitaplığı, Ankara.
- Koyama, Y. (2010), “Economic Crisis in the Baltic States: Focusing on Latvia”, *Economic Annals*, 55(186), 89-114.
- Kropas, S. (2007), “Globalizacija ir instituciniai viešosios politikos klausimai Lietuvoje’ iš Lietuvos ekonomika Europoje ir globalioje erdvėje”, *Lietuvos ekonomika Europoje ir globalioje erdvėje*, 31-60.
- Leahy, A., Healy, S., & Murphy, M. (2012), “The impact of the European crisis: a study of the impact of the crisis and austerity on people, with a special focus on Greece, Ireland, Italy, Portugal and Spain,

Belgium”, A Caritas Report prepared by Social Justice Ireland
Brussels: Caritas Europa.

- Macys, G. (2012), “The Crisis and Economic Recovery in Baltic Countries”, *International Journal of Humanities and Social Science*, 2(19), 202-209.
- Mensi, W., Hammoudeh, S., Nguyen, D. K., & Yoon, S. M. (2014), “Dynamic spillovers among major energy and cereal commodity prices”, *Energy Econ.*, 43, 225–243.
- Min, H.G., & Hwang, Y.S. (2012), “Dynamic correlation analysis of US financial crisis and contagion: evidence from four OECD countries”, *Applied Financial Economics*, 22(24):2063-2074.
- Phillips, P.C., & Perron, P. (1988), “Testing for A Unit Root in Time Series Regression”, *Biometrika*, 75(2), 335-346.
- Purfield, C., & Rosenberg, C. (2010), “Adjustment under a Currency Peg: Estonia, Latvia and Lithuania during the Global Financial Crisis 2008-2009”, *IMF Working Paper*, 10/213, 1-34.
- Su, W., & Huang, Y. (2010), “Comparison of Multivariate GARCH Models with Application to Zero-Coupon Bond Volatility”, Master Thesis, Department of Statistics, Lund University.
- Trabelsi, M. A. (2012), “The Impact of the Sovereign Debt Crisis on- the Eurozone Countries”, *MPRA*, Paper No. 76964.
- Wang, G.J., Xie, C., Stanley, H., & Jiang, Z.-Q. (2016), “Who is the senders and recipients of volatility spillovers in China's financial markets?”, *Finance Research Letters*, 18, 255-262.
- Yarovaya, L., Brzeszczyński, J., & Lau, C. (2016), “Intra- and Inter-regional Return and Volatility Spillovers across Emerging and Developed Markets: Evidence from Stock Indices and Stock Index Futures”, *International Review of Financial Analysis*, 43, 96-114.
- Zhang, D., & Broadstock, D. C. (2018), “Global financial crisis and rising connectedness in the international commodity markets”, forthcoming, *International Review of Financial Analysis*.
- Zhang, X., Schwaab, B., & Lucas, A. (2012), “Conditional probabilities and contagion measures”, *Research Bulletin*, 17, 6-11.

THINKING PARIAH, POLITICAL ACTION AND CIVIL DISOBEDIENCE IN THE 21th CENTURY'S REFUGEE CRISES

*Güneş Koç**

1. Introduction

We are in the midst of the biggest refugee crisis since the Second World War. According to the UNHCR's refugee statistics, 70.8 million people have been displaced worldwide because of "persecution, conflict, violence, or human rights violations" (UNHCR, 2018), and "1 in every 113 people around the world is either an asylum-seeker, internally displaced or a refugee" (UNHCR, 2016). The numbers indicate the highest sum of refugees since 1945 (Adelman, 2016). In this paper, the author analyzes Arendt's concepts of political action, civil disobedience and the pariah in relation to the recent refugee crises. The purpose of this study is to examine Arendt's analysis of political action and the possibilities it opens for political participation and dissidence in 21st-century refugee crises. Questions about subjects and political action will be addressed in two ways. First, the concept of political action will be discussed in regard to Arendt's concepts of public space and the role of narrative and speech. Secondly, Arendt's concept of the pariah and its potential for political action will be discussed in relation to refugees and stateless people in the 21st century. The question will be raised whether the situation of our era's refugees and *sans papiers* can be explored with the concept of the pariah, and whether potential exists, in Arendtian terms, for potential action in the public sphere by and on behalf of pariahs. I will discuss Sea Watch 3 Captain Carola Rackete's rescue of 40 refugees in June 2019 on the Italian island of Lampedusa as an example of Arendtian political action and civil disobedience.

2. Political action and the public realm by Hannah Arendt

In her book *Human Conditions*, Arendt explores the ancient world's division of *vita activa* and *vita contemplativa* into labor, work and action (Arendt, 1998: 7-21). The distinction between public and private requires a distinctive perception of both "fields" (Betz, 1992: 382). The private sphere is, for Arendt, an antipolitical sphere where emotions are displayed and activities of production and consumption take place, while the public sphere is political and is constituted of freedom, action, speech, and memory (Elkin, 1990: 7-8). Action is a prerequisite for entry into the political sphere, and political space is constituted via action. Politics takes

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place among free people and requires deeds, speech, and mutual recognition—seeing and being seen by each other (Betz, 1992: 379-418). Arendt's concept of the public sphere borrows from the notion of freedom found in works of ancient Greek thinkers such as Aristotle. Freedom is intertwined with the concept of the political and political space. Through common action and speech, humans establish a space in which they reveal their identities and nurture remembrance (Arendt, 1998: 207-208). Speech is a key element of this process: "Action involves the attempt at persuasion, the interaction of debate, the challenge of negotiation, the tentativeness of concession, the exhilaration of cooperation and joint operation" (Betz, 1992: 384).

Arendt's analysis of the political distinguishes itself from the nineteenth century's dominant political concept of "abstract, mechanistic, teleological political ideologies" (Curthoys, 2002: 350). Her depiction of politics includes "vital ethos, intellectual biography, and its episodic and anecdotal forms of reportage" (Curthoy, 2002: 350). Action and speech take place only in the presence of others. The *polis*, the Ancient Greek political realm, is in the Arendtian view a rhetoricized place where the interaction of orator and spectator takes place as spectacle in an open theatre (Curthoy, 2002: 353). Memory and history are displayed to the common gaze of spectator and actor. Political action takes place on the public stage; individuals "come out into the bright light of the public realm to engage in political action," and in so doing reveal what they really are (Canovan, 1985: 623). In her essay on revolution, Arendt underlines the actors' and the spectators' relation to each other and defines revolution as a theatrical political action in which the full realization of political action takes place (Arendt, 1990: 21-59, 106-108, 196).

3. The role of narrative and speech

Arendt's political thought is realized in narrative (Kristeva, 2001: 27) and "weaves together life and thought as a fertile unity" (Curthoys, 2002: 350). In her description, political activities are framed by speech and by specific contexts of agency and desire (Arendt, 1998: 22-79, 175-248). Arendt's conception of action includes speech surrounded by "the web of the acts and words of other men" (Arendt, 1998: 188). In the Arendtian view, narrative is "the dimension of a bios—and not of a zoe—a political life and/or an action recounted to others" (Kristeva, 2001: 27). It is stories rather than abstract constructs that constitute the political space (Barnouw, 1990: 29)

It is through speech and action that humans distinguish themselves from one another; they become the authors of "words and deeds" (Benhabib, 2003: 109). Through words and deeds, humans "appear" to or reveal themselves to one another (Benhabib, 2003: 109). Political action is

characterized in part by the “telling of a story” and “the weaving of a web of narratives” (Benhabib, 2003: 126) For Arendt, politics, language, and freedom are directly linked, making politics a cooperative activity rather than assertion of domination (Botstein, 1983a: 73).

Arendt’s belief in the centrality of language is influenced by the philosophy of Wittgenstein, Nietzsche, Heidegger, Aristotle, and Plato. For Arendt, language is not just a means to action but also a form of political praxis that constitutes political action. Language is also “the symbol of political identity”: in Arendt’s case, her German identity, in disjuncture with the realities of her life (Botstein, 1983a: 73). Narrative—storytelling, to use Arendt’s term—is, then, a fundamental human activity (Benhabib, 2003: 92). Arendt’s account of speech and action requires human plurality and equality, the ability to live “among men and among those who are my equals” (Arendt, 1987: 39).

4. Plurality and public space

Action is activity that takes place between humans, and it “corresponds to the human condition of plurality” (Arendt, 1998: 7). Plurality entails both equality and distinction between people (Arendt, 1998: 175). “Plurality is the only means to define us in our singularity” (as cited in Nordmann, 2007: 788). Plurality in the fabric of human relationships means letting the other be in his otherness, without abandoning demarcation of borders, with an affirmation of his otherness (Nordmann, 2007: 791-792). A person’s action is a manifestation of that otherness. “In acting and speaking, men show who they are, reveal actively their unique personal identities and thus make their appearance in the human world’ (Arendt, 1998: 179). Action does not only reveal who a person is inside, but shapes that identity. Plurality is closely associated with what Arendt calls natality, the principle of beginning, “a second and public birth” (Arendt, 1991: 434).

To act, in its most general sense, means to take an initiative, to begin (as the Greek word *archein*, ‘to begin’, ‘to lead’, and eventually ‘to rule’, indicates), to set something into motion (which is the original meaning of the Latin *agere*)” (Arendt, 1998: 177). Human plurality within the public sphere is key for creating “tangible political freedom” in which “action and speech are intimately related” (Bernstein, 2010: 41).

5. The pariah, the possibilities of action and becoming worldly

In Arendtian terms, the Jewish diaspora in Europe lacked “the human telos of the *vita activa*: working and speaking freely in the public realm of a differentiated community” (Botstein, 1983a: 84). Their lack of home and equal political membership in the public arena made their speech unheard. In her work between 1941 and 1975, Arendt explored the Jewish pariah’s

search for freedom from powerlessness and exclusion in speaking and acting as an equal citizen within the public realm (Arendt, 1979: 54-88; Arendt, 1994: 57-66; Arendt, 2007: 264-298; Botstein, 1983b: 51, 76). To be stateless is to be excluded, even exterminated (Betz, 1992: 410). In Arendt's concept, a pariah is a person who is marginal, does not fully "belong" anywhere and lives with the "lack of a place in the World," unrecognized by other people (Curthoys, 2002: 349). He or she is a political outcast without a home or political stake, excluded and estranged—worldless. The collective identity of Jews has historically been one of homelessness, and a "collective sense of dislocation, displacement, and disconnection remain a part of the identity of the Jew as pariah" (Elkin, 1990: 73). This pariahdom has persisted for centuries, resulting in worldlessness, which is a form of barbarism (Arendt, 1968: 13). Those thus estranged from the world cannot be truly free. Arendt connects freedom and action—one is the conjunction of the other one. The condition of freedom is political action. "Political action can take place only where there is worldliness, a common commitment to the reality, beauty, and sufficiency of the culture or way of life that sustains political action" (ref. to Kateb, 1983: 2 in Elkin, 1990: 76).

In her book *Human Conditions*, Arendt seeks to provide a theoretical grounding for action and asks whether there is a possibility for the pariah to engage in action (Elkin, 1990: 2). She questions how it is possible that the pariah, as an individual and as collective identity, can be an actor (Elkin, 1990: 3). In the Arendtian view, to be an actor, the individual must participate within the public realm. How can one maintain the pariah identity and take up a position within the public realm? (Elkin, 1990: 3). The pariah's outsider status is in contradiction with Arendt's concept of being worldly, participating in the public space and acting politically out of caring and *amor mundi* (Elkin, 1990: 4). Nonetheless, Arendt offers her own antidote "to the problem of the pariah in her belief that no individual can live and achieve a truly human identity without belonging to some political community" (Elkin, 1990: 4).

Arendt's theory of political action can thus be considered in terms of the pariah. In the concept of pariah speech, language itself is included, so in this way there is an entrance for the pariah into political action. *Amor mundi*, worldly love, "to care more for the world... than for ourselves, for our immediate interests and for life" (ref. to Arendt, 1963, in Moore, 1987: 143), requires action on behalf of the world. "Love for the world, finally, is an assertion of its existence... a public commitment on behalf of the world's actors that their actions will advance the reality of the world for generations to come" (Moore, 1987: 143). The question of how this entrance is possible is addressed in Arendt's discussion of the conscious pariah and the parvenu, concepts she identified following the French

journalist Bernard Lazare (Benhabib, 2003: 37). In “The Jew as Pariah: A Hidden Tradition” (Arendt, 2007: 275-298) she analyses different types of pariah identities and how they translate to action in the public sphere.

6. Parvenu, conscious pariah and the creation of alternative public spaces

Conscious pariahs, according to Arendt, are those who know their marginal status within Jewish society and their outcast status within European society. Conscious pariahs who are speakers, writers, storytellers, and rebels are often not accepted neither by their community nor by the majority society; their voices are often unheard or repressed (Elkin, 1990: 70). The conscious pariah has a critical outlook that makes him or her a dissident and “a rebel against his own people and the rest of society” (Elkin, 1990: 66). Conscious pariahs desire with their awakening consciousness to “establish and claim political and legal identities in order to share a stake in the world” (Elkin, 1990: 7). Arendt distinguishes conscious pariahs from parvenus. Parvenus are pariahs who have been assimilated. Their entrance into the public space is possible due to assimilation and cosmetic changes through which they seek to overcome their outsider status, adapting the majority culture’s values and behavior (Elkin, 1990: 6; Benhabib, 2003: 37). Arendt (2002: 20-50) makes a distinction between the political and social realm, which is reflected in her perception of the parvenu. The parvenu cannot enter the political realm, only the social realm, while the pariah enters the political realm by participating in alternative public spaces. The parvenu gains entrance into bourgeois social life, while the conscious pariah remains an outsider (Arendt, 2007: 275-298). “The self-conscious pariah requires visibility, requires to be seen as ‘other’ and as ‘different,’ even if only by a very small group, by a community of like-minded friends” (Benhabib, 2003: 29).

In Arendt’s view, salons provided to conscious pariahs an alternative public space for “visibility, being seen and recognised as ‘other’ and as ‘different’, even if only by a very small group, by a community of like-minded friends” (Benhabib, 2003: 29). Salons in France and in Germany were a public realm where people exchanged their thoughts and ideas (Benhabib, 2003: 14-22). Arendt gives the example of the Rahel salon as an alternative public space of dialogue, debate, and political thought (Arendt, 1979: 59, 60, 66; Arendt, 1994: 57-66; Arendt, 2007: 278). During the rise of modernity, salons functioned as a social site for the rising upper middle class, a place for “a new ideal of humanity, the joy of conversation, the search for friendship, and the cultivation of intimacy,” while “the working and laboring classes of Europe in this period shared a different mode of sociability of their own” (Benhabib, 2003: 18).

Since pariahs were excluded from public space, their political action was displayed in the alternative public spaces they were creating among their peers and diverse equals. Arendt discusses in several essays the concept of conscious pariah figures such as Bernard Lazare, Heinrich Heine, Franz Kafka, Rosa Luxemburg, Rahel Varnhagen, and Isak Dinesen. Their common characteristics are that they are literary, cultured, intellectual, and politically engaged figures. Women pariahs such as Luxemburg and Varnhagen in particular represent a more marginal status as female intellectuals. The male pariah's process of gaining recognition and status is difficult, but it is even more so for women (Elkin, 1990: 6). Rosa Luxemburg was a female conscious pariah figure in Arendtian term who entered public space through participation in political resistance. In Rosa Luxemburg's case, the political alterity created an alternative public space through which public appearance was possible (Arendt, 1968: 33-57). In salons as well as in realms of political alterity, *amor mundi* and care for the world were possible for conscious pariahs who entered the political realm.

Language and dialogue constitute the link through which a relationship between the pariah and political action can be consummated (Elkin, 1990: 86). Arendt tries to transcend the contradiction in which pariahs both fail to belong totally to a place, and yet, with their worldliness and outsider status, can become situated in the world rather than being estranged from it. Alternative public spaces provide the potential for Arendtian political action and worldliness, which contribute to the plurality of public space and provide possibilities for "authentic political action" (Elkin, 1990: 12).

7. Refugees as new pariahs and their entrance into public space

In Arendt's political thought, the pariah question focuses on the possibilities of becoming worldly and plurality of the political, with a search for a "recovery of the public world in the twentieth century" (Benhabib, 2003: 46). Arendt uncovers the sources of the "modern feeling of homelessness in the world" (Benhabib, 2003: 49). "Arendt's theory of the political was an extension, in Kantian fashion, of Jewish pariah experience into a universal norm for the future" (Botstein, 1983a: 96). Kant's categorical imperative makes a generalization of activity possible:

Speaking and thinking in the political realm are activities which treat man as an end in himself, as the telos of human life... Speech and thought become public and political. The redefinition of politics makes the preservation of the 'special character of the Jew while permitting him to leave behind his pariah status and participate as an equal with other free citizens in a pluralistic society. (Botstein, 1983a: 96). Arendt transformed "the Heideggerian concept of the 'world,' restored 'being-in-the-world-with,' or the condition of human plurality, to the center of our experience

of worldliness” (Benhabib, 2003: 50). The discovery of human plurality allowed Arendt “to undertake fundamental revisions in the concepts of human action and identity and finally in the category of the ‘world’ itself” (Benhabib, 2003: 51). In “We Refugees” (2007), Arendt states that Jewish pariahs in the diaspora have developed the “capacity for speaking, thinking, and story-telling” (Elkin, 1990: 78). “Stories, satires, conversations, and dialogues that attempt to reconcile, and understand the world from the outsider’s point of view emerge from the pariah’s critical distance” (Elkin, 1990: 80). The marginalized state of pariahs and their estrangement from the world makes them speak “a discourse of the heart and mind and [maintains] a critical perspective and distance” (ref. to Coser, 1984: 10, in Elkin, 1990: 78). The distance the pariah has from conventional social groupings and power relations grants him or her a unique gaze and independence, ultimately resulting in a form of freedom (Elkin, 1990: 79). Conscious pariahs are able to use their group identity to participate in resistance.

In the 21st century, millions of stateless people such as refugees, *sans papiers*, and unwanted minorities share the common characteristics of being outsiders, homeless, and worldless. Are they today’s pariahs? If so, how is possible in Arendtian terms that they are participating in the world, in public space? Arendt’s analysis of Jewish pariahs can be extended to today’s outsiders, refugees, stateless people, and *sans papiers*. She views conscious pariahs as an avant garde: “refugees driven from country to country represent the vanguard of their peoples—if they keep their identity” (ref. to Arendt and Blumenfeld, 1995: 6, in Heuer, 2007: 1169). The identity of 21st centuries pariahs and their interest in the world they share with others have the potential to create alternative public spaces. The concept of avant garde is not explained by Arendt in a great detail, but suggests the notion of an ideological cutting edge: “independent pariahs” are “those who think for themselves” (Heuer, 2007: 1170). As people estranged from the public realm, they have an authentic gaze. This gaze and stance is carried out in Arendtian term within peer groups: meeting in alternative public spaces, speaking, telling stories, talking critically, and discussing their situation (Elkin, 1990: 80-81). Pariah subcultures make possible an alternative public space. In this way, pariahs gain access to a site of action and worldlessness gives way to worldliness. Arendt’s concept of public space is extended from the category “worldless” to a worldly place through the creation of alternative public spaces in which refugees, stateless people, and distinctive “others” get access into and have a place for action.

The term “pariah” as extended to refugees and stateless people in the 21st century requires a definition of politics that challenges borders and questions the administration of refugee management and biopolitics. The

Arendtian account of politics provides the potential for the opening of public space by the action of conscious pariahs and citizens in solidarity with them, as in demonstrations carried out by undocumented immigrants and NGOs, migration organizations, and civil activists in solidarity with outsider groups. These actions suggest the potential for people to act together as conscious pariahs and as citizens. They give perspective on constituting the common world.

The *sans papier* movement has been a key site for such political action. This movement started with 300 migrants in 1996 in Paris, and has continued in different forms, providing an example of creating alternative public spaces in Arendtian terms. In 1996, 300 migrants occupied the church of St. Ambroise in Paris, an action which ended on August 23rd with a massive police operation. Etienne Balibar gave the speech “What We Owe to the Sans-Papiers” at a Paris event in March 1997 organized by the French Filmmakers’ Union. In his speech, Balibar (1996) underlined the universality of the rights of stateless people and their search for justice and human rights. The *sans papiers* protests sparked political struggle by migrants and asylum-seekers elsewhere in Europe. The No Border network, demonstrations against “Fortress Europe” during EU summits, and refugee protests in Vienna, Helsinki, and Berlin are some examples (Korvensyrjä, 2018). These acts of dissidence by refugees were, in the Arendtian view, forms of political action and civil disobedience. The protests received media attention and inspired solidarity. The protesters received sympathy from the spectators and made their voices heard. The protests were collective and done in the name of group identity. In Arendtian terms, they contributed to the public plurality.

8. Civil disobedience and political action

In her essay “Civil Disobedience,” Arendt discuss the role of civil disobedience in creating plurality in public spaces, its difference from revolution, and its conflict with law in seeking and demanding justice. The description of civil disobedience, according to Arendt, includes three criteria: (1) Civil disobedience must take place in the light of day, publicly rather than secretly (which distinguishes it from criminal lawbreaking); (2) Civil disobedience calls for a group rather than individual endeavor (which distinguishes it from conscientious objection); and (3) Civil disobedience aims at overturning a specific aspect of public life rather than the political system itself (which distinguishes it from revolution). (Ring, 1991: 449)

The concept of political action Arendt discussed in “On Revolution” and “Civil Disobedience” includes pariahs: outsiders and members of their political communities “becoming involved in the life of the community, rather than regarded as lawbreakers” (Ring, 1991: 449). Civil disobedience is for Arendt a theatrical metaphor, casting politics as actor- and spectator-

centered. Action needs a gaze. “The world without spectator would be a ‘desert’” (Koyama, 2012: 76). Action has a dualistic dimension in which the spectator’s judgement is included (Koyama, 2012: 75). Arendt considers this dualism in her writing about student movements in 1960s America, the Hungarian Revolution in 1956, and Gandhi’s nonviolent civil disobedience (Arendt, 1972: 49-103). In each example, spectators were watching with sympathy as participants demanded justice. All were theatrical in Arendtian term because the political action was “sensitive to the gaze of an enlightened observer or public opinion” (Koyama, 2012: 74).

9. Captain Rackete’s action as “amor mundi” and civil disobedience

Sea Watch 3 Captain Carola Rackete’s recent action provides an arresting example of civil disobedience in Arendtian term. Rackete had captained the ship Sea-Watch 3 since 2018 and had worked for the migrant rescue organization Sea Watch for four years. Sea Watch provides aid to migrants from Libya and other war-torn areas on the northern African coast who become stranded trying to cross the Mediterranean Sea to Europe. Rackete had rescued 40 migrants who were adrift at sea and took them to shelter on the Italian island of Lampedusa, despite having been forbidden to do so. Rackete knew the illegal and controversial nature of her action when she decided to sail the Sea-Watch 3 rescue ship into Italian waters. She said “I have decided to enter the port of Lampedusa. I know what I’m risking, but the 42 rescued people are exhausted. I’m taking them to safety now” (Kaschel, 2019). Sea-Watch 3 had been on the Mediterranean Sea with the asylum-seekers on board for over two weeks, leading to increasingly poor conditions on board and despair among the migrants. Rackete then made the decision to dock illegally, one that could land her with a fine of up to €50,000 (\$56,000) as well as criminal charges under a new law prohibiting aiding and abetting illegal immigration (Kaschel, 2019). She was taken into custody by Italian authorities, the ship was impounded, and the 40 remaining asylum-seekers on the boat were allowed to disembark (Kaschel, 2019).

Soon after, Italian Interior Minister Matteo Salvini from the far-right League party tweeted “Mission accomplished,” adding “Criminal captain arrested, the pirate ship seized, the maximum sentence for a foreign nongovernmental organization” (Kaschel, 2019). Rackete stated her reason for defying Italian and EU law was that there were no other options left, her efforts to find a political solution with the European Union and Italian officials having failed (Kaschel, 2019). Rackete declared her act not one of random violence or lawlessness but of disobedience (“Captain defends her decision to force rescue boat into Italian port” 2019 June 30).

After the arrest of Rackete, two online campaigns were initiated. Two prominent German TV stars, comedian Jan Böhmermann and TV presenter Klaas Heufer-Umlauf, appealed to the public for funds and raised more than €350,000 (£314,000). The campaign stated in a YouTube video that “We are convinced that someone who saves lives is not a criminal. Anyone who thinks otherwise is simply wrong” (“Captain defends her decision to force rescue boat into Italian port,” 2019 June 30). The second campaign, started by an Italian anti-fascist group on Facebook, raised a further €433,990. Her action was recognized by the left wing in Italy as a challenge to the policies of the far-right interior minister Matteo Salvini and made her into a left-wing hero (‘Captain defends her decision to force rescue boat into Italian port,’ 2019 June 30).

Pia Klemp, a captain of a search-and-rescue ship, is another practitioner of civil disobedience in solidarity with migrants. Klemp, who saved 6,000 migrants from drowning, faces up to 20 years in jail. She accused the EU of letting people die, and the Italian authorities of “criminalising solidarity” (*Captain defends her decision*, 2019). She and Rackete are not the only examples of such civil disobedience; “more than 250 people have been investigated, arrested or charged in the EU for their work with migrants and refugees over the past five years, according to research by open Democracy, a UK-based website that focuses on social and political issues” (Crellin, 2019). But they are among the most high-profile. Klem and Rackete’s civil disobedience are examples of political action in Arendtian terms, demonstrating political solidarity of free citizens with the unrecognized outsiders of society.

Their acts of disobedience have raised questions about law and justice, the limits of national and EU law, and the rights of refugees to enter public space, and ensured that those questions remained public. Their acts have brought them into the public gaze as human rights defenders and made them heroized. Paris awarded Pia Klemp and her compatriot Carola Rackete the Grand Vermeil Medal in July for their repeated bravery in bringing migrants to shore despite Italian efforts to stop them (Crellin, 2019). Pia Klemp rejected the award, underlining the hypocrisy of other nations and the EU for praising her actions when they themselves oppress migrants. In a public Facebook post, she wrote “We do not need authorities deciding who is a ‘hero’ and who is ‘illegal’” (Crellin, 2019).

The two women are examples of civil disobedience not just because they broke the law in solidarity with migrants, but also because of care of the world, for *amor mundi*. Criminal law as well as Italian and EU political stances are challenged by their acts. Rackete was ultimately released by an Italian judge; she described the result as “a big win for solidarity with all people on the move—including refugees migrants and asylum seekers—

and against the criminalisation of helpers in many countries across Europe” (*Italian judge orders release of ship captain*, 2019).

10. Conclusion

In Arendtian terms, action is spontaneous, contingent, tentative, and precarious. One never knows which way things might go, and “the alternative to action, is a bleak, stasized mass society” (Elkin, 1990: 10) Freedom is possible only in a world in which “the possibilities for political action are cultivated and preserved” (Elkin, 1990: 11). Arendt’s view of spontaneous action asserts a not-foretold political action (Arendt, 1998: 191). Captain Rackete’s choice to disregard the authorities and save the refugee boat was spontaneous and driven by *amor mundi*—an authentic political action. It became public through media presence. In the spectators’ gaze, the action gained sympathy and admiration, even if it was discussed as criminal in the view of the right wing and the law. The dispute about whether Rackete and Klemp are heroes or criminals raises questions about what rights migrants have and what political actions are legitimate. The public solidarity with both captains’ civil disobedience challenged the law and legitimized the choice to break it.

Sans papier resistance is an example of political participation by 21st-century pariahs, and of the resulting transformation of the political realm and public space. Public action by both refugees and their native-born supporters contributes to the plurality of the public space. The *sans papier* movement and political action by citizens in solidarity with refugees, stateless, and *sans papiers*, in “Arendt’s (and Kant’s) notion of representative thinking... appeals to the ‘absent’ authority of justice and the law to validate itself” (Koyama, 2012: 74).

Disclosure statement

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References

- ADELMAN, Jeremy, (2016, Spring), “Pariah: Can Hannah Arendt help us rethink our global refugee crises?”, *The Wilson Quarterly*. <https://www.wilsonquarterly.com/quarterly/looking-back-moving-forward/pariah-can-hannah-arendt-help-us-rethink-our-global-refugee-crisis/>
- ARENDRT, Hannah, (1968), *Men in dark times*, Harcourt Brace & Company, San diego, New York, London.
- ARENDRT, Hannah, (1972), *Crisis of republic*, Harcourt Brace & Company, Orlando, Florida.

- ARENDR, Hannah, (1979), *The origins of totalitarianism*, Harcourt Brace & Company, San Diego.
- ARENDR, Hannah, (1987), "Labor, work, action", In J. W. Bernauer (Ed.), *Amor mundi: Explorations in the faith and thought of Hannah Arendt* (pp. 29-43), Martinus Nijhoff Publishers, Boston, Dordrecht, Lancaster.
- ARENDR, Hannah, (1990), *On revolution*, Penguin Books, London.
- ARENDR, Hannah, (1994), *Essays in understanding 1930-54: Formation, exile, and totalitarianism*, Schocken Books, New York.
- ARENDR, Hannah, (1998), *The human conditions*, The University of Chicago Press, Chicago, London.
- ARENDR, Hannah, (2007), *The Jewish writings*, Schocken Books, New York.
- BALIBAR, Étienne, (1996), "What we owe to the Sans-papiers", <http://eipcp.net/transversal/0313/balibar/en>
- BARNOUW, Dagmar, (1990), "Speaking about modernity: Arendt's construct of the political", *New German Critique*, Vol. 50, Issue, pp. 21-39.
- BENHABIB, Seyla, (2003), *The reluctant modernity of Hannah Arendt*, Rowman & Littlefield Publishers, New York, Toronto, Oxford.
- BERNSTEIN, Richard, (2010), "Immanence, plurality and politics", *The Jerusalem Philosophical Quarterly*, pp. 39-52.
- BETZ, Joseph, (1992), "An introduction to the thought of Hannah Arendt", *Transactions of the Charles S. Peirce Society*, Vol. 28, Issue 3, pp. 379-422.
- BOTSTEIN, Leon, (1983a), "Liberating the pariah: Politics, the Jews, and Hannah Arendt", In R. Berkowitz, J. Katz, and T. Keenan (Eds.), *Thinking in Dark Times: Hannah Arendt on Ethics and Politics* (pp. 73-106), Fordham University Press, New York.
- BOTSTEIN, Leon, (1983b), "The Jew as pariah: Hannah Arendt's political philosophy", *Dialectical Anthropology*, Vol. 8, Issue 1/2, pp. 47-73.
- CANOVAN, Margaret, (1985), "Politics as culture: Hannah Arendt and the public realm", *History of Political Thought*, Vol. 6, Issue 3, pp. 617-642.
- "Captain defends her decision to force rescue boat into Italian port" (2019, June 30). *The Guardian*. <https://www.theguardian.com/world/2019/jun/30/italy-refugee-rescue-boat-captain-carola-rackete-defends-decision>

- CRELLIN, Forrest, (2019, August 22), "Captain of migrant rescue vessel refuses honor from Paris", *Reuters*. <https://www.reuters.com/article/us-europe-migrants-skipper/captain-of-migrant-rescue-vessel-refuses-honor-from-paris-idUSKCN1VB1VI>
- CURTHOYS, Ned, (2002), "Hannah Arendt and the politics of narrative", *Journal of Narrative Theory*, Vol. 32, Issue 3, pp. 348-370.
- ELKIN, B. Tobi, (1990), "A study of the pariah in Hannah Arendt's Theory of Action (Master's thesis)", *Available from Masters Theses 1911-February 2014*. (2486), Retrieved from <https://scholarworks.umass.edu/theses/2486>
- HEUER, Wolfgang, (2007), "Europe and its refugees: Arendt on the politicization of minorities", *Social Research*, Vol. 74, Issue 4, pp. 1159-1172.
- "Italian judge orders release of ship captain who rescued refugees", (2019, July), *Reuters*. <https://www.theguardian.com/world/2019/jul/02/more-than-1m-raised-for-rescue-ship-captain-carola-rackete-italy>
- KASCHEL, Helene, (2019, June 29), "What drives Sea-Watch captain Carola Rackete to rescue migrants?", *DW News*, <https://www.dw.com/en/what-drives-sea-watch-captain-carola-rackete-to-rescue-migrants/a-49415737>
- KORVENSZRJÄ, Aino, (2018, February 02), "What we owe to the sans-papiers?", *Free Movement*, <http://www.vapaaliikkuvuus.net/2018/02/19/aino-korvensyrjajrators-note-what-do-we-owe-to-the-sans-papiers-movement/>
- KOYAMA, Hanako, (2012), "Freedom and power in the thought of Hannah Arendt: Civil disobedience and the politics of theatre", *Theoria* (December), pp. 70-80.
- KRISTEVA, Julia, (2001), *Hannah Arendt: Life is a narrative*, University of Tronio Press, Toronto, Buffalo, London.
- MOORE, Patricia, B., (1987), "Nativity, amor mundi and nuclearism in the thought of Hannah Arendt", In J.W. Bernauer (Ed.), *Amor mundi explorations in the faith and thought of Hannah Arendt* (pp. 135-157), Martinus Nijhoff Publishers, Boston, Dordrecht, Lancaster.
- NORDMANN, Ingeborg, & Heuer, Friderike, (2007), "The human condition: More than a guide to practical philosophy", *Social Research*, Vol. 74, Issue 3, pp. 777-796.
- RING, Jennifer, (1991), "The pariah as hero: Hannah Arendt's political actor", *Political Theory*, Vol. 19, Issue 3, pp. 433-452.

UNHCR: The UN Refugee Agency (2016, June 20), “With 1 human in every 113 affected, forced displacement hits record high”. <https://www.unhcr.org/news/press/2016/6/5763ace54/1-human-113-affected-forced-displacement-hits-record-high.html>

UNHCR: The UN Refugee Agency (2018), “Global trends: Forced displacement in 2018”. <https://www.unhcr.org/globaltrends2018/>

THEORETICAL EVOLUTION OF COMPERATIVE ADVANTAGES AND SOME EVIDENCES

*M.Büşra Engin Öztürk**

Introduction

Throughout the history, cross boarder trade has led to emerge of international economics and caused international trade to be the basis of international economics. Many theories have been developed explaining reasons and consequences of trading over two centuries. Firstly, D. Hume who expressed the changes in quantity of money could cause changes in production, criticized Mercantilist thought of balance of payment (Haberler, 1961: 6,7). In 1776, Adam Smith also criticized the Mercantilism and he suggested liberal economic order in which public intervention should be at minimum level. He defended the idea of both countries can gain form free trade by specification and work sharing in contrast to Mercantilism. “Absolute Advantage Theory” of Smith suggested that a country should produce the commodity has low cost by specializing (absolute advantage) and export them while it should not produce high cost commodity and import them. Therefore the production factors can be used for more productive sectors. Although this theory was a pioneer for international trade theory, it was unable to explain why a country, which has absolute advantage in both commodities should trade. A few decades later, another classical economist, David Ricardo could try to find an answer to this question and he provided “Comparative Advantage Theory” to the literature.

In this chapter because of the importance in economic theory, international trade theories were summarized and empirical evidences were presented. Firstly, the comparative advantage theory was examined and then, all renowned theories contributing and evaluating this theory were explained and proved by various empirical studies in the literature.

1.The Theory of Comparative Advantage

In 1818, D. Ricardo developed a theory, which explores the reasons of foreign trade. The theory basically relies on the assumptions that there are two countries, two commodities and two factors and also these countries have different technologies in production. However countries utilize similar technologies in production and thus the patterns of trade of an economy are driven purely by international differences in relative factor abundance.

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The assumption of the theory was very unique. He assumed that factors were perfectly mobile within countries and perfectly immobile between countries while the products were perfectly mobile within and between the countries (Chipman, 1965: 479).

This theory both suggests a country should produce and export the commodity which has lower cost and can explain why the country should trade if it has advantages for both commodities. The reason is country can gain from trading by abandoning the commodity which has relatively lower productivity and importing it. The theory was based on labor value theory as Smith's theory. In another words, the value of commodity is determined by the amount of labor used in production.

The term "specification" means when the technology and land are constant, a movement on static production possibility curve of a trading country. However, the term of "productivity" has dynamic means, which implies an increase of labor by work sharing. In addition, in the reality, monetary costs determine that value instead of real costs (Karluk, 227). Also, the theory neglects the income distribution effect on international trade.

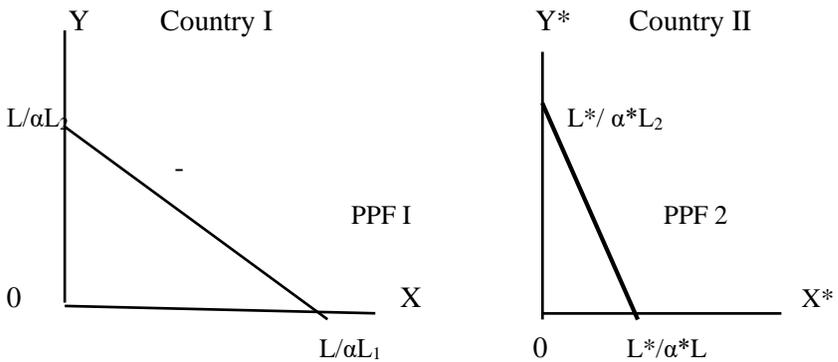


Figure 1 and 2 : Ricardo's Comparative Advantage Theory

In the light of the assumptions of there are two countries producing two products X and Y we can observe the figures below. For country I, αL_1 and αL_2 are the unit labor requirements in X and Y. L is total labor supply. The slope of PPF1 is $dY/dX = -\alpha L_1/\alpha L_2$ and the slope of PPF2 is $dY^*/dX^* = -\alpha^*L_1/\alpha^*L_2$. As can be seen the figures, production possibility curve (PPF) of country II is steeper than of country I. This indicates that X is relatively more expensive in country II than that it country I and Y is relatively cheaper in country II than that it country I. Ricardo suggests that country II should specialize in producing Y and export it to country I while country I should specialize in producing X and export it to country II.

As a classical economist, *J.S.Mill* evaluated increasing productivity as indirect gain in Smith's theory when he evaluated it as direct gain in Ricardo's theory (Mynit, 1958, 318,319). Mill's contribution to the international trade theory is applying mutual demand law. Knowing the severity of the demand of one country for another's commodity enables the determination of the terms of trade among two countries.

Some Evidences

Because of the assumptions of the theory examining theory should use some parameters as a given factor and this makes this more difficult.

Davis (1997) indicated that technology plays an important role to resolve the problem of trade volumes. His study examined for North-North trade and according to him this trade involves much of it in products of similar factor intensity can provide no evidence to prefer an account of trade based on increasing returns rather than comparative advantage.

Vidodo (2009) tested this theory on five Asian countries, Singapore, Indonesia, Malaysia, Thailand and Philippines and he found a positive correlation between comparative advantage and trade balance. This means a country is more likely to become a net exporter due to higher comparative advantage of a specific product.

Castinot and Donaldson (2012) used the data of 17 agricultural crops and 55 major agriculture-producing countries in 1989 and demonstrated that Ricardo's theory is not just mathematically correct and also has explanatory power in the data.

2.The Evolution of Comparative Advantages Theory

Below, there are several theories contributing and developing comparative advantages theory. Some of them are the parts of neo-classical theories and others are new international trade theories. Among the neo-classical theories, the most famous theory is Hecksher-Ohlin theory, which is an interpretation of comparative advantage theory. Therefore, it can be said that most of studies reshape Hecksher-Ohlin theory mainly.

2.1. Neoclassical Theories

Singer H. demonstrated that specification on production of commodity which country has comparative advantage does not contribute the developing countries.

Viner J. stated that this theory only valid under these assumptions: (i) the efficiency of production can be change in times, (ii) the prices of commodity and factors can be different from real opportunity costs. (iii) Occurring external savings in economy. Neglecting opportunity cost in theory makes marginal productivity of factors not equal, and thus factor

prices cannot be determined correctly. Besides, the theory was explanatory for developed countries. Since perfect competition conditions are less valid for developing countries the low level of mobility of production factors obstructs the optimal distribution (Karluk, 233). And finally, the high level of unemployment rate in developing countries restrains labor factor to be used at full capacity.

G.Haberler, contributes to theory by explaining opportunity cost which compromise not only labor factor and also land, capital and entrepreneur factors.

Below, the initial version of the Hecksher and Ohlin's theories and then Samulson's contributions were explained. The other theories such as revealed comparative advantage, Rybczynski theorem were presented here as they are the parts of neo-classical theory.

2.1.1.Hecksher-Ohlin Theory

In the comparative advantage theory, the difference in international labor costs cause domestic production costs and this explains why the countries have an advantage on the production of the commodity by the theory of labor-value. However, there was no study investigated the reason of the difference in labor productivity until the beginning of 1900's.

The most famous neoclassical international trade theory is Hecksher-Ohlin theory. They were separately developed a theory contributing to comparative advantage theory and they tended to explain the reason of the difference in labor productivity.

Theory assuming two countries, two commodities and two factors, expresses that a country has an advantage on the commodities in which the factors that country has used intensely.

In Hecksher-Ohlin theory, labor and capital factors were not considered superficially, quality differences of these factors also taken into account (Karluk, 1973: 224). According to Ohlin, there is no equity of factor prices. Equitation of international factor prices can be occurred by free trade instead of factor movements.

Countries through free trade, based on international specialization, will increase their production in areas where the abundant factors they have intense. Hence, the prices of abundant factors will increase and the prices of scarce factors will decrease due to demand.

Ohlin defines the factor abundance as follow: (Jones, 1956: 2).

$$(P/P_L)_1 < (P/P_L)_2$$

According to this, Country 1 is relatively capital abundant because capital is cheaper in this country.

In the existence of two countries (America and Europe), two commodities (clothing and food) and two factors (land and labor) it was assumed that America has comparative advantage in land and Europe has comparative advantage in labor where technology is constant. In the case that America specializes in food products due to the more abundant factor, the demand of land will increase and the price of land (rent) will rise. Similarly, in the case that Europe specializes in clothing products due to the more abundant factor, the demand of labor will increase and the price of labor (wage) will rise. Eventually, the difference of factor prices between two countries will partially decrease as a result of specialization and free trade according to comparative advantages.

Theory also provides an information about a country whether is net exporter/importer or not. If the country poorly endowed the commodity relative to other one, then it would be a net importer, whereas the country of relatively abundant endowed then it would be a net exporter of that product.

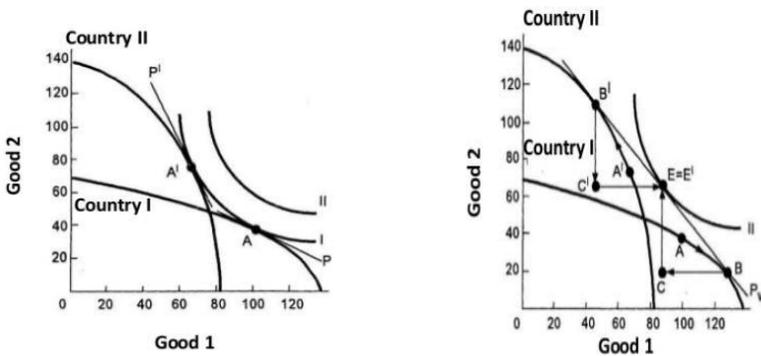


Figure 3 and Figure 4: Hecksher-Ohlin Model

Above, Figure 3 and 4, represent Hecksher-Ohlin model. Because of the homogeneity of tastes, indifference curve I represents the same level of utility. Production capacity curve shows the maximum possible production level of one goods for any given production level of the other. In the figure 3, point A¹, shows the equilibrium level of country I whereas point A shows the equilibrium level of country II as the difference curves touch the production capacity curve at these points. As can be seen from figure 3, $P < P'$ and this means country 1 has a comparative advantage producing good 1, and the country II has a comparative advantage producing good 2. After the international trade (figure 4), because of the specialization, the production level of country 1 shifted from A to B, and of the country 2 shifted from A¹ to B¹ and this specialization will maintain until the countries reach the world price level P_w . Because of the free trade, as the import

increases production and consumption levels, new indifference curve (II) and new equilibrium levels represent higher well being level for both countries.

2.1.2. Heckscher-Ohlin Samuelson (HOS) Theory

In 1948, *P. Samuelson* claimed that factor price equity is not impossible (Samuelson, 1948: 169,170). Because the countries provides partial specialization by producing something of both commodities and this makes factor prices equal through foreign trade. Unless factor endowments are too unequal, mobility of commodities will be e perfect substitute for factor mobility (Samuelson, 1948: 169,170). Samuelson stated that countries can benefit from comparative advantage theory and he contributed to Heckscher-Ohlin theory. He also criticized classic international trade theory, which stated free trade is for the benefit for both countries and protectionism is at the detriment of all countries. He argued that factor densities and foreign trade policies of countries would have an impact on income distribution and the countries well-beings. According to this, while free trade benefits those who have abundant factors, protectionism benefits those who have scarce factors.

In 1953, Samuelson developed a model for Heckscher-Ohlin theory. HOS theory basically admit capital factor as primary factor of production and no factor intensity reversal (Kurose&Yoshihara, 2018). The main reason of trading is differences in factor endowments, which cause to different factor prices and hence different product prices across the countries.

Some Evidences and Leontief Paradox

Leontief was the first in empirically testing the Heckscher-Ohlin theory and his findings were opposite to theory. According to Heckscher-Ohlin Theory, United States should export capital-intensive commodities and import labor intensive commodities because of the factor endowment. However Leontief’ s quantitative test results were reverse. He used input-output data for 1947 and tried to analyze the structural basis of the US trade with rest of the world. He stated, “America’s participation in the international division of labor is based on its specialization on labor intensive rather than capital intensive” (Leontief, 1953: 344). United States protects its capital when trading because of relatively poorness in capital. In other words, US export labor intensive commodities. This is against to Heckscher Ohlin theory and Leontief explained this dilemma by saying that American labor is more skilled and even equals three foreign workers. However, his theory couldn’t explain the reason of this. As a consequence, American economy has abundant of labor and it exports high tech products, which needs skilled labor. Despite of critiques, it has been admitted that Heckscher-Ohlin theory can explain foreign trade between

country with lower endowment of skilled labor and country with higher endowment of capital.

Although Heckscher-Ohlin-Samuelson theory can only explain inter-industry trade and not intra-industry trade, Grubel and Lloyd (1975) expressed the significance of intra-industry trade its proportion of total world trade (Berkum&Meijil, 1998: 42). Bowen et al (1987) tested the theory for 27 countries and found that for two-thirds of the factors of production, trade occurred toward the predicted direction less than 70 percent of the time. By this study Leontief paradox was confirmed as global scale.

2.1.3. Stolper-Samuelson Theorem

Stolper-Samuelson revealed that domestic prices for tradable sectors are determined by international prices while factor costs for non-tradable sectors are determined as a residual. Stolper-Samuelson Theorem also known as “Income Distribution Theorem”. According to this theory international trade shifts the income from the relatively scarce factor to the relatively abundant factor. In other words, international trade causes real interests and the real income of capital to fall in labor abundant and capital scarce countries (developing countries). On the contrary, international trade causes real wages and the real income of labor to fall in capital abundant and labor scarce developed countries. Hence, because of the specialization, demand for skilled labor and its relative wages increase for skill intensive products in developed countries (Almeida, Afanso, 2010: 1497).

Stolper–Samuelson Theorem also predicts if the country is abundant in unskilled labor, it should be expected a decrease in their skill premiums as they opened-up to trade with more advanced economies (Harrison and Hanson, 1999).

Some Evidences

One study investigating the presence of this theory examined Colombia. Although Stolper-Samuelson theorem suggests that trade liberalization in developing countries decreases relative wages of especially more educated labor, in Colombia the opposite appeared (Robbins, 2003: 29).

Another study examined Mexico (Chiquiar, 2008). After the first stage of Mexico's trade liberalization, skilled premium of workers increased inconsistently with the Stolper–Samuelson Theorem. Especially in the larger regions, which are connected to international markets (closer to US), it was observed relative increase in wage levels and a decrease in the skill premium. Therefore, it can be said that second stage of Mexico' s trade liberalization was consistent with Stolper–Samuelson Theorem.

Another study (Almeida, Afonso, 2010) measured wage premium across 25 OECD countries and their empirical analysis showed IT is the most relevant factor and negative, in line with the Stolper–Samuelson predictions and the observed wage-premium decline for developing countries.

2.1.4.Revealed Preferences Theory

Liesner (1953) was the first to attempt using an index for quantify comparative advantage (Benedictis and Tamberi, 2001: 267). He used the index for relative export performance as proxies for comparative costs in European countries.

Balassa (1965), after realizing that developed countries exported and imported products in the same product categories developed an index to search the trade comprehensively. He used the term “revealed comparative advantage” and he developed an index which cardinally shows the country’s sectorial relative export share of world export. Revealed comparison advantage depends on how the Balassa index has been measured. That is why; revealed comparative advantage theory generally is represented by Balassa index. According to Balassa (1965), the revealed comparative advantage of the country “j” in “t” time for “k” product can be formulized as

$$RCA_{kt}^j = \frac{X_{ktj}/X_{tj}}{X_{ktw}/X_{tw}}$$

In this equation, X_{ktj}/x_{tj} represents the share of the export of product k in total export for country j and x_{ktw}/x_{tw} represents the share of the export of product k in total export for world. Balassa index coefficient shows information below (Erkan, 2012: 199)

If the index coefficient is greater than 1, country has revealed comparative advantage for k product and have specialized.

If the index coefficient is less than 1, country has revealed comparative disadvantage for k product and have not specialized.

If the index coefficient equals 1, country has same level of specialization as world.

Due to Balassa Index can be changed over time, Porter developed this theory and he explained two comparative advantage concepts as: -ability of changing higher prices arising from higher costs and,-ability of producing with lower costs than rivals.

If the country has at least one of these advantages, than it can be counted as it has revealed comparative advantage. (Porter, 1991:95-117)

Although the revealed comparative advantage theory only takes into account export in a country's superiority in foreign trade, it enables to be seen the advantage by observing post trade data.

Some Evidences

Fertő and Hubbard studied which products that Hungary has revealed comparative advantage using Balassa index for the time period of 1992-1998. Four indices explained that Hungary has revealed comparative advantages for live animals; meat; cereals; vegetables and fruit; sugar; beverages; oilseeds; cork and wood; and animal and vegetable materials, oils and fats (Fertő and Hubbard, 2003).

Utkulu and Seymen (2004) analyzed of the competitiveness of Turkey for the period 1990 to 2003 with European Union based on seven indices of revealed comparative advantage and they proved Turkey has revealed comparative advantages for clothing and clothing accessories; vegetables and fruit; sugar, sugar preparations, honey; tobacco; oil seeds and oleaginous fruits; rubber manufactures; textile yarn, fabrics and related products. Using Balassa index and Lafay index, six Asian countries were examined for revealed comparative advantages for 2007-2011. According to results, Indoneisa and Malaysia have an advantage in animal, vegetables while Brunei has the greatest advantage in oil. The Philippines has an advantage in electrical and electronic equipment, Thailand has an advantage in vehicles while Singapore has an advantage in organic chemicals (Reyes, 2014).

2.1.5.Rybczynski Theorem:

The main idea of this theorem states that an increase in endowment of one factor of production compared to another factor of production will increase the output of the product relatively intensive in that factor. According to Rybczynski if the quantity of one factor increases, relative price of the commodity and terms of trade would worsen. Although the Marginal Propensity to Consume affects the degree of deterioration, it can never reverse its direction (Rybczynski, 1955: 340). In other words, if a supply of a factor increases, the production of the commodity using that factor abundantly will also increase but the production of other commodity using another factor abundantly will decrease. This theorem also contributes to theory of the relationship between growth and foreign trade.

Some Evidences

Chang and Mayer (1973) analyzed the Rybczynski effects on gross outputs. They proved that for fixed intermediate input coefficients net and gross output changes are always qualitatively the same, and that net changes must be proportionately and absolutely greater than gross changes (Flam, 1979: 662).

Another study examining United States, during the 1980's because of the substantial shifts in relative labor supplies across U.S., output growth tended to be high in sectors that are intensive in expanding factors (Hanson&Slaughter, 1999: 28). According to Rybczynski theorem, increasing domestic factor supply has a negative effect on relative wages. For Colombia this effect was observed (Robbins, 2003: 29).

A theory testing this theorem, (Jurcic et al, 2013) found the opposite results to the Rybczynski theorem for European countries except Poland. They explained why this theorem is not valid for these countries by some factors such as differences in technology levels, product diversification, unemployment, marginal costs. More recent theory (Swan, 2015) investigated the results of a few million Russian Jews immigrating to Israel, after collapse of Soviet Russia. That means a significant increase in the relative supply of skilled labor in Israel. Although the Rybczynski theorem suggested that an increasing factor of production cause to increase of the product using this factor, he found that changes in sectoral output mix played no role in Israel's adjustment to Russian immigration.

2.2. New International Trade Theories

As a main critique of Hecksher-Ohlin Theory, Leontief contributed the international trade theory and this theory was also examined and criticised. The consensus of studies after Leontief was Hecksher-Ohlin theory was successful in explaining intra-industry trade, which is the trade between unskilled labor abundant under developed country and capital abundant developed country. However, rising amount of inter-industry (trade between capital abundant developed countries) required the emergence of new theories as explained below.

2.2.1.Monopolistic Competitiveness Theory

This theory was based on arising of imperfect competition conditions in microeconomics. In 1933, Chamberlin and then Robinson applied this theory to international trade theory. This theory has two parts: Chamberlin's initial model and it's revisions. The contribution of Chamberlin was in recognizing adequately the possible economic implications, with respect to price, Chamberlin's Monopolistic Competition output, product, and cost, of the governing institutional framework and of market structures, and in suggesting the necessity of an analysis employing several variables.

Basic idea of this theory is volume of trade will be larger as trading countries are more similar in the size of the economy (Kamata, 2010: 30). The monopolistic competition theory was based on economies of scale and this term provides an alternative explanation of differences in technology or factor endowments. After contributions of Dixit and Stiglitz, Krugman

(1979), explained the reason of trade between the industrial countries by indicating the trade as a way of exploitation of scale economies. According to Krugman (1979), with increasing returns to scale assumption, trade may not be caused by factor endowments or differences in technologies.

Some Evidences

Studies investigating the empirical tests of this theory, generally use an index of intra industry trade and interpret that. For some knowledge this is not possible and knowledge can be only transferred within a firm. This results in the existence of multinational enterprises (MNE) (Helpman, 1985). Debeare (2005) used bilateral trade volumes to test monopolistic competition. He distinguished the country size as relative and absolute. Then, he analyzed the relative country size for the OECD and non-OECD countries and found that increased similarity in country size was more important for the determination of bilateral trade within the OECD group than among non-OECD countries.

However in contrary to Debeare, Kamata (2010) found positive relation between the volume of trade and the size similarity between countries is important for both aggregate and differentiated sectors, regardless of whether the trade is among the OECD or non-OECD countries.

2.2.2. Technological Gap Theory:

In 1961, Posner examined why classical or neo-classical international trade theories cannot answer to the issue as a whole. According to Ohlin model, all factors of production exist in equal proportions in all countries. Relying on this assumption, he allowed the existence of various types of machine and different process made by labor in countries A and B. The main idea of this theory was constructed on country B has higher technology than country A and A follow B by learning over time (Posner, 1961: 324). Technological progress, accumulated experiences of countries and development of new products and methods decrease unit costs (Fonfria et al, 2002: 2). If country B innovated a new product or method, it became the first exporter of this product. However, after a while country A obtains this new technology by learning or imitating and produce it at lower cost because of the advantage of cheaper labor or land (Seyidoğlu, 2017: 108). Thus, eventually country B becomes the importer.

Another conclusion of the theory is trade flows in any particular product group will be affected by the amount of R&D expenditure in each country in different rates. Relatively larger R&D expenditures may cause "technology gap" and this provides the country an advantage in producing and exporting its product (Lundberg, 1988: 177).

Some Evidences

England was the pioneer of the export of textile products. However, under developed countries with abundant labor began to produce this product and that is why England diminished the textile production and became the importer of this product. Soete (1981) investigated technologic impact by patent as a measurement, for OECD countries and obtained strongly support the technologic gap theory. According to this, technology can explain the inter-country variations in export performance in a large number of industries.

Lundberg (1988) analyzed Sweden international trade for 1969-1984 time periods and he found international specialization changes due to changes in comparative advantage. According to study, trade shifted from unskilled labor intensive products to capital intensive product. In conformity with technology gap theory, high level of R&D expenditures in Sweden improved the Swedish market position.

(Fonfria et al 2002) analysed that 20 manufacturing sectors in four countries France, Italy, Spain and the United Kingdom from 1987 to 1996. According to results of competitiveness matrix, demand for high technology sectors and developed markets play very important role in the configuration of competitiveness, contrary to the case of less developed markets.

2.2.3. Linder Hypothesis

While Ricardian international trade theory was based on supply side of the economy, Linder approached to the issue from the demand side after Leontief paradox. Linder hypothesis indicates that if two countries have more similar preferences and demand structures, then they would have more intensive and potential trade between each other. (Linder, 1961). Thus, Linder highlighted that countries should take to account similar preferences instead of production costs when they are deciding to trade.

The bilateral version of Linder's hypothesis is that trade between two countries will be conversely related to the difference in their per capita incomes (Thusrby and Thursby, 1987: 488).

Some Evidences

After World War II, the tendency of free trade and globalization strengthen the Linder hypothesis. Because during the time, it has seen that economically, socially closed countries were more successful among regional economic integrations. Bukhari et al. (2005) tested this effect and they found an evidence for Bangladesh, India and Pakistan. These countries trade more intensively with countries of similar per capita income levels.

Hooper and Kohlhagen (1978), Abrams (1980), Cushman (1983), and Thursby and Thursby (1985) have found support for the hypothesis that exchange rate variability influences the pattern of bilateral trade (Thursby and Thursby, 1987: 488). However, Josie and Basic (2019) and Josic (2019) rejected the Linder hypothesis for the large developed countries. Empirical studies of Linder hypothesis investigated trade between countries, which have similar levels of per capita income generally, rejected this hypothesis. Linder effect is stronger for trade between low-income countries than for high-income countries (Josic, 2019: 72).

2.2.4. Product Cycle Hypothesis

In 1966 Vernon developed a theory about product cycle. According to him with technological progress, skilled labor and R&D expenditures, developed countries (because industrialized countries spend more on product development than less developed countries) can create new products. As the development in production techniques, production can be more standardized and may shift to less-developed from developed countries owing to lower costs of labor (Segerstrom et al, 1990: 1077). These older products are then exported back to developed countries and these products become more expensive to produce for developed countries. The comparative advantage shifts between countries.

According to Vernon, there are differences in knowledge and application techniques in different countries and entrepreneurs would have both risks and opportunities while presenting their new products. Entrepreneurs have high rate of expenditure on product development in US, since American consumers have higher income than that of other countries. Hence, US producers are likely to be first to obtain an opportunity for high-income new products (Vernon, 1966: 194).

Figure 5 shows the product life cycle. After introduction of product to the market, sales increases with time (t_1-t_2) in growth phase. After time t_2 , with the maturity of product, sales volume begins to decline.

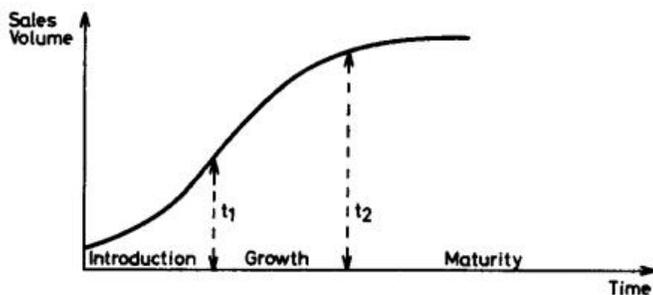


Figure 5: Product Life Cycle

Source: Hirsch, Bijaoui, 1985: 241.

Products go through a cycle, which could be described in four stages (Wells, 1969: 153): “(1) The United States is initially an exporter with a monopoly position, (2) Foreign production begins to displace American exports in some markets, (3) Foreign commodities become competitive in third markets, further reducing American exports and (4) Finally foreign commodities are competitive in the United States.”

After contributions of Hirsch and Kuznets on theory especially by defining “new product”, Krugman developed the theory. He claimed that scale of economies could lower the product costs through free trade. (Yüksel and Sandoğan, 2011). Krugman’s theory in 1979 was based on the reality of new product eventually becomes an old product. The main idea of this theory is less developed region learns in each period to produce some of the commodity formerly produced only in the developed countries (Dollar, 1986: 177). The reason of reducing developed country’s welfare is the shifting technology from developed country to less developed one. The monopolistic power of developed country decreases by technological borrowing (Marjit, 1989:6). The availability of new and old products depends on both innovation and technology transfer (Krugman, 1979: 259). Innovations usually rely on a firm-specific learning process which coactions with both the creation of new scientific and technological knowledge and the growth of demand.

Some Evidences

Empirical tests of the theory generally analysed the relationship trade performance and product cycle phases. Keesing (1967) found a robust relation between export performance and the intensity of R&D activity for United States. Keesing (1967) supported the life cycle hypothesis by claiming R&D intensity is associated with the early stages of the life cycle.

Another study (Gruber et al.1967) revealed that foreign direct investment is associated with R&D intensity.

Wells (1969) examined American export performance of consumer durables for the period 1952-63 and the results were consistent with the theory. The factors affecting American export of consumer durables are: transportation costs, income elasticity of products, economies of scale. It can also be said that product cycle theory is consistent with Kessing's and Leontief's theories.

Audretsch (1987) directly measured life-cycle stages with amount of real sale and he found that R&D, skill and capital intensity changes over the life cycle. Another finding of the study was industries in the growth stage become more R&D, skill and labor intensive rather than declining phase of the life cycle.

2.2.5. Skilled Labor Theory

According to definition of Worldbank, labor skills can be distinguished by three categories (www.worldbank.org). These are cognitive skills, socio-emotional skills, and technical skills.

Kessing D. published his paper in 1966 and he stressed the importance of skilled labor as a neo-factor of production. This explanation could fill the gap of the Leontief's theory. In this theory, he assumed that there are variations in productivity, factor prices and proportions. When factor endowments change in the trading countries, the pattern of trade also changes (Lundberg, 1988,176).

He pointed out the existence of labor skills determines patterns of international trade for manufactured products, which are not rely on natural resources. Education and industrial experience can booth skilled labor force and that is why, skill intensity of sectors plays important role (Keesing, 1965: 287). For example machinery is more skill intensive than textiles in the United States.

Countries with abundant unskilled labor have advantage on producing commodities using unskilled labor and countries with abundant skilled labor have advantage on producing commodities using skilled labor. Because of the similarity between skilled labor and Hecksher-Ohlin theories, this theory commonly called as "neo-factor endowment theory".

Some Evidence

Lowinger (1971) tested of the neo-factor proportions explanation of Brazil's trade and the results supported the theory. According to this study, the comparative disadvantage of Brazil is most observed in the manufactured products requiring a great proportion of skilled labor.

Van Dijk (2002) determined the factors influencing export performance for Indonesian manufacturing firms as age, relative size, foreign ownership while skilled labor differs according to the industry

which the firm belongs (Caparas, 2006: 4). The effect of training on clothing and food processing firms, together with the share of skilled workers across all sectors, is not conclusive for Philippines (Caparas, 2006).

Concluding Remarks

Since Ricardo, it has been over two hundred years and so many changes have occurred in the international trade. After him, neo-classical theories explained the reason of trade by assuming difference factor endowments representing by the famous theory Hecksher-Ohlin model. However as a result of technological progress, new products, new production methods and process, factor endowments and costs have affected and changed. Besides, as intra-industry trade has become more important, traditional international trade theories could not explain the reasons of the trade. Especially after Leontief test, many studies emerged and Hecksher-Ohlin theory has been analyzed empirically. New trade theories aimed to explain the trade between countries especially developed countries. Intra-industry trade became most significant rather than inter-industry trade. Monopolistic competition theory explains the reason of trade by the similarity of size of economies while Technological Gap theory explains it by imitation the technology. Linder, emphasized the importance of the similarity of preferences and demand structures while Vernon emphasized product life cycle and Kessing emphasized to skilled labor. These theories were a new interpretation of Hecksher- Ohlin theory and they have been empirically testing by several studies.

References

- ALMEIDA Alexandre, AFANSO Oscar, (2010),” SBTC Versus Trade: Testing Skill-Premia Evidence Across 25 OECD Countries”, *Applied Economics Letters*, Vol.17, pp.1497–1501.
- AUDRETSCH David B.,(1987),” An Empirical Test of the Industry Life Cycle”, *Weltwirtschaftliches Archiv*, Vol.123, Issue, 2, pp.297-308.
- BALASSA, Bela, (1965), “Trade Liberalization and “Revealed” Comparative Advantage”, *The Manchester School*, Vol. 33, pp.99–123.
- BENEDICTIS, Luca & Tamberi Massimo, (2001). “A Note on the Balassa Index of Revealed Comparative Advantage”, *Università Politecnica della Marche, Working Paper*, Ancona, Italy, 158 (<http://ideas.repec.org/p/anc/wpaper/158.html>)
- BERKUM van S.&Meijil van H., (1998), “A Survey of Trade Theories”, *Agricultural Economics Research Institute, Onderzoekverslag*, 161.

- CAPARAS, Teresa S. Dueñas, (2006), “Determinants of Export Performance in the Philippine Manufacturing Sector”, *Discussion Paper Series*, No. 2006-18.
- CHIPMAN, John S., (1965), “A Survey of the Theory of International Trade, Part 1, The Classical Theory”, *Econometrica*, Vol.33, Issue 3, pp. 477-519.
- CHIQUIAR, Daniel, (2008), ” Globalization, Regional Wage Differentials And The Stolper–Samuelson Theorem: Evidence from Mexico”, *Journal of International Economics*, Vol.74, pp.70–93
- COSTINOT, Arnaud, DONALDSON, Dave (2012),” Ricardo’s Theory of Comparative Advantage: Old Idea, New Evidence”, *American Economic Review: Papers & Proceedings*, Vol. 102, Issue, 3, pp. 453–458.
- DAVIS Donald R., (1997), ”Critical Evidence on Comparative Advantage? North-North Trade in a Multilateral World”, *Journal of Political Economy*, Vol. 105, Issue, 5, pp.1051-1060.
- DEBAERE Peter, (2005), Monopolistic Competition and Trade Revisited: Testing The Model Without Testing For Gravity, *Journal of International Economics*, Vol. 66, pp. 249-266.
- DOLLAR David, (1986), ” Technological Innovation, Capital Mobility, and the Product Cycle in North-South Trade”, *The American Economic Review*, Vol.76, Issue 1, pp. 177-190
- ERKAN Birol, (2012).”Ülkelerin Karşılaştırmalı İhracat Performanslarının Açıklanmış Karşılaştırmalı Üstünlük Katsayılarıyla Belirlenmesi: Türkiye-Suriye Örneği, *ZKU Sosyal Bilimler Dergisi*, Vol. 8, Issue, 15, pp.195-218.
- FERTÖ, Imre, HUBBARD, L. J. (2003). “Revealed Comparative Advantage and Competitiveness in Hungarian Agri–Food Sectors.” *The World Economy*, Vol. 26, Issue, 2, pp. 247-259.
- FLAM, Harry, (1979), The Rybczynski Theorem in A Model With Non-traded Goods And Indecomposable Inter-Industry Flows, *International Economic Review*, 20, pp.661—670.
- FONFRIA Antonio, Guardia Carlos Diaz, Alvarez Isabel, (2002),”The Role of Technology and Competitiveness Policies: A Technology Gap Approach”, *The Journal of Interdisciplinary Economics*, Vol.13.
- HANSON, Gordon H., Slaughter Matthew J., (1999), ”The Rybczynski Theorem, Factor Price Equalization, And Immigrataion: Evidence From US States, *National Bureau of Economic Research*, Working Paper, 7074.

- HARRISON, Ann, HANSON, Gordon, (1999), “Who Gains From Trade Reform? Some Remaining Puzzles”, *Journal of Development Economics*, Vol.59 Issue, 1, pp.125–154.
- HELPMAN, Elhanan, (1985), “International Trade in Differentiated Middle Products”, *Structural Adjustment in Developed Open Economies*, pp.3-34.
- HIRSCH, Seev, BEJOUİ, İlan, (1985), ”R&D Intensity and Export Performance: A Micro View” *Weltwirtschaftliches Archive*, Vol.121, pp.238-251.
- JOSIC Hrvoje, (2019), ”Testing the Linder Hypothesis in the Case of EU 15 Countries”, *Perspectives*.
- JURCIC, Ljubo, JOSIC, Hrvoje, JOSIC, Mislav, (2013), “Testing Rybczynski Theorem: An Evidence from The Selected European Transition Countries.”, *Mediterranean Journal of Social Sciences*, Vol. 4, Issue, 10, pp. 99-105
- KARLUK, Rıdvan. (1973). “Karşılaştırmalı Üstünlükler Teorisinin Gelişmekte Olan Ülkeler Yönünden Geçerliliği Üzerine Düşünceler”, *İstanbul Üniversitesi İktisat Fakültesi Mecmuası*, Vol. 33, Issue, 4, pp.221-238.
- KEESING Donald B.,(1965).”Labor Skills and International Trade: Evaluated Many Trade Flows with a Single Measuring Device”, *The Review of Economics and Statistics*, Vol. 47, Issue 3, pp.287-294.
- KRUGMAN Paul, (1979),” A Model of Innovation, Technology Transfer, and the World Distribution of Income”, *Journal of Political Economy*, Vol. 87, Issue, 2, pp. 253-266.
- KRUGMAN Paul, (1979), ” Increasing Returns, Monopolistic Competition, and International Trade, *Journal of International Economics*, Vol.9, pp.469-479.
- KUROS, Kazuhiro, YOSHIHARA, Naoki, (2018), ”The Heckscher—Ohlin—Samuelson Trade Theory and the Cambridge Capital Controversies: On the Validity of Factor Price Equalisation Theorem”, *Discussion Paper Series, A*, No.686.
- LEONTIEF Wassily, (1953), ” Domestic Production and Foreign Trade; The American Capital Position Re-Examined”, *Proceedings of the American Philosophical Society*, Vol. 97, Issue, 4, pp. 332-349.
- LINDER, Staffan Burenstam, (1961), *An Essay on Trade and Transformation*, Wiley and Sons, New York.

- LOWINGER Thomas C., (1971), "The Neo-Factor Proportions Theory of International Trade: An Empirical Investigation", *The American Economic Review*, Vol. 61, Issue, 4, pp.675-681.
- LUNDBERG Lars, (1988), "Technology, Factor Proportions and Competitiveness", *The Scandinavian Journal of Economics*, Vol.90, Issue, 2, pp. 173-188
- MARJIT Sugata, (1989), "The Product Cycle Hypothesis and The Heckscher-Ohlin-Samuelson Theory of International Trade", *Journal of International Economic Integration*, Vol. 4, Issue, 1, pp. 5-14.
- MYINT Hal, (1958), "The Classical Theory of International Trade and Underdeveloped Economies", *The Economic Journal*, Vol. 68, Issue, 270, pp.317-337.
- POSNER M.V. (1961), "International Trade and Technical Change", *Oxford Economic Papers*, New Series, Vol. 13, Issue, 3, pp.323-341.
- REYES, Gemma U., (2014), "Examining the Revealed Comparative Advantage of the Asian 6 Countries Using the Balassa Index and Lafay Index", *Journal of Global Business*, Vol. 10, Issue, 1, pp.1-11.
- ROBBINS Donald J. ,(2003), "Trade Opening and Distribution in Colombia A Time Series Analysis of Colombia' s Seven Cities", *Cuadernos de Administración*, Vol. 16, Issue, 26, pp.11-34.
- RYBCZYNSKI, Tadeusz Mieczyslaw, (1955), "Factor Endowment and Relative Commodity Prices", *Economica*, Vol. 22, Issue, 88, pp.336-341.
- SAMUELSON Paul, (1948), "International Equalisation of Factor Prices", *Oxford Journals*, Vol. 58, Issue, 230, pp.163-184.
- SEGERSTROM Paul, Anant T. C, and Dinopoulos Elias, (1990), "A Schumpeterian Model of the Product Life Cycle", *The American Economic Review*, Vol.80, Issue, 5, pp.1077-1091.
- SEYİDOĞLU Halil, (2017), *Uluslararası İktisat*, Güzem Can Yayınları, 21.bs, İstanbul.
- SOETE Luc L.G., (1981)," A General Test of Technological Gap Trade Theory" *Weltwirtschaftliches Archiv*, Vol.117, pp. 638-660.
- SWAN, Anthony, (2015), "New Evidence on Technology, Trade And Adjustment to Immigration in Israel", *Development Policy Centre Discussion Paper*, Vol. 38.
- UTKULU Utku, Seymen Dilek, (2004), "Revealed Comparative Advantage and Competitiveness: Evidence for Turkey , vis^a-vis the EU/15", www.etsg.org/ETSG2004/Papers/seymen.pdf.

- VERNON, Raymond, (1966), "International Investment and International Trade in the Product Cycle", *The Quarterly Journal of Economics*, Vol. 80, Issue, 2, pp. 190-207
- VIDODO Tri, (2009), "Comparative Advantage: Theory, Empirical Measures and Case Studies", *Review of Economic and Business Studies*, FEAA, Issue, 4, pp.57-82.
- WELLS Lois T, (1969), "Test of a Product Cycle Model of International Trade: U. S. Exports of Consumer Durables", *The Quarterly Journal of Economics*, Vol.83, Issue, 1, pp.152-162
- Worldbank, "Skills Development", www.worldbank.org
- YÜKSEL E., Sandoğan E. (2011),"Uluslararası Ticaret Teorileri ve Paul Krugman' ın Katkıları", *Marmara Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, Vol. 35, Issue, 17, pp.199-20.

A FIELD RESEARCH ON THE MEDICAL AROMATIC PLANT SELLING ENTERPRISES (AKTAR / ATTAR) IN ŞANLIURFA

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JEL Codes: D12, M31, S13

INTRODUCTION

Human beings provide a significant portion of the nutrients that they need to survive from plants. Plants are a very important source of nutrients such as carbohydrates, protein, fat, minerals, and vitamins (Toker, Gölükçü, & Tokgöz, 2015: 54). Plants are used not only in nutrition but also for many purposes in human life. People from the past to the present have used herbs to help feed, shelter, warm-up, heal their wounds, and treat their illnesses (Göktaş & Gıdık, 2019: 136). The link between man and plant goes back centuries. According to the archaeological findings from the early ages, humans first used plants to obtain nutrients and troubleshoot health problems. Since the day of its existence, humanity has always seen nature as a natural pharmacy and its medicinal and aromatic plants grown in nature have been used for various purposes such as finding food, spices, medicines, and healing (Faydaoğlu & Sürücüoğlu, 2011: 53; Gül & Dınler, 2016: 146).

Plants that are used in the treatment of diseases either internally or externally are called medicinal plants (Göktaş & Gıdık, 2019: 137). Although more than 40% of the drugs listed at the beginning of the 20th century are of herbal origin, this rate has fallen to less than 5% in the mid-1970s. However, especially after the 1990s, new usage areas of medicinal and aromatic plants, increasing demand for natural products; increase the usage volume of these plants day by day (Bayram vd., 2010: 1). Despite outstanding developments in the modern medicine, pharmaceutical, and chemical industries, alternative treatment methods and treatment with medicinal plants are still up to date. Even in recent years, interest in medical aromatic plants has been increasing in developed countries. More than 150 million people in Europe benefit from alternative treatment methods in health (Arslan vd., 2015: 484). Due to the increase in the consumption of medicinal and aromatic plants, the market volume also shows rapid development. With the increasing demand for these plants, which were collected from nature in the past, the studies for the cultivation

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of these plants, especially cultivars, have been accelerated (Toker vd., 2015: 54).

It is difficult to give precise information about the international trade values of medicinal and aromatic plants. In addition to the use of these plants for different purposes, the fact that trade from less developed countries is not recorded is also one of the most important reasons for this. Besides, the fact that plants are classified differently by country, for example, because a plant that is evaluated for medical purposes in one country is evaluated in food status in the other country, and receives different customs codes is also one of the reasons for not obtaining accurate data (Gölkücü, Tokgöz, Çelikyurt, & Ay, 2012: 5). Today, the medicinal plants market is estimated to have an annual figure of approximately \$ 60 billion (Faydaoğlu & Sürücüoğlu, 2011: 53).

Turkey covers three major Phytogeographic regions which are Europe-Siberia, Iran-Turan, and the Mediterranean. Turkey, climatic, and soil characteristics, in terms of agricultural potential and a rich variety of plants with different geographical regions is one of the world's most important gene centers (Gül & Dinler, 2016: 147). According to a study of medicinal and aromatic plants with internal and external trade in Turkey, the number of plant species including subspecies are total 347 and 139 of them are exported. Despite being one of Turkey's most important countries in the world in terms of medical and aromatic plants, medicinal and aromatic plants export is not yet at the desired level. Turkey, approximately 600 million dollars in the export of medicinal and aromatic plants around the world cannot receive a share of the commercial denominator enough (Çapoğlu, 2017: 3).

Turkey's exports of the medical and aromatic plants in 2008 were composed of 47.4% thyme, 22.1% is the bay leaf, 10.3% is anise, 7.5% is cumin and 4.2% is fennel. These 5 plant species have taken a share value of 91.5% in Turkey's export medicinal and aromatic plants among 16 plants in 2008 (Karik & Öztürk, 2009: 23-24). Turkey's most important plants in the export of medicinal and aromatic plants were thyme, poppy seeds, bay, tea, anise, cumin, sage, mahleb, red pepper and herbal teas in 2018. Turkey is the world's most important exporter of thyme, the bay and the poppy seeds. Thyme ranks first in exports with a 25% share (Omtrak, 2018). On the other hand, Turkey's exports of medicinal plants consist of a large part of the raw product, creating low added value in terms of the national economy (Bayraktar, Öztürk, & Arslan, 2017: 228).

In this research, enterprises operating in Şanlıurfa and marketing medicinal aromatic plants were investigated. The scope of the research is both the qualitative structure of these enterprises and the current structure of the medical aromatic plant market.

MATERIAL and METHOD

Şanlıurfa province, which has the most important agricultural potential of the Southeastern Anatolia Project (GAP) (Aydogdu, 2019: 5), was chosen as the research area. The GAP is the most important integrated sustainable regional development project in the history of the Republic, aiming to increase the sustainable income and welfare of the people of the region (Aydogdu, 2017: 3). The project aims to activate the agricultural potential of the region based on water and soil resources. Şanlıurfa is the most important agricultural city of the GAP Region and the Harran Plain is the most important plain of the project (Doğan, Aydoğdu, Sevinç, & Cançelik, 2020: 3). Şanlıurfa is included in the GAP, which had a population of 2.035 million in 2018 as well as 1.2 million ha of agricultural land. Şanlıurfa is important for the realization of the GAP project targets due to its potential in the agriculture sector in Turkey (Sevinç, Aydoğdu, Cançelik, & Sevinç, 2019: 4).

The main material of this study is the primary data obtained from the enterprises marketing medicinal and aromatic plants in the city center of Şanlıurfa. Primary data is that the researcher collects information about the subject of the research himself. Methods such as questionnaires, focus group interviews, interviews, and observation are applied in collecting primary data (Lorcu, 2015: 22). In this research, the survey method and focus group interviews were applied. The questionnaire method is the method of collecting data about some features of the units through a questionnaire (questionnaire form). Units are asked to answer the questions in the questionnaire form to collect data on the number of variables, or the interviewer asks these questions to the units and records their answers in this form (Özdamar, 2013: 83). Focus group interviews are a qualitative method that aims to get information about the psychological and socio-cultural characteristics and practices of groups and subgroups, to learn their behavior and the reasons behind these behaviors. Focus group discussions generally show a special structure in terms of purpose, composition, and procedure followed among group discussions. The main difference between focus group meetings and a face-to-face meeting is to observe the interaction between individuals during the discussion in the focus group. Researchers can observe the participants' interactions, experiences, and shares about their attitudes during the group discussion (Şahsuvaroğlu & Ekşi, 2013: 128).

Within the scope of the research, the presence of 123 enterprises in Şanlıurfa province was determined. It is planned to apply a questionnaire to all enterprises with full count method. However, 6 of the enterprises avoided survey applications for various reasons, and a total of 117 enterprises were surveyed. In focus group interviews, 6 group interviews

were held in groups of 4. Both descriptive and relationship, meaning-seeking analysis methods were used in the analysis of the data obtained through survey and focus group interview methods.

FINDINGS AND DISCUSSION

Demographic Findings

Demographic information about the individuals participating in the research is given in Table 1. All enterprise owners participating in the research are men. The lowest age of individuals is 19 and the highest age is 76. The average age is 39.80. 29.9% of the participants are primary school graduates, 17.9% are secondary schools, 29.1% are high school graduates and 23.1% are university graduates. 46.3% of the individuals participating in the research have 1-14 years, 43.6% of them have 15-39 years and 10.3% of them have 40 years of experience.

Table 1. Demographic Features of Enterprises Owners

	Variable	Number of People	%
Age	19-29	37	31.6
	30-39	23	19.7
	40-49	28	23.9
	50-59	14	12.0
	60 and more	15	12.8
Education Level	Primary school	35	29.9
	Secondary School	21	17.9
	High school	34	29.1
	University	27	23.1
Experience (Year)	1-14	54	46.3
	15-39	51	43.6
	40 and more	12	10.3
Average Monthly Income (TL)	1000 and less	9	7.7
	1001-2000	58	49.6
	2001-3500	39	33.3
	3501 and more	11	9.4

49.6% of the individuals participating in the research earn between 1001-2000 TL monthly from the sale of medicinal aromatic plants.

Enterprises and Activity Findings

Enterprises owners were asked about the reasons for doing this work and the answers in Table 2 were received. 51.2% of the enterprises' owners defined this activity as a family profession and stated that it was passed down from generation to generation.

Table 2. Reasons for Enterprises Owners to Do This Profession

Reasons to Do This Profession	Number of People	%
Family profession	60	51.2
Because I like this job	29	24.8
Since I couldn't find another job	25	21.4
Because his earnings are a good	3	2.6
Total	117	100.0

The establishments that sell medicinal and aromatic plants are known as “attars” in Şanlıurfa with the popular term. The word, which is said to be mostly “aktar” in Turkish, comes from the Arabic “itr” meaning “nice smell”. However, “attar” would sell not only fragrances but also all kinds of medicinal plants and their medicines (akkār, plural akākīr). As a matter of fact, this word is used in Arabic synonymous with saydalī or saydalānī (pharmacist). (Sarı, 1991: 94). The local people still apply to the “attars” in many treatment methods and seek healing. Attar should be considered not only as a business but also as a continuation of cultural accumulation. Therefore, this is the reason why enterprises have been transferred between generations to date and 51.2% of enterprises owners continue their activities as a family profession. In a study conducted in Aydın, it was determined that the owners of the enterprises bought the business from the previous generation (Çelik, Şentürk, & Aslantürk, 2019). The proportion of people who do this profession because their earnings are good was 2.6%. The monthly income of 57.3% of the enterprise's owners is 2000 TL and below (Table 1). The main reason for the owners to continue their activities despite the low income arises from the intergenerational transfer as mentioned earlier.

The question was asked from where they obtained the products sold to the enterprises' owners. The answers given are shown in Table 3. 41% of the majority of enterprise owners stated that they obtained the products sold from the producers (farmers who produce medicinal aromatic plants or those who gather from nature). The proportion of enterprises that buy from wholesalers was 31.6%. And 27.4% of the enterprises' owners stated that they collected and prepared the products they sold.

Table 3. Supply Place of the Products Sold

Product Supply Location	Number of People	%
I buy from manufacturers	48	41.0
I buy from a wholesaler	37	31.6
We collect and produce by ourselves	32	27.4
Total	117	100.0

Enterprises often supply cosmetic and processed herbal products (thyme, sesame, black seed oils, various herbal creams, and packaged herbal teas) from wholesalers. Besides, they provide dried plants and dried traditional food products (isot-dried hot red pepper, tarhana, snacks, dried vegetables, etc.) from the producers. Enterprises sell the products they collect themselves in dried or processed form. Enterprise owners were asked about the products they sold most, and the products sold were categorized under five headings. The answers given are shown in Table 4. The most popular product of businesses is the spice variety.

In recent years, the interest of people in many countries of the world has been turning towards medicinal and spice plants, namely natural products. For example, in a study between 1043 people in New Zealand, it was determined that one out of every three people used some of these plants and believed in their benefits. Again in the same study, it was found that women tend to be more prone to these plants than men. In a similar study, the increasing interest in alternative and supportive treatment in Turkey, where it was determined that the ratio varies between 30-70% of patients using alternative resources (Tulukcu & Sağdıç, 2011). In the medical aromatic plant consumption research conducted in the central districts of Erzurum, it was determined that the products most consumed by the consumers were red pepper, mint, garlic, thyme, basil, and linden, respectively. (Yüzbaşıoğlu & Kızıloğlu, 2019: 124).

Table 4. Top Selling Products in Attar of Şanlıurfa

Products	Number of People	%
Spices	53	45.3
Natural Snacks	21	17.9
Supportive herbal products	16	13.7
Dried natural foods	14	12.0
Natural cosmetics products	13	11.1
Total	117	100.0

The sales ratio of supportive herbal products among the products sold by the enterprises in the research area is 13.7%. Consumers mostly provide spices and natural snacks from products sold in attars. There are industrial products sold under different brands in the spice and snack market. However, consumers meet their needs from attars due to reasons such as the fact that they do not trust the processed products due to the addition of chemicals or preservatives, the contents of the packaged products in such products, and their taste. The question was asked to the enterprise owners whether they sold the product as packaged or unpackaged and the answers in Table 5 were obtained.

Table 5. Package Preference of Products Sold

Product Packaging Format	Number of People	%
Open (unpackaged)	59.0	59.0
Packed	7.7	7.7
Both of them	33.3	33.3
Total	117	100.0

Enterprise owners stated that they sell their products mostly without packages. The rate of products sold without packages is 59%. The most unpackaged products are spices, snacks, dried herbs, and vegetables. Products such as cosmetic and medical vegetable oils are sold in packages. The enterprise owners stated that the products obtained by customers, especially unpackaged, non-industrial, local or traditional production methods, are preferred. Enterprise owners were asked the question of which segment their customers came from spatially and the data in Table 6 were obtained. According to the enterprise owners, the vast majority of their customers are residents in the city center by 71.0% and stated that they also have customers in rural areas by 29.0%.

Table 6. Where Customers Come From

Where Customers Come From	Number of People	%
City Center	83	71.0
Rural Areas	34	29.0
Total	117	100.0

Rural consumers either supply the medicinal aromatic plants they need from nature or grow them themselves. This also applies to local and traditional food products consumed. In a study conducted in the city center of Burdur, 63.3% of consumers stated that they collected the medicinal and aromatic plants themselves from nature. The products that consumers provide in this way are; sage, linden, chamomile, thyme, mint, and rosemary (Korkmaz & Dündar, 2019: 215).

Enterprise owners were asked the question of what age group the consumers are from, and the information in Table 7 was obtained. According to the enterprise owners, the most customer group is the customers in the middle age group. The proportion of customers in this group was 38.5%.

Table 7. The Consumers Age Group

The Consumers Age Group	Number of People	%
Young ones	14	12.0
Middle-aged	45	38.5
Older ones	34	29.1
All age groups	24	20.5
Total	117	100.0

In a study carried out for the consumption of vegetable forest products in İzmir province, the average age of consumers was found to be 42.52 years (Arslan, Engindeniz, & Çınar, 2016: 254). In a study conducted in Burdur province, 85.7% of herbal forest products consumers were found in the middle age group (Korkmaz & Dündar, 2019: 215). Considering that consumption is aimed at health and nutrition, it is considered normal for consumers of this age group to use of more medicinal and aromatic plants.

Enterprise owners were asked questions about why the consumers prefer to use of medicinal and aromatic plants, according to their meetings with their customers. The answers received are in Table 8. According to the enterprise owners, 60.6% of the consumers buy medicinal and aromatic plants from themselves because the consumers think they are healthier and more natural. In recent years, news in the written and oral media that medicinal and aromatic plants have been used as a supplement for some diseases and strengthened the immune system has caused an increase in demand. For this reason, the proportion of enterprise owners who think that the demand of consumers has occurred was 27.4%.

Table 8. The Consumers' Demand Reasons

Consumers' Demand Reasons	Number of People	%
Because they are healthy	71	60.6
Under the influence of media programs	32	27.4
With the advice of relatives and friends	14	12.0
Total	117	100.0

The main factor that all the reasons stated in Table 8 combine is health. This is the result of the attars being considered as a folk doctor. Folk medicine; These are all the methods and procedures used by the public to diagnose and supply their illnesses when they do not have the opportunity or cannot go to the doctor for other reasons. With the broader definition, their views and beliefs about the causes, symptoms, and duration of the diseases, all of the traditional, local drugs, magical and traditional

procedures and practices they use are folk medicine and pharmacy (Avcı, 2018: 172).

CONCLUSION and SUGGESTIONS

In recent years, the demand for food supplements has increased with alternative medicine. This created a \$ 60 billion medicinal aromatic plant market in the world trade volume. Turkey, however, that despite the favorable climatic conditions and the variety of flora have not got enough share from the export volume in this trade with the \$ 600 million. In Turkey, in recent years the medical aromatic plants collected from nature obtained under normal circumstances, there has been an increase in the production of culture, too. The support given by the Ministry of Agriculture and Forestry for the production of medicinal and aromatic plants affects this process positively. Increasing product variety and production volume with Turkey, the denominator of the world medicinal aromatic plant trade volume will increase in Turkey.

The survival of medical aromatic plant establishments by generation transfer is important for the continuity of cultural heritage and folk medicine tradition. However, the fact that the products in question are related to human health and nutrition necessitates sensitivity in the sector. Marketing of medicinal and aromatic plants that concern human health must be regularly monitored by expert controllers. Enterprise owners claim information that is passed down from generation to generation. However, with the professional certification system for the sale of medicinal aromatic plants, securing the knowledge and its control should be ensured. This process is a very important issue for human health and nutrition. As a result, although these businesses are seen as businesses that market certain products and bring them together with the end consumer, the products they are marketing are products that should be taken into consideration in terms of their content. The inspection and certification system will minimize the misuse of medicinal aromatic plants and prevent unwanted health problems. This will also give the "attar" institution its professional reputation.

REFERENCES

- ARSLAN, Hülya, ENGİNDENİZ, Sait, & ÇINAR, Gökhan, (2016). "İzmir İli Kentsel Kesiminde Odun Dışı Bitkisel Orman Ürünleri Tüketiminin Analizi Üzerine Bir Araştırma". *Ege Üniversitesi Ziraat Fakültesi Dergisi*, 53(3), 251-257. <https://doi.org/10.20289/zfdergi.389301>
- ARSLAN, Neşet, BAYDAR, Hasan, KIZIL, Süleyman, KARIK, Ünal, ŞEKEROĞLU, Nazım, & GÜMÜŞÇÜ, Ahmet, (2015). "Tıbbi Aromatik Bitkiler Üretiminde Değişimler ve Yeni Arayışlar".

- Available online:
http://www.nazimsekeroglu.com/FileUpload/ks315028/File/zmo_tibbi.pdf (accessed on 17 April 2020)
- AVCI, Cevdet, (2018). "Gaziantep Barak Türkmenleri Halk Hekimliği Uygulamaları Örnekleri Üzerine Bir İnceleme". *Asia Minor Studies*, 6(11), 169-182. <https://doi.org/10.17067/asm.374437>
- AYDOĞDU, Mustafa Hakkı, (2017). "Evaluation of Farmers' Willingness to Pay for Agricultural Extension Services in GAP-Harran Plain, Turkey". *Journal of Agricultural Science and Technology*, 19(4):785-796.
- AYDOĞDU, Mustafa Hakkı, (2019). "Farmers' Attitudes to the Pricing of Natural Resources for Sustainability: GAP-Şanlıurfa Sampling of Turkey". *Water*, 11(9), 1772. <https://doi.org/10.3390/w11091772>
- BAYRAKTAR, Önder Volkan, ÖZTÜRK, Görkem & ARSLAN, Doğan, (2017). "Türkiye'de Bazı Tıbbi ve Aromatik Bitkilerin Üretimi ve Pazarlamasındaki Gelişmelerin Değerlendirilmesi". *Tarla Bitkileri Merkez Araştırma Enstitüsü Dergisi*, 26(2), 216-229.
- BAYRAM, Emine, KIRICI, Saliha, TANSI, Sezen, YILMAZ, Güngör, ARABACI, Olcay, KIZIL, Süleyman, & TELCI, İsa (2010). "Tıbbi ve Aromatik Bitkiler Üretimine Artırılması Olanakları". Available online:
http://www.zmo.org.tr/resimler/ekler/09e9d4bcc8157c0_ek.pdf (accessed on 29 March 2020)
- ÇAPOĞLU, İlyas, (2017). "Erzincan Tıbbi ve Aromatik Bitkiler Arama Çalıştayı". Available online: <https://ebyu.edu.tr/wp-content/uploads/2017/03/Cilt1-T%C4%B1bbi-ve-Aromatik-Bitkiler-%C3%87al%C4%B1%C5%9Ftay%C4%B1-Kitap%C3%A7%C4%B1k.pdf> (accessed on 17 April 2020)
- ÇELİK, Tülay Aşkın, ŞENTÜRK, Muhyettin & ASLANTÜRK, Özlem Sultan, (2019). "Aydın İl Merkezinde Faaliyet Gösteren Aktarların Kişisel ve Mesleki Özelliklerinin Belirlenmesi". *Ordu Üniversitesi Bilim ve Teknoloji Dergisi*, 9(2), 126-135.
- DOĞAN, Hatice Parlakçı, AYDOĞDU, Mustafa Hakkı, SEVINÇ, Mehmet Reşit & CANÇELİK, Mehmet, (2020). "Farmers' willingness to pay for services to ensure sustainable agricultural income in the GAP-Harran Plain, Şanlıurfa, Turkey". *Agriculture*, 10(5), 152. <https://doi.org/10.3390/agriculture10050152>
- FAYDAOĞLU, Emine & SÜRÜCÜOĞLU, Metin Saip, (2011). "Geçmişten Günümüze Tıbbi ve Aromatik Bitkilerin Kullanılması ve

- Ekonomik Önemi". *Kastamonu Üniversitesi Orman Fakültesi Dergisi*, 11(1), 52-67.
- GÖKTAŞ, Özlem & GIDİK, Betül, (2019). "Tıbbi ve Aromatik Bitkilerin Kullanım Alanları". *Bayburt Üniversitesi Fen Bilimleri Dergisi*, 2(1), 136-142.
- GÖLÜKCÜ, Muharrem, TOKGÖZ, Haluk, ÇELIKYURT, Mehmet Ali & AY, Saadet Tuğrul, (2012). *Tıbbi ve Aromatik Bitki İşletmelerinin Yapısal Analizi*. Batı Akdeniz Kalkınma Ajansı: Antalya, Turkey.
- GÜL, Volkan & DİNLER, Burcu Seçkin, (2016). "Kumru (Ordu)Yöresinde Doğal Olarak Yetişen Bazı Tıbbi ve Aromatik Bitkiler". *Ziraat Fakültesi Dergisi*, 11(1), 146-156.
- KARİK, Ünal & ÖZTÜRK, Mustafa, (2009). "Türkiye Dış Ticaretinde Tıbbi ve Aromatik Bitkiler". *Bahçe*, 38(1), 21-31.
- KORKMAZ, Mehmet & DÜNDAR, Nurgül, (2019). "Tüketicilerin Odun Dışı Orman Ürünlerine Yönelik Satın Alma Tercihlerini Etkileyen Faktörler". *Türkiye Ormancılık Dergisi*, 20(3), 213-220. <https://doi.org/10.18182/tjf.600641>
- LORCU, Fatma, (2015). *Örneklerle Veri Analizi SPSS Uygulamalı*. Detay Yayıncılık: Ankara, Turkey.
- OMRAK, Hülya, (2018). "Türkiye Tıbbi ve Aromatik Bitki Yetiştiriciliğinde Öncü Ülkelerden". Available online: <http://www.turktarim.gov.tr/Haber/64/turkiye-tibbi-ve-aromatik-bitki-yetistirciliginde-ocnu-ulkelerden> (accessed on 05 March 2020)
- SARI, Nil, (1991). "ATTAR - TDV İslâm Ansiklopedisi". Available online: <https://islamansiklopedisi.org.tr/attar> (accessed on 11 April 2020)
- SEVINÇ, Gönül, AYDOĞDU, Mustafa Hakkı, CANÇELİK, Mehmet & SEVINÇ, Mehmet Reşit, (2019). "Farmers' Attitudes toward Public Support Policy for Sustainable Agriculture in GAP-Şanlıurfa, Turkey". *Sustainability*, 11(23), 6617. <https://doi.org/10.3390/su11236617>
- ŞAHSUVAROĞLU, Tuna & EKŞİ, Halil (2013). "Odak Grup Görüşmeleri ve Sosyal Temsiller Kuramı". *Marmara Üniversitesi Atatürk Eğitim Fakültesi Eğitim Bilimleri Dergisi*, 28(28), 127-139.
- TOKER, Ramazan, GÖLÜKCÜ, Muharrem & TOKGÖZ, Haluk, (2015). "Tıbbi ve Aromatik Bitkilerin Gıda Sanayisinde Kullanım Alanları". Available online: <https://www.turktob.org.tr/dergi/makaleler/dergi15/54-59.pdf> (accessed on 19 April 2020)

TULUKCU, Eray & SAĞDIÇ, Osman, (2011). "Konya'da Aktarlarda Satılan Tıbbi Bitkiler ve Kullanılan Kısımları". *Erciyes Üniversitesi Fen Bilimleri Enstitüsü Dergisi*, 27(4), 304-308.

YÜZBAŞIOĞLU, Rüveyda & KIZILOĞLU, Semiha, (2019). "Tıbbi-Aromatik Bitkilerin Satın Alımında Bireylerin Bilinç Düzeyi (Erzurum Merkez İlçeleri Örneği)". *Ağrı İbrahim Çeçen Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 5(1), 119-132.

THE ASYMMETRIC EFFECTS OF INCOME INEQUALITY ON ECONOMIC GROWTH IN TURKEY

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INTRODUCTION

Since the beginning of humanity, every human has had to produce and to gain any financial or material revenue after the production process in order to sustain his/her life. Until 16th century, when the economic events started gaining importance, the income has been considered only as a means of living in many societies as a result of religious beliefs. Because the trade after that period and the industrialization in 18th century gained a global character, the income has started to be considered as a component of wealth and enrichment.

The income arising from a production process is gained in exchange for the value. Distribution of the income, which has been received as a result of a production process in a specific economic period, is considered as sharing the value and this subject has been discussed within the scopes of the labor theory of value and the theory of distribution in economic history. The distribution of income between individuals, sectors, regions, and countries is defined as the income distribution and the management of economic systems in parallel with the socioeconomic objective from the political economy is very important for the success of the economic policy. Until the industrial revolution period, the main source of production for the people has been agriculture. Although the society has been divided into segments during the feudal period, it has not been considered necessary to discuss the equality in income distribution in that period, in which economic growth has not been seen as an important point. This subject has also been in the sociologists' and philosophers' world of thought. Together with the industrial revolution, countries started competing in terms of economic growth and development and any factor that might affect the growth in that new world order has become a new area of research for economics.

Since the school of classical economics, many politic economists addressing the relationship between state and economy have submitted their opinions about how the income gained as a result of the production process should be distributed. In the schools of economic thought, there

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are different approaches regarding how the income should be distributed and it has paved the way for the rise of two different economic systems as capitalist and socialist ones. After the discussions in economic philosophy have grown to a specific maturity, the theoretical models about the relationship between income inequality and economic growth have been developed. One of the most widely cited studies on this subject in the literature is Kuznets' work "Economic Growth and Income Inequality" (1955). In his work, Kuznets has stated that the income obtained from agricultural production was lower than the income obtained from industrial production. This opinion of Kuznets has been considered as an important explanation for the question "*What is the source of income inequality between the countries*" which has been investigated in that period. Kuznets has emphasized that the fact that individuals working in agricultural production had lower income when compared to those working in industrial production in the same country is the reason for income inequality between the individuals. In the study, in which Kuznets has continued his explanations about the income inequality, it has been stated that income inequality would arise together with the income inequality in the countries, which have entered an industrialization period, first but the income equality would be regained as the economic growth continues. This opinion of Kuznets has been termed "Kuznets' Inverted U Curve" in the literature and is an important source of theoretical knowledge for the economic studies investigating the effect of economic growth on income inequality.

The first industrialization attack in the Turkish economy has been made in 1934 with the First Five-Year Industrial Development Plan. However, because of World War II, the industrialization policy couldn't be consistently implemented. In the following periods, the most important policies on industrialization have been introduced in the 'Development Plans' put into action in the year 1963. Although the development plans are "macro" plans giving importance to the development of all the sectors, the fact that industrial growth objectives have been set to be higher than agricultural growth objectives showed that the development plans have been prioritized. Although the growth objectives of the industrial sector couldn't be achieved, the actual growth rates in the production industry have been much higher than in agriculture industry and it has made Turkey to be seen as an industrial country rather than an agricultural one.

Until 24th January 1980, when a structural change in the Turkish economy has started, the increasing share of production industry in the gross domestic product also brought the income distribution inequality, in parallel with Kuznets' Inverted U Curve. Nevertheless, the income

inequality in the Turkish economy cannot be explained only with the development of production industry. The main reasons for the decrease in real incomes of people earning their livings from agricultural production include not keeping up with modern technology in agricultural production, decrease in productivity, agricultural product prices below that of industrial products, and decrease in subsidies and incentives granted to the agricultural production. Besides that, also the devaluations and high inflation rates until 1980 have also decreased the real income of society receiving wage and salary and increased the income inequality.

Together with the implementation of 24th January 1980 decisions, the production philosophy has turned from import substitution to export promotion approach. The supports granted to the industrials in order to overcome the problem of capital insufficiency, suspending the union activities for a period, high growth rate targets announced by sacrificing inflation, and especially the heterodox policies implemented after 1994 Crisis were important politic activities. Despite the policies followed in order to achieve the economic growth, the period between 1994 and 2001 has been a period, in which a series of economic and financial crises have occurred and the economic growth has weaved. After the year 2005, in addition to the minimum wage increases higher than the inflation rates, the inflation rates at lower levels, interest rates following a low trend, relatively more stable growth rates, and no significant geopolitical crisis in the country until the year 2015 contributed to a recovery in income distribution. In the light of these advancements, in the functional income distribution, the share of wage and salary from the total income increased from 44.5% in the year 2006 to 52.5% in the year 2015. Among the other production factors, the share of rant in the total income increased from 3.1% to 3.3% in the same period, that of profit decreased from 24.2% to 18.8%, and that of interest income decreased from 6.1% to 2.6% (Eğilmez, 2020: 120).

After the period, in which the structural changes started in the Turkish economy, improvements and deteriorations have occurred in the Gini coefficient, which is the indicator of fairness in income distribution, due to various reasons. Although various economic and financial crises have occurred in the same period, the Turkish economy has managed to follow a growth trend not falling away from the potential economic growth rate of Turkey. Although there are many studies in the economic literature investigating the effect of economic growth on the income inequality in Turkish economy in order to test the validity of Kuznets' inverted U curve (Tokathioğlu & Atan 2007; Dişbudak & Süslü, 2009; Ak & Altıntaş, 2016; Akalin, Özbek & Çiççi, 2018; Takım, Ersungur, Dikmen, & Aksu, 2020), the number of studies

investigating the effect of income inequality on the economic growth is limited and the present study was carried out for this purpose.

The present study aiming to test the effect of income inequality on economic growth in the Turkish economy by making use of the NARDL method for the period between 1980 and 2015 consists of 4 sections. After the introduction section, the intellectual and theoretical background of the relationship between income inequality and economic growth will be provided in the first section, whereas the empirical literature about different country groups and the Turkish economy will be summarized in the second section. In the third section, the dataset and econometric method used in the study are introduced and then the analysis estimation results are provided. In the conclusion section, a general discussion about the study subject and results will be made and the study is finished with a policy suggestion. The present study aims to enrich the literature on the Turkish economy and to contribute to the literature in terms of the econometric method used here.

1. THEORETICAL AND INTELLECTUAL BACKGROUND OF THE RELATIONSHIP BETWEEN INCOME INEQUALITY AND ECONOMIC GROWTH

This section consists of two main subheadings. The first subheading includes the movements of thought addressing the relationship between income inequality and economic growth over the labor theory of value, whereas the second subheading provides information about the interaction canals of income inequality influencing the economic growth.

1.1. Intellectual Background of the Relationship between Income Inequality and Economic Growth

One of the first products of economic thought falling away from the philosophy and shaped focusing on science is the labor theory of value. The idea that between which production factors the value, which arises as a result of a production process, should be distributed and which production factor should achieve a higher share from the value for a faster and continuous economic growth has paved the way for the emergence of two main approaches.

1.1.1. Classical Approach: The classical approach claims that inequality in income distribution would positively affect the economic growth. This theoretical thought is based on the labor theory of value and ‘Iron Law of Wages’ that have a significant place in classical economic thought. According to the labor theory of value developed by Adam Smith (2017: 48), the factors determining the value in liberal

societies, in which there are capital stock and private ownership, are labor, capital, and land.* Thus, the income to be achieved as a result of a production process will be distributed between labor, capital, and land as wage, profit, and rent. Because all production factors gather in order to have their own interests, Smith has defined this interest-based union as “*harmony of interests*”. David Ricardo (1817: 117-119) has not shared the same idea with Smith regarding if the income could be distributed between the labor, capital, and land in harmony. In the distribution of income between labor, capital, and land factors, these three production factors compete with each other and, according to Ricardo, this relationship should be explained with the principle of “*disharmony of interests*”.

Iron Law of Wages has been developed upon the idea that the wage to be paid from the income to be achieved as a result of a production process will be determined according to the minimum subsistence level. Significantly influenced by the opinions of Robert Malthus on the population, Ricardo (1817: 90-92) claimed that the market wage emerging as a result of labor supply and labor demand in the labor market shall not be persistently above the natural wage rate that is the subsistence level. In societies having an established economic life, the market wage higher than the natural wage would cause a population growth in the medium-term and it will balance the market wage to the natural wage in the course of time. Similarly, in case that the market wage falls below the natural wage, an invisible hand will regulate the socio-economic life; the market wage will rise and then equal to the natural wage again. In conclusion, the idea that ‘Iron Law of Wages’ aims to explain is that the market wage would equal to the natural wage, and the income that the labor deserves is the subsistence level of wage.

Ricardo (1817: 62) has thought that, because a larger agricultural land was cultivated while wealth and population grew, the rent to be paid to land would increase in real. Since the labor factor would be needed more in this production process, the wage of labor would also increase. However, that increase would be a nominal increase and the labor factor would incur real wage losses. This is because the increase in the prices of commodities in the market would be higher than the increase in the wages of labor. Thus, according to the Smith’s Labor Theory of Value advocated by Ricardo, a higher share achieved by the land, which is a production factor, from the income to be obtained from

* The term “entrepreneur” has been added to the economic analyses by Jean Baptiste Say. While explaining his opinions on the factors determining the value of produced commodities, Smith accepts the labor, capital, and land as production factors.

a production process would cause a decrease in the profit rate of capital, which is another production factor. The decrease in the profitability rate would not zero the level of profit. In case that capital owner invests more capital, the profit will increase in amount although it will decrease in ratio. However, the continuing decrease in profitability rate representing the capital owner's income from investments would discourage the capital owners from making investments and, at that point, the economic growth will stop and a recession will arise (Ricardo, 1817: 143-145).

The labor factor can get a higher share from the income to be achieved from a production process only if the capital and land factors get lower shares. Similarly, the capital or land factors could get higher shares only when the labor gets a lower share. Regarding the distribution of income, Smith believes that the capital owners should get the highest share because, according to the thoughts of Smith, the labor force/workers are voluptuous. In case that labor receives a market wage higher than the natural wage, which is enough for living, the population of the working-class will increase. This idea has also been supported in Malthus' work on population "*An Essay on the Principle of Population*" (1798) and Ricardo's work on the competition between production factors "*The Principle of Political Economy and Taxation*" (1817). Malthus argued that, in case of a market wage higher than the natural wage that equals to the subsistence level, the population of societies would increase and it would decrease the market wages in the labor market in the medium term. Supporting the Malthus' ideas on population, Ricardo advocated that the state should not protect the low-income class of society by enacting poor laws because it would cause an economic recession. He has expressed his idea by stating that "the tendency of poor laws is not to amend the condition of poor people but to deteriorate the conditions of both poor and rich people" (Ricardo, 1817: 112). Ricardo has recommended that the state should create job opportunities for poor people by supporting investment and production rather than protecting the poor people.

Regarding the increase in production and the economic growth arising from this increase, the classical approach advocates that the capital owners should have a higher share from the income to be achieved from the production process. The reason for advocating this distribution, which will cause inequality in income distribution, is that the capital owners' propensity to save for making investment is higher when compared to the other production factors. Thus, the inequality in income distribution would positively affect the economic growth because the income controlled by capital owners has a higher marginal propensity to save.

1.1.2. Socialist Approach: Although there are many types of socialist thought, scientific socialism developed based on the ideas of Karl Marx and Friedrich Engels has the highest scientific validity. Although the scientific socialism has no direct explanation for the relationship between income inequality and economic growth, especially the opinions expressed by Marx about the process of crisis suggest that the inequality in income distribution would cause crises and, consequently, negatively affect the economic growth. These opinions were concluded by analyzing the theories of Marx on labor-value, surplus value, exploitation, and crisis theories.

The scientific socialism, which has arisen as a criticism against Smith's labor theory of value in liberal societies where there are capital stock and private ownership, advocates that the only production factor that determines the value and creates surplus value in production is the labor (Marx, 2011: 87). Although exploitation and surplus value are high in the labor-intensive productions, companies prefer capital-intensive production over the labor-intensive production. The reason for this preference is the lower production costs in capital-intensive production. Under the free market conditions, the companies producing at lower costs using capital-intensive production methods gain an advantage over the companies producing at higher costs using labor-intensive production methods due to the capital insufficiencies. The companies, which aim to overcome the capital insufficiency problem by merging, would establish trust companies and cartels and lead the market from perfect competition to imperfect competition conditions. The companies that continue the production with labor-intensive production methods fall apart from the competition and are involved in working-class as auxiliary production force (Marx & Engels, 2013: 50). This process causes further exploitation of labor factor and decrease in wage and the competition in capital-intensive production approach causes the accumulation of capital in specific hands (Marx, 2010: 171).

Marx has advocated that the accumulation of capital in specific hands and the decrease in wages of the working-class would cause lack of demand and the capitalist system would create its own crisis because the commodities and services produced would not be sold. Since the accumulation of capital in specific hands and the decrease in wages of the working-class would cause an inequality in income distribution, the socialist approach suggests that the inequality of income distribution would negatively affect the economic growth.

In the socialist approach, Marx addressed the lack of demand as the most important reason for economic crises. However, this opinion doesn't belong only to Marx and scientific socialism. Before Marx,

Malthus has also adopted the same opinion even though he has been a classical economist. Observing the Napoleon Wars in the early 19th century, Malthus criticized Say's Law by asserting that not every supply of non-food commodities could create its own demand. For the non-food commodities, the decreases in specific classes of society and the possible changes in consumer preferences and appreciation might affect the economic growth negatively as a result of lack of demand. Malthus recommends that, as a solution to this possible problem, the state should make expenses and investments in the way increasing the income of society (Bocutoğlu, 2012: 89). These policies preventing the unemployment and increasing the income of specific social segments would contribute to the economic growth by ensuring the equality of income distribution. It can be asserted that this political perspective of Malthus shed light on Marx's lack of demand opinion and John Maynard Keynes' expansionary fiscal policy idea.

1.2. Income Inequality's Interaction Pathways on Economic Growth

In the studies examining the effect of income inequality on economic growth, the approaches clearly revealing this relationship include the savings ratio approach, faulty credit market and limited human capital investment approach, socio-political unrest approach, and politic economy approach. In this subheading, these approaches are introduced.

1.2.1. Savings Ratio Approach

Robert Barro (2000: 8) stated that some of the economists influenced by Keynes' *The General Theory of Employment, Interest, and Money* (1936) work believe that the personal propensity to save is related with the income levels of those individuals. If this approach is valid, then the redistribution of sources from rich to poor would weaken the propensity to save in the economic systems. As a result of this process, the equality of income distribution would reduce the investments and the decrease in investments would reduce the rate of economic growth.

The savings ratio approach advocating that income inequality would positively affect the economic growth is obviously a new idea developed based on Smith's labor theory of value and theory of distribution. Smith advocates that the capital owners should have a higher share in income achieved from a production process in order for the investments to increase because he considers the capital owners as the class having the highest propensity to save. Thus, larger amounts of savings by capital owners seen as the driving force of economic growth and capitalist system by gaining a higher share from the income will

accelerate the investments first and then increase the rate of economic growth.

1.2.2. Faulty Credit Market and Limited Human Capital Investment Approach

In countries, in which the economic growth couldn't be achieved especially because of capital insufficiency, the credit markets play an important role in transferring the necessary capital to the investors. However, especially in cases of high interest rates, the fact that individuals applying for credits that they couldn't pay as a result of moral corruption is because of several faults of credit markets. The leading one among these faults is the asymmetric information problem arising from the fact that the creditor corporations have insufficient information about the credit users, as well as the deficiencies in legal regulations. The corporations in credit markets giving credit to the problematic individuals, who actually have low credit scores, because of the asymmetric information will face the problem of inability of collecting the debts and, because the laws generally protect the properties of credit users, this problem might lead the banks into bankruptcy (Galor & Zeira 1993: 36; Barro, 2000: 6). The unjust enrichment of a specific segment of society by achieving undeserved earnings increases their wealth, whereas the other members of society have losses from their wealth, even in their incomes too.

Aghion & Bolton (1997: 153) consider that income and wealth are an important factor creating heterogeneity between the individuals in a society. According to their opinion, the factor differentiating the individuals born with certain skills is the financial opportunities they have. The individuals having financial capability make investment more easily in their human capital, whereas the individuals having financial incapability cannot make investment in their own or make this investment at a small level. As a result of approach, the collection of the wealth transferred to them in certain classes within the society with the birth of individuals will limit the investments to be made in the human capital of that society. This inequality in the distribution of wealth will adversely affect economic growth in the long run.

The socialist approach explaining the effect of income inequality on the economic growth is against the discrimination and formation of classes within the society. Especially in the differentiation between bourgeoisie and proletariat, the children and grandchildren of bourgeoisie, which is the richest segment of the society, would have advantages over the children and grandchildren of proletariat in terms of improving their skills and capabilities (Marx & Engels, 2013:54).

This differentiation would inevitably have a negative effect on economic growth in the long term.

1.2.3. Socio-Politic Unrest Approach

The size of inequality in income distribution might be tolerated to a certain extent by the members of society. When the level of inequality increase and this inequality divides the society into minimum of 2 segments, the poor class having difficulties in living might incline to disturbing actions such as violence, riot, protest, and even uprising (Perotti, 1996: 151; Barro, 2000: 7). The number of individuals inclining to such actions might make political measures, which the state can take, impossible. Even if the state suppresses the revolt by using its opportunities, the costs of measures taken would inevitably have an effect on the public economy. According to the animal instinct explanation of Keynes, any uncertainty in the real markets would cause disruptions in market activities, imbalances in labor market, and reversal of efficiency in the production and, consequently the delay of planned and existing investments (Tornell & Lane: 1994, 20). The investments, which have been continued despite of all the difficulties, would face productivity losses.

Given the uprisings of Paris Commune in 1871 and October Revolution in 1917, it can be seen that bourgeoisie-proletariat and even proletariat-stat conflicts arising especially from the income inequality have negatively affected all the elements of economic system and also negative results have been achieved in the economic growth rates. For this reason, the states fulfilling their responsibilities with liberal economic system, especially in the last century, tend to implement the social policies suppressing the possible uprisings in advance for the survival of economic order with the social state perspective, which reveals the convergence of economic systems. Even though it has been significantly criticized by Malthus and Ricardo in the classical approach, the poor laws enacted in England in 18th and 19th centuries have been social policies implemented in order to ensure the ultimate social peace.

1.2.4. Politic Economy Approach

One of the most important objectives of an economic system in any country (regardless if it is a capitalist, socialist or communist system) is the economic growth. The factors leading the countries into an economic recession and departing them from the full employment might differentiate between developed, developing, and underdeveloped countries. Since the economies in developed countries operate more perfectly than in developing and underdeveloped countries, the most important factors decelerating the economic growth

of developed countries are the decrease in export and lack of demand and investment. In developing and underdeveloped countries, however, the reasons for not achieving the targeted economic growth are the more important economic problems such as technological underdevelopment, capital insufficiency, and external dependence (Savaş, 2016: 40). In many countries classified as developed countries by IMF (Germany, Austria, United Kingdom, Denmark, South Korea, Holland, Spain, Sweden, and Italy), the state intervenes in the economy at a minimum level when compared to the classical approach thanks to more equal distribution of income. Despite that, the states in many developed, developing and underdeveloped countries consider the income inequality as a reason for slow economic growth and tend to solve this problem through interventions.

Among the fiscal policy instruments, the instruments that the state uses at most in solving the problem of income inequality are public expenses, transfer payments, and especially tax rates. The state can play an active role in the redistribution of sources from rich to poor through public expenses, transfer payments, and increasing the taxes on the sources such as land, wealth, and income. Some of the implementations include the state's intermediary role between unions and employers during minimum wage negotiations, as well as the strategy of announcing higher minimum wages taking sides with unions especially in election periods. According to the politic economy approach, since the interrupted operation of economy is more common in developing and underdeveloped countries when compared to the developed countries, the state's intervention in the economy is more necessary. In parallel with this necessity, the results of general elections in developed and underdeveloped countries are significantly affected by the economy policies. For this reason, the intervention of state in economy in developing and underdeveloped countries would either cause the government party to gain or lose the votes. In counties with high level income inequality, if the vast majority of voters are below the middle income level, then the state plays active role in redistribution of sources in order to win the elections and ensure the equality in income distribution (Persson & Tabellini 1994: 607; Partridge, 1997: 1022). However, increasing the income tax rate has a negative effect on the investments; thus, this policy implemented in order to ensure the income equality would cause a negative effect on the economic growth (Barro, 2000: 6).

Nowadays, the most important income item of countries is taxes. In order to ensure the fairness in income distribution within the economic system, the states apply the graduated income tax policy. In accordance with the principle of minimum intervention, the classical approach is

against the high tax rates and the production by the state. The state should collect income tax at a minimum level and not prevent the investments within the free market mechanism. In the classical economic approach, the one most strongly criticizing the state's tax policy was John Stuart Mill. Although Mill (2017: 160) has criticized the graduated income tax policy, he has also been against the fixed-rate income tax policy. According to Mill, since all the members of society equally benefit from the public services provided by the state, the tax should be fixed-amount. According to the opinion of Mill, the application of fixed-rate and graduated tax by the state would not serve for any purpose but penalizing the investors producing more.

2. LITERATURE

Although the income inequality has been discussed even before 15th century, the opinions have generally been shaped within the frame of religion or sociology. The income inequality that has increased after the industrial revolution in the global economy has become one of the research subjects of economics as an important problem and a reason for important economic problems. The competition between the countries in terms of level of economic development has made the question "*how can the income inequality affect the economic growth*" a new research question. Until almost end of 20th century, no reliable dataset on the income inequality could be established and it complicates the empirical studies in this field. However, nowadays, the researchers have the opportunity of testing the effect of income inequality on economic growth by using more reliable datasets and modern econometric methods.

One of the first studies empirically testing the effect of income inequality on economic growth in the economic literature is the study carried out by Alesina and Rodrik (1994). As a result of investigating the effect of income inequality on economic growth by using Gini coefficient and national statistics in a sample consisting of 70 countries for the period between 1960 and 1985, it has been determined that income inequality had a negative effect on economic growth. Advocating that, for the countries in the sample, the inequality in distribution of income and land factor negatively affected the economic growth, Alesina and Rodrik also asserted that, as a result of an internal interaction, the economic growth also negatively affected the fairness of income distribution. As a solution to this problem, the necessity of policies re-arranging the income distribution for the access to production factors by the vast majority of societies is discussed.

Another empirical study testing the negative effect of income inequality on economic growth is the study of Persson and Tabellini

(1994). In their study, whether income inequality is beneficial or harmful for the economic growth was investigated for the periods of 1830-1850 and 1960-1985. The analyses for 1830-1850 have been performed on the sample of 9 countries (Austria, Denmark, Finland, Germany, Holland, Norway, Sweden, United Kingdom, and United Nations), whereas the analyses for 1960-1985 have been performed on a sample consisting of 56 countries. As a result of analysis, it has been found that the income inequality had a negative effect on the economic growth. As a reason for this situation, they alleged that the income inequality operationally weakened the proprietary right in the economic systems. As a solution to this problem, it is alleged that the states should play active role in economic systems and apply tax policies ensuring the income equality and encouraging the economic growth.

In his study designed on the same research question, Partridge (1997) accepted the study of Persson and Tabellini (1994) statistically valid but stated that the scientific generalizability of results is controversial because the countries in the sample (i.e., Chad and USA) are not at the same level of development. For this reason, he believes that the results achieved by Persson and Tabellini should be tested in different sample groups by using different periods and different methods. Partridge has retested the effects of income inequality on economic growth by using the Least Squares Method on the sample consisting of 48 neighboring countries and for the period between 1960 and 1990. The data used in the analysis have been obtained from the US Department of Statistics, as well as the Gini coefficient calculated by different individuals. The results achieved in the study of Partridge suggested the positive relationship between income inequality, Gini coefficient measuring the income inequality, and economic growth.

Then, Perotti (1996) has repeated the same economic research on 65 developed and developing countries for the period of 1960-1985 in order to test the results of study, which has examined the effects of income inequality on economic growth, in a new study. The results obtained in that study of Perotti showed that the investments in education are at a higher level in the societies having lower level of income inequality and this effect positively affects the economic growth. Moreover, in the societies having a higher level of income inequality, both of politic and social lives were more problematic when compared to the other countries and this negativity negatively affected the economic growth over decreasing real investments.

The factor motivating Forbes (2000) for a new research testing the effect of income inequality on economic growth was the inconsistency between the results reported in literature. Forbes has criticized the

empirical tests, which report negative effect of income inequality on economic growth, from various aspects. The main criticism is that there are errors in calculation of data measuring the income inequality. The second criticism is that the length of dataset used in these analyses was insufficient for performing a panel data analysis. In order to overcome these problems, Forbes has used the “high-quality Gini coefficient” developed by Deininger and Squire’nin (1996). According to Forbes, when compared to other datasets, this dataset is more reliable since it collects data over the surveys conducted with households, the sample size of surveys represents the population of entire country, and it considers self-employment income, non-wage earnings, and non-financial revenues as the income criteria. Using the dataset prepared by Deininger and Squire, Forbes has advocated that it has become possible to work with reliable data and to carry out an analysis, which has high scientific validity, by accessing sufficient information for a panel data analysis. The analysis of Forbes included 45 countries and 180 observations for the period of 1965-1995. Regarding the analytic method, he has taken the study of Perotti (1996) as reference and used the Least Squares Method and Generalized Method of Moments (GMM). In the study carried out by Forbes, it has been concluded that the change in income inequality of a country in short and mid-term has effect on the economic growth of that country and that the income inequality positively affected the economic growth.

In order to test the results reported by Partridge (1997) and Forbes’un (2000), Panizza (2002) investigated the effect of income inequality on economic growth in the sample of 48 states in the USA for the period of 1940-1980. In that study, Panizza used the dataset similar to one used by Partridge and research methods similar to those used by Forbes. In his study, Panizza analyzed the data using Least Squares Method, Fixed Effects Estimation Method, and Generalized Method of Moments. The results he achieved suggested that, on the contrary with those reported by Partridge, no positive correlation relationship could be found between Gini coefficient and economic growth. Similarly, on the contrary with results reported by Forbes, the results reported by Panizza suggested no positive correlation relationship between the change in inequality coefficient and the change in growth rate.

Topuz and Yıldırım (2017) have investigated the effect of income inequality on economic growth using a sample of 154 developed and developing countries for the period of 1980-2014. In their study carried out using Basic Solow and Augmented Solow Models, in order to achieve more accurate results from the analyses performed on imbalanced panel dataset, the authors divided the sample into low and

lower-middle-income group (Group I) and higher-middle and high-income countries (Group II) by using the classification of World Bank. The income inequality coefficient used in their study was the net Gini coefficient after the taxes and transfer payments and obtained from the *Standardized World Income Inequality Database* (SWIID) belonging to Frederick Solt and updated in July 2016. The generalized method of moments was used as analysis method. According to the analysis results, the income inequality affected the economic growth positively in low and lower middle income countries (Group I) and negatively in higher middle and high-income countries (Group II).

Although there are many studies in literature examining various developed and developing country samples in terms of the effect of income inequality on economic growth, the number of studies carrying out the same research for Turkey is very limited. Analyzing the effect of income inequality on economic growth in Turkish economy for the period of 1977-2013, Peçe, Ceyhan, and Akpolat (2016) tested the causality relationship between Gini coefficient and real gross domestic product per capita by using the Toda – Yamamoto Method. After determining the causality of Gini coefficient on real gross domestic product per capita, Canonic Cointegrated Regression (CCR), Dynamic Ordinary Least Squares (DOLS), and Modified Ordinary Least Squares (FMOLS) methods were used for determining the direction of relationship. The results of analyses showed that, as of the relevant period, income inequality had negative effect on the real gross domestic product in Turkish economy. According to this result, it can be stated that the income inequality negatively affected the economic growth in Turkish economy for the period of 1977-2013.

Although there are many studies examining the effect of income inequality on economic growth over the validity of Kuznets' inverted U curve in the sample of Turkish economy (Tokatlıoğlu and Atan, 2007; Dişbudak and Süslü, 2009; Ak and Altıntaş, 2016; Akalin et al., 2018; Takım et al., 2020), the number of studies examining the effect of income inequality on economic growth is limited. Thanks to its subject, the present study aiming to investigate the effect of income inequality on economic growth in Turkish economy is supposed to bridge an important gap in the literature. Moreover, the econometric method used in the empirical analysis section of this study is supposed to contribute to the literature.

Examining the results of studies in the literature examining the effect of income inequality on economic growth, it can be seen that it is difficult to reach an indisputable consensus on the results of those studies. As reported in many studies, the different results may have

arisen from the difficulty of creating a reliable data on the income inequality or from the use of different periods, samples, and research methods in those studies.

3. EMPIRICAL ANALYSIS

In this section, after introducing the dataset and econometric method, the empirical results of present study will be discussed.

3.1 Dataset and Econometric Method

In order to examine the effect of income inequality on economic growth, the annual data of Turkey for the period of 1980-2015 were used. Within this scope, Real GDP calculated with prices fixed to year 2010 were used in representing the economic growth (LGDP), whereas the household income inequality index (INEQ) was used in representing the income inequality. Real GDP values were involved in this study by taking their natural algorithm. Moreover, as the control variables, the model includes the ratio of gross fixed capital formation to GDP representing the physical capital (CAP), the school enrolment rate (secondary) representing the human capital (SEC), and the ratio of sum of export and import to GDP representing the trade openness variable (TRADE). The household income inequality variable used in this study is an index that has been developed by Galbraith and Kum (2005) within the scope of University of Texas' Inequality Project (UTIP); it is a panel of estimated Gini coefficients based on a basic model and has been obtained from the webpage of University of Texas. The dataset has been obtained from the University of Texas because it has been used in many studies and the longest series calculated for Turkey has been calculated by this institution. All other variables were obtained from the World Development Indicators database of the World Bank.

The present study investigates the effect of income inequality on economic growth in Turkey by using the functional relationship below:

$$LGDP = f(INEQ, CAP, SEC, TRADE)$$

Within the scope this functional relationship, the stationarity of series has been examined first. For this purpose, the ADF (Augmented Dickey-Fuller) and PP (Phillips-Perron) unit root tests were used. After determining the stationarity levels of series, NARDL (Non-linear Autoregressive Distributed Lag) model has been used for investigating the asymmetrical relationships between the variables.

3.2. Unit Root Tests and Results

The results of unit root tests are presented in Table 1.

Table 1. ADF and PP Unit Root Test Results

Variables	ADF		PP	
	Fixed	Fixed-Trend	Fixed	Fixed-Trend
LGDP	0.094	-2.402	0.163	-2.401
ΔLGDP	-6.121 ^a	-6.051 ^a	-6.143 ^a	-6.071 ^a
INEQ	-1.275	-0.255	-1.178	-0.741
ΔINEQ	-4.006 ^a	-4.298 ^a	-4.070 ^a	-4.300 ^a
SEC	-0.153	-2.491	-0.153	-2.593
ΔSEC	-5.781 ^a	-5.689 ^a	-5.781 ^a	-5.689 ^a
CAP	-1.620	-2.407	-1.618	-2.565
ΔCAP	-5.426 ^a	-5.344 ^a	-5.636 ^a	-5.542 ^a
TRADE	-2.505	-3.431 ^c	-2.568	-3.202 ^c
ΔTRADE	-5.514 ^a	-	-6.861 ^a	-

Not: a, b, and c letters refer to the statistical significance at 1%, 5%, and 10%. Δ refers to the difference operator.

According to the results of ADF and PP unit root tests, it was found that all the variables other than TRADE had unit root but it has been determined when taking the first differences that they were stationary, in other words I(1). According to both tests, it was determined that TRADE variable is stationary at the level values in constant model but it received a stationary structure in the first difference in constant and trend model.

3.3. NARDL Model and Estimation Results

It has been known for a long time that many macroeconomic variables have non-linear characteristics because of the cyclical fluctuations. Especially in the last decade, the number of studies examining the stationarity and the nonlinearity within the frame of error correction models has significantly increased. Shin et al. (2014) have transformed the two-variable asymmetric cointegration test developed by Schorderet (2001) into a more general and flexible ARDL structure. Within this scope, a pragmatic bounds-testing procedure has been used in determining the long-run relationship and an asymmetrical cointegration ARDL model allowing the stationarity of variables as I(0) or I(1) at different levels. They have followed the asymmetric long-run regression below and introduced an alternative approach for modeling the non-linear long-run relationship:

$$y_t = \beta^+ x_t^+ + \beta^- x_t^- + u_t, \tag{1}$$

$$\Delta x_t = v_t,$$

y_t and x_t are cointegrated at first degree, $I(1)$, scalar variables and x_t can be decomposed into elements as follows:

$$x_t = x_0 + x_t^+ + x_t^- \quad (2)$$

where, x_t^+ and x_t^- refer to the partial sums of positive and negative changes in x_t .

$$x_t^+ = \sum_{j=1}^t \Delta x_j^+ = \sum_{j=1}^t \max(\Delta x_j, 0),$$

$$x_t^- = \sum_{j=1}^t \Delta x_j^- = \sum_{j=1}^t \min(\Delta x_j, 0)$$

Assuming that data creation process is performed following the p^{th} degree stationary VAR model for $z_t = (u_t, v_t')$, the following equation can be achieved:

$$z_t = \sum_{i=1}^p \Phi_i z_{t-i} + \varepsilon_t, \quad t = 1, 2, \dots, T \quad (3)$$

where Φ_i is the $(k+1) \times (k+1)$ matrices of unknown coefficients. ε_t is $iid(0, \Sigma)$ and Σ is a positive defined $(k+1) \times (k+1)$ matrix. By transforming this equation, the following conditional model for u_t can be achieved:

$$u_t = \omega v_t + \sum_{i=1}^p \psi_i z_{t-i} + \varepsilon_t \quad (4)$$

where $\psi_i \equiv \Phi_{1i} - \omega \Phi_{1i}$, $i = 1, \dots, p$, the marginal VAR model for v_t can be written as follows:

$$v_t = \sum_{i=1}^p \Phi_{2i} z_{t-i} + \varepsilon_{2t} \quad (5)$$

By defining $\psi_i = (\psi_{1i}, \psi_{2i})$ and considering $\Delta x_t = v_t$, Equation 4 can be written as follows:

$$u_t = \sum_{i=1}^p \psi_{1i} u_{t-i} + \omega \Delta x_t + \sum_{i=1}^p \psi_{2i} \Delta x_{t-j} + \varepsilon_t \quad (6)$$

$$\Delta u_t = \rho u_{t-1} + \sum_{i=1}^p \varphi_i \Delta u_{t-i} + \omega \Delta x_t + \sum_{i=1}^p \psi_{2i} \Delta x_{t-j} + \varepsilon_t \quad (7)$$

In Equation (7), $\rho = (\sum_{i=1}^p \psi_{1i}) - 1$ and $\varphi_i = -\sum_{j=1}^p \psi_{1j}$. Taking the first degree difference of Equation (1) and combining with Equation (7), the error correction model related with asymmetric cointegration can be achieved:

$$\Delta y_t = \rho y_{t-1} + \theta^+ x_{t-1}^+ + \theta^- x_{t-1}^- + \sum_{i=1}^p \varphi_i \Delta y_{t-i} + \sum_{i=0}^p (\pi_i^+ \Delta x_{t-1}^+ + \pi_i^- \Delta x_{t-1}^-) + \varepsilon_t \quad (8)$$

Taking Equation (8), the asymmetric long-run coefficients can be achieved. The asymmetric effects of variable x on variable y are $\beta^+ = -\theta^+/\rho$ and $\beta^- = -\theta^-/\rho$, respectively (Shin, Yu & Greenwood-Nimmo 2014, 1-10).

Within the scope of empirical analysis, Equation (8) is estimated first and then it is determined if there is any cointegration. For this

purpose, Shin et al. (2014) recommended 2 methods. First of these methods is the t test approach known as t_{BDM} , and the second one is F test approach known as F_{PSS} . The hypotheses of tests are subjected to Wald test:

$$t_{BDM} \rightarrow H_0: \rho = 0 \text{ and } H_1: \rho < 0$$

$$F_{PSS} \rightarrow H_0: \rho = \theta^+ = \theta^- = 0$$

For determining whether there is a cointegration relationship between the variables, the tables in study of Banerjee et al. (1998) were used for t test approach and the tables of Pesaran et al. (2001) for F test approach. If the absolute values of calculated statistical values of both methods are higher than the table critical values, then it is accepted that there is a cointegration relationship. After determining the presence of cointegration relationship, the long and short run asymmetries are determined with following hypotheses using Wald test:

$$\text{For long-run asymmetry } H_0: \theta^+ = \theta^-$$

$$\text{For short-run asymmetry } H_0: \pi_i^+ = \pi_i^- \text{ or } H_0: \sum_{i=0}^p \pi_i^+ = \sum_{i=0}^p \pi_i^-$$

After determining the long and short run asymmetry/symmetry, then the negative and positive long-run parameters can be achieved. The null hypotheses for the negative and positive long-run parameters are $\beta^+ = -\theta^+/\rho$ and $\beta^- = -\theta^-/\rho$, respectively (Mert & Çağlar, 2019 314-315).

In Table 2, the results of Wald test conducted for examining the symmetry/asymmetry between the variables are presented.

Table 2. Long-run and Short-run Symmetry/Asymmetry Results

	Long-run		Short-run	
	F statistics	Probability	F statistics	Probability
SEC	7.060	0.033	3.743	0.094
CAP	5.887	0.046	0.219	0.654
TRADE	5.532	0.051	1.815	0.220
INEQ	11.120	0.013	8.904	0.020

According to the results presented in Table 2, the null hypothesis expressing that there is a symmetric relationship between economic growth and variables SEC, CAP, TRADE, and INEQ in the long-run has been rejected. Accordingly, the presence of an asymmetric relationship between economic growth and all the explanatory variables has been proven. Thus, a positive or negative shock in variables SEC, CAP, TRADE, and INEQ would have an asymmetric effect on the economic growth. Examining the short-run results, it has been determined that there are an asymmetric relationship between economic

growth and variables SEC and INEQ and a symmetric relationship between economic growth and variables CAP and TRADE. In sum, it has been determined that there was an asymmetric relationship between the income inequality, which is the main explanatory variable of this study, and the economic growth in both short-run and long-run. For this reason, these asymmetric relationships should be considered while estimating coefficients.

Based on the presence of an asymmetric relationship between the variables, the results of analysis performed using NARDL method are presented in Table 3.

Table 3. NARDL Estimation Results

Panel A: Cointegration			
t_BDM	-4.866		
F_PSS	6.370		
Panel B: Asymmetric Long-run Coefficients			
	Coefficient	F statistics	Probability
SEC⁺	0.002	1.284	0.294
SEC⁻	0.016	7.527	0.029
CAP⁺	0.003	1.429	0.271
CAP⁻	-0.033	9.892	0.016
TRADE⁺	0.009	10.760	0.013
TRADE⁻	0.006	2.309	0.172
INEQ⁺	0.045	64.450	0.000
INEQ⁻	0.039	3.084	0.123
Panel C: Asymmetric Short-run Coefficients			
	Coefficient	F statistics	Probability
SEC⁺	-0.001	-0.56	0.593
SEC⁻	-0.002	-0.39	0.707
CAP⁺	0.010	3.50	0.010
CAP⁻	0.022	3.09	0.018
TRADE⁺	-0.001	-0.55	0.597
TRADE⁻	-0.002	-1.03	0.335
INEQ⁺	0.026	2.42	0.046
INEQ⁻	-0.020	-1.75	0.124
Constant	26.685	4.87	0.002
Panel D: Diagnostic Tests			
	Statistics	Probability	
Portmanteau	24.930	0.050	
Autocorrelation			
Breusch/Pagan	0.276	0.599	
Heteroscedasticity			

Ramsey RESET Function	2.342	0.215
Jarque-Bera Normality	0.912	0.634

Note: While the critical value for t_{BDM} statistics at the significance level of 5% is 4.18, the critical values for F_{PSS} at the significance level of 1% have been taken as 3.29-4.37 (Banerjee et al. 1996: 10; Pesaran et al. 2001: 301)

In Table 4 – Panel A, it is shown if there is a cointegration relationship between the series. Accordingly, as absolute value, t_{BDM} value (-4.866) is higher than the critical value for $k=4$ at significance level of 5% and F_{PSS} value (6.370) is higher than critical value for $k=4$ at significance level of 1%. In conclusion, the results of both t and F statistics show that there is a cointegration relationship between the series.

According to the long-run coefficient estimation results shown in Panel B, 1 point increase or positive shock in income inequality index (INEQ) would increase the economic growth linearly by 0.045% in the long-term. Moreover, it has been observed that any negative shock to occur in income inequality index (INEQ) would have no statistically significant effect on the economic growth. Any increase SEC, which is one of the control variable and representing the human capital, would have no statistically significant effect on the economic growth but any negative shock or a decrease would have positive effects on the economic growth. Accordingly, a 1% decrease in human capital level would increase the economic growth by 0.016%. It has been determined that any increase in CAP variable representing the physical capital would not significantly affect the economic growth but a decrease would have significant and negative effect. From this aspect, 1% decrease in the level of physical capital would linearly decrease the economic growth by 0.033%. In conclusion, it has been found that any increase or positive shock in TRADE representing the trade openness would positively affect the economic growth but any decrease would have no significant effect. Accordingly, 1% increase or positive shock in trade openness would slightly increase the economic growth by 0.009% in linear direction.

According to the asymmetric short-run results shown in Panel C, it has been determined that any increase or positive shock in the income inequality index (INEQ) would have a positive and significant effect on the economic growth, whereas a decrease would have no significant effect. Accordingly, 1 point increase in INEQ variable in the short-run would increase the economic growth by 0.026%. Considering the control variables, there was no variable that has significant effect on the economic growth, except for the physical capital having symmetric effect. In Panel D, the diagnostic test results of the model are presented.

Accordingly, it has been found that there was no autocorrelation and heteroscedasticity problem at the significance level of 5% in the model. Moreover, it has also been determined that the error term was normally distributed and there was no model-building error.

CONCLUSION

In the present study investigating the effect of income inequality on economic growth in Turkey, an empirical analysis has been made by using annual data of the period 1980-2015. For this purpose, the NARDL model developed by Shin et al. (2014) has been used. Wald test has been used in determining the asymmetric relationship and then cointegration between the variables, the short-run and long-run asymmetric coefficients have been estimated. The results obtained have showed that any positive shock in the income inequality in long-run had a positive effect on the economic growth. Similarly, it has been concluded that an increase or positive shock in the income inequality in the short-run would have statistically significant and positive effect on the economic growth but a decrease or negative shock would no significant effect. Besides that, it has also been found that any negative shock in physical capital and human capital involved in the model as control variables and a positive shock in trade openness variable had significant effects on the economic growth. Accordingly, it has been determined that a decrease in human capital and an increase in trade openness would positively affect the economic growth, whereas a decrease in physical capital would have negative effect.

In conclusion, Turkish economy is currently far away from the targets, which have been set, in terms of income level. It is a country with savings gap for the economic growth objective in savings-investment identity. The reason for this result is that the propensity to save is low in Turkish economy. In order to overcome this problem, the habits of the society consuming before earning the income should be changed in the way of saving. Achieving the economic growth rates targeted in the short-term makes the country's economy foreign-dependent because of the undercapitalization. Considering the fact that foreign borrowing would increase the vulnerability of economy, it is necessary to draw the real investments to our country. Within the scope of this objective, it is a must to establish an investable safe medium in Turkish economy. In the long-term, however, the national economy can get out of foreign independence and the economic growth can gain continuity through the education and technology breakthrough to contribute to development of human capital. In order to successfully drive this process, rather than quantitative instruments, the regulations

on the basics and structure of economy that are the qualitative instruments of economic policy should be used.

References

- AGHION, Philippe, BOLTON, Patrick, (1997), "A Theory of Trickle-Down Growth and Development," *Review of Economic Studies*, 64, pp.151-172.
- AK, Z. Mehmet, ALTINTAŞ, Nurullah, (2016), "Kuznets'in Ters U Eğrisi Bağlamında Türkiye'de Gelir Eşitsizliği ve Ekonomik Büyüme İlişkisi: 1986-2012", *Maliye Araştırmaları Dergisi*, 2(3), pp. 93-102.
- AKALIN, Güray, ÖZBEK, R. İnci, ÇİFÇİ, İsmail, (2018), "Türkiye'de Gelir Dağılımı ve Ekonomik Büyüme Arasındaki İlişki: ARDL Sınır Testi Yaklaşımı", *Kastamonu Üniversitesi İ.İ.B.F. Dergisi*, 20(4), pp. 59-76.
- ALESİNA, Alberto, RODRİK, Dani, (1994), "Distribution Politics and Economic Growth", *Quarterly Journal of Economics*, 109, pp. 465-490.
- BANERJEE, Anindja, DOLADO, Juan, MESTRE, Ricardo, (1998), "Error-Correction Mechanism Tests For Cointegration in Single-Equation Framework", *Journal of Time Series Analysis*, 19, pp. 267-283.
- BARRO, Robert, (2000), "Inequality and Growth in a Panel of Countries", *Journal of Economic Growth*, 5, pp. 5-32.
- BOCUTOĞLU, Ersan, (2012), *İktisadi Düşünceler Tarihi*, Murathan Yayınevi, Trabzon.
- DEININGER, Klaus, SQUIRE, Lyn, (1996), "New Data Set Measuring Income Inequality", *World Bank Economic Review*, 10, pp. 565-591.
- DİŞBUDAK, Cem, SÜSLÜ, Bora, (2009), "Kalkınma ve Bireysel Gelir Dağılımı: Kuznets Hipotezi Türkiye için Geçerli mi?", *Akdeniz İ.İ.B.F. Dergisi*, 18, pp. 146-166.
- EĞİLMEZ, Mahfi, (2020), *Türkiye Ekonomisi*, Remzi Kitabevi, İstanbul.
- FORBES, Kristin J., (2000), "A Reassessment of the Relationship Between Inequality and Growth", *The American Economic Review*, 90(4), pp. 869-887.
- GALBRAİTH, James K., KUM, Hyunsub, (2005), "Estimating The Inequality of Household Incomes: A Statistical Approach To The

- Creation of A Dense and Consistent Global Data Set”, *Review of Income and Wealth*, 51(1), pp. 115-143.
- GALOR, Oded, ZEİRA Joseph, (1993), “Income Distribution and Macroeconomics”, *Review of Economic Studies*, 60, pp. 35-52.
- KALDOR, Nicholas, (1957), “A Model of Economic Growth”, *Economic Journal*, 57, pp. 591-624.
- MARX, Karl, (2010), *İktisat Üzerine*, Çev. Ali Çakıroğlu, Belge Yayınları, İstanbul.
- (2011). *Ekonomi Politiğın Eleştirisine Katkı*, Çev. Sevim Belli, 7. Baskı, Ankara: Sol Yayınları.
- MARX, Karl, ENGELS, Friedrich, (2013), *Komünist Manifesto*, Çev. Nail Satlıgan, Yordam Kitapevi, İstanbul.
- KUZNETS, Simon, (1955), “Economic Growth and Income Inequality”, *American Economic Review*, 45, pp. 1-28.
- LEWİS, W. Arthur, (1954), “Economic Development with Unlimited Supply of Labor”, *The Manchester School*, 22, pp. 139-191.
- MALTHUS, T. Robert, (1798), “An Essay on the Principle of Population”, *Electronic Scholarly Publishing Project*, <http://www.esp.org>.
- MERT, Mehmet, ÇAĞLAR, A. Emre, (2019), *Eviews ve Gauss Uygulamalı Zaman Serileri Analizi*, Detay Yayıncılık, Ankara.
- MILL, J. Stuart, (2017), *Faydacılık*, Çev. Selin Aktuyun, Alfa Yayıncılık, İstanbul.
- PANIZZA, Ugo, (2002), “Income Inequality and Economic Growth: Evidence from American Data”, *Journal of Economic Growth*, 7, pp. 25-41.
- PARTRIDGE, Mark D., (1997), “Is Inequality Harmful for Growth? Comment”, *American Economic Association*, 87(5), pp. 1019-1032.
- PEÇE, M. Akif, CEYHAN, M. Sait, AKPOLAT, Ahmet, (2016), “Türkiye’de Gelir Dağılımının Ekonomik Büyümeye Etkisi Üzerine Ekonometrik Bir Analiz”, *International Journal of Cultural and Social Studies*, 2(1), pp. 135-148.
- PEROTTI, Roberto, (1996), “Growth, Income, Distribution, and Democracy: What the Data Say?”, *Journal of Economic Growth*, 1, pp. 149-187.

- PESARAN, M.Hashem, SHİN, Yongcheol, SMİTH, Richard J., (2001), "Bounds Testing Approaches To The Analysis of Level Relationships", *Journal of Applied Econometrics*, 16, pp. 289–326.
- RICARDO, David, (1817), *The Principles of Political Economy and Taxation*, John Murray, Albemarle-Street, London.
- SAVAŞ, V. Fuat, (2016), *Politik İktisat*, 8. Baskı, Beta Yayınevi, İstanbul.
- SCHORDERET, Yann, (2001), "Revisiting Okun's law: An Hysteretic Perspective". *Unpublished manuscript, University of California, San Diego*.
- SHIN, Yongcheol, YU, Byungchul, GREENWOOD-NIMMO, Matthew, (2014), "Modelling Asymmetric Cointegration and Dynamic Multipliers in an ARDL Framework", in: HORRACE, W.C., SİCKLES, R.C. (Eds.), "Festschrift in Honor of Peter Schmidt", *Springer Science & Business Media*, New York(NY), pp. 281-314.
- SMİTH, Adam, (2011), *Ulusların Zenginliği 1 ve 2*, Çev. Metin Saltoğlu, Palme Yayıncılık, Ankara.
- TAKIM, Abdullah, ERSUNGUR, Ş. Mustafa, DİKMEN, A.Tural, AKSU, L. Efe, (2020), "Türkiye'de Ekonomik Büyüme ile Gelir Dağılımı Arasındaki İlişki", *Atatürk Üniversitesi İ.İ.B.F. Dergisi*, 34(1), pp. 227-240.
- TOKATLIOĞLU, İbrahim, ATAN, Murat, (2007), "Türkiye'de Bölgeler Arası Gelişmişlik Düzeyi ve Gelir Dağılımı Eşitsizliği: Kuznets Eğrisi Geçerli mi?", *Ekonomik Yaklaşım*, 18(65), pp. 25-58.
- TOPUZ, S. Gülşah, YILDIRIM, Kemal, (2017), "Gelir Eşitsizliğinin Ekonomik Büyüme Üzerindeki Etkisi", *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, 17(3), pp. 57-72.
- TORNELL, Aaron, LANE, Philip, (1994), "Are Windfalls a Curse? A Non-Representative Agent Model of the Current Account and Fiscal Policy", *National Bureau of Economic Research, Working Paper No. 4839*, pp. 1-44.

**TRADE-OFF BETWEEN MILITARY AND HEALTH
EXPENDITURES: ADVANCED PANEL-TIME SERIES
APPROACH FOR THE BLACK-SEA ECONOMIC
COOPERATION COUNTRIES**

Olcay Colak & Sevilya Ece Gumus Ozuyar***

Introduction

States are political structures organized to meet the needs of citizens under their administration. Therefore, with the simplest saying, they have to make some expenses to satisfy the needs of the society under its jurisdiction. The size of the public expenditures, their burdens on state budgets and the degree of state control in the economy have been investigated for quite a long time. To this end, Classical economists argue the presence of minimal state in which state should only focus on producing the goods and services which fulfil the collective needs of the whole society. On the other hand, Keynesian approach suggests that public spending is the key factor in the economy since the state's intervention in the economy would help economic recovery. In this approach, the states commenced to produce not only the goods and services that meet common needs, but also some other types of goods and services which have individual benefits.

As a result of the differentiation of the types of the goods and the expansion of their scope over time, expenditures have diversified and serious changes have occurred in their sizes. However, the budgets, which reflect their national priorities and policy preferences and where these needs are financed are limited. Hence, the size of public expenditures and the management of the burden on the economy has also become matters of attention, especially when resources are scarce. At this point, the decision of what kind of goods and services be produced using the available resources is determined according to the policies of the national government.

There are some goods and services such that there is almost an agreed theoretic and pragmatic consensus in the literature and practice on the production and presentation of these goods by the state. These are the goods and services that have been known to be served to the common benefit of all society since Themistocles in Ancient Greece (Hume, 1896: 222), and according to Adam Smith (1776: 804) they must be produced and delivered by the state since nobody in the private sector would prefer

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to do it as like national defense. Since these goods are offered to the common benefit of the whole society and have unique characteristics such as non-excludability and non-rivalry and since the marginal cost of an additional user unit is zero, the private sector refrains from producing them or it cannot produce them effectively (Samuelson, 1954: 397-389). In this case, the public has to provide the national defense. The marginal cost of each additional individual (this may also be a new born, or an immigrant) will be close to zero in the context of national security (Stiglitz, 2000:128). Today national defense and its essential component military are the significant components of the public spending (Rosen and Gayer, 2008:11).

Therefore, budgetary impact of military spending has been subject to both theoretical and empirical investigation by the researchers due to its nature associated with the use of the scant resources. Allocation of the scarce resources between defense sector and social welfare programs such as health and education is a well-known issue of the opportunity cost. The most inexplicable type of this opportunity cost is between health and defense as it is related to human life. In this context, military expenditure and health expenditure has crucial importance not only for growth enhancing effect but also for budgetary implication on utilizing the scarce resources and due to the opportunity cost between them.

Depending on the dimension of the opportunity cost, trade-off could be either negative or positive. In particular, when growth retarding effect of rising military expenditure emerges, it could be argued that negative trade-off likely holds. It is observed that many of the researches conducted in the literature already indicate an inverse relationship between healthcare expenditures and military expenditures. However, as discussed by Eickstein (1963), Taylor & Hudson (1972), Caputo (1975), Hayes (1975) and Lin et al. (2015), it is also possible to regard military spending as a public investment. In this case, it could be argued that rather than crowding-out there is a complementarity or affirmative trade-off likely emerge between military and other social welfare expenditures. Nevertheless, as an option that all these studies neglect, there may not be any trade-offs since there is no crowding out between health spending and military spending.

In line with the above arguments concerning the either presence or absence of trade-off between military and health spending, there has been no consensus among the scholars depending on which differences in methodology, time period and country or country group selection. Hence, the intended aim of this very study is to investigate whether a trade-off between military expenditure and health expenditure for the selected Black-Sea Economic Cooperation (BEC) countries by employing the

advanced panel-time series methods. In this context, the layout of the study is organized as following. In the next section, we discuss the recent facts and trends regarding the military expenditure and current health expenditure. Third section presents the review of previous literature while section 4 is devoted to model, data and econometric strategy. In section 5, we discuss the empirical results and findings by the estimation of the relevant models mentioned in section 4. Finally, we conclude the study with concluding remarks and some policy recommendations.

I. Facts and Trends in Military and Health Expenditure

As an organization, the BEC was founded by the Istanbul Submit Declaration and the Bosphorus Statement of the partner governments in 1992 to develop dialogue and bilateral relationships on an array of fields¹. Besides the geo-political importance and geographical coverage, the BEC organization involves major rival and conflicting actors as well. Even those countries constitute a kind of strategic partnership under the organization of the BEC, budgetary allocation seriously matter in terms of military expenditure. According to the Stockholm Peace and Research Institute (SIPRI, 2019)², with \$ 61.4 billion Russian Federation became the sixth largest military spender and second largest arm exporter with posing to 21 % of global share in 2018. On the other hand Armenia records the third largest increase in military spending by 33 % and poses the largest share relative to its GDP by 4.9 % in the Caucasus region. Russian Federation, Azerbaijan, and Ukraine follow with the records by 3.9 %, 3.8 % and 3.8 % of share relative to their GDP. Greece has the largest share of military spending relative to GDP with the record of 2.4 % whereas the other member states of European Union (EU) in our sample Romania and Bulgaria allocate 1.9 % and 1.7 % of their GDP to military spending. Ongoing terrorism threat and instability in the Middle-East cause to allocate resources more on national security for Turkey. Hence, Turkey becomes one of the top fifteen military spenders in the global context by allocating 2.5 % of its GDP in 2018.

Figure 1 shows the general trend of military expenditure for the selected BEC countries. Strikingly, Georgia is the unique country that allocates highest share of GDP to military spending in 2007 and 2008 due to tensions with Russian Federation. On the contrary, Moldova has experienced a relatively peaceful environment and hence allocates the lowest share of its

¹ Currently the member states of the BEC organization as follows by alphabetical order: Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russian Federation, Serbia, Turkey and Ukraine.

² As an independent international institute which was established in 1966 it compiles the data on arms trade and military spending of the countries in the global context.

GDP on military expenditure. This situation holds for Romania and Bulgaria by the accession to EU and the North Atlantic Treaty Organization (NATO) afterwards of 2007. Macroeconomic stability is another key factor that determines the budgetary allocation for military spending which is quite apparent in case of Greece for our sample. Due to experiencing severe sovereign debt crisis and implementation of bail-out programs has led Greece to the extent allocating relatively less amount on national security.

Unlike the widely viewed growth retarding effect of military expenditure, it is vital for societies to allocate the scarce resources on health services due to its nature for growth enhancing effect via contribution on human capital accumulation. With a few exceptions, most of the countries in BEC organization is regarded as “transition economies” and relatively less capital abundant countries compared to most of the wealthiest market economies. Therefore, all forms of capital accumulation in particular human capital plays crucial role for those countries to achieve sustainable development in the long-run within the scarcity of resources. Figure 2 displays the trends in health expenditure for the sample countries over the period of 2000 and 2017. It should be underlined that each country in the sample allocates relatively more resources on health services compared to military services. In a stunning fashion, Moldova has the largest share of GDP for current health expenditure and reaches the peak in 2012 with a record 9.13 %. Similar situation holds for Serbia which mostly devotes more on national security due to conflict between Bosnia and Kosovo almost two decades ago. Even though Armenia records one of the highest rise in military expenditure, expenditure on health services tend to increase in recent years. This rising tendency is valid less or more for Bulgaria, Georgia and Ukraine which has ongoing tension over Crimea against Russian Federation. As the top military spenders of our sample, Russian Federation and Turkey relatively allocates less resources onto health-care services. The tensions over Crimea region and warfare in Syria are the key factors for Russian Federation whereas the battle against separatist terrorism its South-Eastern region and uncertainty on the warfare conditions in Syria are the main reasons for Turkey are major factors in budgetary allocations. As previously mentioned, for Greece sovereign debt crisis has resulted in serious cut-down in all forms of public expenditure, thus current health-care expenditure as well.

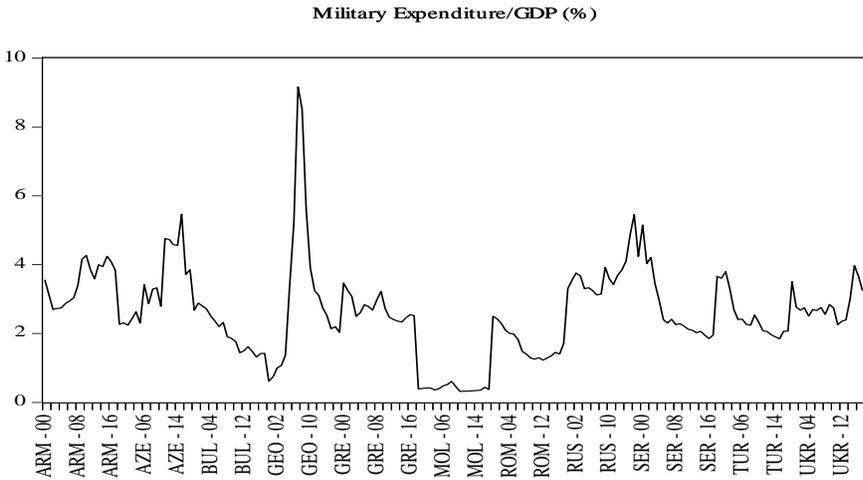


Figure 1. Trends in Military Expenditure

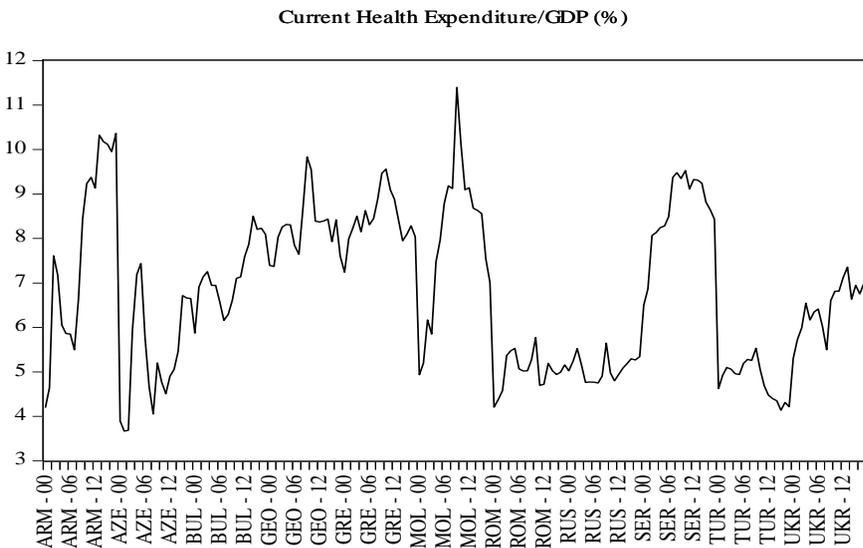


Figure 2. Trends in Health Expenditures

II. Literature Review

Some of those who analyzed the relationship between economic growth and national defense expenditures and some other researchers also analyzed the relationship between national military expenditures and welfare by taking the research problem a step further. Social welfare does not have a single clear-cut definition or clearly defined limits (Punekar, 1959: 357). Yet, it also has a dynamic structure that requires many issues to be handled together, since reaching the optimal point where social

welfare is maximized will be the result of the aggregated individual utility. With its simplest definition, it is to bring society to a better point than before. The primary objectives of the states that adopt the understanding of social welfare are to provide equal opportunity to citizens, to establish a fair income distribution, to fight poverty and to set an effective education, health and social security systems. So, it uses public spending as an intermediary to achieve these goals. In this regards, while Benoit (1973), Lindgren (1984) and Ram (1995) determined a positive bond regarding the relationship between the mentioned expenses and social welfare; Rimlinger (1973), Caputo (1975), Eichenberg (1984), Hess & Mullon (1988), Frederiksen & Looney (1994), Fontanel (1995), Ram (1995), Brumm (1997), Lin (2012) determined this bond as negative.

Intrinsically defense spending is less productive and efficient compared to other public spending (Starr, 1984: 107, Deger & Sen, 1995: 279), but its share in the budget is considerably larger and is further increased each year due to the decrease in the share of the other public goods and services (Clayton, 1972: 395; Schetz, 1992: 176-180). Although Eckstein (1963) speaks about the existence of such a trade-off but fail to prove it systematically, Russett (1969) is the first person to recognize the trade-off between this defense expenditures and other public expenditures. Russett, who started his research with the question of who financed the budget for defense spending, figure out that the number of military personnel has doubled compared to the previous century, and the resources channeled into the military field are additional resources created as a result of the reduction of other civilian characterized public expenditures, which will have more significant consequences than military expenditures in the long term (Russett, 1969: 414-416). Therefore, military spending is the opportunity cost of social characterized public services such as education and health, and this crowd out created by military spending signals that there is a trade-off between social public goods and military spending (Peroff, 1977: 379; Domke et al, 1983:33, Mok & Duval, 1992: 198).

Health is also a socially characterized civilian public service. Plus it is possible that the share of the budget as a public service can be affected by the increase in the share of military services as like in other public services. Hence, military services can be evaluated as both an alternative cost element and a competitor that reduces and excludes its share (Hartman, 1973: 389). As the national priorities of the countries, as Knorr (1977: 192) put it, the extent to which military spending meets the demands and the dissatisfaction caused by the opportunity cost, this trade off must be determined at least in terms of directing public policies. So, Russett (1969), Taylor & Hudson (1972), Caputo (1975), Dabelko & McCormick (177), Peroff (1977), Peroff & Padolak-Warren (1979), Russett (1982), Domke et al (1983), Verner (1983), Dixon & Moon (1986), Harris & Pranowo

(1988), Mintz (1989), Apostolakis (1992), Scheetz (1992), Frederiksen & Looney (1994), Adeola (1996), Ozsoy (2002), Yildirim & Sezgin (2002), Ali (2011), Lin et al (2015), Kentor & Jorgenson (2017), Fan et al (2018) have traced this mentioned trade off and these researchers have very different views about whether this trade-off is positive or negative.

The first study of the negative view belongs to Russett (1969), the first person who mentioned this crowding out issue. According his research, it was found that increase in military spending sharply decreased health expenditures (1969:423-425). Similarly Dabelko & McCormick (1977), Peroff (1977) and Peroff & Padolak-Warren (1979) pointed out a negative association between military and health expenditures. In the study of Verner (1983: 86-89) defense spending has been found to reduce social spending as claimed in negative tradeoff hypothesis, yet a valid determination could not be made for the reasons since they could vary from country to country. Likewise, in the Dixon & Moon (1986: 681), Harris & Pranowo (1988), Mintz (1989), Apostolakis (1992), Scheetz (1992), Adeola (1996), Ozsoy (2002), Yildirim & Sezgin (2002), Kentor & Jorgenson (2017) and Fan et al (2018). They argue that an increase in defense spending reduces the budget share that can be spent on individual and community health, so that military spending crowds our health spending and a trade-off between the mentioned service expenditures due to this exclusion occurs.

Unlike the aforementioned negative tradeoff claimers, Eickstein (1963) asserted the strong positive between military spending and health spending. According to Eickstein (1963: 1012), who evaluates with a theoretical point of view rather than an applied study, the main reason for this relationship is the general demand increase created by the generosity of governments for defense, as well as the demand for health caused by military reasons. Other researchers investigating this trade-off follow Eickstein (1963) footsteps and claim to have a positive relationship rather than a crowding out. After Eickstein, the first study of this school belongs to Taylor & Hudson (1972). It has been stated that, when these two types of expenditure were evaluated and compared as a ratio of GNP, one was not inversely proportional as the other was decreasing (Taylor & Hudson, 1972: 34). Similarly, Caputo (1975) posed the same question for four developed western countries, Australia, Sweden, the UK and the USA for the period of 1950-1970. It has been found that the strongest correlation of military spending is with health spending, and this relation is positive. In this regard, military expenditures have not caused any reduction in health disbursement, on the contrary having a positive impact on it (1975:438). However, in Caputo's aforementioned study, it is seen that defense spending fluctuated within the specified period in all four countries, while the trend of decreasing health expenditures was lower compared to defense

spending. In addition, a practical explanation for this situation is that the military needs experienced due to the internal and external dynamics (war, internal turmoil or international crisis conjuncture) of the countries participating in the research directly increase the health needs of these soldiers or the society.

Hayes (1975), who investigated the exchange of expenditures within the Brazilian government budget and the expenditures within this budget, did not find a significant negative relationship between the expenditures mentioned, and that there was a positive relationship between social development and social investment expenditures (which one of these expenditures is the health spending) and military expenditures. (Hayes, 1975: 33). Moreover, when Lin et al (2015) also investigated the relationship between military spending with semi-public good spending; education and health for 29 OECD countries for 1998-2005 period. The relationship mentioned in the study was positively determined. As a reason for this reverse exclusion, it was thought that social welfare factors such as health were considered more important than military investments in OECD countries and that no government would have been willing to cut from the health expenditures.

It is very surprising that Russett (1982), on the other hand, did not find a historical strong trade-off among the expenditures mentioned in the period of 1941-1979, but added that the existence of a trade-off could be mentioned in the case of the government of the period. Therewithal, Domke et al. (1983), Frederiksen & Looney (1994), Ali (2011) could not detect any kind of trade-off relation in military and health spending. Indeed, when all the results and the conclusions mentioned in this section are considered together, it is understood that the findings and discussions about the relationship between health and military expenditures are not very consistent. So what this essay attempts to do is to enlighten the aforementioned trade-off in BEC countries. In line with this aim model, data and methodology are defined in the next section.

III. Model, Data and Methodology

The main purpose of this study is to examine the presence of trade-off between defense and health spending over the period of 2000-2017 for the selected BEC countries which are namely as Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russian Federation, Serbia, Turkey and Ukraine. It should be noted that selection of sample period mainly dictated by the available data, especially for the health expenditure. In order to investigate the presence of trade-off between military expenditure and health expenditure, we utilize the following linear specifications:

$$ME_{it}=HE_{it}+LGDPC_{it}+LPOP_{it}+VIO_{it}+\varepsilon_{it} \quad (1)$$

$$HE_{it}=ME_{it}+LGDPC_{it}+LPOP_{it}+VIO_{it}+\varepsilon_{it} \quad (2)$$

where ME_{it} denotes the ratio of military spending to GDP, HE_{it} denotes the ratio of current health spending to GDP. Remaining variables are included as independent variables in each specification where $LGDPC_{it}$ denotes the natural logarithm of GDP per capita, $LPOP_{it}$ denotes the natural logarithm of population, VIO_{it} denotes the index of political stability and absence of violence/terrorism, and finally ε_{it} denotes the disturbance term with conventional statistical properties. The data for military spending is compiled from the Military Expenditure database of Stockholm International Peace Research Institute (SIPRI) whereas the data for current health expenditure to GDP ratio is compiled from the Global Health Observatory database of the World Health Organization (WHO). The data sets regarding the GDP per capita and population are gathered from the World Development Indicators database of the World Bank while the index of political stability and absence of violence/terrorism which is rescaled from 0 to 5 is collected from the Worldwide Governance Indicators of the World Bank.

Our empirical analysis commences by detecting the characteristics of the panel data. In this context, slope homogeneity and cross-sectional dependence tests are performed. Pesaran & Yamagata (2008) developed $\tilde{\Delta}$ and $\tilde{\Delta}_{adj}$ tests to test the validity of the slope homogeneity imposed by the null hypothesis which is $H_0: \beta_i=\beta$ for all individual units against its alternative, $H_1: \beta_i\neq\beta_j$ where $i\neq j$. In addition, the interaction between each cross-section in panel data and error term within the context of above mentioned baseline equation is checked by performing CD and CD_{LM} tests proposed by Pesaran (2004) respectively. The null hypothesis of no cross-sectional dependency, i.e. $H_0: Cov(\varepsilon_{it}\varepsilon_{jt})=0$, for all t and $i\neq j$ is tested against its alternative i.e. $H_0: Cov(\varepsilon_{it}\varepsilon_{jt})\neq 0$ for at least one pair of $i\neq j$.

The presence of cross-sectional dependency and heterogeneity requires to perform second-generation panel unit root tests before identifying the cointegration relationship among the variables. Accordingly, Pesaran's (2007) cross-sectional augmented Im, Pesaran & Shin (2003) (hereafter CIPS) unit root test would be executed since this test performs efficiently under the presence of cross-sectional dependence and heterogeneity. Based on the average of each individual CADF, CIPS test statistics is defined as:

$$\bar{t} = N^{-1} \sum_{i=1}^n t_i(N, T) \quad (3)$$

in which $t_i(N, T)$ is the CADF statistics of the i_{th} cross-sectional unit.

In the next step, the long-run interaction among the variables is investigated by employing the cointegration test that is proposed by

Westerlund (2008). Intrinsically, this test deals with the cross-sectional dependency by common factor approach. Another major trait of this test is to consider the unit root in dependent variable while independent variable(s) might contain unit root or not. Westerlund (2008) performs Durbin-Hausman (DH) test in which lagged difference between OLS estimator and instrumental variable (IV) estimator of ρ is instrumented by the first lag of idiosyncratic error term on itself and obtain the following panel test statistics and group mean test statistics respectively:

$$DH_p = \widehat{S}_N(\widehat{\rho}_{OLS} - \widehat{\rho}_{IV})^2 \sum_{i=1}^N \sum_{t=2}^T \widehat{e}_{it-1}^2 \quad (4)$$

$$DH_g = \sum_{i=1}^N \widehat{S}_i(\widehat{\rho}_{i,OLS} - \widehat{\rho}_{i,IV})^2 \sum_{t=2}^T \widehat{e}_{it-1}^2 \quad (5)$$

where $S_i = \widehat{\omega}_i^2 / \widehat{\sigma}_i^4$, $S_N = \widehat{\omega}_N^2 / \widehat{\sigma}_N^4$, $\widehat{\omega}_N^2 = N^{-1} \sum_{i=1}^N \widehat{\omega}_i^2$ and $\widehat{\sigma}_N^2 = N^{-1} \sum_{i=1}^N \widehat{\sigma}_i^2$. Finally, $\widehat{\omega}_N^2$ is the long-run variance of ϑ_{it} whereas short-run variance of ϑ_{it} is $\widehat{\sigma}_i^2$.

We conclude the empirical analysis is to identify the parameter estimates within the existence of cointegration relationship. To this end, augmented mean group (AMG) estimation techniques would be employed. Eberhard & Bond (2009) developed a two-step estimator in which slope heterogeneity and cross-sectional dependency is considered. Another main advantage of this method is to perform efficiently under small sample cases. The authors adopt the following data generating process for $i=1, \dots, N$ and $t=1, \dots, T$:

$$y_{it} = \beta_i' x_{it} + u_{it} \quad u_{it} = \alpha_i + \lambda_i' f_t + \varepsilon_{it} \quad (6)$$

$$x_{mit} = \pi_{mi} + \delta_{mi}' g_{mt} + \rho_{1mi} f_{1mt} + \dots + \rho_{nmi} f_{nmt} + \vartheta_{mit} \quad (7)$$

$$f_t = \zeta' f_{t-1} + \varepsilon_t \quad \text{and} \quad g_t = \kappa' g_{t-1} + \varepsilon_t \quad (8)$$

where $m=1, \dots, k$ and x_{it} is the vector of observable covariates with k regressors. Furthermore, with the inclusion of group-specific fixed effects (α_i) and a set of common factors (f_t) which is modelled with country-specific factor loadings (λ_i), the model would account for cross-sectional dependency. For the above mentioned model, Eberhard & Bond (2009) postulate an array of conditions regarding with the variables, parameters and error terms. First, error terms ε_{it} , ϑ_{mit} and ε_t follow a standard normal distribution. The parameters of β_i and unknown factor loadings (λ_i) have finite sample properties with constant means and finite variances. The observable variables (y_{it} and x_{it}) and the unobserved common factors (f_t and g_t) are not necessarily to follow stationary process. To this end, Eberhard & Bond (2009) developed the following two stage AMG estimator in which cross-sectional dependency is considered by the inclusion of common dynamic process (CDP) that is obtained by the subtraction of the time dummy coefficients of first-differenced standard

pooled regression and denotes the levels-equivalent mean evolvement of unobserved common factors across each cross-section/country:

$$\text{AMG (i)} \Delta y_{it} = b' \Delta x_{it} + \sum_{t=2}^T c_t D_t + e_{it} \Rightarrow \hat{c}_t \equiv \hat{\mu}_t^* \quad (9)$$

$$\text{AMG (ii)} y_{it} = \alpha_i + b_i' x_{it} + c_i t + d_i \hat{\mu}_t^* + e_{it} \quad (10)$$

$$\widehat{b}_{AMG} = N^{-1} \sum_{i=1}^N \hat{b}_i \quad (11)$$

The AMG (i) represents the first stage estimator of the standard first-differenced pooled regression with T-1 time dummies which is denoted by $\hat{\mu}_t^*$. The second stage of the estimator is represented by AMG (ii) and time dummy ($\hat{\mu}_t^*$) is allowed to be included in each country regressions in which linear trend term is also included so as to capture the effect of the omitted idiosyncratic process that emerges linearly over time.

IV. Empirical Results

Through the explanations above, descriptive statistics are displayed in Table I.

Table I. Descriptive Statistics

Variable	Observations	Mean	SD	Minimum	Maximum
ME	198	2.615	1.309	0.316	9.159
HE	198	6.827	1.769	3.670	11.395
LGDPC	198	8.585	0.779	7.058	10.310
LPOP	198	16.396	1.234	14.872	18.803
VIO	198	2.110	0.580	0.479	3.375

Note: SD denotes the standard deviation.

Source: Authors' computations.

Since we incorporate share of GDP for military and health expenditure whereas the natural logarithm of GDP per capita and population, values of mean and standard deviation (SD) are relatively lower. The highest value for SD observed for current health expenditure to GDP ratio (HE) on which dispersion between maximum and minimum statistics is lower than the other variables. Maximum value for military expenditure to GDP ratio (ME) is observed for Georgia by 9.159 in 2007 whereas the minimum value is observed for Moldova by 0.316 in 2010. For the HE maximum and minimum values are observed for Moldova and Azerbaijan in 2009 and in 2001 respectively.

We initiate the empirical analysis with the examination of the panel data set used in this paper. Therefore, we conducted slope homogeneity and cross-sectional dependency tests and the results are reported in Table II. Above part of is devoted to the results of slope homogeneity tests suggested by Pesaran & Yamagata (2008) for each specification. The results ensure the rejection of the null hypothesis at 1 % significance level of slope homogeneity, i.e. $H_0: \beta_i = \beta$ for all individual units in each specification.

Presence of the relationship between error term and each cross-sectional unit arises another major issue which is known as cross-sectional dependency. In this context, further estimation methods potentially yield unbiased results and policies that are built on these findings might be unreliable eventually. To this end, we addressed this issue by performing CD tests proposed by Pesaran (2004). Hence, below part of the table reports the CD test statistics by each specification and the results firmly in favor of rejecting the null hypothesis of no cross-sectional dependence at 1 significance level. Thus, the error term in baseline specification is not correlated with each cross-section units in the panel data. In overall, the panel data structure displays the cross-sectional dependence and heterogeneity among the countries in the sample.

Table II. CD and Slope Homogeneity Tests

Test	(1)	(2)
Homogeneity Tests		
$\tilde{\Delta}$ Test	7.262 (0.000)*	6.812 (0.000)*
$\tilde{\Delta}_{adj.}$ Test	7.844 (0.000)*	7.358 (0.000)*
CD Tests		
CD _{LM} Test	22.569 (0.000)*	20.942 (0.000)*
CD Test	12.718 (0.000)*	12.485 (0.000)*

Notes: * denotes the significance levels at 1%.

Source: authors' estimations.

The next step of the analysis is devoted to check for the stationary status of the panel data used in the empirical analysis. Since most of the panel time series data-especially macroeconomic series- potentially exhibits trends, OLS based analysis might lead the spurious regression and thus produce biased results. Since our panel data exhibits the presence of heterogeneity and cross-sectional dependence, we therefore addressed this issue by conducting the second generation panel unit root test, namely CIPS test proposed by Pesaran (2007). Table III displays the results by each case with which accounting for the presence of trend assumption. For CIPS test, critical values for the case with constant computed as -2.47, -2.26 and -2.14, whereas for the case with trend computed as -3.01, -2.78 and -2.67 at 1 %, 5 % and 10 % significance levels respectively. According to CIPS test, except for VIO, the rest of the variables have unit root at the level in each case. Hence, the variables of ME, HE and LGDPC become stationary at 1 % significance level, whereas LPOP become stationary at 5 % significance level after converting the series into the first difference.

Table III. CIPS Unit Root Test

	CIPS Test ^a	CIPS Test ^b	Decision
ME	-1.968	-1.943	I(1)
Δ ME	-3.507*	-3.956*	I(1)
HE	-1.573	-2.112	I(1)
Δ HE	-3.989*	-4.225*	I(1)
LGDPC	-1.498	-1.356	I(1)
Δ LGDPC	-3.699*	-3.535*	I(1)
LPOP	-0.274	-1.523	I(1)
Δ LPOP	-2.450**	-2.877**	I(1)
VIO	-2.498*	-3.656*	I(0)
Δ VIO	-4.228*	-4.244*	I(0)

Notes: * and ** denote the significance levels at 1% and 5% respectively whereas Δ denotes the first difference operator. Superscripts a and b denote the model without trend and with trend respectively.

Source: authors' estimations.

Within the presence of cross-sectional dependence and slope heterogeneity, mixed integration order of independent variables under the presence of unit root for dependent variable enables us to examine the cointegration relationship by employing Westerlund (2008) test and the corresponding results are displayed in Table IV.

Table IV. Westerlund (2008) Cointegration Test

Test Statistics	(1)	(2)
DH-group ^a	-1.486(0.069)***	-2.783(0.001)*
DH-group ^b	-1.636(0.051)***	-2.686(0.004)*
DH-panel ^a	-1.811(0.035)**	-2.277(0.011)**
DH-panel ^b	-1.792(0.037)**	-2.076(0.019)**

Notes: *,** and *** denote the significance levels at 1 %, 5 % and 10 % whereas superscripts a and b denote the model with constant and trend respectively.

Source: authors' estimations.

Two types of DH tests are reported for each specification in Table IV. Since group mean DH test accounts for cross-sectional dependency, it is preferred over panel DH test. For each case, the results of group mean DH test statistics are prone to reject the null hypothesis of no cointegration since the corresponding test statistics are statistically significant at 10 % for Model 1, whereas at 1 % significance level for Model 2 respectively. Even though we account for the heterogeneity and cross-sectional dependency, panel DH test statistics also ensure the presence of

cointegration amidst the variables by rejecting the null hypothesis at 5 % significance level for each specification.

After detecting the presence of the cointegration relationship amidst the variables, the long-run parameter estimate is conducted by using AMG estimator and the relevant results are shown in Table V.

Table V. CCE and AMG Estimation Results

	CCE Estimates		AMG Estimates	
	(1)	(2)	(1)	(2)
ME		0.514(0.161)*		0.564(0.285)**
HE	0.147(0.137)		0.134(0.195)	
LGDP	0.528(0.075)*	0.510(0.070)*	0.347(0.109)*	0.398(0.091)*
LPOP	1.186(0.232)*	1.151(0.214)*	1.213(0.203)*	1.346(0.173)*
VIO	0.040(0.193)	0.157(0.264)	0.213(0.461)	0.222(0.418)
Constant	0.698(1.302)	0.690(1.318)	3.326(3.405)	5.354(7.832)
Wald χ^2	9.25[0.0550]***	11.16[0.0248]**	27.69[0.0000]*	27.04[0.0000]*
RMSE	0.1873	0.1929	0.5268	0.4522

Notes: *,** and *** denote the significance levels at 1 %, 5 % and 10 %. Standard errors are given in parenthesis while p-values for Wald test given in brackets.

Source: authors' estimations.

For the robustness of our estimations, we also display the results for common correlated effects (CCE) estimator, pioneered by Pesaran (2006). The results of both methods strikingly reveal that rising military spending tend to increase the demand for health services to the extent that 1 % rise in the former causes to increase the latter more than 0.50 %. However, this one-way positive trade-off is not valid when health expenditure enters as independent variable into each specification. The estimation results yield that health expenditure is not significant at each specification, thus confirm the presence of one-way positive trade-off running from military spending to health spending accordingly. Through the expectations rising GDP per capita and population stimulates and generate additional demand for both goods. The coefficients of both variable positive and statistically significant at each specification. According to CCE estimator, 1 % rise in GDP per capita tends to increase military spending and health spending by 0.52 % and 0.51 %, whereas 1 % rise in GDP per capita generates additional demand for both goods by 0.34 % and 0.39 % in AMG estimates respectively. On the other hand 1 % rise in population results in 1.18 % and 1.15 % increase in military spending and health spending in CCE estimates, whereas 1 % rise in population boosts the demand for military spending by 1.21 % and health spending by 1.34 % in AMG estimates. The effect of governance on the demand for both types of goods, we proxy the

political stability and absence of violence and/or terrorism (VIO) and the results do not yield any significant effect of VIO on the demand for both types of goods.

Concluding Remarks

Popular guns and butter issue has been the interest for empirical and theoretical investigation by the researchers due to its nature associated with the utilization of scarce resources. To this end, in this paper we aimed to address this issue by incorporating the panel data over the period of 2000 and 2017 for the selected BEC countries which have never been a subject to empirical investigation so far. In this context, we thoroughly employed recent advanced panel-time series techniques within the presence of heterogeneity and cross-section dependence amidst the units of panel data. Accordingly, we performed Westerlund (2008) cointegration test and we attest the presence of cointegration relationship among the variables. For the parameter estimates, we employed the CCE and AMG estimators respectively. The results yield the existence of positive trade-off running from military expenditure to health expenditure. In other words, an increase in military spending crowds-out the health expenditure for those countries. Since there are ambiguous findings in the literature regarding the interplay between military spending and other types of social spending, our finding attests the findings revealed by the bulk of previous studies (i. e. Eickstein, 1963; Taylor & Hudson, 1972, Benoit, 1973, Caputo, 1975, Harris & Pranowo, 1988, Ram, 1995, Kollias & Paleologou, 2011, Lin et al. 2015). As discussed by Lin et al. (2015) for the case of OECD countries, a possible explanation could stem from the two reasons: First reason could lie on willingness to support the health services at an expense of sacrificing from the infrastructure programs. Another reason for the boosting effect of military spending on health spending could lie on the human capital aspect of health expenditure to the extent that necessity for armed personnel require more health care and physical training. As a proxy for the market size, the effect of population in each case is significantly positive which means the market size or grows, the necessity or demand for those welfare items increase as well. The size of the economy is captured by the GDP per capita and it possess a positive significant effect on these two types of welfare expenditures. This finding indicates that as the economies grow, people demand more for both goods and economic resources are allocated more on national security and health services.

Through the findings mentioned above, countries should devote more their scarce resources onto human capital formation, in particular health-care services in our context. Since most of the BEC countries are in transition process into free-market economy, all forms of capital formation is crucial. Besides utilizing the scarce resources in efficient manner,

allocation of the budgetary sources more on health-care services likely trigger the economic growth. As our findings indicate that rapid increase in GDP would yield additional demand for social expenditures, in particular health-care services. Since the main objective of the BEC organization is to develop bilateral and multilateral relations and cooperation among the agreeing parts, the armament race and thus military spending would be cut down by improving the cooperation with the other international institutions.

References

- ALI, E. Hamid (2011), "Military Expenditures and Human Development: Guns and Butter Arguments Revisited: A Case Study from Egypt", *Peace Economics, Peace Science and Public Policy*, Vol. 17, Issue 1, Article 8, pp. 1-21.
- ADEOLA, O. Francis (1996), "Military Expenditures, Health and Education: Bedfellows and Antagonists in Third World Development?", *Armed Forces & Society*, Vol. 22, Issue 3, pp. 441-467.
- APOSTOLAKIS, E. Bobby (1992), "Warfare-Welfare Expenditure Substitutions in Latin America, 1953-87", *Journal of Peace Research*, Vol. 29, Issue 1, pp. 85-98.
- BENOIT, Emile (1973), *Defense and Economic Growth in Developing Countries*, Lexington Books, Boston.
- BRUMM, Harold J. (1997), "Military Spending, Government Disarray and Economic Growth: A Cross-Country Empirical Analysis", *Journal of Macroeconomics*, Vol. 19, Issue 4, pp. 827-838.
- CAPUTO, A. David (1975), "New Perspectives on the Public Policy Implications of Defense and Welfare Expenditures in Four Modern Democracies: 1950-1970", *Policy Sciences*, Vol. 6, Issue 4, pp. 423-446.
- CLAYTON, N. James (1972), "The Fiscal Costs of the Cold War to the United States: The First 25 Years, 1947-1971", *The Western Political Quarterly*, Vol. 25, Issue 3, pp. 379-396.
- DABELKO, D. David, & MCCORMICK, M. James (1977), "Opportunity Cost of Defense: Some Cross-National Evidence", *Journal of Peace Research*, Vol. 14, Issue 2, pp. 145-154.
- DEGER, Saadet & SEN Somnath (1983), "Military Expenditure, Spinoff and Economic Development", *Journal of Development Economics*, Vol. 13, Issue 3, pp. 67-83.

- DIXON, J. William & MOON E. Bruce (1986), “The Military Burden and Basic Human Needs”, *Journal of Conflict Resolution*, Vol. 30, Issue 4, pp. 660-684.
- DOMKE, R. William, EINCENBERG, C. Richard & KELLEHER, M. Catherine (1983), “The Illusion of Choice: Defense and Welfare in Advanced Industrial Democracies, 1948-1978”, *American Political Science Review*, Vol. 77, Issue 1, pp. 19-35.
- EBERHARD, Markus & BOND, Steven (2009), “Cross-Section Dependence in Nonstationary Panels: A Novel Estimator”, MPRA Paper, No. 17870.
- ECKSTEIN, Otto (1963), “Discussion”, Eds. David Abshire & Richard Allen, in *National Security: Political Military Economic Strategies in the Decades Ahead* (pp. 1009-1021), Praeger Co., New York.
- EICHENBERG, C. Richard (1984), “The Expenditures and Revenue Effects of Defence Spending in the Federal Republic of Germany”, *Policy Sciences*, Vol. 16, Issue 4, pp. 391-411.
- FAN, HongLi, LIU, Wei & COYTE, C. Peter (2018), “Do Military Expenditures Crowd-out Health Expenditures? Evidence from around the World, 2000-2013”, *Defence and Peace Economics*, Vol. 29, Issue 79, pp.766-779.
- FONTANEL, Jacques (1994), “The Economics of Disarmament: A Survey”, *Defence and Peace Economics*, Vol. 5, Issue 2, pp. 87-120.
- FREDERIKSEN, C. Peter & LOONEY, E. Robert (1994), “Budgetary Consequences of Defense Expenditures in Pakistan: Short-Run Impacts and Long-Run Adjustments”, *Journal of Peace Research*, Vol.31, Issue 1, pp. 11–18.
- HARRIS, Geoffrey & KELLY- PRANOWO Mark (1988), “Tradeoffs between Defence and Education/Health Expenditures in Developing Countries”, *Journal of Peace Research*, Vol. 25, Issue 2, pp. 165-177.
- HARTMAN, W. Stephen (1973), “The Impact of Defense Expenditures on the Domestic American Economy (1946-1972)”, *Public Administration Review*, Vol. 33, Issue 4, pp. 379-390.
- HAYES, Margaret (1975), “Policy Consequences of Military Participation in Politics: An Analysis of Tradeoffs in Brazilian Federal Expenditures”, (Eds: Craig Liske, William Loehr & John McCament) In *Comparative Public Policy: Issues, Theories and Methods*, Wiley Publ., New York.
- HESS, Peter & MULLON, Brendan (1988), “The Military Burden and Public Education Expenditures in Contemporary Developing Nations:

- Is There a Trade off?”, *Journal of Developing Area*, Vol. 22, Issue 4, pp. 497-514.
- HUME, David (1739/1896), “A Treatise of Human Nature”. (Ed. L. SelbyBigge), In *Reprinted from the Original Edition in three volumes and edited, with an analytical index- A Treatise of Human Nature*. Clarendon Press, Oxford.
- KENTOR, Jeffrey & JORGENSON, Andrew (2017), “Military Expenditures and Health: A Cross-National Study, 1975-2000”, *International Journal of Sociology and Social Policy*, Vol. 37, Issue 13/14, pp. 755-772.
- KNORR, K. (1977), “Economic Interdependence and National Security”. (Eds. K. Knorr & F. Trager), In *Economic Issues and National Security*. Regent Press, Kansas.
- LIN, Hung-Pin (2012), “Does Defense Spending Surprise Long-Run Inflation, Economic Growth and Welfare”, *Economic Bulletin*, Vol. 32, Issue 1, pp. 1020-1031.
- LIN, S. Eric, ALI, E. Hamid & LU, Yu-Lung (2015), “Does Military Spending Crowd out Social Welfare Expenditures? Evidence from a Panel of OECD Countries”, *Defence and Peace Economics*, Vol. 26, Issue 1, pp. 33-48.
- LINDGREN, Goran (1984), “Armaments and Economic Performance”, *Journal of Peace Research*, Vol. 21, Issue 2, pp. 375-387.
- MINTZ, Alex (1989), “Gun versus Butter: A Disaggregated Analysis”, *The American Political Science Review*, Vol. 83, Issue 4, pp. 1285-1293.
- MOK, Jin Whyu & DUVAL, D. Robert (1992), “Trading Deficits for Defense and Domestic Programs: The Guns and Butter Hypothesis Revisited”, (Ed. Alex Mintz), *The Political Economy of Military Spending in the United States* (pp.196-216), Routledge, New York.
- OZSOY, Onur (2002), “Budgetary Tradeoffs between Defense, Education and Health Expenditures: The Case of Turkey”, *Defence and Peace Economics*, Vol. 13, Issue 2, pp. 129-136.
- PESARAN, M. Hashem. (2004), “General Diagnostic Tests for Cross Section Dependence in Panels”, IZA Discussion Paper, No. 1240.
- PESARAN, M. Hashem. (2006), “Estimation and Inference in Large Heterogeneous Panels with a Multifactor Error Structure”, *Econometrica*, Vol. 74, Issue 4, pp. 967-1012.

- PESARAN, M. Hashem. (2007), "A Simple Panel Unit Root Test in the Presence of Cross-Section Dependence", *Journal of Applied Econometrics*, Vol. 22, Issue 2, pp. 265-312.
- PESARAN, M. Hashem. & YAMAGATA, Takashi (2008), "Testing Slope Heterogeneity in Large Panels", *Journal of Econometrics*, Vol. 142, Issue 1, pp. 50-93.
- PEROFF, Kathleen (1977), "The Warfare–Welfare Tradeoffs: Health, Public and Housing", *Journal of Sociology and Social Welfare*, Vol. 4, Issue 1, pp. 366-381.
- PEROFF, Kathleen & PODOLAK-WARREN, Margaret (1979), "Does Spending on Defence Cut Spending on Health? A Time-Series Analysis of the US Economy 1929-1974", *British Journal of Political Science*, Vol. 9, Issue 1, pp. 21-39.
- PUNEKAR, S.D. (1959), "The Concept of Social Welfare", *The Economic Weekly*, Report of the Study Team on Social Welfare of Backward Classes (Vol. 1), Committee on Plan Project, New Delhi.
- RAM, Rati (1995), "Defense Expenditure and Economic Growth", (Eds. K. Hartley & T. Sandler), In *Handbook of Defense Economics* (pp. 251-273), Elsevier, Amsterdam.
- RIMLINGER, V. Gaston (1971), *Welfare Policy and Industrialization in Europe, America, and Russia*, Wiley Publications, New York.
- ROSEN, S. Harvey & GAYER, Ted (2008), *Public Finance*, Eighth Edition, McGraw-Hill, Boston.
- RUSSETT, M. Bruce (1969), "Who Pays for Defence?", *American Political Science Review*, Vol. 63, Issue 2, pp. 412–426.
- RUSSETT, M. Bruce (1982), "Defence Expenditures and National Well-Being", *American Political Science Review*, Vol. 76, Issue 4, pp. 767–777.
- SAMUELSON, A. Paul (1954), "The Pure Theory of Public Expenditure", *The Review of Economics and Statistics*, Vol. 36, Issue 4, pp. 387-389.
- SCHEETZ, Thomas (1992), "The Evolution of Public Sector Expenditures: Changing Political Priorities in Argentina, Chile, Paraguay and Peru", *Journal of Peace Research*, Vol. 29, Issue 2, pp. 175-190.
- SIPRI (2019). *Yearbook 2019*. Oxford: Stockholm International Peace Research Institute, Oxford University Press.

- SMITH, Adam (1776). *An Inquiry into the Nature and Causes of the Wealth of Nations*.
- STARR, Harvey, HOOLE, W. Francis, HART, A. Jeffrey & FREEMAN, R. John (1984), "The Relationship between Defense Spending and Inflation", *Journal of Conflict Resolution*, Vol. 28, Issue 1, pp. 103-122.
- STIGLITZ, E. Joseph (2000), *Economics of Public Sector*, Third Edition, W. Norton & Company, New York.
- TAYLOR, L. Charles & HUDSON, C. Michael (1972), *World Handbook of Political and Social Indicators*, Yale University Press, London.
- VERNER, Joel (1983), "Budgetary Tradeoff between Educational and Defense in Latin America: a research note", *Journal of Developing Areas*, Vol. 18, Issue 3, pp. 77-92.
- WESTERLUND, Joakim (2008), "Panel Cointegration Tests on the Fisher Effect", *Journal of Applied Econometrics*, Vol. 23, Issue 2, pp. 193-233.
- YILDIRIM, Julide & SEZGIN, Selami (2002), "Defence, Education and Health Expenditures in Turkey, 1924-1996", *Journal of Peace Research*, Vol. 39, Issue 5, pp. 569-580.

TURKEY-EU RELATIONS IN TERMS OF FOREIGN TRADE TAXES

*Salih Kalayci**

1. Introduction

Increasing integration in goods and factor markets and technological advances made in the last century led to the intensification of social relations at the global level. This trend enables physical, social and cultural barriers to be overcome substantially. On the one hand, overcoming these obstacles provides new opportunities on a global scale, while on the other; it causes the problems at the national-regional level to be globalized and some problems to become apparent on a global scale. There are nowadays numerous global problems that nation-states cannot handle by themselves; environmental pollution, thinning of the ozone layer, biodiversity reduction, epidemics, wars, global poverty, financial instability, etc., such transboundary problems contain externalities that arise from the social activities of countries more than one. Such externalities are often cumulative long-term factors that have the capacity of affecting more than one geographical region or generation. Increasing the mobility of production factors as a result of globalization and technological developments raises the aspiration to receive the capital from foreign sources required to guarantee the economic development of countries, to catch up with leading countries by closing the gap, and to improve the quality of life in general. Countries compete with each other more intensely to attract foreign capital in the process of globalization. This phenomenon known as "foreign capital competition" is a development caused completely by globalization.

As part of international relations, nations also conduct international economic relations. Through the elimination of political barriers that restrict international relations, the volume of international economic relations has also begun to increase. That being said, there are still many more obstacles that hinder the development of international economic relations. One of these obstacles is the problems arising in financial matters. Sales of goods and services of countries with each other and cross-border factor mobilities are at the helm of international economic relations. However, merchandise movements seem more important than service movements. Developments in technology, transportation, communication areas and the reduction of customs tariffs via multilateral agreements increase the volume trade. Recent studies demonstrate that after the Second World War, trade at the international level increased at a higher rate compared to world production in goods and services. In foreign trade activities, countries might implement different negative policies to defend their interests. As it is an activity of unilateral gain, some preventive

practices can be encountered. While countries occasionally take direct routes for trade restrictions, they sometimes opt for the indirect means of blocking. In both methods, it has a general preventative effect on foreign trade. However, it is stated that indirect routes have greater drawbacks than direct ones. Because there is an uncertainty in indirect obstacles and it cannot put to measurement in advance, as in; at what stage will it be encountered and in what way. In order for the world resources to be efficiently used, in trade relations between countries, it is accepted that the division of labor is a necessity to remove obstacles and to carry out trade under free conditions. One of the important topics in such a wide range of economic movements is considered to be taxes. Taxes levied on foreign trade, which has an important share in the tax revenues of countries, tend to decrease and lose their effectiveness especially with various international agreements and economic integrations. In Turkey as well, it is seen that various taxes and obligations on foreign trade have undergone significant changes through economic integrations and bilateral, as well as multilateral agreements.

Foreign trade taxes that had a significant share in the tax systems of countries in the early stages of economic development are now changing and losing their effectiveness due to the various international treaties that have been signed by countries and the economic integration movements, in which these treaties occur, due to the globalization process in the world. As a matter of fact, the tax and obligations imposed on foreign trade transactions today in Turkey are reduced or subjected to the liberalization tendencies that emerge in foreign trade as a result of the above-mentioned processes, especially with the European Union. In this work, how the relations with the European Union affect the taxes on foreign trade, in general terms, financial liabilities in Turkey will be attempted to shed light upon. Lastly, global tax proposals brought up in this framework will be discussed in the work.

2. Literature Related to Foreign Trade and EU Relations

Taxes levied on international trade and transactions within the central government budget revenues in Turkey are comprised of value-added tax on customs and imports, and other foreign trade revenues. Customs duty is one of the oldest types of taxes, and it is a tax that is levied on goods imported or exported. Customs duty is generally applied to imported goods, but they are levied on value or physical quantity (Pehlivan, 2006: 406).

Inward Processing Regime (IPR), which is an economically effective customs regime and depicted as one of the most important export incentives, has been prepared with the goal of increasing exports by supplying raw materials from world market prices, granting competitive

advantage to export products in international markets, developing export markets and diversifying export products. Manufacturers and exporters were allowed to introduce, within the framework of this decision, raw materials and intermediate goods utilized in the manufacture of export goods into the country without paying customs duties and being subject to trade policy measures. As of the date of coming into force, Turkey is incentivizing exports most commonly used IPR exporters that directly affect foreign trade of Turkey; as of 2017, it covers 41% of general exports and approximately 12% of general imports. (Kopan and Yıldırım Keser, 2018).

Governments intervene in international trade for economic, social and political purposes. The economic and legal arrangements made by governments to restrict or encourage the trade of a country constitute the foreign trade policy and the tools of this policy (Seyidoğlu, 2013: 145).

2.1. Direct Taxes in the European Union

There has not been much harmonization made between countries in the field of direct taxation due to the economic differences shown by nations. There are two reasons for this. First, the power of taxation is within the sovereignty of a nation, and interference would not be right. The second reason is the socioeconomic differences. Rates, discounts, exemptions and exception limits, and practices of each country are different from each other (Yazarkan and Mezararkali, 2015).

2.2. Income Tax

No attempts on harmonization in the field of income tax were made by the European Union. The labor force structure and professional opportunities of each country are different. Because of this, the income tax tariff structures of countries differ among the EU countries, Portugal has the highest rate of income tax with 56%, whereas Bulgaria has the lowest with 10%. Turkey remains below the EU average with 35% (Yazarkan and Mezararkali, 2015).

2.3. Corporate Tax

The taxation of legal entities is levied within the scope of this tax. The EU member nations are trying to bring tax legislation closer to prevent unfair tax competition between them. However, efforts in the harmonization of direct taxes are progressing slowly owing to the perception of member nations that this would negatively affect their national sovereignty by restricting their tax authority and tax directives have the right to veto by each country. For this reason, in spite of the fact that they do not make significant progress in terms of indirect taxes in tax harmonization, some common views were taken, in that the differences in

indirect taxes in EU countries had been identified (Yazarkan and Mezararkali, 2015).

2.4. Corporate Tax in Turkey

The corporate tax came into force for the first time in 1907 as the "Temettü Nizamnamesi" (Dividend Regulation). It was implemented as Profit Tax in the Republican period in 1926 and was adopted as the Corporate Tax Law in 1949. This law stayed in force until 2006. It was adopted on June 13th, 2006 with the Law no. 5520 and it was put into practice as of January 1st, 2006 (Yazarkan and Mezararkali, 2015).

2.5. Corporate Tax in European Union Member Nations

Capital movements of member nations are different from each other. Thus, corporate tax rates applied by countries differ from one another. Changes took place in corporate tax rates of EU member nations between 2000-2014. Accordingly, the lowest rate applied in 2014 belongs to Bulgaria with 10%, while the highest rate belongs to France with 38%. EU-28 average of 2014 is 22.9%. The level, which was 32% in 2000, decreased by 9.1%. This decrease did not prevent the implementation of different rates of taxes within the EU (Yazarkan and Mezararkali, 2015).

2.6. Customs Union in the Framework of Economic Integration Theory

The customs union is both considered as a crucial policy tool by GATT, and as an important stage of the EU's integration process. That being said, the development of the customs union theory emerged after the 1950s. Classical economists were of the perception that the customs union was an ordinary free trade model until the year 1950. According to them, the customs union is one of the steps of the process toward free trade. Classical economists, who knew that it had benefits such as expanding the market area, increasing commercial activities, providing international specialization, ensuring the best free movement for production factors, did not take issues such as the difference in development between nations, uneven distribution of earnings, underemployment as a factor. While economic integration was not a topic dealt with in theory before, Viner became the pioneer of the customs union theory with his work "The Theory of Customs Union" that he published in 1950 by Viner (1950). Economists, who came after Viner, have also addressed this theory within the framework of the orthodox foreign trade theory. Economists, who were more interested in the customs union, worked on topics such as regional integration, external tariffs, scale economies. A customs union must meet certain conditions; customs tariffs between member nations must be lifted, joint customs tariff must be implemented for imports from third-party countries, and the collected custom duty revenues must be distributed

among the member countries in a manner agreed upon. A production model focusing on the welfare effects of changes in production has been developed and has defined two effects, namely trade creation and trade diversion occurring as a result of the customs union.

Foreign trade taxes expressed as Customs Duty, VAT, Resource Utilization Support Fund, Stamp Tax, Special Consumption Tax and appearing as financial obligations in import transactions have a crucial share in the tax systems of all countries around the globe. It is determined that the place of foreign trade taxes among total tax revenues is low, especially in industrialized countries; it is 18% in middle-income countries, whereas it is 36% in low-income countries. Upon consideration of these rates, the reduction of the tax burden of foreign trade taxes, especially for developing countries, invigorates the economic activities of companies, hence reflecting positively on the development process. At this point, Inward Processing Regime enables the exporting companies to import the raw materials and bulk products used in production, in return for export commitment, at a more affordable price and make away with the tax burden. (Chacholiades, 1984: 118).

2.7. Changes in World Trade Organization Membership and Foreign Trade Tax Integration

There are four main principles forming the basis of the taxation of goods and services subject to international trade in the WTO agreement. These principles can be ranked as multilateralism, non-discrimination, predictability, or in other words, the promise of not increasing customs duties (bindings), and transparency. According to the principle of the most favored nation (MFN) defined in the GATT agreement, which is the root of the WTO, nations cannot benefit and discriminate against one another. The same favor is to be made to all WTO members in such an event that a country is granted privileges, to reduce customs duties. According to the principle of national treatment (NT) which is a sub-type of this principle, countries cannot discriminate among imported and domestic production goods. In line with the notion, rationale and goals of the tax measures taken as a requirement of transparency, in the case of giving various subsidies to export products, the costs of these incentives and the calculation of tax expenditures should be elaborated. On the other hand, regional trade agreements, customs union and free trade agreements that are the exceptions to MFN and NT principles are regulations that make away with the binding obligation of WTO membership in customs duties. Thus, it overturns membership quality. These agreements agreed upon by parties also make it difficult to determine how much of the customs duty loss that emerges after WTO membership is related to the membership itself. The principles of taxation of goods and services that were developed as a result

of these general principles can be summarized as easing the weight of custom duties within the tax system, being neutral in imported and domestic products in foreign trade, and trivializing foreign trade taxation as a policy tool. Customs duties known as tariffs are accepted as the biggest obstacle to free foreign trade. In accordance with the WTO rules, domestic goods and services taxes have the same economic effects as customs duties from foreign trade and therefore should not act as a substitute for customs duties. Member nations should promise to register a ceiling value on their MFN (Most Favored Nation) customs duty rates. Moreover, the provision of any kind of subsidies to export products and services are not deemed appropriate, and these financial supports are considered as some kind of negative customs duty (European Commission, 2020).

Apart from the UK, there is a single constitutional text in EU member nations. Austria, Germany, and Belgium are federal states, the remaining 24 countries have a unitary state structure. The countries not including any tax obligations or duties regarding the constitution of the European Union are the Czech Republic, Estonia, and Latvia. In all of the remaining 24 countries, taxes have been adjudicated to one of the sections titled under fiscal provisions, legislative power, fundamental rights, and duties. In half of the 24 countries, taxes were accepted as a financial provision along with the budget, 9 countries organized tax specifically to be within the scope of the legislative authority, and only 3 countries have adopted taxes as rights and duties such as Turkey. Tax legitimacy among EU nations has been taken as a principle, and no provision has been made in the constitutions that delegate the authority of the legislative body to the executive body (Constitution, 2020).

Industrial sector imports increasing faster than exports in Turkey showcases that the production and income of developed countries that manufacture these goods cheaply in a unity increase, that the income distribution is in favor of the developed countries, that the terms of trade effect are against Turkey. Resetting tariffs among members and the common tariff applied against third countries cause tax loss in member nations. Before the Customs Union, two types of taxes were collected in Turkey from imports: customs duty and mass housing fund. While both of these were abolished with the Customs Union, a joint customs tariff was started to be applied against third countries. When the share of foreign trade taxes in GNP (%) is examined; this rate, which was 2.4% in 1995, was seen to be 2.8% in 1997, 3.1% in 2001, 3.4% in 2002, and 4.4% in 2004 (See Table 1). It is very difficult to state based on these results that the effect of the Customs Union decreasing foreign trade tax revenues was observed. On the contrary, it can be said that tax revenues increased owing to the increase in national production after the Customs Union.

Table I: Share of Taxes on Foreign Trade in GNP (%)

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
2.4	2.5	2.8	2.4	2.5	3.4	3.1	3.4	3.5	4.4

Source: TÜİK Turkish Statistical Institute (2020).

Because the Customs Union foresees the harmonization of the Turkish trade and competition policies with the EU and the vast majority of the EU competition policies cover Turkey, it is predicted that it may lead to the formation of comprehensive institutional changes in the Turkish economy. As a result of the improvement of Turkish legislation especially in the field of protection of intellectual property rights and competition rules, a more appropriate legislative framework for the future development of economic activities may come about in Turkey (Istanbul, Economic Development Foundation Publications, 2000).

The GNP having grown by 5.9% in 2003 has shown a real increase by 9.9%, as the growth also continued in 2004. In this period, per capita, GNP increased by 23.3%. Exports increased by 33.6%, while imports increased by 40.7% and foreign trade deficit rose to 55.8%. In 2004, the tax revenues budget expenses coverage ratio increased to 63.9%, and the budget revenues budget expenses coverage ratio increased to 78.5%. Structural reforms implemented in 2005 and 2006 together with income-increasing expenditure-reducing policies have had a positive impact on budget figures. Improvement in budget performance strengthened the expectations that an atmosphere of confidence will be formed, and stability will be ensured permanently in order to decrease uncertainties in the economy (Armağan, 2007).

Upon consideration of the understanding adopted by the EU countries, it is seen that the implementation is quite flexible. In EU countries; according to in which country the service provider resides, and in which country the branch is situated in terms of branch activities, the service is accepted to have been made and benefitted from the country in question. Therefore, taxation must be done by the country in question. If it is apparent that the service is made physically in another country, it is assumed that it will be taxed by the country, where the service is provided, in accordance with the principle of taxation at the destination, and is exempt from VAT (Ceran & Çiçek, 2014).

2.8. VAT Refund Application in Foreign Trade Capital Companies and Sectoral Foreign Trade Companies

With the export-based growth strategy, which was implemented in the 1980s, the purpose was economic growth and a number of export models were formed to achieve this. In the 1980s, foreign trade capital company

model was created with the Decision of Incentive for Foreign Trade Companies of 1980 no. 8/1173, in order to perform services such as finding markets, carrying out foreign trade transactions, promotion, and benefiting from the advantages of large-scale companies. SMEs, which have great importance in the national economy, were gathered under an organization within the export industry in 1995, and this was put into practice under the name of sectoral foreign trade companies. Foreign trade capital companies and sectoral foreign trade capital companies are multi-partner companies as dictated by their nature. These companies are only responsible for the export of their making on their behalf and accounts, and the manufacturers and suppliers are held accountable for the transactions they mediate their exports based on the brokerage contract. The manufacturers or suppliers are fully responsible for the manufacture, insurance, transportation, and marketing of the goods that will be exported, as well as the quality of the exported goods. Exports are prepared and finalized fully by the manufacturer and supplier firm based on the warrant of attorney that is issued by foreign trade capital companies or sectoral foreign trade capital companies. Moreover, the manufacturer or suppliers are held responsible for the integrity of the transactions conducted during the supply and manufacture of the goods in the country, the transfer of the VAT amounts charged by the treasury, and the integrity of the information and documents used through every single process (Akyol, 2001).

Provided that foreign trade capital companies and sectoral foreign trade capital companies provide collateral of 4%, they receive a VAT refund on behalf of the companies they intermediate, and only distribute it to the companies they intermediate in exchange for an amount of commission. Aside from the application of reduced collateral in the Value Added Tax legislation, another advantage afforded to foreign trade capital companies and sectoral foreign trade capital companies is that there is no requirement to confirm the customs declarations for the fulfillment of requests on cash refund. Should the taxpayer declare that he/she will submit a certified financial advisor for the cash return request, the return requests are not sent for assessment until the report is issued, in case a collateral is provided. Nevertheless, unless the report is submitted within 6 months from the date of return, the collateral must be completed to 100%, otherwise, the provided collateral will be converted to money. Regardless of this, foreign trade capital companies are exempt from this practice. As can be inferred; the facilities, which are provided for the export organization, do not yield any production and added value, are granted during the VAT refund to foreign trade capital companies and sectoral foreign trade capital companies that have the appearance of a virtual safe, broker and intermediary, are not recognized for manufacturing companies that have hundreds or even thousands of workers, capital, machinery, equipment,

and active structures, all creating real added value. Due to the facilities provided to the mentioned companies in the return of VAT, the manufacturers opt to export their products through these companies. Manufacturer companies overcome their financial difficulties in such transactions, by collecting the VAT of the invoices they issue within 1.5-2 months within the scope of the mediative export contract from the aforementioned companies. With this practice, the VAT burden on companies is at a minimum level in general (Akyol, 2001).

Table II: VAT rates for the EU countries and Turkey

	Implemented	Standard rate																		Reduced rates ²	Specific regional rates
		1975	1980	1985	1990	1995	2000	2005	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
Austria*	1973	16.0	18.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	10.0/13.0	18.00	
Belgium	1971	18.0	16.0	19.0	19.0	20.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	0.0/6.0/12.0	-	
Czech Republic	1993	-	-	-	-	22.0	22.0	19.0	19.0	19.0	20.0	20.0	20.0	21.0	21.0	21.0	21.0	21.0	10.0/15.0	-	
Denmark	1967	15.0	20.25	22.0	22.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	0.0	-	
Estonia	1991	-	-	-	-	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	20.0	20.0	20.0	20.0	20.0	0.0/9.0	-	
Finland	1994	-	-	-	-	22.0	22.0	22.0	22.0	22.0	22.0	22.0	23.0	23.0	24.0	24.0	24.0	24.0	0.0/10.0/14.0	-	
France*	1968	20.0	17.6	18.6	18.6	20.6	20.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	20.0	20.0	20.0	2.1/5.5/10.0	0.9/2.1/10.0/13.0 & 1.05/1.75/2.1/8.5	
Germany	1968	11.0	13.0	14.0	14.0	15.0	16.0	16.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	7.0	-	
Greece*	1987	-	-	-	-	18.0	18.0	18.0	18.0	19.0	19.0	19.0	19.0	23.0	23.0	23.0	23.0	23.0	6.0/13.0	4.0/9.0/16.0	
Hungary	1988	-	-	-	-	25.0	25.0	25.0	25.0	20.0	20.0	20.0	25.0	25.0	27.0	27.0	27.0	27.0	5.0/18.0	-	
Italy	1973	12.0	14.0	18.0	19.0	19.0	20.0	20.0	20.0	20.0	20.0	20.0	21.0	21.0	22.0	22.0	22.0	22.0	4.0/5.0/10.0	-	
Latvia	1995	-	-	-	-	-	18.0	18.0	18.0	18.0	21.0	21.0	22.0	22.0	21.0	21.0	21.0	21.0	0.0/12.0	-	
Luxembourg	1970	10.0	10.0	12.0	12.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	17.0	17.0	3.0/8.0/14.0	-	
Netherlands	1969	16.0	18.0	19.0	18.5	17.5	17.5	19.0	19.0	19.0	19.0	19.0	19.0	19.0	21.0	21.0	21.0	21.0	6.0	-	
Poland	1993	-	-	-	-	22.0	22.0	22.0	22.0	22.0	22.0	22.0	23.0	23.0	23.0	23.0	23.0	23.0	5.0/8.0	-	
Portugal*	1986	-	-	-	-	17.0	17.0	17.0	19.0	21.0	21.0	20.0	20.0	23.0	23.0	23.0	23.0	23.0	6.0/13.0	4.0/9.0/18.0 & 5.0/12.0/22.0	
Slovak Republic	1993	-	-	-	-	25.0	23.0	19.0	19.0	19.0	19.0	19.0	20.0	20.0	20.0	20.0	20.0	20.0	10.0	-	
Slovenia	1999	-	-	-	-	-	19.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	22.0	22.0	22.0	9.5	-	
Spain*	1986	-	-	-	-	12.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	18.0	21.0	21.0	21.0	21.0	4.0/10.0	0.0/2.75/3.0/7.0/9.5/13.5/20.0 & 0.5/10.0	
Sweden	1969	17.7	23.5	23.5	23.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	0.0/6.0/12.0	-	
Turkey	1985	-	-	-	-	10.0	10.0	15.0	17.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	1.0/8.0	-	
United Kingdom	1973	8.0	15	15	15	17.5	17.5	17.5	17.5	17.5	17.5	15.0	17.5	20.0	20.0	20.0	20.0	20.0	0.0/5.0	-	

Source OECD (2016), *Consumption Tax Trends*, OECD Publishing, Paris.

Value Added Tax is a general transaction tax levied on the sale of goods and services at each production and distribution stage. In spite of the treaties or directives put in place by the European Union for harmonization of indirect taxes such as VAT, SCT; a complete consensus has not been achieved due to administrative and political reasons. Each country has its tax practices that are similar to EU directives, but specific to themselves. The EU has taken the route of standardization in tax rates to prevent unfair competition. It advocates the application of a standard rate for VAT and a discount rate for certain commodity groups such as staple foods, books, and medicines. Some goods (such as alcoholic beverages, tobacco, gasoline and motor vehicles, games of chance and environmentally polluting products) are subject to an additional tax plus VAT, this practice is attempted to be restricted as much as possible so that it does not spread to coffee, tea, salt, matches, soft drinks; a consumption tax aside from the standard VAT rate is not preferred. However, the VAT rates applied in the member nations of the European Union are different from each other.

Although member nations are free in electing their standard rates, they cannot fall below 15% as their standard rate. The standard rates applied by member countries alternate between from 15% to 25%. VAT standard and discount rates in EU nations and Turkey are shown in Table 2.

Table III: The Share of Customs and Import Tax in Total Tax Revenues (%)

Countries	2005	2010	2011	2012	2013	2014	2015
Turkey	1.0	1.2	1.3	1.4	1.2	1.3	1.4
Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.0
France	0.0	0.1	0.1	0.1	0.1	0.1	0.1

Source OECD (2016), Consumption Tax Trends, OECD Publishing, Paris.

When we look at Table 3, the reason for the highest share being in Turkey is that Turkey was not a member of the EU, even though it became a member of the Customs Union in 1995. Another conclusion derived from this can be said that Turkey collects customs duties on imports outside the union, e.g. it makes foreign trade. After the Customs Union, there has also been a reduction in customs duty revenues in Turkey. The fact that this share is less in other EU member nations is a testament to this.

Manisalı (2001) gives the following example about the negative effects of the Customs Union on Turkey's relations with third countries: "The EU signed a free trade agreement with some North African countries (such as Tunisia) in 1998. However, Turkey does not automatically benefit from this agreement. As Turkey is not in the EU, Turkey also must make appropriate bilateral agreements with countries pursuant to the EU system. Upon which, Turkey gets in contact with Tunisia, the agreement Turkey made with the EU in 1995 is not binding to Tunisia. Worse than that, France is putting pressure on Tunisia not to make this agreement. France does not want the Turkish goods it competes with to enter Tunisia as duty-free. The one-sidedness of the 1995 document works against Turkey at every turn. Another example; Turkey wants to make a bilateral preferential trade agreement with Macedonia in 1998. Brussels opposes this because it has not yet had such an agreement with the country in question. The 1995 document only allows Turkey to make the duty-free import of EU manufacturing industry products, whereas the foreign trade of Turkey goes through an artificial deviation due to it being forced to apply the customs that the EU put in place for non-EU countries based on the preferences of EU. The same commodity is 10% cheaper in Japan, but since Turkey needs to levy %20 tax on the same good, the EU commodity that is, in reality, more expensive seems cheaper in comparison. Turkey is losing its currency. Food industry products imported from the EU affected Turkish agriculture very negatively. With the EU's joint agricultural policy, the EU subsidizes 50 billion dollars a year to its agriculture within the union.

3. Conclusion

Foreign trade taxes are one of the basic means that countries utilize in carrying out their foreign trade policies. Foreign trade taxes that had an important share in the tax systems of countries in the early stages of economic development are now changing and losing their effectiveness due to the various international treaties that have been signed by countries and the economic integration movements, in which these treaties occur, due to the globalization process in the world. As a matter of fact, the tax and obligations imposed on foreign trade transactions today in Turkey are reduced or subjected to the liberalization tendencies that emerge in foreign trade as a result of the above-mentioned processes, especially with the European Union. One of the fiscal policy tools that nations utilize for directing their economies is taxes. Foreign trade taxes are also used in directing foreign trade as one of the said policy tools. Foreign trade taxes had a significant role in the income of countries before the process of globalization and at the start of economic development. Economic integrations, bilateral and multilateral agreements are being made between countries with the effect of globalization, which causes the foreign trade taxes to be trivialized.

There are numerous obstacles and problems in the implementation of global tax suggestions. First of all, if the state in question is not a world state, it is extremely difficult to create an organization that will implement global tax suggestions to harmonize taxes and achieve cooperation at the global level even if it were for noble reasons such as the distribution of income equally on a global scale, lowering global poverty, enabling consistency and security, and most important of all, protecting the habitat of humanity, e.g. the world, for the mankind to continue surviving through future generations. A globally effective, sanctioned, and legitimate authority must be established or commissioned in order to implement many of the tax proposals, and this authority must be rooted in an agreement via consensus made possible on a global scale. These taxes being collected by nation-states and transferred to global organizations would be a more realistic proposition in today's world. Nonetheless, even in this were the case, there exists a need for power or powers at the nation-state level that will enable nation-states to participate in the system and this system to function effectively. In both cases, the beginning of global taxation will lead to the emergence of global power(s) and the transfer of the sovereignty of nation-states to this organization. This possibility constitutes an appropriate rationale for powerful countries to oppose global tax practices. Initially, this problem can be made away with by levying some global taxes with the potential of being applied at the nation-state level, then the obtained revenues can be transferred to the production of global, public goods and services; in the subsequent stage, it can be brought to full

fruition through a transition process involving the transfer of some of the income to the global authority. In addition, the mobilization of production factors in the globalization process led to an increase in foreign capital competition and tax competition. Countries are making arrangements in their national legislation to incentivize foreign investments or protect them, in order to attract foreign investments. The effects and results of the foreign capital competition are assessed in various ways based on the perspectives of the supporters and opponents of globalization. While supporters of globalization see foreign capital competition as an opportunity especially for developing countries, opposers regard foreign capital competition as a threat for and danger to underdeveloped and developing countries. Instead of adopting a unilateral take on the foreign capital competition as a game through a positive-sum or one with a negative sum, it is necessary to benefit from the analyzes, recommendations, and warnings made by both sides.

Global tax practice can lead to the growth of off-the-book economies worldwide. Taxes of such nature should be applied throughout the world in the same style and effectiveness. Tax harmonization should be effective and the unbalanced distribution of tax burdens may create inequalities between countries and regions. Countries, whose competitiveness is negatively affected, may have to deal with additional economic and social problems. The effective implementation of numerous global taxes is dependent on the scope of the tax to be as encompassing as possible. For this to happen, powerful countries are required to support global tax practices. With that being said, many global taxes contradict the interests of these countries. For example, in order to tax the arms trade, the top 10 strongest exporters in the world, the most powerful countries in exporting arms, should be levied taxes. A similar situation exists in levying taxation on countries with excess export of industrial goods. Even if this problem is brought to a resolution, a tax to be released at the global level will have an extremely complex structure, hence the possibility of economic growth at the global level being adversely affected; the complexity of taxes will restrict global participation, and off-the-book economies will grow at a global scale.

Foreign trade taxes, liberalization tendencies in the economy, and especially, the main goal of the European Union are to ensure the liberated movement of people, goods, capital, labor, and services without compromising the equality of the competition. In the tax harmonization efforts carried out in the EU, great progress has been made especially in terms of indirect taxes. Within the framework of the common market target, the necessity for the complete abolishment of the transactions regarding the indirect taxes at the customs gates of the member countries has been brought to the fore; and customs, prohibitions, as well as limitations, have been made away with to ensure free movement between

the member countries. To prevent unjust competition, member nations are required to act pursuant to the EU agreements and directives. The European Union has been pushing for harmonization in the area of indirect taxes since the 1960s, in line with its common market target. Consensus has been achieved in Customs Union based on the studies carried out in this field. In regards to VAT and SCT, member countries make and implement different decisions for political and economic reasons.

The differences in tax rates in the countries lead to the disruption of international competition, and tax frauds and customs smuggling arise due to the rate differences. For this reason, equality in the competition can be achieved through a wide harmonization effort undertaken to cover the VAT and SCT rates among the member countries of the union. Nonetheless, the national interests of the member states make it difficult to bind tax rates to joint legislation. Finally, Turkey as a candidate for EU membership was compared with member states France and Germany in regards to Customs Duty and VAT. This comparison was made by looking at the tax income figures of countries in between 2000-2015. If full membership is desired from Turkey as an EU candidate, harmonization arrangements should be made in a timely manner, the differences between the tax systems need to be minimized, and especially, since the differences in tax rates have a negative impact on competitiveness, harmonization should be achieved in this field. Despite the regulations made within the frame of Turkey's relations with the European Union, this still maintains its place and importance in the Turkish tax system. Needless to say, the tendency of governments opting increasingly more for indirect taxes as a resolution for the public finance problem Turkey has been having for years plays an important role. However, it may be misleading to think that this will be sustained. All in all, the growth model based on imports leads to continuous resource transfer away from Turkey.

4. References

- Akyol, İ. (2001). DTŞŞ ve SDTŞ'de İhracatta KDV İadesi ve Denetim Sorunu, *Vergi Dünyası*, 50, 48-53.
- Armağan, R. (2007). "Türkiye'de Gelir ve Kurumlar Vergisi Oranlarında İndirimin Vergi Gelirleri Üzerine Etkileri", *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 12(3), 227-252.
- Ceran, Y., & Çiçek, R. (2014). "Elektronik Ticaretin Vergilendirilmesine İlişkin Türk Vergi Sisteminde Katma Değer Vergisi Açısından Bir Değerlendirme", *Yönetim ve Ekonomi: Celal Bayar Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 14(1), 305-304.

- Chacholiades, M. (1984). *The Pure Theory of International Trade*. Transaction Publishers, Aldine, Chicago, USA.
- Constitution (2020). Text is retrieved from <https://www.constitution.org/>
- European Commission (2020). Text is retrieved from <http://ec.europa.eu/trade/policy/countries-and-regions/countries/united-states/>
- İstanbul, İktisadi Kalkınma Vakfı Yayınları (2000). *Gümrük Birliği'nin Türkiye Ekonomisine Etkileri*, No: 159, İstanbul.
- Koban, E., & Yıldırım Keser, H. (2018). “Gümrük Mevzuatında Dahilde İşleme Rejimi ve Vergi Özelinde Karşılaşılan Sorunlar”, *IV. International Caucasus-Central Asia Foreign Trade and Logistics Congress*, September, 7-8, Didim/Aydın.
- Manisalı, E. (2001). *Avrupa Çıkmazı*, Otopsi Yayınları, Mecidiyeköy, İstanbul.
- OECD (2016). *Consumption Tax Trends*, OECD Publishing, Paris. http://www.keepeek.com/Digital-Asset-Management/oecd/taxation/consumption-taxtrends-2016_ctt-2016-en#.WUJ_LuvyjIU, Accessed on February 12, 2020.
- Pehlivan, O. (2006). *Kamu Maliyesi*, Derya Kitabevi, Trabzon.
- Seyidoğlu, H. (2013). *Uluslararası İktisat*, Geliştirilmiş 18. Baskı, Güzem Can Yayınları No: 26,143-151.
- TÜİK (2020). Dış Ticaretten Alınan Vergilerin GSMH İçindeki Payı (%) Data is retrieved from <http://www.tuik.gov.tr/Start.do;jsessionid=5FxPp3ZQJ73nnfGDYrh8zj2V2nkTpZfy9vy8t3jdSCcXRGjzTtWJ!1861203590>
- Viner, J. (1950). *The Customs Union Issue*, Washington, D.C: Carnegie Endowment For International Peace.
- Yazarkan, H., & Mezararkali, P. (2015). “Avrupa Birliği ve Türkiye İlişkilerinde Doğrudan Vergi Uygulamaları”, *ODTÜ Sosyal Bilimler Araştırmaları Dergisi*, 5(13), 64-76.

UNEMPLOYMENT INSURANCE AND ACCOUNTING APPLICATIONS IN CALCULATION OF PERSONNEL COSTS IN TURKEY

*Seckin Arslan**

Introduction

Unemployment, which is one of the most fundamental issues of our time, causes not only economic but also many socio-psychological problems. Among the other social risks, unemployment is one of the main risks that come to mind. The policies followed in the fight against unemployment are categorized into two groups such as active and passive employment policies. Unemployment insurance is at the forefront of passive policies.

Unemployment insurance refers to compulsory insurance that covers a certain period and extent of the loss of income of the insured employees who lose their jobs without any intentions and deficiencies while they are working in an enterprise, although they have the working desire, talent, health and competence. In this context, the main purpose of unemployment insurance is to settle the employees' confidence about the future in case of possible unemployment risk; in other words, it makes it possible for the employee to be certain of his/her future livelihood.

Unemployment insurance is an application that has taken place in Turkey in 1999 with the enactment of Law No. 4447. In Turkey, unemployment insurance premiums, calculated on the basis of monthly gross earnings of the insured consist of contributions of the insured, the employer and the government at 1%, 2%, and 1% shares, respectively. The contributions of the insured and the employer at 1% and 2% of shares are obtained for those who pay the voluntary unemployment insurance premium.

In this study, firstly, the basic concepts related to unemployment are introduced, and cost factors in determining the personnel costs incurred in Turkey are emphasized. Then, social security premiums are explained and information about the unemployment insurance premium as one of these premiums is presented. The extent to which employee and employer premiums to be paid regarding the unemployment insurance which has been applicable in Turkey since 2000 and is calculated and accounted for is explained through examples.

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1. The Concept Of Unemployment

Unemployment is defined, in general, as a loss of manpower caused by the inability of the labor force to participate in various forms of employment (Ekin, 2003: 2). It is possible to come across many types and definitions of unemployment according to the types of unemployment in the literature. Unemployment can be expressed under various groups, such as voluntary unemployment, involuntary unemployment, structural unemployment, open unemployment, hidden unemployment, frictional unemployment, cyclical unemployment and seasonal unemployment.

Voluntary unemployment, in other words, means that individuals are not in fond of the work to be done, the workplace to work at, or the wages to be earned in return for labor, but the person wishes to insure themselves during their lifetime (Dinler, 2003: 451).

Involuntary unemployment, on the other hand, is the inability of the person to participate in employment due to the obstacles encountered by the individual, not caused by the individual. Although there are many reasons why a person cannot find occupation outside of his/her own will, each reason may also lead to different definitions of unemployment.

Structural unemployment is a type of unemployment that stems from the structural characteristics of the country's economies and changes in the demand structure. It may arise for economic as well as non-economic reasons. For instance, unemployment caused by the substitution of labor with machinery or the shift in demand, such as economic and political factors related to the economy, sudden increases in the labor force due to non-economic reasons such as economic and economic factors may loom large (Kanca, 2012: 3).

Open unemployment involves a person who does not have a job to earn a living or money. In the case of open unemployment, individuals wish to work at their own will for a normal wage according to the conditions of that day, but they cannot find a job (Yıldırım et al., 2012: 362).

Hidden unemployment involves a situation in which the individual does not clearly have an unemployed status, but does not actually contribute to the production process. In other words, it refers to employees who do not contribute to production for any reason or do not contribute sufficiently by working with low efficiency, although those employees seem to be working (Yavuz, 2012: 45).

Frictional unemployment is a type of unemployment that is encountered in all countries, both economically developed and developing alike. It involves temporary unemployment although it stems from the inability of the labor market to function properly. Frictional unemployment is caused

by individuals who are looking for a job but do not know where to find one (Üstünel, 1990: 173-174).

Cyclical unemployment arises as a result of the economic life and activities not always continuing at the same level and fluctuating due to the contraction in total demand during periods of recession with economic fluctuations. In the case of cyclical unemployment, the actual product is below the potential product. Throughout the periods of recession and stagnation, large masses may remain unemployed and unemployment may continue for a long time (Yıldırım & Karaman, 2001: 313).

In the case of seasonal unemployment, the level of production and the unemployment rate fluctuate seasonally in sectors such as tourism, construction and agriculture. In such sectors, a significant portion of the employees quit their jobs in the following period when the production increases seasonally and they remain unemployed unless the production level increases in the next periods (Ünsal, 1999: 54).

All of the above-mentioned types of unemployment are global issues so that all world countries face similar problems. Therefore, the structure of employment and the size of unemployment in many countries are important indicators of countries' levels of both economic and social development. Both in the past and today, unemployment is one of Turkey's most important social and economic issues. Turkey, along with problems in the economic and social structure within recent years, faced serious problems that worsened the unemployment level. In Turkey, as in all countries of the world, a wide variety of employment policies are also being applied in the fight against unemployment. Regarding the employment in Turkey, many studies aiming at reducing unemployment through active and passive employment policies are carried out. Passive employment policies consist of crucial policies that are mostly implemented as countries develop. These policies are implemented by governments in order to prevent economic and social problems that may arise in case of unemployment. Unemployment insurance application, one of the passive employment policies, is also among the methods used in this framework.

2. Calculation Of Staff Costs In Turkey

One of the main cost items incurred by enterprises in the production of goods or services is personnel cost. Personnel costs consist of salaries or wages that enterprises pay for their employees. As of today, salary and wage concepts are confused with each other by many people and they are often used interchangeably as if they mean the same thing. Actually, both of them mean the money earned in return for the employed labor unit, but these words have different meanings functionally. The wage generally refers to the monetary value of the labor units that are pay hired hourly,

daily or manufactured goods or services (per piece). Generally, blue-collar employees in enterprises are paid wages in return for their labor supply. Salary, on the other hand, is the amount of money to be paid at regular intervals as a return for the labor supply that employees offer. Salaries are generally paid on a monthly basis and represent the same monetary amount, regardless of employee productivity. Salaried employees earn a salary by working during the working days and hours of the month. Individuals who work as salaried employees are trained in the field, have a working culture and are referred to as white-collar people in the literature.

Personnel costs, on the other hand, constitute the basic production costs of a product or service by emerging as a price of the labor or time offered by the employees (either waged or salaried) to the enterprises for which they work. Each of the direct raw material and equipment costs, direct labor costs, and general production costs, which constitute the production costs, have their own distinguishing characteristics. Personnel costs are also among the direct labor and indirect labor costs depending on whether or not there is a direct relationship with production.

The costs incurred by the enterprise for its employees are also expressed as workers' wages and expenses. Workers' wages and expenses, which are the equivalent of physical and mental labor expended during the execution of the activities in the enterprises and the production of the services; include salaries and expenses related to direct and indirect workmanship accrued on behalf of individuals working in the private sector. Because the individuals working in the private sector are subject to the Labor Law numbered 4857, the personnel costs related to these individuals are referred to as workers' wages and expenses. The fact that the personnel operating in the public sector or producing services are subject to the Civil Servants Law No. 657 indicates that they are civil servants, not workers.

Direct labor cost is a type of workmanship in which it is possible to determine how much labor is spent, in other words, which can be directly associated with the output in question during the production of goods or services in enterprises. For example; the costs at which the labor force spent on each product can be easily calculated are expressed as direct labor costs. Indirect labor costs, on the other hand, are the type of workmanship in which it is difficult or impossible to determine how much labor is spent during the production of goods or services, in other words, which cannot be directly associated with the output in question. For example; it is a type of workmanship where the labor force spent on each product cannot be determined and the labor cost is calculated by using various distribution keys. For example, wages paid to security guards, gardeners, cleaning staff or cooks in a commodity-producing enterprise are considered indirect labor costs.

Wages, expressed as personnel costs, are calculated in two different ways such as base wage and vested wage. Base wages indicate the money earned by the personnel working in the enterprise under normal conditions. In other words, it is the fee in which social payments, compensations, premiums or salary raises are not included in the calculations. Vested wages include the fringe benefits made in addition to the wages earned by the working personnel under normal conditions. Therefore, vested wages are also known as gross wages. Net wages to be received by the employee are the remaining money following various deductions are made from the gross wages (such as social security premiums, taxes, union fees, and private pensions).

Personnel costs include the insurance premium, which is not deducted from the wages of the employee but paid to social security institutions in terms of the employer's contribution, and the unemployment insurance premium. The total amounts calculated as vested wages are not paid to the working personnel. Some portion of vested wages are paid to the state as taxes, some portion to the Social Security Institution(SSI) as an insurance premium if the union is a member, some portion to the associated union and some portion to the private pension system, as the net amount of the remaining fee is paid to the working personnel.

The personnel working in an enterprise can be classified as personnel responsible for production; personnel responsible for research and development; and marketing, sales, and distribution, or management personnel, specific to the area in which the enterprise operates. Working personnel constitute the costs of the departments or sectors, in which they serve.

In this context, it is possible to divide the personnel costs into two main groups: the costs related to production personnel (in production) and the costs related to non-production personnel (non-production).

2.1. Costs Related to Personnel Responsible for Production

Costs of personnel responsible for production consist of direct and indirect labor costs, as stated earlier. Costs related to direct labor regarding the Uniform Chart of Accounts in Turkey are monitored and recognized in the account of "720 Direct Labor Costs", whereas costs related to indirect labor are monitored and recognized in the account of "730 Overhead Costs". The wage calculations regarding the personnel responsible for production are generally made according to the duration of the employment in the enterprise. As a result of the data obtained from automation systems, the base wage is calculated and the gross wage of the employee is determined by adding it to the collateral performance.

Employees in the enterprises may not always be able to work specifically in the same department or in the production of the same product. Because business executives want to utilize their employees at the highest level and assign their employees to different departments in order them to provide different services whenever their tasks are completed in one department. One of the most important issues to be emphasized here is to calculate the accurate and real personnel costs of that product or service by determining how much time the employee spends while conducting a specified task. To this end, enterprises should pay attention to payroll accounting and analyze where, when and how long they employ people through punch cards or payrolls. Otherwise, the enterprises will not be able to make correct pricing by calculating the inaccurate production costs. Inaccurate pricing policies will adversely influence the competitiveness of enterprises in cases of today's extremely competitive business environment.

2.2. Costs Related to Personnel Not Responsible for Production

Costs related to non-production personnel are associated with the non-production functions in order to carry out operational activities and include the expenses that can be directly recognized as an expense without incurring the cost of the manufactured product or service. Non-production expenses are divided into three categories such as research and development; marketing; sales, distribution and general management expenses. Within this framework, the expenses related to the personnel employed by the enterprises stated below constitute non-production personnel costs. Non-production personnel costs regarding the Uniform Chart of Accounts in Turkey are monitored and recognized in the accounts of "750 Research and Development Expenses", "760 Marketing, Sales and Distribution Expenses", and "770 General and Administrative Expenses".

i. Research and Development Expenses: Research and development expenses include a variety of expenses that are incurred in order to ensure that the products or services produced in the enterprises are produced more efficiently and with higher quality, to improve the existing production methods, to reduce waste, to make more economical production, and to utilize newer and more useful technologies. Various expenses such as materials, workmanship, outsourced benefits and services, tax, depreciation and expenditures during the conduct of research and development activities also constitute research and development expenses (Deran et al, 2017:28).

ii. Marketing, Sales and Distribution Expenses: Marketing, sales and distribution expenses consist of a variety of expenses that are incurred to boost the sales of the products or services produced in the enterprises, to promote the business or to ensure the satisfaction of the customers. In

addition, the materials, employee wages, and expenses, civil servant wages and expenses, external benefits and services, taxes, duties and charges, depreciation and depletion shares and other miscellaneous expenses made by the enterprises for the fulfillment of the marketing, sales and distribution functions and distribution expenses also constitute the marketing, sales and distribution expenses (Karakaya, 2007: 30).

iii. General Administrative Expenses: General administrative expenses cover other expenses incurred by the enterprises to maintain their general management function, required for their business activities, to ensure their coordination, to determine their business policies and all expenses incurred for general management activities such as office services, public relations, personnel affairs, and financial affairs (Özulucan, 2015: 196.)

2.3. Special Cases in Calculating Personnel Costs

Some of the featured regulations which they face in the process of calculation of vested wages related to the workers employed by enterprises in Turkey are listed below.

2.3.1. Overtime Wage

Working overtime stands for the work of over 45 hours per week in the framework of labor law and under the conditions specified in Turkey. According to Article 63 of the Labor Law No. 4857, the working time of an employee working in an enterprise is determined as 45 hours per week at most. Unless otherwise stated, this 45-hour working period is applied by equally dividing the working days of the week. Nonetheless, separate working hours can also be determined between the parties for each day. Regardless of the working conditions, an employee's working hours exceeding 45 hours per week is expressed as overtime work (Sümer, 2018: 144). Overtime wages are generally monitored in the account of 730 General Production Costs. However, if employees working in the private sector are working overtime, the amount of workmanship incurred can be monitored in the account of 720 Direct Labor Costs.

According to Subsection 2 of Article 41 of the Labor Law No. 4857; in cases where the working time has been set by contract at less than 45 hours per week, each extra hour will be remunerated at 1.25 times the normal hourly rate. In cases where the working time has been set by contract at 45 hours per week, each extra hour will be remunerated at 1.50 times the normal hourly rate.

In terms of health rules, for the types of work where the daily working time must be seven and a half hours maximum or less, working hours exceeding this period are referred to as overtime (Mülayim & Kayık Aydınalp, 2019: 412-451).

In order to calculate the overtime wages, first of all, the normal working wage of the personnel working in the enterprise must be calculated. Hourly normal wage of the personnel is calculated as follows.

$$\text{Hourly Normal Wage} = \text{Monthly gross wage of personnel} / 30 \text{ days} / 7.5 \text{ hours}$$

For example, for the personnel whose monthly gross wage is 3,600 TL, the daily wage of the personnel is calculated as 120 TL, and hourly normal wage is calculated as 16 TL.

In enterprises with normal working hours less than 45 hours per week, each extra hour remunerated at 1.25 times the normal hourly rate is calculated as $16 \text{ TL} \times 1.25 = 20 \text{ TL}$,

In enterprises with normal working hours of 45 hours per week, each extra hour remunerated at 1.50 times the normal hourly rate is calculated as $16 \text{ TL} \times 1.50 = 24 \text{ TL}$.

2.3.2. Incentive Premiums

In the incentive premium system determined by the enterprises regarding their employees, the obtained earnings are directly associated with the output or the amount of production. This system includes all payments and collateral performance that attribute the award to success. Wages paid to personnel directly or indirectly refer to a remuneration based on the individual productivity of the employees, the efficiency of the whole enterprise or the profitability of the enterprise. An additional premium can be paid for the value-added they provide to personnel who are more productive or time-efficient (Isaac, 2013: 55-58).

For example; an employee working in the enterprise completes a task with a standard duration of 3 hours and a standard hourly rate of 60 TL within 2.5 hours. For the resulting 0.5 hour timesaving, the employee of the enterprise is entitled to the incentive premium at one-third of the time saved. In this case, the incentive premium is calculated as $60 \text{ TL} \times 0.5 \text{ hour} \times 33.3\% = 10 \text{ TL}$. Incentive premiums are considered as a direct part of personnel costs and can be monitored in the account of 720 Direct Labor Costs account.

2.3.3. Idle Time Costs

Wages pertaining to the unworked periods and sectors in the enterprise constitute a certain part of the personnel costs; namely, idle time costs (Özulucan, 2016: 467).

For example; Workmanship costs accrued for all activities of the enterprise during non-working periods are expressed as idle time costs. If this situation is within the limits that can be seen as normal, however, the costs incurred due to idle time should be monitored in the loss account if

the costs incurred in 730 General Production Costs stem from an unusual situation such as fire, earthquake flood, or strike.

2.3.4. Bonuses

It refers to the additional payments made by the enterprises to their personnel, other than their normal wages, at certain times of the year. Bonus amounts are accepted as an indirect cost factor in production enterprises and are monitored in the account of 730 General Production Costs.

2.3.5. Wages Paid on Annual Leave, Weekends or Public Holidays

Employees of the enterprise are entitled to annual paid leaves from the date they start working at the workplace when they have completed one year of work including the grace period at the workplace. Employees are entitled to annual leave by the completion of service each year, and they use their annual paid leave in the consecutive service year for each calculated service year. Annual paid leave entitlement to employees, depending on the duration of service are as follows (Law No. 4857, Article 53);

- A minimum of 14 days for those who are employed for 1 to 5 years (including the fifth year),
- A minimum of 20 days for those who are employed for more than 5 years and less than 15 years,
- A minimum of 26 days for those who are employed for 15 years or more (including the 15th year).

Likewise, employees of the enterprise can receive their wages even if they do not work on weekends and public holidays. In this context, wages paid to the personnel who are on paid leave or who are not able to work on holidays can be monitored in the account of 730 General Production Costs. However, at least 100% surcharge must be paid to the personnel working on weekends or public holidays, different from normal working days.

2.3.6. Severance Pay

Severance pay is compensation paid to the personnel who worked for a certain period of time due to the termination of their employment contract, as a result of the retirement, disability, military service, death or special reasons specified in the labor law. Severance pay is a collective payment that must be reserved for employees to be paid during their retirement. In case of dismissal of personal for no reason, such compensation comes into play and aims to compensate for the adverse situation encountered by the personnel (Aslan, 2020: 15-24). However, it also functions as a type of unemployment insurance. The duration taken into account in calculating

the severance pay covers the period from at least 1-year employment of the employee in the last workplace to the retirement date. The calculation of severance pay is based on a 30-day gross salary (Ulubey, 2019: 1-4). Regarding severance pay, a ceiling in accordance with Article 14 of the Labor Law No. 1475 is determined each year. In calculating the severance pay to be paid to the employees, it is not possible to exceed the ceiling. An employee loses his/her entitlement to receive severance pay if he/she quits his/her job at will. Severance pay is calculated over gross salary, exempted from all taxes, except for stamp tax.

The amount calculated each year in association with severance pay is accounted for by writing expenses according to the department of the personnel working in the enterprise. Nevertheless, the Turkish Tax Legislation takes into consideration the amount paid when the severance pay is an accepted expense of the law. This amount, which is calculated regarding the severance pay of the personnel working in production and which should be included in monthly production costs, is monitored in the account of 730 General Production Costs. The severance pays of employees working in other departments that are not paid for the current year, but likely to be paid in the consecutive years, are recognized by debiting the relevant function account (such as 750 Research and Development Expenses, 760 Marketing, Sales and Distribution Expenses and 770 General Administrative Expenses), and by crediting the accounts of 372 or 472-Provision for Severance Pay.

2.3.7. Termination Pay

Employment contracts are the contracts that establish personal relationships between the employee and the employer that assume reciprocal liabilities to the parties and establish a permanent business relationship. The subject of the employment contract is to perform a regular and continuous task in return for a certain fee and the term of the task is generally considered to be indefinite. Fixed-term contracts are regulated as an exceptional case, which may apply in the presence of objective conditions according to Article 11 of the labor law. Since the date of termination of the contract is not clear in contracts with indefinite terms, in the absence of reasons for termination, the party wishing to terminate the contract must make a notice to the other party in advance.

It is expressed as a right to the employer for the termination of the employment contract to the other party for a certain period of time, to perform a task that is permanent, and for the employee to find a new job, as a right that is recognized by the social nature of the honesty rule and the employment contract (Şişli & Dulay Yangın, 2014: 79). In this context, if an employment contract has been concluded indefinitely, resignation or

termination must be notified to the other party in advance. These periods are as follows;

- For Employees with Employment Duration Less than 6 Months of Service: 2 Weeks (14 days),

- For Employees with Employment Duration from 6 Months to 1.5 Years of Service: 4 Weeks (28 days),

- For Employees with Employment Duration from 1.5 Years to 3 Years of Service: 6 Weeks (42 days),

- For Employees with Employment Duration More than 3 Years of Service: 8 weeks (56 days).

The party which does not comply with the above-mentioned notice periods is obliged to pay termination pay to the opposite party. For example, for an employee with a monthly salary of 6,000 TL who has been working for 6 years, termination pay is calculated as follows:

$\begin{aligned} \text{Daily Salary} &= 6,000 \text{ TL} / 30 \text{ days} = 200 \text{ TL} \\ \text{Weekly Salary} &= 200 \text{ TL} \times 7 \text{ days} = 1,400 \text{ TL} \end{aligned}$

Since this employee has been working for more than 3 years, a termination pay of 8 weeks' gross wages should be paid. $8 \text{ weeks} \times 1,400 \text{ TL} = 11,200 \text{ TL}$ gross termination pay. The net amount of termination pay arises by deducting income and stamp taxes from the gross amount. Termination pays paid to the personnel working in the production department are recognized in the account of 730-General Production Costs, whereas termination pays paid to the personnel working in other departments are recognized in the related function account (such as 750-Research and Development Expenses; 760-Marketing, Sales and Distribution Expenses and 770-General Administrative Expenses).

2.3.8. Social Security Employer Shares

The social security system in Turkey has undergone a major change process in 2007. Within this framework, three distinct social security establishments, namely, Social Insurance Institution, Retirement Fund and Bağ-Kur (social security organization for the self-employed have been merged under the title of Social Security Institution (SSI) since 2007. Thus, the social security system has been transformed into a system through which different social security funds are united within a single institution and managed from a single headquarter, and has become a more efficient and faster-functioning establishment. The ratio of social insurance coverage to Turkey's population has reached 85.6% as of 2018, while the ratio of social security coverage to Turkey's population, including those who perform the income test is 98.5% (Bolukçu, 2020: 21). As can be seen, the Social Security Institution has been operating as an institution that

would appeal to a large portion of the population in Turkey. Social security premiums (calculated as a certain percentage of employees' gross earnings), which are among the main revenues of the Social Security Institution, are paid by both the employer and the employee.

The calculations for personnel employed in the private sector are made according to the rates specified in Table 1.

Table 1: Deductions from Employers and Employees

Deductions from the Employer	
Social Security Premium Employer's Share	Gross Wage x 20,5%
Unemployment Insurance Premium Employer's Share	Gross Wage x 2%
Deductions from Employees	
Social Security Premium Workers' Share	Gross Wage x 14%
Unemployment Insurance Premium Workers' Share	Gross Wage x 1%
Income Tax Base	Gross Wage - (Social Security Premium Workers' Share + Unemployment Insurance Premium Workers' Share)
Income Tax Amount	Income Tax Base x Income Tax Rate
Stamp Tax Amount	Gross Wage x 0,759%
Total Deductions	Social Security Premium Workers' Share + Unemployment Insurance Premium Workers' Share + Income Tax Amount + Stamp Tax Amount
Net Wage	Gross Wage – Total Deductions + Minimum Subsistence Allowance

Nevertheless, pursuant to Article 32 of the Income Tax Law No. 193, a minimum subsistence allowance (MSA) has been applied since 2008 in the real taxation of wages. Minimum subsistence allowance is calculated in accordance with the following percentages of the annual gross amount of the minimum wage for workers over the age of 16, which is valid at the beginning of the calendar year when the wage is obtained by considering the personal and marital status of the wage earner:

- 50% for the taxpayer per se,
- 10% for the spouse who does not work and has no income,
- Separately for each child; 7.5% for the first two children, and 5% for other children.

The minimum subsistence allowance per month is calculated by dividing the value to be found as a result of the product multiplied by the

ratio of 15% which corresponds to the first income percentile of the tax tariff by 12 and deducted from income tax.

Minimum Subsistence Allowance (MSA) Monthly Amount = [(Monthly Gross Amount of Minimum Wage x MSA Rate) x 15%]

Example: Married, unemployed and father of two children, Mr. “X” has a gross salary of 2,943 TL. in January 2020. Mr. “X” worked fully in January. The net salary of Mr. “X” in January is calculated and accounted for as follows.

Social Security Premium Workers' Share = 2,943 TL x 14% = 412.02 TL
Unemployment Insurance Premium Workers' Share = 2,943 TL x 1% = 29.43 TL
Income Tax Base = (2,943 TL – (412.02 TL + 29.43 TL)) = 2,501.55 TL
Income Tax Amount ² = 2,501.55 TL x 15% = 375.23 TL
Stamp Tax Amount= 2,973 TL x 0.759% = 22.34 TL
Minimum Subsistence Allowance Rate = (50% + 10% +7.5% + 7.5%) = 75%
Minimum Subsistence Allowance Monthly Amount = [(2,943 TL x 75%) x 15%] = 331.09 TL
Social Security Premium Employer's Share = 2,943 TL x 20.5% = 603.32 TL
Unemployment Insurance Premium Employer's Share = 2,943 TL x 2% = 58.86 TL
Net Wage of the Personnel = (Gross Wage – Total Deductions+ Minimum Subsistence Allowance)
= Gross Wage – (Social Security Premium Workers' Share+ Unemployment Insurance Premium Workers' Share + Income Tax Amount+ Stamp Tax Amount) + Minimum Subsistence Allowance
= 2,943 TL – (412.02 TL + 29.43 TL + 375.23 TL + 22.34 TL)+ 331.09 TL
= 2,435 TL

According to the Uniform Accounting System, the journal entry indicating that the company paying a contribution on behalf of its employees is as follows.

Table 2: Accounting Record

/	
770 GENERAL ADMINISTRATION EXPENSES	3.605,18
770 01 Gross Wage	2.943,00
770 02 Social Security Premium Employer's Share	603,32
770 03 Unemployment Insurance Premium Employer's Share	58,86

² It is assumed that the working staff is in the 15% tax bracket.

136 OTHER VARIOUS RECEIVABLES		331,09	
136 01 Minimum Subsistence Allowance	331,09		
360 TAXES AND FUNDS PAYABLE			397,57
360 01 Income Tax Amount	375,23		
360 05 Stamp Tax Amount	22,34		
361 SOCIAL SECURITY WITHHOLDINGS PAYABLE			1.103,63
361 01 Social Security Premium Workers' Share	412,02		
361 02 Social Security Premium Employer's Share	603,32		
361 03 Unemployment Insurance Premium Workers' Share	29,43		
361 04 Unemployment Insurance Premium Employer's Share	58,86		
335 PAYABLES TO EMPLOYEES			2.435,07
<i>Due to wage accrual</i>			
/			

The tariff, which is based on the taxation of income subject to income tax pursuant to Article 103/1 of the Income Tax Law, is as shown in Table 3 for the taxation of income in 2020.

Table 3: Income Tax Rates of 2020

INCOME TAX RATES OF 2020				
Up to 22.000 TL				15%
Of 49.000 TL	For 22.000 TL	3.300 TL	For More	20%
Of 120.000 TL	For 49.000 TL	3.300 TL	For More	27%
(Wage Income) Of 180.000 TL	For 49.000 TL	8.700 TL	For More	27%
Of 600.000 TL	For 120.000 TL	27.870 TL	For More	35%
(Wage Income) Of 600.000 TL	For 180.000 TL	44.070 TL	For More	35%
More than 600.000 TL	For 600.000 TL	195.870 TL	For More	40%
(Wage Income) More than 600.000 TL	For 600.000 TL	191.070 TL	For More	40%

Table 4 indicates in detail the shares of tax in costs incurred as well as the net wage and the cost of an employee with an unemployed spouse and two children who is subjected to a 15% tax rate to the employer in accordance with the minimum wage determined for the year of 2020. According to the calculations made, the net wage that these personnel can earn amounts to 2,435.07 TL, whereas the cost of this person to the enterprise is 3,605.18 TL. Taxes and social security premiums constitute 32.46% of the cost of the personnel to the enterprise.

Table 4: Cost of Minimum Wage of 2020 to the Employer and the Share of Taxes in Cost

Gross Wage	2.943,00
Social Security Premium Workers' Share (14%)	412,02
Unemployment Insurance Premium Workers' Share (1%)	29,43

Income Tax Withholding Base	2.501,55
Calculated Income Tax	375,23
Minimum Subsistence Allowance	331,09
Income Tax Payable	44,14
Stamp Tax Amount (0,759%)	22,34
Toplam Vergi Tutarı	66,48
Total Tax Amount (Workers' Share)	441,45
Net Wage	2.435,07
Social Security Premium Employer's Share (20,5%)	603,32
Unemployment Insurance Premium Employer's Share (2%)	58,86
Cost of the Minimum Wage to the Employer	3.605,18
Total Tax Amount	66,48
Total Premium Amount	1.103,63
Total Tax Amount + Total Premium Amount	1.170,11
Tax Share Of Employee In The Cost Of The Employer	1,84%
Social Security Share Of The Employee Within The Cost Of The Employer	30,61%
Tax And Social Security Share Of The Employee Within The Cost Of The Employer	32,46%

2.3.9. Other Personnel Costs

In addition to the basic personnel costs mentioned above, various benefits such as financial responsibility compensation, service, shift raises and child, birth, death, marriage, food, and clothing aids are among the factors that constitute the personnel costs (Civelek & Özkan, 2016: 184).

3. Unemployment Insurance Applications In The World And Turkey

Unemployment insurance had begun to be implemented in the late 19th and early 20th centuries in the world and was first applied compulsorily in England as of 1911. It began to be implemented especially in other European countries in order to cure the great unemployment and the subsequent socio-economic issues that emerged after the First World War and the Great Depression of 1929 (Taşçı & Yılmaz, 2009: 603).

In 1999, the Unemployment Insurance is an application that has first taken place among the passive employment policies along with Law No. 4447 in Turkey. The first premium collection related to Unemployment Insurance has been made in June 2000. The first Unemployment Insurance payment has been made out of the Unemployment Fund in 2003. The main purpose of unemployment insurance is to look at the future with confidence against the possible unemployment risks that the individuals face; in other words, due to the fact that it is not known what will happen tomorrow, it is

already necessary to take various measures due to prudence (Görücü et al., 2012: 127-128).

There are different definitions regarding unemployment insurance. Unemployment insurance; "...involves an insurance branch that is directed towards the purpose of meeting the income losses of the dependent employees whose employment ends due to various reasons, against their own will, partially or temporarily during this period" (Ekin, 1994: 22).

According to the Article 47 of the Unemployment Insurance Law No. 4447, unemployment insurance is defined as "compulsory insurance that functions with an insurance technique that covers the income loss incurred by the insured individuals who have lost their jobs without any intentions and flaws, despite their desire to work, ability, health and adequacy, and to a certain extent."

In other words, government officials have two types of policies to fight unemployment. The first involves preventing the causes of unemployment, whereas the second involves mitigating the consequences of unemployment. Policies aiming at prevention of the causes of unemployment involve economic policies that increase employment capacity, improve savings, investment and production technologies, whereas unemployment insurance is among the most important policies based on mitigating the results of unemployment (Görücü et al., 2012: 129).

Some of the risks included in the concept of social security in Convention No. 102 on the "Minimum Security Norms of Social Security" published by the International Labor Organization (ILO) in 1952 are determined as health benefits, occupational accidents and occupational diseases, diseases, unemployment, aging, maternity, injuries, deaths and family burden. Among these risks, unemployment is defined as the temporary suspension of the individual's earnings due to the inability to obtain suitable employment although the individual is capable of, and available for, work (ILO, C102 - Social Security (Minimum Standards) Convention, 1952). Convention No. 102 was approved by the Grand National Assembly of Turkey in 1971 and was adopted by Cabinet decision in 1974. Unemployment insurance was accepted by the Unemployment Insurance Law No. 4447 on July 25, 1999, and it was published in the official newspaper dated September 8, 1999, and as of June 01, 2000, unemployment insurance premium began to be deducted from employers on behalf of the insured (Çolak, 2017: 1382). OECD member countries to benefit from unemployment insurance in Turkey with some conditions and duration are shown in Table 5.

Table 5: Conditions, Durations and Unemployment Benefit Rates of Some OECD Member Countries to Benefit from Unemployment Insurance

Countries	Condition for Benefiting from Unemployment Insurance	Duration of Benefiting from Unemployment Insurance	Percentage of Unemployment Benefit to Actual Salary (%)
The United States of America	140 days of employment	23 months	53
Japan	180 days of employment in 12 months and a minimum of 11 days of premium payments for each month	9 months	50-80
France	120 days during the last 28 months for individuals under 50 years of age, 610 hours of premium payments during the last 36 months for individuals over 50 years of age.	24 months until the age of 50 36 months over the age of 50	57-75
The Netherlands	182 days in 9 months	22 months	75 for the first 2 months, 70 following the 2nd month
Germany	12-month employment and 365 days of premium payments in 2 years,	12 months up to 50 years of age, 24 months over 50 years of age,	60
Greece	125 days of employment and premium payments in 14 months or; 200 days of employment and premium payments in 24 months	12 months	27.1
Italy	365 days of premium payments in 24 months,	10 months under 50 years of age, 12 months between 50-55 years of age, 16 months over 50 years of age,	60 during the first 5 months; 50 after the sixth month
Slovenia	270 days of premium payments in 24 months,	Although subject to change according to age and duration of unemployment; A minimum of 2 months , and a maximum of 25 months ,	70 during the first 3 months; 60 after the third month

Spain	360 days of premium payments in 72 months,	Subject to change according to the number of days of premium payments A minimum of 4 months , and a maximum of 24 months ,	70 during the first 6 months; 60 after the sixth month
Sweden	180 days of employment and 360 days of premium payments in 12 months	15 months ,	80 during the first 9 months, 70 after the ninth month
Switzerland	360 days of employment and premium payments in 24 months,	18 months ,	70
Austria	360 days of employment and premium payments in 24 months,	30 weeks , individuals employed for 156 weeks within 5 years, 39 weeks , individuals at and over 40 years of age, and individuals employed for 312 weeks within 10 years, 12 months , individuals at and over 50 years of age, and individuals employed for 468 weeks within 15 years.	55
Turkey	A minimum of 600 days of unemployment insurance premium payments in 36 months, and continuous employment with premium payments within the last 120 days	Within the last 3 years; 6 months for the insured employees for 600 days, 8 months for the insured employees for 900 days, 10 months for the insured employees for 1080 days,	40

Source: The table is prepared by courtesy of Emek Araştırma Raporu-4 (2016), DISK-AR, <http://www.oecd.org/els/soc/benefits-and-wages-country-specific-information>, Unemployment Insurance Benefits 2010, OECD and <https://www.iskur.gov.tr/is-arayan/issizlik-sigortasi/issizlik-odeneği>.

As seen in Table 5, OECD member countries' unemployment insurance programs, conditions, duration and amounts differ from country to country. In the mentioned countries; to benefit from unemployment benefits, it is necessary to have paid a premium between 120 and 600 days. It is observed

that individuals who benefit from unemployment insurance are entitled to receive unemployment benefits between 2 months and 36 months, and the number of unemployment benefits received varies between 27% and 80% of their actual salaries.

Generally, in countries with a high level of development and welfare, it is observed that the conditions for unemployment salaries are more convenient, whereas unemployment salaries and the duration to benefit from the salary are higher.

4. Conclusions

As stated in the first part of the study, some of the cost elements associated with the personnel of an enterprise are mandatory but may differ for each employee or each enterprise. For these reasons, in the study, the explanations about the elements related to the main personnel costs are made and the specific issues are expressed through the given examples and accounting records. Then, the unemployment insurance application, which constitutes a certain portion of the social security system, is emphasized and conceptual and numerical basic information is presented.

Upon considering the countries in the world, unemployment is one of the main socio-economic problems faced by both developed countries and many developing countries. The fact that individuals are unemployed or unable to find a job causes some problems. Countries pursue various approaches and policies to protect the unemployed by preventing these problems. The most widely used among these policies is unemployment insurance. Unemployment insurance aims to eliminate the negative consequences of unemployment. Nonetheless, the point to be emphasized here is not an economic policy aiming to reduce unemployment, but a social security policy that aims to eliminate the adverse impacts caused by unemployment.

The main revenues of the unemployment insurance premiums for unemployment insurance in Turkey include the earnings and revenues obtained from the evaluation of these contributions, state contributions, collected fines, late payment penalties, and interest.

In Turkey, the number of unemployed aged 15 and above has been increased by 4 million 308 thousand people, increasing 327 thousand people compared to the previous year, as of November 2019. The unemployment rate went up to 13.3% (<http://www.tuik.gov.tr/>).

Payments made to beneficiaries of the unemployment allowance in Turkey in 2016, 2017, and 2018 was 4.5 billion TL, 4.9 billion TL, and 5.9 billion TL, respectively. However, the funds transferred to employers from the unemployment fund increased more rapidly during that period. While the contributions made to employers were 7.4 billion TL in 2016, it

increased by 10.8% in 2017 to 8.2 billion TL, and in 2018, it increased by 134% to 17.5 billion TL with the impact of the economic crisis . Within the scope of unemployment insurance, the number of people benefiting from unemployment benefits is limited and this fund will grow rapidly, and the total fund size will reach 138.1 billion TL by 2020 (Karatepe, 2019: 1).

The main reason why the unemployment insurance fund increases and grows year after year is that the conditions envisaged to benefit from unemployment benefits are heavy, the period of benefiting from unemployment benefit is short, and the unemployment pension corresponds to only 40% of the salary in the normal period. In 2019, 1 million 961 thousand people applied to unemployment benefits, and 1 million 32 thousand people benefited from unemployment benefits. Another point to be noted here is that unregistered people will not be able to benefit from this allowance.

Another important issue is that this fund, which has reached high amounts as a result of the participation of the state, employers and employees, needs to be managed, evaluated and used in a fair, transparent and professional manner, without being affected by political and political concerns.

Although the unemployment benefit collected in the unemployment insurance fund reaches high amounts, short-term and low rates of payment to those benefiting from this benefit are considered to be important problems. As a result of this situation, some people who deserve unemployment insurance allowance and cannot get along with their allowance choose the way of working informally. It is crucial to prevent such abuses through an effective control system by increasing the unemployment benefits at appropriate rates.

When the unemployment allowance corresponds to 40% of the normal salary, the lower limit is calculated as 40 % of the minimum wage and the upper limit as 80% of the minimum wage, the lowest unemployment benefit in 2019 will be 1,177 TL and the highest will be 2,354 TL.

References

- ASLAN Lale, (2020), “Kıdem Tazminatının Muhasebeleştirilmesinde Farklı Yöntemlerin Uygulanması”, *Lectio Socialis*, 4(1), pp.15-24.
- BOLUKÇU, Ferhat, (2019), “Türkiye Sosyal Güvenlik Harcamalarının Kapsamı ve Finansman Yapısı”, *Türkiye Sağlık Bilimleri ve Araştırmaları Dergisi*, 2(2), pp.11-27.
- CİVELEK, Muzaffer and ÖZKAN, Azzem, (2006), *Maliyet ve Yönetim Muhasebesi*, Detay Yayıncılık, Ankara.

- ÇOLAK, Aytül, (2017), “Türkiye’de İşsizlik Sigortasının Gelişimi”, *International Journal of Social Sciences and Education Research*, 3(4), pp.1381-1393.
- DERAN, Ali, ÖZULUCAN, Abitter and ARSLAN, Seçkin, (2017), “Araştırma ve Geliştirme Giderlerinin Vergi Mevzuatı, Ar-Ge İle İlgili Yasal Düzenlemeler; Tekdüzen Muhasebe Sistemi ve 38 No’lu Türkiye Muhasebe Standardına Göre Muhasebeleştirilmesi”. *İşletme ve İktisat Çalışmaları Dergisi*, 5(4), pp.27-43.
- DİNLER, Zeynel, (2003), *İktisada Giriş*, Ekin Kitabevi, Bursa.
- EKİN, Nusret, (2003), “Türkiye’de İşsizlik: İş Aramayan İşsizler-Kırsal Yoksullar-Kentsel Kayıt Dışı Yapay İstihdamdakiler-Açık İşsizler”, *Kamu-İş Dergisi*, Vol. 7, pp.2-21.
- EKİN, Nusret, (1994), *İşsizlik Sigortası (Teorik Boyutları ve Dünya Uygulamaları)*. Türk Tarih Kurumu Yayınları, Ankara.
- GÖRÜCÜ, İbrahim, AKBİYİK, Nihat and KOÇ, Muzaffer, (2012), “Türkiye’de İşsizlik Sigortası Uygulaması ve Sonuçları (2000-2010)”, *e-Journal of New World Sciences Academy*, 7(2), pp.127-128.
- ISAAC, Alfred, (1949), “Ücret Sistemleri”, *Sosyal Siyaset Konferansları Dergisi*, (2), pp.55-58.
- KANCA, Osman C., (2012), “Türkiye’de İşsizlik ve İktisadi Büyüme Arasındaki Nedenselliğin Ampirik Bir Analizi”, *Ç.Ü. Sosyal Bilimler Enstitüsü Dergisi*, 21(2), pp.3.
- KARAKAYA, Mevlüt, (2007), *Maliyet Muhasebesi*, Gazi Kitabevi, Ankara.
- KARATEPE, Yalçın, (2020), <https://tr.euronews.com/2019/01/28/issizlik-fonu-issizlerden-cok-isverenlere-mi-destek-oluyor-kaynaklarnasil-kullaniliyor> (Date Of Access: 20.02.2020)
- MÜLAYİM, Baki O. and AYDINALP KAYIK, Aslıhan, (2019), “Fazla Çalışma Ücretinin Hesaplanması”, *Hacettepe Hukuk Fakültesi Dergisi*, 9(2), pp.412-451.
- ÖZULUCAN, Abitter, (2016), *Genel Muhasebe İlkeleri ve Uygulamaları*, Dizgi Ofset, Konya.
- ÖZULUCAN, Abitter, (2015), *Dönem Sonu İşlemleri ve Muhasebe Uygulamaları*, Türkmen Kitabevi, İstanbul.
- ŞİŞLİ, Zeynep and YANGIN, Dilek D., (2014), “Türk Borçlar Kanunu Çerçevesinde İhbar Önelllerinin Sözleşme İle Artırıldığı Hallerde İşçinin İhbar Tazminatı Sorumluluğu”, *Hacettepe Hukuk Fakültesi Dergisi*, 4(2), pp.77-92.

- SÜMER, Haluk H., (2018), *İş Hukuku*, Seçkin Yayıncılık, Ankara.
- TAŞCI, Faruk and YILMAZ Yasin, (2009), “İşsizlik Sigortasının Türkiye’deki Durumu: Eleştiriler ve Çözüm Önerileri”, *İstanbul Üniversitesi Sosyal Siyaset Konferansları Dergisi*, Vol. 56, pp.603.
- ULUBEY, Raşit, (2019), “Mevcut Kıdem Tazminatı Uygulamasının Genel Esasları”, *Lebib Yalkın Mevzuat Dergisi*, Vol. 185, pp.1-4.
- ÜNSAL, Erdal M., (1999), *Makro İktisat*, Kutan Ofset Matbaacılık, Ankara.
- ÜSTÜNEL, Besim, (1990), *Makro Ekonomi*, Mısırlı Matbaacılık, İstanbul.
- YAVUZ, Arif, (2012), “İşgücü, İstihdam ve Kriz Olgusu: Sektörel Etütler ve Araştırmalar”, *İstanbul Ticaret Odası Yayınları*, 2010-122, GM Matbaası, İstanbul.
- YILDIRIM, Kemal and KARAMAN Doğan, (2001), *Makro Ekonomi. Eğitim, Sağlık ve Bilimsel Araştırma Çalışmaları Vakfı Yayınları*, No: 145, Eskişehir.
- YILDIRIM, Kemal, KARAMAN, Doğan and TAŞDEMİR, Murat, (2012), *Makro Ekonomi*, Seçkin Yayıncılık, Ankara.
- 193 Sayılı Gelir Vergisi Kanunu.
- <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=33778> (Date Of Access: 20.02.2020)
- https://www.ilo.org/dyn/normlex/fr/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C102 (Date Of Access: 07.02.2020).

ORGANISATIONAL CHANGE: A CASE STUDY OF BLOOMBERG

Seray Toksöz

Introduction

The saying that the sole continuous thing within companies is the continuous change itself is a commonly used and acknowledged idea among scholars from management and organisation fields. The notion organisational change has been vastly studied by academics and it has been the subject of several course books as well (Elving, 2005).

Organisational change is defined as the movement from an established status into a novel and better state in order to suit the surrounding environment better. Hence, Nelson (2003) describes change as leaving a model as well as an expected and standard reaction towards the situations in the environment.

Although there is such a huge interest in the topic and a vast number of studies concerning the subject of organisational change, attempts for organisational change frequently fail. Noticeably, nearly more than 50 percent of organisational change attempts do not succeed in terms of attaining the intended outcomes or arrive at a gridlock that prevents them from getting the results (Bennebroek Gravenhorst et al., 2003). The reasons for the failure of the organisational change attempts are explained by Bennebroek Gravenhorst et al. (2003) and Elving (2005) as the factors of corporate culture, inappropriate timing or the function of change-agents.

Research Aim and Objectives

The aim of this research is to explore the effectiveness of organisational change in Bloomberg L.P. In the light of given aim, following objectives are drawn:

- To identify the challenges Bloomberg faced in recent economic downturn and its responses to these challenges.
- To explore the change process in Bloomberg
- To discover the attitudes and opinions of employees towards the implemented change in Bloomberg.
- To identify the problems in implemented change process by Bloomberg

Organisational Change

Change is described as the course of shifting to a novel condition of affairs, which is dissimilar to the current conditions (Smith, 2005). According to Pettigrew et al. (2001), change can be defined as the

progression of separate as well as cooperative happenings and activities, which relate to each other during the process of time in a frame that shape the ways the organisations improve or modify. In the light of given definition, the context of change can be illustrated.



Figure 1. The Context of Change

Source: Smith (2005)

Although several change models are brought forward by scholars, Lewin’s (1947) perspective is regarded as the most comprehensive one. According to Lewin, course of change occurs in three stages. The initial stage is proposed as the unfreezing stage, which concerns with investigating the company’s existing condition. If any requested condition arises in this stage, then the balance should be diluted for the old approach to be abandoned. This stage is followed by the movement, which deals with the adjustment of the novel behaviour and brand-new attitudes to substitute the old approaches. The last stage is the freezing stage during which the actions are shaped into new patterns and a new balance is established (Ford, 2009).

Burnes (1996) argues that the model of Lewin (1947) basically stands for the courses involved during deliberate change. Deliberate change is defined by Lippitt et al. (1958) as a calculated involvement of mediators aiming at transforming corporate executions directed to more beneficial results.

The deliberate change is an indication of the teleological change theory that is developed by Van de Ven and Poole (1995), suggesting that corporate change is stimulated by and progressed by the transforming behaviour of the individuals depending on the determined goals of the

organisation. On the other hand, the theory of Lewin is acknowledged and supported by a great number of scholars and several change course approaches involve resembling attributes (Elrod & Tippett, 2002; Ford, 2009).

Attitudes to Change

Attitudes are described as particular uniformities regarding a person's senses, considerations and tendencies to behave in a certain way when confronted by a situation in his surroundings. Likewise, Arnold et al. (1995) state that attitudes are the individuals' inclination to contemplate, feel and act in a particular way towards an item of the attitude, either in the favour or in the opposite of the item. In the view of Elizur and Guttman (1976), attitudes in the course of a change involve the individual's apprehension regarding change, emotional responses towards change and inclinations of manner towards change.

Piderit (2000) states that there are different employee reactions towards change. According to the author, these reactions can be in the form of strong positive attitudes towards change, which connotes that the employees believe that the change is necessary for the company's future achievements, as well as strong negative attitudes, which suggests that the employees believe that the change in consideration can affect the company significantly badly (Piderit, 2000). In this perspective, change can be comprehended and accepted by the employees in a quite manner and be supported or it can be perceived really in a rather negative way and be opposed by the employees (Vakola et al., 2004). On the other hand, receiving positive responses are verified by some researches to be critical in the success of the corporate goals and objectives as well as organisational change (Kotter, 1995; Eby et al., 2000).

On the contrary, when there is vagueness in the environment in relation with the organisational or individual change, which is generally succeeded by consolidation activities such as mergers and acquisitions, a number of negative states including distress, degraded job satisfaction, reduced dedication to the organisation and low confidence may arise (Vakola et al., 2004).

It is suggested by scholars that feelings and reactions towards organisational change may be in a considerably severe form; it is even found similar by scholars to the personal reactions towards disturbing changes in life such as loss of a relative or sorrow (Grant, 1996).

As an example for this, Perlman and Takacs (1990) find the sorrow and distress that a person experiences in the case of a death rather resembling to the feelings that a person go through in case of an organisational change. Furthermore, it is argued that there are several sensational phases that an

individual can go through in the course of change including states of balance, rejection, bargaining, resentment, despair, confusion, acknowledgement, sincerity, willingness and repetition (Vakola et al., 2004).

Bovey and Hede (2001) argue that these reactions toward change, which may in some cases bear objection to change, are totally natural because the change connotes to a movement from a known state towards an unknown. In this respect, resistance to change is recognised and vastly studied by academics in terms of a critical factor of success or failure (Trader-Leigh, 2002).

According to Vakola et al. (2004), if most of the employees do not believe that the organisation does generate encouraging schemes to change, including the dedication of the senior management, appropriate distribution of the company resources, awarding systems, guidance, contribution in the decision making and execution processes, the success of the organisational change becomes debatable (Vakola et al., 2004).

Methodology

This study adopts mixed methodologies both survey and interview methods were used. Daly et al. (2003) argue that when analysing organisational change and the complicated relationships among all influencing elements, qualitative research methods including interviews should be preferred. In this study, interview technique is used to identify the organisational factors that forced Bloomberg to change. In this process, preliminary interviews with two middle managers were carried out. The questions in the interviews were prepared in open-ended style. In order to identify the employees' attitudes toward organisational change, questionnaires were used. In the development of the questions in the questionnaire, the factors identified in the interviews were used as well as existing literature regarding attitudes to change. Dunham et al. (1989) argue that attitude in the presence of change usually involves an individual's comprehension regarding change as well as his/her sensational responses and behavioural inclinations towards change. Likewise, Elizur and Guttman (1976) categorise people's attitude towards organisational change into three classes. The initial one is cognitive reactions, including the individual's thought about the results of the change such as its benefits or shortcomings etc. The second class is affective reactions, including the senses of being related to or content with or worried about the change. And the last class is instrumental reactions, including the proceedings that have already been performed or will be performed in the coming times in the favour or opposite of change (Vakola et al., 2004).

The population of this study includes all employees of Bloomberg. Since it is impossible to perform the interviews and questionnaire on the

entire population, sampling method was applied. Among non-probability sampling techniques, convenience sampling was employed in the first place when identifying the interviewees. In selecting the interviewees, the participants were chosen according to their closeness to the researcher. In selecting the employees to participate the questionnaire, snowball sampling was used.

Qualitative research methods require utilisation of interpretive techniques in the analysis of study based on phenomenological philosophy. Therefore, in this study, data collected through interviews were described and then interpreted. The quantitative data provided by the surveys were analysed with the SPSS statistical analysis programme.

Data Analysis

Demographic Characteristics of the Participants

Demographic Characteristics		%
Gender	Male	66
	Female	34
Age	18-30	37
	31-40	34
	41-50	17
	51-60	12
Occupation	Sales Associate	66
	Data Analyst	11
	Account Manager	9
	Customer Service	14
Working Length for Bloomberg	Up to 1 Year	17
	1-2 Years	49
	2-4 Years	20
	More than 4 Years	14

Questionnaire Analysis

Questions			Questions		
		%			%
Adaption to Recent Turmoil	Strongly Agree	3	Communication between the Management and the Employees	Strongly Agree	14
	Agree	20		Agree	20
	Neutral	49		Neutral	29
	Disagree	14		Disagree	20
	Strongly Disagree	14		Strongly Disagree	17
Reducing the Number of Employees	Strongly Agree	3	Tension between the Management and the Employees	Strongly Agree	11
	Agree	17		Agree	9
	Neutral	37		Neutral	60
	Disagree	29		Disagree	17
	Strongly Disagree	14		Strongly Disagree	3
Effect of Changes	Strongly Agree	12	Improved Motivation	Strongly Agree	43
	Agree	14		Agree	23
	Neutral	46		Neutral	6
	Disagree	11		Disagree	17
	Strongly Disagree	17		Strongly Disagree	11
Performance Recognition	Strongly Agree	29	Improved Commitment	Strongly Agree	17
	Agree	34		Agree	26
	Neutral	14		Neutral	31
	Disagree	14		Disagree	15
	Strongly Disagree	9		Strongly Disagree	11
Improved Flexibility in Decision Making	Strongly Agree	31	Training Opportunities	Strongly Agree	11
	Agree	26		Agree	14
	Neutral	29		Neutral	20
	Disagree	8		Disagree	26
	Strongly Disagree	6		Strongly Disagree	29
Reduced Number of the Employees in Teams	Strongly Agree	37	Top Management Commitment to Changes	Strongly Agree	14
	Agree	29		Agree	23
	Neutral	11		Neutral	9
	Disagree	14		Disagree	31
	Strongly Disagree	9		Strongly Disagree	23
Transparent Business	Strongly Agree	6	Effect of Future of Changes on the Bloomberg	Strongly Agree	3
	Agree	11		Agree	6
	Neutral	37		Neutral	60
	Disagree	23		Disagree	26
	Strongly Disagree	23		Strongly Disagree	5
Success of Changes Implemented	Yes	40			
	No	60			

Interview Analysis

Interview analysis aimed to identify reasons for change, resistance from the employees and outcomes of change in Bloomberg. With this aim in mind, two interviews were conducted. The first interview is conducted with relationship and sales manager in Bloomberg and has been working for the company for about 6 months. The second interview is conducted with relationship and sales manager however has been working for the company over 10 years.

From the interviews it was identified that the business has significantly reduced as the financial markets that Bloomberg heavily depends on have been performing very poorly therefore the market players who are Bloomberg's main clients have suffered a lot and lost a lot of money and some even went bankrupt.

From the interviews it was also identified that first, company has introduced an additional performance related bonus, which is aimed to increase the incentive of the employees to work harder and to seek more opportunities in establishing new businesses. Furthermore, management has started in filtering the sales people, they have forced the poor performers to leave the company and only kept the top performers, who got generously rewarded by previously mentioned bonus for their hard work. The last change was that the sales teams became smaller.

Instead of having 20 people in the team, now each team has started to employ 10-12 people. In addition in order to get more clients to at least replace the lost ones the company has started to seriously consider the marketing and sales campaigns.

From the interviews it was identified that the core idea was staying competitive in this business turmoil. Indeed, it was expected that smaller teams would allow the team members to communicate and work closer with their manager as well as it would be much easier for the manager to assess the performance of each team member. The main idea was for everyone in the company to work closer with the management and for the transparency to increase where everyone can see everything that you are doing. It is expected that this strategy will improve the performance of the employees and thus overall performance of the organisation. Therefore strategy/ management re-structure, team restructuring, performance related bonus restructuring were considered as key to stay competitive for Bloomberg.

In addition, higher bonuses paid to top performers and more training introduced to make the employees more productive and more knowledgeable. However, employees are enforced to absorb these changes since the management had no other alternatives than implementing the changes as the company was get into rather difficult situation due to lost clients.

From the interviews it was also identified that the commitment of leaders was very high as during that period. In fact, minor resistance were in the place from the employees especially when management started to ask poor performers to leave company. However, when staying employees are encouraged as they are the top performers, potential resistance are eliminated significantly. Indeed, change had an impact on especially morale and motivation of the sales force since their colleagues are asked to leave as well as they started to work under the new conditions. However, change was quite effective as it increased the productivity of the company: especially recently implemented bonus scheme help company to gain more businesses than the competitors as the employees are more end-result focus. But it is hard to judge whether the changes will work in the long run.

Discussion

It is found in this study that indecisiveness was the major problem among the Bloomberg employees. Indeed, found proportions suggest that majority of the Bloomberg employees were indecisive in terms of whether Bloomberg has adopted the recent business turmoil well or not; whether Bloomberg maintained its competitive position or not; whether Bloomberg's operations become more transparent or not; whether communication is improved in Bloomberg or not; whether tension between the management and employees increased or not; and whether recently implemented changes were necessary or not. This indecisiveness among the employees shows a communication problem between the management and employees since the employees were not informed about the happenings. This clearly created uncertainty among the employees about the future of the company and future of themselves in the company since this situation may make them feel that they will be the next to be get rid of by the management. This may cause a de-motivation among the employees and thus resistant among the employees may be increase. At this point, it should also be noted that, explaining the necessities that underlie the implemented changes to the employees is crucial for the company. Improving communication, making employees informed, letting them know about the issues and challenges would also be helpful for decreasing the tension between the management and employees.

It has been also found that there is a belief exists among the employees of Bloomberg that there is no commitment of top management towards change. This shows that employees only feel these changes are related to recent economic downturn and nothing more. Considering earlier findings, it may be said that since the employees were not informed by the management, they cannot understand the ultimate reason behind the implemented change. Although most of the employees were find as not happy for the Bloomberg's cost cutting strategies; most of them also found as happy since they believe that still being employed means they are the good performers of the company and this is recognised by the management. As well as this, there is belief among the employees that reduced number of team members improved the flexibility in decision making and their performance is more recognisable by the management since number of employees in teams is decreased.

It has been found that recently implemented bonus scheme helped to improved employee motivation as well as helped business to gain more clients in this business turmoil. The implemented bonus scheme also improved the commitment of the employees to Bloomberg. Interestingly, although interviewees mentioned about the improved training opportunities, according to majority of the Bloomberg employees, training opportunities in the company did not improve. And finally, it has been found that implemented changes are not successful according to majority of the Bloomberg's employees.

For the change attempts in an organisation to be successful, an impetus and urgency feeling should be created. This means, it is important that the requirement for change is shared by all employees (Lewin, 1951). However, it has been found in this study that employees of Bloomberg do not believe that implemented changes were necessary. Therefore, this shows that urgency feeling couldn't be created in Bloomberg. In fact, according to Lewin (1951), this step is a critical aspect in achieving organisational change therefore a sensible provocation should be performed at the beginning of organisational change for overcoming contentment and self-decency (Lewin, 1951). Although Lewin's suggestion is surpassed by further studies, it is still accepted that generating such a provocation helps destabilising the current situation and stimulating people toward change. Considering the results of this study, it can be said that before the implemented changes, employees were not informed by the management, changes mostly forced by the management. As a result of this situation it can be said that it is difficult for Bloomberg to establish a requirement for change since a significant degree of discontent regarding the existing conditions is present.

Considering force accepted by one the interviewees as well as the result of the questionnaire, leadership and management style of the Bloomberg managers should be discussed as the next issue. When recalling the literature, Marcouse et al. (2003), stated that management style is the manner which manager adopts to handle their staff and has three forms, which are democratic, oppressive and paternalistic. In this perspective they stated that, managers in oppressive approach usually regard employees as people who can be stimulated by merely money and therefore, they take on devising the way every assignment should be performed and providing the employees with the necessary instruments. This is based on the approach of Taylor's Instrumentality Theory.

However, democratic management depends on Herzberg's enticements or Maslow's hierarchy of needs, preferring the employee participation in decision-making. Therefore, employee suggestions and their involvement in debates are important in this style.

On the other hand, paternalistic management implies that the managers act like fathers and aims the best options for the employees. The suggestions of the employees are considered, while the decision is taken by the manager. The chosen management style significantly influences the employee enthusiasm and productivity. Considering the result of this study it can be said that management style of the Bloomberg overlaps the category of first approach, oppressive, since management implemented higher bonus scheme while expecting employees to adapt to change without informing the necessities and needs.

Similarly, employees found as lack of belief towards the commitment of top management. Considering that the role of the leader is to encourage people to move from a condition to another one as well as proving the change is feasible while guiding the way for achieving change successfully, it can be said that top managers of Bloomberg need to show a sign of commitment in order to expect employees to adopt implemented changes (Elrod & Tippett, 2002). Indeed, employees are the critical factors in this process. The organisational environment, which is intended to change, is constituted with the aspects of the employees such as knowledge, competences and enthusiasm. Thus, their comprehensions regarding the level of suppleness that the organisation has for change and the level of their own participations are significant in achieving change effectively (Elrod & Tippett, 2002). Therefore, creating a sense of willingness instead of unease regarding change as well as establishing and revealing a favourable mental picture of the prospective state is very important. In this articulation, the requirement for transformation, the attributes of the changes that are intended and the aptitude of the organisation to manage this process should be communicated (Smith, 2005). However, the results of this study showed that significant

communication problems exist in the company. This problem should be overcome by the management. In fact, Smith (2005) stated that the conveyed statements should be sincere, real and rational in order to be accepted. Moreover, the articulation of such issues and approaches should be carried out in the beginning stages of change; actually, a considerable time should be allowed between the communication and the start of change. This is because; the trust, involvement, and enthusiasm of the employees to get involved in the transformation can be ensured by articulating the intended changes in the early stages or preferably before the change process (Smith, 2005).

References

- ARNOLD, John, COOPER, Cary & ROBERTSON, Ivan (1995), *Work Psychology: Understanding Human Behaviour in the Workplace*, Pitman Publishing, London.
- BENNEBROEK GRAVENHORST, Kilian M., WERKMAN, Renate M. & BOONSTRA, Jaap J. (2003), "The Change Capacity of Organisations: General Assessment and Exploring Nine Configurations", *Applied Psychology: An International Review*, Vol. 52, Issue 1, pp. 83-105
- BOVEY, Wayne & HEDE, Andy (2001), "Resistance to Organizational Change: The Role of Cognitive and Affective Processes", *Leadership and Organization Development Journal*, Vol. 22, pp. 372-382
- BURNES, Bernard (1996), "No Such Thing as a 'One Best Way' to Manage Organizational Change", *Management Decision*, Vol. 34, Issue 10, pp. 11-18.
- DALY, Finbarr, TEAGUE, Paul & KITCHEN, Philip (2003), "Exploring the Role of Internal Communication during Organisational Change", *Corporate Communications: An International Journal*, Vol. 8, Issue 3, pp. 153-162.
- DUNHAM, Randall B., GRUBE, Jean A., GARDNER, Donald G., CUMMINGS, Lindsey L. & PIERCE, J.L. (1989), *The Development of an Attitude Toward Change Instrument*. *Academy of Management Annual Meeting*, Washington, DC.
- EBY, Lillian T., ADAMS, Danielle M., RUSSELL, Joyce E.A. & GABY, Stephen H. (2000), "Perceptions of Organizational Readiness for Change: Factors Related to Employees' Reactions to the Implementation of Team-Based Selling", *Human Relations*, Vol. 53, pp. 419-442.

- ELIZUR, Dov & GUTTMAN, Louis (1976), “The Structure of Attitudes toward Work and Technological Change within an Organization”, *Administrative Science Quarterly*, Vol. 21, pp. 611-623.
- ELROD, David P. II & TIPPETT, Donald D. (2002), “The Death Valley of Change” *Journal of Organizational Change Management*, Vol. 15, Issue 3, pp. 273-291.
- ELVING, Wim J.L. (2005), “The Role of Communication in Organisational Change”, *Corporate Communications: An International Journal*, Vol. 10, Issue 2, pp. 129-138.
- FORD, Matthew W. (2009), “Size, Structure and Change Implementation”, *Management Research News*, Vol. 32, Issue 4, pp. 303-320.
- GRANT, Paul (1996), “Supporting Transition: How Managers can Help themselves and Others during Times of Change”, *Organizations and People*, Vol. 3, Issue 4.
- KOTTER, John P. (1995), “Leading Change: Why Transformation Efforts Fail”, *Harvard Business Review*, Vol. 73, pp. 59-67.
- LEWIN, Kurt (1947), “Frontiers in Group Dynamics: Concepts, Method and Reality in Social Sciences, Social Equilibria and Social Change”, *Human Relations*, Vol. 1, pp. 5-42.
- LEWIN, Kurt (1951), *Field Theory in Social Science – Selected Theoretical Papers*, *Harper & Row*, New York.
- LIPPITT, Ronald, WATSON, Jeanne & WESTLEY, Bruce (1958), *The Dynamics of Planned Change*, *Harcourt Brace*, New York.
- MARCOUSE, Ian, GILLESPIE, Andrew, MARTIN, Barry, SURRIDGE, Malcolm & WALL, Nancy (2003), *Business Studies*, 2nd Ed., *Hodder and Stoughton Educational*, Kent.
- NELSON, Lindsay (2003), “A Case Study in Organisational Change: Implications for Theory”, *The Learning Organization*, Vol. 10, Issue 1, pp. 18-30.
- PERLMAN, D. & TAKACS, G.J. (1990), “The Ten Stages of Change”, *Nursing Management*, Vol. 21, pp. 33.
- PETTIGREW, Andrew M., WOODMAN, Richard W. & CAMERON, Kim S. (2001), “Studying Organizational Change and Development: Challenges for Future Research”, *Academy of Management Journal*, Vol. 44, pp. 697-713.
- PIDERIT, Sandy K. (2000), “Rethinking Resistance and Recognizing Ambivalence: A Multidimensional View of Attitudes toward an

Organizational Change”, *Academy of Management Review*, Vol. 25, pp. 783-794.

SMITH, Ian (2005), “Managing the ‘People’ Side of Organisational Change”, *Library Management*, Vol. 26, Issue 3, pp. 152-155.

TRADER-LEIGH, W. (2002), “Resistance to Organisational Change: The Role of Cognitive and Affective Processes”, *Leadership and Organization Development Journal*, Vol. 22, pp. 372-382.

VAKOLA, Maria, TSAOUSIS, Ioannis & NIKOLAOU, Ioannis (2004), “The Role of Emotional Intelligence and Personality Variables on Attitudes toward Organisational Change”, *Journal of Managerial Psychology*, Vol. 19, Issue 2, pp. 88-110.

VAN DE VEN, Andrew H. & POOLE, Marshall S. (1995), “Explaining Development and Change in Organizations”, *Academy of Management Review*, Vol. 20, pp. 510-540.

THE EFFECT OF LEADER MEMBER EXCHANGE ON ORGANIZATIONAL SUPPORT, JOB SATISFACTION AND JOB PERFORMANCE

Süleyman Cem Bozdoğan & Gülbahar Elibol***

1. INTRODUCTION

Today's enterprises operating in an environment where competition is incrementing and technological changes are gaining momentum depend on their competency to maintain competitive advantage (Aslan & İnce, 2019). Being able to gain a competitive advantage and acclimate to changes around them will be possible through employees disposed to transform businesses. Collaboration between people is consequential for achieving organizational goals and for the organization to be productive and prolific. Since the development of civilization, there is a need for leaders to achieve this cooperation and achieve a goal quickly. Leaderless organizations are no different than a mass of people. Leader- member interaction is obvious that the quality relationship between the leader and his / her followers will lead to the development of positive effects for the followers and the organization. Employees expect leaders to respect them, consider their welfare and appreciate their efforts as a result of these commitments.

The reciprocity of leaders and employees is the desired result of organizational support within organizations. For this reason, organizational support is becoming an important concept for organizations that want to maintain their internal and external dynamics. One of the results of quality leading member interaction is job satisfaction. The nature of the interaction between leader and member in the formation of job satisfaction can have a profound effect on employees' attitudes towards work, resulting in job satisfaction or dissatisfaction (Rasouli & Haghtaali, 2009). The high interaction between leader and follower suggests a mutual exchange of labor, support and resources between both parties. In organizations where leader- member interaction is high, leaders engage in practices such as giving employees additional responsibilities and large rewards. Employees who align with their leaders feel the support of their managers and increase their business performance levels by taking on more challenging tasks (Schyns, Paul, Mohr, & Blank, 2005). In other words, employees who establish quality leader- member interaction are expected to perform highly

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under the influence of their authority and responsibility. Based on this assumption, the purpose of this study is to demonstrate the impact of interaction between leader and member on organizational support, job satisfaction and job performance.

2. LITERATURE OVERVIEW

2.1. Leader-Member Interaction

The idea of leader-member interaction is rooted in the principle of 'reciprocity' by Gouldner (1960). Blau (1964) suggests that leader-member interaction evolved from "social exchange". Liden, Sparrowe, and Wayne (1997) define leader-member interaction as the quality of interaction between subordinates and superiors. Due to its relevance for the mutual relationship between leader and follower, leader-member interaction theory holds a unique position among the theories of leadership. The theory of interaction between leaders and followers focuses on the relationship between leaders and followers, how they affect each other in an organization and their interdependence (Graen & Uhl-Bien, 1995b).

The theory of leader- member interactions was originally presented as the idea of a vertical binary relationship (Graen & Uhl-Bien, 1995b). His current work on leader- member interaction is mainly based on social communication theory (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012). Leader- member interaction occurs as a result of a series of relationships between superiors and subordinates. Superiors and subordinates have expectations about what they can get from each other and what they should give in return. Meeting mutual expectations effectively enables high-quality communication partnerships between the two sides (Wang, Le Blanc, Demerouti, Lu, & Jiang, 2019). Followers are seen as active players who see leaders as resources in this process and thus give the leader authority to achieve goals that benefit the leader (Hollander, 1992). Bilateral relations proposed by leader member interaction differ in quality and are defined as high-quality or low-quality relationships. Subordinate members of these relationships are referred to as in-group or out-group members in high or low-quality relationships, respectively (Dansereau Jr, Graen, & Haga, 1975). High-quality bilateral relations are characterized by regular exchange of valuable resources and participation in activities beyond official requirements, whereas low-quality bilateral relations are focused more on formal business relationships (Liden & Maslyn, 1998). Leader- member interaction is also the key to effective leadership, not the characteristics or behaviors of an individual leader, but the effectiveness of relationships between the leader and his or her followers (Haslam & Platow, 2001).

2.2. Perceived Organizational Support

Perceived organizational support is a concept created to measure employee commitment as well as the value of the organization's contributions shows the well-being it cares about (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Organizational support theory assumes that employees develop a perception of the extent to which the organization values their contributions and cares about their benefits in order to meet socio-emotional needs and determine the organization's readiness to reward increased business efforts (Aslan, 2019b; Eisenberger, Cummings, Armeli, & Lynch, 1997).

Rhoades, Eisenberger, and Armeli (2001) based their view of organizational support on how much organizations with workers are involved in them and how they fulfill the socio-emotional needs of companies. They claimed that their beliefs and attitudes were formed in accordance with those principles. According to this perception, employees will react positively or negatively to the extent that they appreciate the contributions of the organization (Eisenberger, Fasolo, & Davis-LaMastro, 1990). Employees who perceive organizational support will feel compelled to respond with increased effort, loyalty and citizenship behaviors (Shore & Wayne, 1993).

Researchers are increasingly interested in the role of change processes in organizations (Rousseau, 1990; Rousseau & McLean Parks, 1993). Underlying much of the research in this field is the fundamental theory of social exchange. As described by Blau (1964), social changes require ambiguous obligations; when a person does another good, there is an expectation of a return in the future, although it is often uncertain exactly when and in what form it will occur. Gouldner (1960) states that the basis for employees with a perception of organizational support to show appropriate workplace behavior is the principle of reciprocity. Over time, employees take a long-term approach to social change relationships at work, with the pattern of reciprocity determining the perceived balance in exchanges (Rousseau, 1989). In recent years, two types of social change have been studied. First, changes between employee and organization are called perceived organizational support (Eisenberger et al., 1986). The second is changes between leaders and followers, called leader-member interaction. (Graen & Scandura, 1987).

2.3. Job Satisfaction

Job satisfaction can be defined as positive, negative or neutral feelings arising from job valuation. Brief (1998) describes job satisfaction as an internal condition that is evaluated emotionally or cognitively with a positive or negative degree of work. Edwards, Bell, Arthur, and Decuir

(2008) express job satisfaction as an assessment of the degree of satisfaction that an employee obtained from employment and was composed of emotional and cognitive components. Aamodt (2012) describes job satisfaction as an employee's approach to work. While Weiss (2002) characterizes job satisfaction as a positive or negative assessment of a person's work or business status, McKenna (2000) declare that job satisfaction is compatible with the results of personal goals at work can contribute to the satisfaction of the work. Otherwise, job dissatisfaction may arise if individuals feel that they work hard but do not receive a fair reward. An employee who is extremely satisfied with the job will have job satisfaction, while a frustrated employee will have job dissatisfaction. The concept of job satisfaction is very broad because employees find very different situations rewarding, complementary, satisfying or unsatisfactory and frustrating (Churchill Jr, Ford, & Walker Jr, 1974; Snipes, Oswald, LaTour, & Armenakis, 2005). Snipes, Thomson, and Oswald (2006) argue that job satisfaction is made up of a number of different aspects, including management, business, wages, progress opportunities, colleagues and customers. Job satisfaction is an attitude a person has about his work. Job satisfaction attitudes can be learned and change behavior (Khandelwal, 2003). Job satisfaction attitudes have three dimensions: cognitive, emotional and behavioral. Cognitive attitudes include opinions and beliefs, emotional attitudes include feelings and sensitivity, and behavioral attitudes include behavior intention in a particular way (Robbins & Judge, 2007). Moreover, in a study by Kirpik and Akdemir (2018), it was stated that increasing job satisfaction and job performance will increase the success of organizations.

2.4. Business Performance

Business performance has always been an important issue for managers in organizations (Kelidbari, Dizgah, & Yusefi, 2011). Wu and Lee (2011) defined job performance as the overall performance of employees who strive for the execution of planned results and tasks within the organization's policies and time constraints. Likewise, Liao, Lu, Huang, and Chiang (2012) show job performance as a benchmark for promotion, dismissal, bonuses, fines, assessments, and pay changes. Business performance is an important touchstone of an organization; therefore, organizations must critically examine the underlying factors to achieve high performance (Abbas & Yaqoob, 2009). Ahmad and Shahzad (2011) also argue that the factors that influence workers 'performance are the general belief in employees' actions and their commitment to the growth of the company. Job performance consists of actions that are important to the company's priorities in the employment of employees (Campbell, McCloy, Oppler, & Sager, 1993). Muchinsky (1993) describes job performance as a combination of employee attitudes, indicating that

performance at employee level and associated with organizational expectations can be evaluated. Therefore, the effectiveness of organizations depends on business performance. In order to improve business performance, employees need to be properly motivated and thus productivity and corporate productivity to be increased (Ahmad & Shahzad, 2011).

3. RELATIONS BETWEEN VARIABLES AND HYPOTHESES

3.1. Leader-Member Interaction and Organizational Support

In the leadership-member interaction, it strives to guide and reward its leader- followers and reward their efforts, and these guidance and awards contribute greatly to the organizational support that the follower perceives in the institution (Wayne, Shore, & Liden, 1997). As a result of numerous studies, it was found that the leader-member interaction positively affected organizational support. (Rhoades & Eisenberger, 2002; Rhoades et al., 2001; Wayne et al., 1997). In light of these findings, the following hypothesis has been established for the relationship between leader-member interaction and perceived organizational support.;

H1: Leader-member interaction significantly affects perceived organizational support in a positive way.

3.2. Leader-Member Interaction and Job Satisfaction

Leader-member interaction literature shows that high-quality leader-member interaction can affect job satisfaction (Scandura & Graen, 1984; Sparrowe, 1994). According to the findings of Stringer (2006) leader member interaction has a positive impact not only on the job satisfaction of followers but also on other outcomes of the organization. A meta-analysis by Gerstner and Day (1997) showed that leader- member interaction relationships were significantly associated with higher levels of job satisfaction. In the light of these findings, the following hypothesis has been formed regarding the relationship between leader member interaction and perceived organizational support;

H2: Leader- member interaction significantly affects job satisfaction in a positive way.

3.3. Organizational Support and Work Performance

In the literature, there is a widespread consensus that business performance is influenced by leader- member interaction in a variety of ways. Many researchers see leader-member interaction as a precursor to organizational performance (Bauer & Green, 1996; Dansereau Jr et al.,

1975; Liden & Graen, 1980; Liden, Wayne, & Stilwell, 1993; Scandura & Graen, 1984; Scandura, Graen, & Novak, 1986; Wayne & Ferris, 1990).

Some researchers also consider performance to be a result of leader-member interaction (Bauer, Erdogan, Liden, & Wayne, 2006; DelVecchio, 1998; Walumbwa, Mayer, et al., 2011; Z Zhang, Wang, & Shi, 2012). From this perspective, a high-quality relationship gives the member more opportunities to get support from the leader, turning to the member as using job resources, better assignments, more feedback multiplication, incentives, more rewards and career opportunities (Graen & Uhl-Bien, 1995a).

Leader-member interaction can facilitate voluntary learning behavior and improve job performance by encouraging feedback behavior (Moss, Sanchez, Brumbaugh, & Borkowski, 2009). In light of these findings, the following hypothesis has been established for the relationship between leader-member interaction and perceived organizational support.;

H3: Leader-member interaction significantly affects performance in a positive way.

4. METHOD

This study, which is aimed at determining the perceived organizational support, employee performance and job satisfaction of leader-member interaction, primarily includes sample and scale information. Then, analysis of the model was made based on the data obtained from the sample. In this context, factor analyses were carried out and correlations between variables were determined and structural equality model and goodness of fit tests were conducted on the existing model. When conducting goodness of fit tests, inter-variable regression analysis results and hypothesis test results are also presented.

Within the scope of the research, the model shown in Figure 1 was created in order to reveal inter-variable relationships.

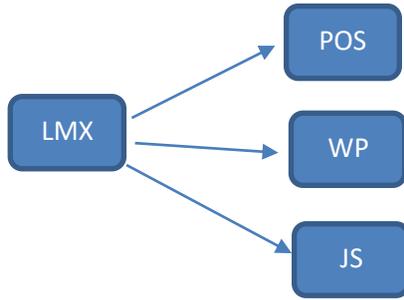


Figure 1. Model Of Research

4.1. Universe and Sample

Banks operating in Kahramanmaraş constitute the universe of this research. Simple random sampling method was used to determine the sample. A survey was planned for 200 people from 10 banks, employees who were randomly selected due to time and cost constraints. Of the surveys conducted, 32 polls were unanswered, while 8 polls were incomplete. Therefore, the sample of the study was determined as 160. 62 of the participants in the study were women and 98 were men. 105 of the participants are married and 55 are single. 51 of the participants were aged 18-30, 89 were aged 31-40 and 19 were aged 41-50 and 1 was aged 51 and over. Of the participants, 15 are high school graduates, 17 are associate graduates, 101 are bachelor's and 23 are master's and 4 are doctoral graduates. 62 of the participants work in operations, 48 in SME's and 50 in individual departments. Of the participants, 8 were senior managers, 50 were mid-level managers, 32 were lower-level managers and 70 were civil servants. 10 of the participants have less than 1 year, 32 have 1-3 years, 46 have 4-6 years, 34 have 7-9 years and 38 have 10 years or more experience working in the firm.

4.2. Scales

Leader-Member Interaction Scale: The scale was developed by Liden and Maslyn (1998) and its Turkish validity was made by Baş, Keskin, and Mert (2010). The scale consists of four dimensions: Impact (3 expressions), loyalty (3 expressions), contribution (3 expressions) and professional respect (3 expressions) and a total of 12 expressions. In this study, the cronbach Alpha reliability coefficient of the scale was determined as 0.96.

Organizational Support Scale: Developed by Rhoades et al. (2001) the short version of the scale consists of five propositions was used and

Turkish validity was made by Çınar (2013). In this study, the cronbach Alpha reliability coefficient of the scale was determined as 0.96.

Employee Performance Scale: Sigler and Pearson (2000) adapted the scale from the work of Kirkman and Rosen (1999) consisting of one dimension and four expressions. Turkish adaptation of the scale made by Çöl (2008). In this study, the cronbach Alpha reliability coefficient of the scale was determined as 0.96.

Job Satisfaction Scale: The scale used in this study was taken from Chen, Ku, Shyr, Chen, and Chou (2009) study and its Turkish validity was made by Çelik and Turunç (2010). The scale consists of one dimension and 5 expressions. In this study, the cronbach Alpha reliability coefficient of the scale was determined as 0.96.

Research data has been analyzed with SPSS and Amos package programs. Confirmatory factor analyses are given in Table 1.

Table 1. Goodness of Fit Scales

Goodness of Fit Values	χ^2	df	CMIN /DF	SRM R	IFI	CFI	TLI	RMSEA
1. LMX	88.77	46	1.930	.008	.961	.961	.944	.076
2. POS	8.88	3	2.961	.017	.988	.988	.960	.078
3. WP	1.920	1	1.920	.001	.999	.999	.998	.036
4. JS	4.278	3	1.426	.039	.996	.996	.986	.039

As a result of the DFA, it appears that the scales provide goodness of fit values and adapt well (Gürbüz & Şahin, 2016; Yıldız & Aslan, 2019).

Averages, standard deviations and correlation values for variables are given in Table 2.

Table 2. Descriptive statistics and correlation coefficients

	Ort.	SE.	Skew	Kurtosis	1	2	3	4
1. LMX	3.79	.71	-.63	-.13	(.94)			
2 POS	3.76	.89	-1.04	.90	.499**	(.95)		
3. WP	4.07	.75	-1.10	1.88	.338**	.122**	(.92)	
3. JS	3.76	.83	-.78	.37	.393**	.573**	.178**	(.92)

**p<.001, n= 160, the values given in parentheses are Cronbach alpha values.

When descriptive statistics of research variables are evaluated, it is observed that participants' LMX, perceived organizational support, employee performance and job satisfaction levels were moderate. In addition, when Table 2 is examined, positive and meaningful relationships are observed between variables.

In the second stage, the structural model for the research model was established and the values of goodness of fit was tested with the Amos package program. Structural equality model are given in Figure 2, goodness of fit values are given in Table 3 and regression weights are given in Table 4.

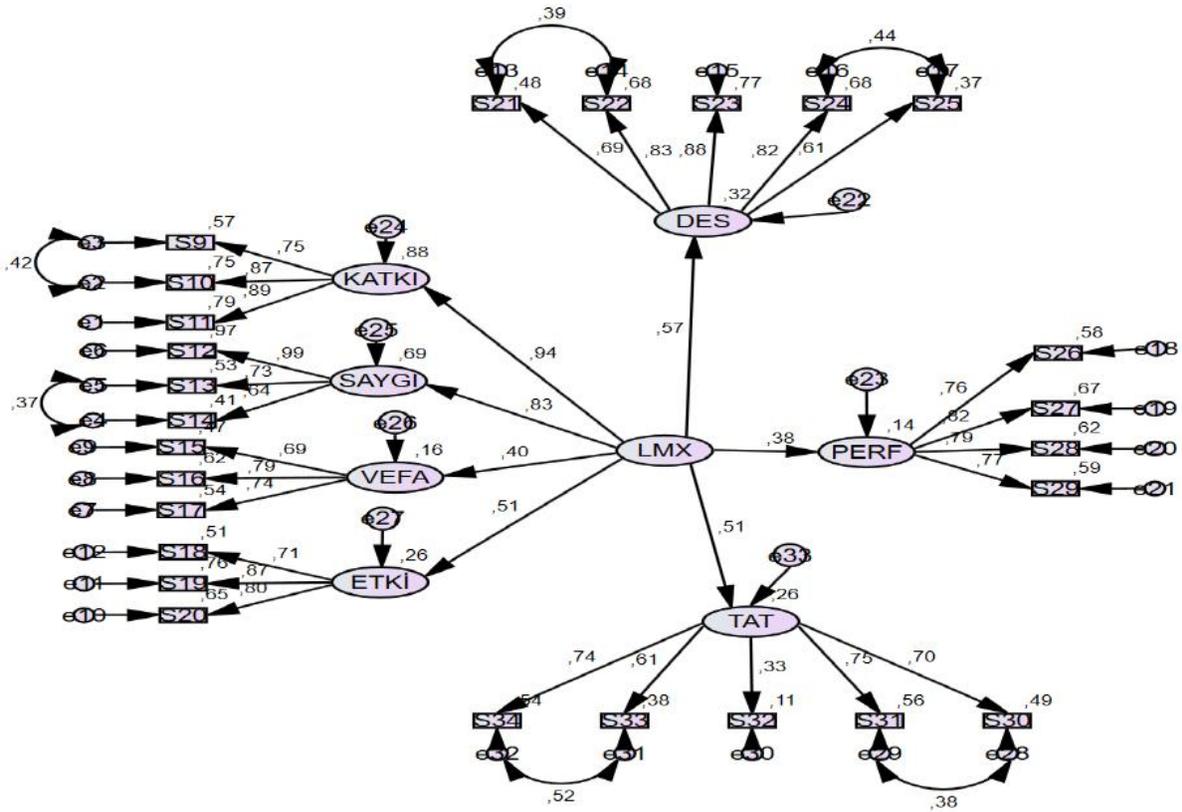


Figure 2. Structural Equality Model

Table 3. Structural Model of Goodness of Fit Values

Goodness of Fit Values	χ^2	df	CMIN/DF ≤ 5	CFI $\geq 0,90$	TLI $\geq 0,90$	RMSEA $\leq 0,08$
Structural Modal	522.614	286	1.827	0.91	0.91	0.072

As can be seen in Table 3, the structural equality model established to test the research hypotheses provides acceptable goodness of fit values, and the modal's goodness of fit values are satisfactory (Yıldız & Aslan, 2019).

Table 4. Structural Model Regression Weights

Tested Path			Estimate	Std. Error	Critical Ratio	P
LMX	--->	POS	0,570	0,147	4,773	***
LMX	--->	WP	0,376	0,128	3,650	***
LMX	--->	JS	0,510	0,166	3,911	***

5. RESULT AND RECOMMENDATION

In order to determine the role of leader-member interaction on perceived organizational support, employee performance and job satisfaction, data collected through the survey was analyzed in this research conducted in the bank sector in Kahramanmaraş province.

As a result of the analysis, it was determined that the leader- member interaction positively affected the perceived organizational support. This finding was made to determine the effect of leader-member interaction on perceived organizational support consistent with the following research results (Rhoades & Eisenberger, 2002; Rhoades et al., 2001; Wayne et al., 1997). This finding suggests that leader-member interaction increases perceived organizational support

As a result of the analysis, it was determined that the leader- member interaction had a positive effect on the work performance. This finding was made to determine the effect of leader- member interaction on study performance (Aslan, 2019a; Bauer et al., 2006; Bauer & Green, 1996; Dansereau Jr et al., 1975; DelVecchio, 1998; Liden & Graen, 1980; Liden et al., 1993; Scandura & Graen, 1984; Scandura et al., 1986; Walumbwa, Mayer, et al., 2011; Wayne & Ferris, 1990; Z Zhang et al., 2012) consistent with the other research results. This finding suggests that leader- member interaction improves work performance.

As a result of the analysis, it was determined that leader- member interaction had a positive effect on job satisfaction. This finding was made

to determine the effect of leader - member interaction on job satisfaction (Gerstner & Day, 1997; Scandura & Graen, 1984; Sparrowe, 1994; Stringer, 2006) consistent with the other research results. This finding suggests that leader- member interaction increases job satisfaction. In the study by Kirpik (2020), it was stated that the leadership that affects the job satisfaction of the employees is transformational leadership and only "mental incentive" in the dimensions of transformational leadership. Therefore, in future studies, the issues of transformational leadership's member interaction and organizational gains can be examined in leader-member interaction. However, all the findings should be evaluated within the framework of the selected sample, preferred survey method, cross-sectional research limitations.

REFERENCES

- Aamodt, M. (2012). *Industrial/organizational psychology: An applied approach*: Nelson Education.
- Abbas, Q., & Yaqoob, S. (2009). "Effect of leadership development on employee performance in Pakistan". *Pakistan Economic and Social Review*, 47(2), 269-292.
- Ahmad, S., & Shahzad, K. (2011). "HRM and employee performance: A case of university teachers of Azad Jammu and Kashmir (AJK) in Pakistan". *African Journal of Business Management*, 5(13), 5249-5253.
- Aslan, H. (2019a). "The Mediating Role of Leader-Member Exchange in The Effect of Transformational Leadership on Employee Performance and Job Satisfaction." In E. Kara (Ed.), *Business and Economics Researches Book* (pp. 201-214). Ankara: Akademisyen Yayınevi.
- Aslan, H. (2019b). "Mediating Role Of Perceived Organizational Support In Inclusive Leadership's Effect On Innovative Work Behavior." *Business & Management Studies: An International Journal*, 7(5), 2945-2963.
- Aslan, H., & İnce, E. (2019). "Algılanan Örgütsel Desteğin İşten Ayrılma Niyeti Üzerindeki Etkisinde İş Stresinin Aracı Rolü." *Iğdır Üniversitesi Sosyal Bilimler Dergisi*, 20, 479-502.
- Baş, T., Keskin, N., & Mert, İ. S. (2010). "Lider Üye Etkileşimi (LÜE) Modeli Ve Ölçme aracının Türkçe'de geçerlik ve güvenilirlik analizi." *Ege Academic Review*, 10(3).
- Bauer, T. N., Erdogan, B., Liden, R. C., & Wayne, S. J. (2006). "A longitudinal study of the moderating role of extraversion: Leader-

- member exchange, performance, and turnover during new executive development." *Journal of Applied psychology*, 91(2), 298.
- Bauer, T. N., & Green, S. G. (1996). "Development of leader-member exchange: A longitudinal test." *Academy of Management journal*, 39(6), 1538-1567.
- Blau, P. (1964). *Exchange and power in social life* New York, Wiley.
- Brief, A. P. (1998). *Attitudes in and around organizations* (Vol. 9): Sage.
- Campbell, J. P., McCloy, R. A., Oppler, S. H., & Sager, C. E. (1993). "A theory of performance." *Personnel selection in organizations*, 3570, 35-70.
- Chen, F.-C., Ku, E., Shyr, Y.-H., Chen, F.-H., & Chou, S.-S. (2009). "Job demand, emotional awareness, and job satisfaction in internships: The moderating effect of social support." *Social Behavior and Personality: an international journal*, 37(10), 1429-1440.
- Churchill Jr, G. A., Ford, N. M., & Walker Jr, O. C. (1974). "Measuring the job satisfaction of industrial salesmen." *Journal of Marketing Research*, 11(3), 254-260.
- Çelik, M., & Turunç, Ö. (2010). "Algılanan Örgütsel Desteğin Çalışanların İş-Aile, Aile-İş Çatışması, Örgütsel Özdeşleşme ve İşten Ayrılma Niyetine Etkisi: Savunma Sektöründe Bir Araştırma".
- Çöl, G. (2008). "Algılanan güçlendirmenin işgören performansı üzerine etkileri."
- Dansereau Jr, F., Graen, G., & Haga, W. J. (1975). "A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process." *Organizational behavior and human performance*, 13(1), 46-78.
- DelVecchio, S. K. (1998). "The quality of salesperson-manager relationship: The effect of latitude, loyalty and competence." *Journal of Personal Selling & Sales Management*, 18(1), 31-47.
- Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). "A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future." *Journal of management*, 38(6), 1715-1759.

- Edwards, B. D., Bell, S. T., Arthur, J., Winfred, & Decuir, A. D. (2008). "Relationships between facets of job satisfaction and task and contextual performance." *Applied psychology*, 57(3), 441-465.
- Eisenberger, R., Cummings, J., Armeli, S., & Lynch, P. (1997). "Perceived organizational support, discretionary treatment, and job satisfaction." *Journal of Applied psychology*, 82(5), 812.
- Eisenberger, R., Fasolo, P., & Davis-LaMastro, V. (1990). "Perceived organizational support and employee diligence, commitment, and innovation." *Journal of Applied psychology*, 75(1), 51.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). "Perceived organizational support." *Journal of Applied psychology*, 71(3), 500.
- Gerstner, C. R., & Day, D. V. (1997). "Meta-Analytic review of leader-member exchange theory: Correlates and construct issues." *Journal of Applied psychology*, 82(6), 827.
- Goh, S., & Wasko, M. (2012). "The Effects of Leader-Member Exchange on Member Performance in Virtual World Teams." *Journal of the Association for Information Systems*, 13(10).
- Gouldner, A. W. (1960). "The norm of reciprocity: A preliminary statement." *American sociological review*, 161-178.
- Graen, G. B., & Scandura, T. A. (1987). "Toward a psychology of dyadic organizing." *Research in organizational behavior*.
- Graen, G. B., & Uhl-Bien, M. (1995a). "Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective." *The leadership quarterly*
- Graen, G. B., & Uhl-Bien, M. (1995b). "Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective." *The leadership quarterly*, 6(2), 219-247.
- Haslam, S. A., & Platow, M. J. (2001). "The link between leadership and followership: How affirming social identity translates vision into action." *Personality and Social Psychology Bulletin*, 27(11), 1469-1479.
- Hollander, E. P. (1992). "The essential interdependence of leadership and followership." *Current Directions in Psychological Science*, 1(2), 71-75.

- Kelidbari, H. R., Dizgah, M. R., & Yusefi, A. (2011). "The relationship between organization commitment and job performance of employees of Guilan Province social security organization." *Interdisciplinary Journal of Contemporary Research in Business*, 3(6), 555.
- Khandelwal, P. (2003). *Job Satisfaction. Organisational Behaviour. New Delhi: Tata McGraw-Hill.*
- Kirkman, B. L., & Rosen, B. (1999). "Beyond self-management: Antecedents and consequences of team empowerment." *Academy of Management journal*, 42(1), 58-74.
- Kırpık, G. ve Akdemir, B. (2018). "Kuşak farklılıkları ile kurumsal itibar algısı ve örgütsel özdeşleşme ilişkisi." *Gece Kitaplığı: Ankara.*
- Kırpık, G. (2020). "Entrepreneurship, Professionalism and Leadership Intention of Generation Z. SEISENSE." *Journal of Management*, 3(2), 58-72.
<https://doi.org/10.33215/sjom.v3i2.319>
- Liao, C.-W., Lu, C.-Y., Huang, C.-K., & Chiang, T.-L. (2012). "Work values, work attitude and job performance of green energy industry employees in Taiwan." *African Journal of Business Management*, 6(15), 5299-5318.
- Liden, R. C., & Graen, G. (1980). "Generalizability of the vertical dyad linkage model of leadership." *Academy of Management journal*, 23(3), 451-465.
- Liden, R. C., & Maslyn, J. M. (1998). "Multidimensionality of leader-member exchange: An empirical assessment through scale development." *Journal of management*, 24(1), 43-72.
- Liden, R. C., Sparrowe, R. T., & Wayne, S. J. (1997). "Leader-member exchange theory: The past and potential for the future." *Research in personnel and human resources management*, 15, 47-120.
- Liden, R. C., Wayne, S. J., & Stilwell, D. (1993). "A longitudinal study on the early development of leader-member exchanges." *Journal of Applied psychology*, 78(4), 662.
- Moss, S. E., Sanchez, J. I., Brumbaugh, A. M., & Borkowski, N. (2009). "The mediating role of feedback avoidance behavior in the LMX—performance relationship." *Group & Organization Management*, 34(6), 645-664.

- Muchinsky, P. (1993). *Psychology applied to work*. Pacific Grove, CA: Books/Cole.
- Rasouli, R., & Haghtaali, M. (2009). "Impact of Leader-Member Exchange on Job Satisfaction in Tehran Social Security Branches." *Turkish Public Administration Annual*, 32-35.
- Rhoades, L., & Eisenberger, R. (2002). "Perceived organizational support: a review of the literature." *Journal of Applied psychology*, 87(4), 698.
- Rhoades, L., Eisenberger, R., & Armeli, S. (2001). "Affective commitment to the organization: The contribution of perceived organizational support." *Journal of Applied psychology*, 86(5), 825.
- Robbins, S. P., & Judge, T. A. (2007). "Organizational culture." *Organizational behavior*, 28-50.
- Rousseau, D. M. (1989). "Psychological and implied contracts in organizations." *Employee responsibilities and rights journal*, 2(2), 121-139.
- Rousseau, D. M. (1990). "New hire perceptions of their own and their employer's obligations: A study of psychological contracts." *Journal of organizational behavior*, 11(5), 389-400.
- Rousseau, D. M., & McLean Parks, J. (1993). "The contracts of individuals and organizations." *Research in organizational behavior*, 15, 1-1.
- Scandura, T. A., & Graen, G. B. (1984). "Moderating effects of initial leader-member exchange status on the effects of a leadership intervention." *Journal of Applied psychology*, 69(3), 428.
- Scandura, T. A., Graen, G. B., & Novak, M. A. (1986). "When managers decide not to decide autocratically: An investigation of leader-member exchange and decision influence." *Journal of Applied psychology*, 71(4), 579.
- Schyns, B., Paul, T., Mohr, G., & Blank, H. (2005). "Comparing antecedents and consequences of leader-member exchange in a German working context to findings in the US." *European Journal of Work and Organizational Psychology*, 14(1), 1-22.
- Shore, L. M., & Wayne, S. J. (1993). "Commitment and employee behavior: Comparison of affective commitment and continuance commitment with perceived organizational support." *Journal of Applied psychology*, 78(5), 774.

- Sigler, T. H., & Pearson, C. M. (2000). "Creating an empowering culture: examining the relationship between organizational culture and perceptions of empowerment." *Journal of Quality Management*, 5(1), 27-52.
- Snipes, R. L., Oswald, S. L., LaTour, M., & Armenakis, A. A. (2005). "The effects of specific job satisfaction facets on customer perceptions of service quality: an employee-level analysis." *Journal Of Business Research*, 58(10), 1330-1339.
- Snipes, R. L., Thomson, N. F., & Oswald, S. L. (2006). "Gender bias in customer evaluations of service quality: an empirical investigation." *Journal Of Services Marketing*, 20(4), 274-284.
- Sparrowe, R. T. (1994). "Empowerment in the hospitality industry: An exploration of antecedents and outcomes." *Hospitality Research Journal*, 17(3), 51-73.
- Stringer, L. (2006). "The link between the quality of the supervisor–employee relationship and the level of the employee's job satisfaction." *Public Organization Review*, 6(2), 125-142.
- Walumbwa, F. O., Cropanzano, R., & Goldman, B. M. (2011). "How leader–member exchange influences effective work behaviors: Social exchange and internal–external efficacy perspectives." *Personnel Psychology*, 64(3), 739-770.
- Walumbwa, F. O., Cropanzano, R., & Hartnell, C. A. (2009). "Organizational justice, voluntary learning behavior, and job performance: A test of the mediating effects of identification and leader-member exchange." *Journal of Organizational Behavior*, 30(8), 1103-1126.
- Walumbwa, F. O., Mayer, D. M., Wang, P., Wang, H., Workman, K., & Christensen, A. L. (2011). "Linking ethical leadership to employee performance: The roles of leader–member exchange, self-efficacy, and organizational identification." *Organizational Behavior And Human Decision Processes*, 115(2), 204-213.
- Wang, H.-J., Le Blanc, P., Demerouti, E., Lu, C.-Q., & Jiang, L. (2019). "A social identity perspective on the association between leader-member exchange and job insecurity." *European Journal of Work and Organizational Psychology*, 28(6), 800-809.
- Wayne, S. J., & Ferris, G. R. (1990). "Influence tactics, affect, and exchange quality in supervisor-subordinate interactions: A laboratory experiment and field study." *Journal of Applied psychology*, 75(5), 487.

- Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). "Perceived organizational support and leader-member exchange: A social exchange perspective." *Academy of Management journal*, 40(1), 82-111.
- Weiss, H. M. (2002). "Deconstructing job satisfaction: Separating evaluations, beliefs and affective experiences." *Human resource management review*, 12(2), 173-194.
- Wu, M.-Y., & Lee, Y.-R. (2011). "The effects of internal marketing, job satisfaction and service attitude on job performance among high-tech firm." *African Journal of Business Management*, 5(32), 12551-12562.
- Yıldız, B., & Aslan, H. (2019). "İmalat Firmalarında İnovasyon Faaliyetlerinde Karşılaşılan Güçlükler: Bir Ölçek Geliştirme Çalışması." *Bingöl Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 3(2), 93-115.
- Zhang, Z., Waldman, D. A., & Wang, Z. (2012). "A multilevel investigation of leader-member exchange, informal leader emergence, and individual and team performance." *Personnel Psychology*, 65(1), 49-78.
- Zhang, Z., Wang, M., & Shi, J. (2012). "Why (not) change?" effects of leader-follower congruence in proactive personality on LMX and work outcomes." *Academy of Management journal*, 55(1), 111-130.

THEORETICAL BACKGROUND OF THE FACTORS THAT DETERMINE INNOVATION*

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Introduction

Innovation means creating economic benefits by introducing new products and production processes or improving the existing ones. This study, which was prepared based on the fact that countries have to turn new ideas into technical and commercial success in order to increase and sustain their economic growth and competitiveness, theoretically investigates what the determinants of innovation are.

The prerequisite for designing effective policies to have a positive impact on a country's technological innovation performance is to try to understand what factors determine innovation. There are many arguments and alternative literature derived from what these factors are. Under this heading, these variables were tried to be placed in an appropriate theoretical framework based on empirical studies and an overview of the differentiation of the ways these factors affect innovation in developed and developing countries was tried to be presented.

1. Factors Determining Innovation

Theoretical and empirical literature reveals that there is a variety of factors that determine the speed and mechanisms of innovation. In this context, in this part of the study, how the groups of countries with different levels of development realize innovation production, and, in particular, how they reveal the knowledge required for innovation was explored. In this context, firstly, the human capital, which means the internal efforts of the countries, and the theoretical background of these variables, based on the fact that countries have revealed them as a result of R&D investments, were examined. The theoretical origins of the stock of knowledge go back to Arrow (1962). Therefore, in the study, firstly, the model based on learning-by-doing by Arrow was introduced, then, human capital and R&D models, which were developed by adding to this model were examined. Secondly, along with factors such as learning by doing, human capital and R&D, it was determined -for developed and developing countries- that innovation production depends on factors such as the income level of the country, foreign investments, openness, and intellectual property rights. In this context, the theoretical background of these factors, which reveal the importance of innovation and determine innovation, was established under this heading.

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1.1. Learning/Learning by Doing

The growth model based on learning-by-doing was developed by Arrow (1962). Arrow (1962:155) argued that in some sectors, a decrease in costs over time, an increase in quality, and the acceleration of production depended on learning by doing. Because as the work is being done, people learn better, their skills increase and they develop new techniques. The new techniques that emerge as a result of the knowledge and skills gained while doing the work are innovation. However, in the learning-by-doing model, the information has the property of *non-excludability*, and it can be used without paying any price.

Romer (1986) and Lucas (1988), who were influenced by the work of Arrow (1962), which mentions the importance of learning by doing in the skill-knowledge acquisition and specialization process, have an important place in the literature. Romer (1986:1003) established the Endogenous Technological Change model based on Arrow. By adding the stock of knowledge to the production function as input, he assumed that the information showed increased marginal productivity. In this context, he suggested that the long-term growth rate will increase compared to the models under the assumption of diminishing returns, and stated that increasing returns in the economy may occur based on specialization. In his study, Lucas (1988:27) emphasized that human capital accumulation can also increase through learning by doing. In other words, along with training, learning-by-doing is also important in specialized human capital accumulation. In Lucas's (1988:28) model, for the sake of simplicity, it is assumed that all human capital emerges through learning, and two different consumer goods are produced:

$$C_i(t) = h_i(t)u_i(t)N(t) \quad (1)$$

$i = 1, 2, \dots$ h_i , is human capital specialized to the production of good i , u_i is the fraction of the (unskilled) workforce devoted to producing good i , and N is other production factors. Thanks to learning by doing, unskilled labor in u_i will transform into specialized human capital (h_i), so total stock of human capital (\hat{h}_i) will increase.

$$\hat{h}_i(t) = h_i(t)\delta_i u_i(t) \quad (2)$$

δ_i , is the coefficient that shows the rate of acquiring knowledge-skill as a result of learning by doing. The higher the δ_i is, the higher the human capital accumulation rate will be. According to Lucas (1988: 28), accumulation of human capital will increase faster as learning-by-doing in

high-tech goods will be faster. The law of diminishing returns does not apply in the production of consumer goods presented in the Equation (2.6). Because each product starts a new learning-by-doing process and the skills previously acquired are in a way used in this new production of goods. Touching on the effects of learning-by-doing on human capital in the process of innovation, the works of Arrow and Lucas also led the discussion of innovation and technological skills. Technological skill means the effective use of technological knowledge in the fields of engineering and production in order to keep up with the pace of increasing price and quality competition (Kim, 2000:12). Technological skill acquisition differs for developed and developing countries. In developed countries where fixed capital investments are high, the phenomenon of learning-by-doing is more common than developing countries. However, for developing countries that transfer technological knowledge from developed countries, ensuring the transformation of the information obtained into innovation depends on developing the concept of learning-by-doing by increasing fixed capital investments in their countries. Therefore, the phenomenon of learning-by-doing is more important for developing countries in acquiring technological skills. Because, in developed countries, technological skills depend on “learning-in-research” by expanding the technological boundaries, rather than learning-by-doing. In other words, such a technological-skill based on learning-by-doing, which is more common in developing countries, gives them a chance to adapt to and use changing technologies.

The information acquired through the learning-by-doing process happens in two stages as copying and creativity, and the acquisition of information differs in each stage. For example, information can be obtained easily at the stage of copying the current technology, and its transformation into innovation can be fast. Whereas the stage of creativity, in other words, the creation of information and its use in the production of competitive goods and services is quite difficult. The degree of difficulty changes depending on the previous knowledge and the labor expended. Therefore, the learning process is influenced by absorptive capacity, which has two important elements such as the current knowledge base and the intensity of efforts (Kim, 2000:13). As information affects the learning process today and the nature of learning to improve the information that will increase tomorrow, the existing knowledge base serves as a fundamental building block in technological learning.

1.2. Human Capital

Lucas is the first economist who argues that the alternative source of sustainable economic growth may also be the accumulation of human capital (London et al., 2008: 2). Lucas used the studies of Schultz (1963)

and Becker (1964) for the concept of human capital he used in his study in 1988. While trying to explain the economic growth process with human capital, which is an endogenous variable, he developed a model that emphasizes human capital accumulation through education as well as learning-by-doing. The Lucas (1988:15) model emphasizes that economic growth depends on the educational level of human capital and reveals the importance of educated-qualified human capital in growth. He states that human capital, which claims that the decisions made by individuals to increase their knowledge increase productivity, explains the economic growth process better.

In the aforementioned model, individuals use their time in two ways: working and training. Therefore, in the model, it is assumed that if individuals devote u of their time to work, they allocate the remaining $1-u$ time for training (Lucas, 1988: 17). Human capital accumulation occurs because individuals prefer to get training rather than work. In this case, the human capital increase rate is directly proportional to the time spent on training, $(1-u)$, and g is a parameter that shows the effectiveness of the training period ($g > 0$):

$$\frac{\Delta h_t}{h_t} = g(1-u_t) \quad (3)$$

In the Lucas model, the relationship between the time devoted to human capital accumulation and the level of human capital exchange is linear, which shows that as time devoted to education increases, human capital accumulation also increases. Thus, human capital accumulation is not subject to decreasing efficiencies. In the case that $u_t=1$, employees will not have free time to improve their skills and human capital accumulation will be zero, because the entire time will be used only for work (Lucas, 1988:19).

As a result of the training, the qualities of the human capital increase, and this enables a fixed return to emerge according to the increasing quality of human capital. In other words, the change in the quality of human capital is determined within the model and economic growth can increase endogenously, depending on the development in the quality of human capital. On the other hand, the ratio of human capital and physical capital is equal to the marginal physical ratio of capital. However, according to Lucas (1988), the marginal product of capital actually increases with the increase in human capital. Therefore, the growth rate of developed countries, which allocate more shares to education expenditures, will be faster than developing countries; in this case, convergence between

countries will not be possible (Kibritçioğlu, 1998:222). Therefore, human capital can both develop itself through training and cause externalities. Therefore, the government will be able to accelerate the innovative process and ultimately growth by following policies that will enable individuals to gain skills. Similar to Lucas (1988), Rebelo (1991) also made analyses by comparing the ratio of physical capital to human capital in the economy. Rebelo (1991) conducted studies that endogenize human capital, emphasizing that when the human capital ratio increases, in other words, when the physical capital to human capital ratio decreases, growth will increase.

From a different perspective, the literature of the national innovation system also achieves very similar results. Here, the education system is seen as part of the set of organizations and institutions that make up the national innovation system (Soete et al., 2009:17). Developed countries and less developed countries differ greatly in terms of the average literacy level of their populations. Underdeveloped countries are mainly characterized by a low level of participation in higher education, and in addition, the highly skilled individuals of these countries leave there to have better personal opportunities.

In this day and age, when the human capital levels of developed and developing countries are compared, there is no undeveloped country with a high human capital or a developed country with a low human capital (Üstün, 2002:243). In a sense, this situation shows that one of the factors behind the successful growth performance of developed countries is the human capital level. On the other hand, the demand for qualified human capital is rapidly increasing in the new, knowledge-based economy era. This is why many developed and developing countries have increased their education/training expenditures in order to improve their human capital and thereby catch up with the innovation process. As a result, as Lucas (1988) stated, the importance of human capital investments in the innovation process is evident through its private returns and the externalities it causes.

1.3. Research and Development Activities

Romer's work in 1990 added a new dimension to growth theories by addressing the importance of R&D in the economic growth process and indirectly in the innovation process. Romer (1990: 72) established an endogenous growth model in its model based on the endogenous technological development created by R&D and human capital. The fact that technology is endogenous is an indication that it has emerged as a result of their efforts. Technological development is the result of entrepreneurs using this new knowledge in the production of new goods.

In this model, technological development encourages capital accumulation and this increases the output per work-force.

According to Romer (1990:71), technology is neither a traditional or public good, but a non-rival and partially excludable good. Thanks to the power provided by the technologies they have developed, firms operate under the conditions of perfect competition, transforming from the weak price-taker position to the companies with partial technological-monopoly in the monopolistic competitive market. The fact that technology is partly a public good stem from the fact that the information produced reaches other companies through externalities. As Romer (1990: 74) put it: Since it is impossible to patent and store information perfectly, once the information surface, this will create positive externalities on the production possibilities of other companies. The fact that the information is a partially excludable property means that the first person who reveals the information is paid through the patent system since the cost only occurs during the production of the information (Jones, 1998:75). The degree of exclusion is determined by the price the user will pay. Therefore, the fact that in the Romer model there is a factor that is not subject to competition and is partially excludable, it shows that instead of traditional neoclassical models that accept the validity of perfect competition market, monopolistic competition market is valid. Because the company that incurred the first cost determines its price above the marginal cost in order to get the return on its investment. Otherwise, it will not be in an innovation effort. This is called avoiding perfect competition.

In the model of Romer (1990), human capital is an "exogenous" factor and is a subject of competition. In this sense, human capital is only under the disposal of the firm that owns it and cannot be in many sectors at the same time. At the same time, human capital is not an element that can be accumulated unlimitedly, like knowledge. It disappears in case of the death of the individual. According to Romer, new technology, which means new information or new-design, is produced by human capital. Due to the access to information even if limited, the growth potential becomes unlimited, and thanks to the productivity of the information, instead of "the law of constant returns", "the law of increasing returns" prevails. There are four types of inputs in the Romer (1990:78-79) model: (i) physical capital (K), (ii) human capital (H), (iii) unskilled workforce (L) and (iv) stock of information or technology index (A). Another assumption is that the economy consists of three sectors: R&D, the intermediate goods sector, and the manufacturing sector. While the production function for the manufacturing sector is;

$$Y = f(H_y, L_y, K_y, A) \tag{4}$$

the production function for the R&D sector is;

$$A = f(H_A, L_A, K_A, A) \quad (5)$$

While H , L , and K can be used in only one sector at a time, A input can be used in both sectors at the same time. The R&D sector uses existing information stock and human capital to produce new information. The manufacturing sector produces final goods using labor, human capital, and durable input from the intermediate sector. Romer (1990) argues that positive externalities that lead to increased returns in the economy stem from R&D activities. The growth model developed by Romer does not accept the perfect competition and scale-based constant returns assumptions of the neoclassical approach. Knowledge is the basic dynamic behind long-term growth.

There are many empirical studies that have recently analyzed the relationship between R&D and innovation. For example, Griffith, Redding, & Reenen (2002) conducted a study involving 12 OECD countries in the 1970-1992 period. The authors concluded that R&D affects innovation directly and technology transfer indirectly, and that R&D plays an important role in the convergence of the total factor productivity levels of OECD countries. Zachariades (2003) examined the relationship between R&D intensity, patents, and increased productivity, using data from 1963-1988 period. While R&D intensity affects patent rates positively, the patent rate has a positive effect on technological development. Thus, there is a one-to-one relationship between technological development and output growth per employee. He also compared the effects of R&D in total and manufacturing output and found that the impact of R&D is much greater on the total economy compared to the manufacturing sector. R&D spending is important not only to reveal new information but also in the technological ability acquisition stage such as effective use, adaptation, and development of existing or imported technology (Cohen & Levinthal, 1989: 581). Therefore, R&D expenditures are of great importance not only for developed countries but also for developing countries.

In general, this framework reveals that the level of realized innovation across the economy depends on the degree to which private R&D is fueled by innovation-based domestic competition (Furman et al., 2002: 902). The common innovation infrastructure includes a country's overall science and technology policy environment, the mechanisms in place for supporting basic research and higher education, and the cumulative stock of technological knowledge upon which new ideas are developed and commercialized (Furman et al., 2002: 901). More importantly, while today, developed countries are able to develop new technologies as a result of their R&D investments, transform these technologies into processes and product innovations, and reveal these as integrated sequential processes, the developing countries have a weak integration of these processes.

Developing countries should allocate resources to R&D to develop and produce new technologies in order to be at the upper echelon of the competition like developed countries. The likelihood of this depends on the level of R&D activities and technological infrastructure, including technological skills (Soyak,1995). However, in developing countries, technological development is provided through information-technology transfer due to insufficient technological infrastructure, lack of scientific knowledge, lack of qualified workforce, etc. rather than basic scientific research. Considering that technological knowledge is mostly embedded in capital goods, developing countries can achieve technological gains by importing and/or imitating these technologies from developed countries.

As a result, Romer's model has contributed to the literature in many ways and has brought important innovations. From this point of view, the efficiency ratio in R&D directly affects the innovation process and it is generally accepted that R&D is the most important factor for innovation production today. Therefore, the expenditures to be allocated for the R&D sector, the incentives provided, and the human capital, as in Romer's model, cause an increase in productivity in this sector and indirectly affect the innovation process. This is also an indicator that R&D spending is an important policy tool that determines innovation and should be regarded by the government.

1.4. Level of Demand

What is meant by the level of demand is whether the resulting innovative product can find buyers and whether the current demand in the market can lead to innovative developments. However, up until now, the role of demand factors has hardly been taken into account in the theoretical analysis of innovation. Economic theory is more concerned with supply variables that encourage innovation production. The main reason for this is that the technology-driven innovation model, explained in the first chapter and claims that the innovation process stems from an exogenous advancement of scientific and technological knowledge, has an important place in the literature. In the mentioned model, analyses are made without taking market conditions into account, as if there is no relationship between innovation and demand. Therefore, the market is perceived as if it can easily absorb all emerging innovations. The market-driven innovation models, which came on the agenda with the 1970s, underlined the importance of market demand and marketing.

It is possible to find the theoretical foundations of the demand level in foreign trade models. After the Second World War, economists developed trade models as an alternative to the Heckscher-Ohlin model. According to the Heckscher-Ohlin theorem, each country will export products based on abundant and cheap production factors, while products based on scarce and

expensive production factors will be imported. Some of the basic assumptions of this theorem are that the level of technology is constant for each product and country, and in every country, besides technology, tastes and preferences are the same (Jones, 2006: 92). More modern models have emerged due to some shortcomings in the theory's assumptions. In modern models, the concept of competitiveness comes to the fore and is subject to various definitions according to the research subject. For example, when competitiveness is analyzed macroeconomically, foreign exchange parities come to the forefront, while economic growth and development approaches focus on innovation and technology (Ünlükaplan, 2009).

Based on a number of shortcomings of the Heckscher-Ohlin theorem, the economist Staffan B. Linder developed the "preference similarity" hypothesis in 1961 focusing on the trade of non-homogeneous industrial products. This hypothesis is also called "income theory" or "overlapping demands" in the literature (Atik, 2006:34).

Another assumption of Linder's theorem is that primitive commodity trade between countries can be determined by the factor endowment, but the same is not true for industrial goods production. Another economist who touched on the importance of the industrial sector in the innovation process is Nicholas Kaldor. Kaldor (1968:387) stated that positive externalities emerged in the industrial sector and these positive externalities accelerated economic growth by increasing productivity in other sectors. He also stated that industrial production growth will only increase with foreign demand, in other words, with exports, which has a high growth rate. The industrial sector is in a position to supply and demand intermediate input to and from other sectors of the economy, both due to its connection with other sectors and its sub-sector range. In addition, with the added value created in terms of the emergence of high-tech products, it shows the feature of being the key sector of economic growth (Arısoy, 2008:4).

Therefore, the findings obtained as a result of the technological classification of the export structure of the industrial sector reflect the technological depth of the relevant country's industry and its international competitiveness and long-term growth profile (Soyak, 2005:67). Consequently, the importance of the Linder theorem, which considers the industrial goods sector as the leading sector, in the innovation-production process stems from the emphasis on three points: (i) the emergence of innovations is determined by the income level of domestic demand, (ii) production of high-tech intensive goods that requires deep technical knowledge and research is more likely to happen in high-income/relatively-rich countries, (iii) these goods with higher added value

will increase the income level of the country by being subject to foreign trade - increasing returns by scale.

In the world, especially in the structure of the manufacturing industries, there is a change from raw material-based industries to high-tech sectors and machinery industries (DPT, 2000:66). When we look at the economic developments in the world, we see that countries that can produce technology-intensive products create more added value, have higher exports, and thus higher income levels (UN, 2005:36).

Another study presenting the relationship between the demand structure and the direction and rate of technological change was carried out by Schmookler (1966). According to this author, technological change does not occur with scientific inventions, but with the need for a special invention. However, scientific knowledge is still important, because the concept Schmookler calls innovative potential defines which invention market forces will actually choose (Schmookler, 1966:114). Therefore, innovative activities stem from the expansion of a market demand that really encourages innovation and is prone to react even if an unexpected demand change occurs. Schmookler (1966:118) discussed the innovation-demand relationship both theoretically and experimentally and concluded that innovations in any field tend to change over time with sales in the product class of the said field. For this reason, he stated that there is a linear relationship between innovation and demand and that innovations can be explained by changes in sales.

Gerosky & Walters (1995), based on Schmookler's statements, made an important contribution to this issue by demonstrating that innovation has a periodic behavior and demand leads to innovation. According to the authors, this issue has a two-way economic explanation (Gerosky & Walters, 1995:922). First, markets have the ability to absorb new products to a limited extent in a certain period, so that when a demand expansion occurs, this capacity tends to grow in a way that makes innovation more profitable. On the other hand, companies often have limited time to earn profits from the promotion of an invention. This is why innovations tend to emerge in periods characterized by an increasing trend of demand. Therefore, it is possible to say that governments' approaches to macroeconomic policies can have significant effects on technological change and growth, as macroeconomic conditions can affect the expected profitability of innovative investments. Therefore, when considering policy options, it seems necessary to consider its effects on the pace of innovation.

1.5. Openness

In the economics literature, the concept of openness mostly means removing barriers to foreign trade; It is defined as integration with international markets and/or removal and/or reduction of price and quantity restrictions in the markets (Edwards, 1997:3; Uygur, 1990:1). However, the concept of openness is still controversial in the literature (Proudman et al., 1997:17). In addition to the fact that there is no clear definition of the concept of openness, the issue of measurement of openness is one of the main topics discussed. In general, the share of exports, imports, or the sum of both in GDP is considered as a measure of openness, while openness indices created by international institutions can also be used in the studies.

Unlike many other areas of economic theory, the type of relationship between openness and technology-innovation is mostly addressed in international trade theories (Dosi & Soete, 1990: 401). Although Leontief was the first to test the Heckscher–Ohlin Theorem with the "Leontief Paradox" in 1953, it was Posner in 1961 who opened the way to the development of an alternative paradigm (Freeman, 2004:542). According to the "Technology Gap Theory" developed by Posner, the countries producing technology will have an advantage in the export of the products they produce with new technology until the new technology they produce is used by other countries. However, After other countries succeed in imitating, they will become importers due to their relatively high costs (Posner, 1961:332). Therefore, openness will close the technological gap. However, they will continue to retain their superiority if they manage to produce new technologies over time until the technology is used by other countries. In a sense, whether the openness will close the technological gap will depend on whether the country can innovate over time.

In the technological gap theory, the monopolistic power of the country that performs the innovation depends on the innovation in question or the two types of delays in the spread of innovative technology to other importing countries: (i) imitation lag: the time between the emergence of innovation and the other countries imitating it, (ii) demand lag: the time from the emergence of innovation to the demand of other countries to use this good. Therefore, the longevity of the monopoly power of the country that innovates depends on the first lag to be long and the second lag to be short (Posner, 1961:339). Industrialized countries that bear the initial high costs of innovation keep technological information as a trade secret in order to prolong the imitation gap as much as possible. Because, the developing countries that manage to imitate will produce the product in question with much lower unit costs (Jones, 1998:77). It is incumbent upon the government to encourage entrepreneurs, who refrain from investing in R&D due to the uncertainty and risk factor that dominates the innovation

process, through the laws that protect the patent, industrial, and intellectual property rights described at the end of this chapter. Therefore, when the patent period is long, the imitation lag will be just as long and the expected return on R&D investments will be high.

Following Posner's (1961) technological gap model, Hufbauer developed a new model by incorporating the concept of learning-by-doing in 1966 (Freeman, 2004:542). According to the study by), as the production of the country that performs innovation increases, learning will increase and production costs will decrease. Therefore, the openness will not close the technological gap as the export superiority of the country, which performs innovation will continue even after other countries imitate it. However, although Hufbauer (1966) examined the structure of the German and US chemical industries in the early stages of the emergence of the synthetic material industry, he did not conduct any research on what other determinants there might be for the emergence of these innovations (Freeman, 2004: 543).

Another study that relates openness to technological development belongs to Paul Krugman. In his study, Krugman (1979:225) discussed the relationship between foreign trade and technology in the context of the North-South trade relationship. In his model, he used sharp assumptions such as “the North constantly innovates” and “the South is unable to innovate”. However, over time, innovations by the North will shift to the South through technology transfer. Over time, thanks to openness, technological differences between the two regions/countries will decrease contrary to Hufbauer (1966), and this will perhaps result in a decrease in the North's standard of living. While Busse & Groizard (2006) accepted that openness positively affects the innovation process, they focused on the type of trade rather than the measure of openness in their studies, using data from 108 countries from 1965-1995. The authors emphasized that total trade can't be seen as the source of the increase in productivity and that the main factor is the import of R&D-intensive goods. This type of technology imports reduces the per capita income differences among countries by increasing the efficiency of the trade thanks to the technological expansion in the long term. A big portion of the theoretical literature analyzing the relationship between openness and innovation agrees that openness will accelerate the innovation process and this could be an advantage for countries like Turkey, whose technological infrastructures have not reached sufficient maturity. As a matter of fact, in their study discussing the effects of openness on economic growth and competition process, Sachs & Warner (1995:104) revealed that there is a positive linear relationship between foreign trade and economic growth and concluded that the main reason for this is technology transfer. The

results show that open economies will ultimately converge, but closed economies will not be able to achieve this.

Theoretical discussions on openness, which is one of the effective factors in innovation production, are more important for developing countries that are technologically lagging and are in a hurry to catch up with developed countries. Because imports from developed countries mean the transfer of information included in the product into the country. This means an opportunity for developing countries to catch up with others. However, the existence of domestic innovation capacity of the developing country in question is a prerequisite to assimilate the spillovers and lead to successful innovations in developing countries. The imitation process of technology taken from developed countries involves cost, and this cost is increasing considering that information is becoming more and more complex day by day. Therefore, a developing country will not be able to benefit from the information technology it obtains through imports without domestic innovation capacity (Singh, 2004:217).

1.6. Foreign Investments

The literature on developed countries has recently focused on the production mechanisms of innovation. While developed countries can produce their technologies by allocating large funds for R&D activities, it is not the same case for developing countries. These countries, which do not have sufficient physical and human capital stocks, have to transfer tested technologies from foreign countries (Çeştepe & Tüylüoğlu, 2006: 46). Several studies including Coe & Helpman (1995), Crespo et al. (2002), & Griffith et al. (2002) show that foreign sources of technology make important contributions to innovation production.

The competition, which has accelerated and intensified with globalization and technological developments, has also increased the needs of industrial companies to expand their knowledge base. Developing countries expand their knowledge base through technology transfer. The expansion of countries' knowledge bases through technology transfer takes place in four stages (Austin, 1990:236): (i) The first stage is the acquisition of technology. At this stage, the process of obtaining, defining, and learning the technology needed is working. The important thing is for the countries to choose and obtain the technology that suits them. (ii) The second stage is the adaptation of the obtained technology to the national conditions so that it can be used in the production process. Integrating the new technology into domestic conditions is important at this stage. (iii) The third stage is the development stage. At this stage, R&D investments come to the fore. Because the technology obtained and adapted must be reproduced at a higher level and thus innovation must be created. In a sense, the technological knowledge obtained must be continuously

improved. (iv) The fourth and final stage is the extension of the produced innovations, that is, the dissemination of information. What is important at this stage is the dissemination of information in the country as much as possible. Transferring technology from foreign companies located in developed countries is an important new source of information for developing countries (Coe et al. 1997:136; Mayer, 2001:6). One of the most important formal methods of technology transfer is the foreign direct investment (FDI) (Çeştepe & Tüylüoğlu, 2006:46). FDI means being a stand-alone institution or being a partner in a foreign country and involves “hiring foreign labor, starting a new business, meeting foreign regulations, and developing new market plans” (Saggi, 2000:193). Another formal mechanism is license agreements. The license agreement includes leasing previously set up companies, rights, and sometimes equipment, to create private equity ownerships.

Although there is a consensus among economists that FDI is an important channel for technology transfer to developing countries and that domestic firms can also produce innovation thanks to spillovers such as imitation, learning-by-doing, local workforce training, and vertical technology transfer done by MNCs; Many empirical studies, including Narula (2005) show that the net benefits of FDI to the host country relies on the industrial and policy environment (Blomström & Kokko, 1998), the level of human capital stock (Borensztein et al., 1998; Noorbakhsh et al., 2001), and the absorptive capacities of the domestic firms (Kinoshita, 2001).

As a result, MNC is one of the factors at the heart of globalization. Their activities go beyond national borders as they carry out international capital, information, and technology transfers. The globalization process is also a strong driving force for innovation. International competition forces firms to increase their productivity and develop new products. Globalization can also change the industrial structure of economies by forcing economies to adopt new industries and adapt to the institutional frameworks of these new industries (OECD & Eurostat, 2005:43). It is emphasized that globalization is now influencing the implementation of innovation-policies, moreover, scientific information can be accessed easily as a result of globalization, especially in developing countries, thus it is at least as important as basic research based on the internal efforts of the country and whose economic return is uncertain. This situation raises the need to add indirect innovation mechanisms to the model as important variables.

1.7. Intellectual Property Rights

After theoretical information about what can be the direct and indirect variables that determine innovation, in this chapter, intellectual property rights (IPR), which encourages innovation activities according to some and

hinders them according to others, are covered. By definition, IPR refers to the rights that enable people to have ownership over their creativity and innovation activities (OECD, 2006:4). IPR was put into practice with the establishment of the World Trade Organization (WTO) and after the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) came into effect, as a result of the Uruguay Round, which was started by GATT in Uruguay in 1986 and ended in 1994 in Marrakesh, Morocco, after the signing of the Final Act (Soyak, 2002:117). This agreement is of great importance for the global legal order established and especially for its effect on national technology policies.

There are four main types of intellectual property rights: patent, trademark, design, and copyrights. These rights, which are separated from each other according to their subject matters, can be bought and sold just like a property or used as a commercial product. Of the documents granting intellectual property rights, the patent is one related to our subject. The patent is an intellectual property right where entrepreneurs are granted the right to benefit from their invention for a limited time (usually 20 years) (OECD, 2006:9). Thanks to this right, the patent owners will be able to prevent the use of their invention by others. Patent statistics are increasingly used as output indicators of research activities. The number of patents granted to a particular firm or country reflects the technological dynamism of that firm or country while examining the development of patent classes gives some indications about the direction of technological change (OECD & Eurostat, 2005:26). Patents can include new products as well as new methods for producing old or new products. In order for an invention to be patented, that invention needs to be i) new, ii) over the inventive step, and iii) be applicable to industry. The importance of intellectual property rights stems from the fact that high-cost R&D activities involve risk and uncertainty. Investing in R&D activities means investing in the unknown for future monopoly earnings and advantages (Dosi, 1988:1222).

There is extensive literature on the role of IPR in economic development. The most important studies on IPR focus on whether strong IPR protection can be beneficial in less innovative countries. These studies mainly focus on North-South patterns of trade associated with different IPR regimes and the associated welfare gains or losses (Ortega & Lederman, 2008:2). In their theoretical study on developing countries, Chin & Grossman (1991) made analyses in the framework of North-South. They came to the conclusion that under strong and effective patent protection, the benefits the South gained while imitating technologies developed by the North will decrease. The most important IPR issue related to our subject is whether a country with relatively little original innovation activity can benefit from strong patent protection.

Chu (2009) analyzed the effects of increased IPR protection on R&D and economic growth. The first finding of this study is that different patent policies have different effects on R&D and economic growth. Secondly, the relationship between IPR protection and innovation is positive. The third finding is that the optimal level of IPR protection should maintain the balance between the social benefits of innovation, the social costs of monopoly, and income inequality. Finally, the success of global protection in the open economy depends on international coordination rather than harmonization of IPR protection. In addition to Chu (2009), many studies [Varsakelis (2001), Kanwar & Evenson (2003), Park (2005)] have examined the effect of patent rights on R&D and found a positive relationship. However, when developed and developing countries are examined separately, the effect of patent rights in developing countries remains uncertain. For example, while Chen & Puttitan (2005) found significant and positive effects of IPR protection on innovation in developing countries, Park (2005) found it had no significant impact on R&D. Similarly, Falvey et al. (2006) concluded that IPR protection has a positive and significant effect on the growth of high-income countries, but not for middle-income countries.

Studies analyzing the effect of patents on imitation costs have concluded that patents increase costs in developing countries but do not protect patent holders perfectly from imitation (Arundel, 2001:618, Moser, 2005:1217). Although discussions on IPR are still ongoing, studies show that IPR is an important determinant for both developed and developing countries in the emergence mechanism of innovation, which directly affects the innovation process. It is, therefore, possible to draw the following conclusion from empirical literature research: Empirical results support the positive relationship between IPR and innovation, but this result is more strong and reliable for developed countries compared to developing countries.

References

- Arısoy, İbrahim (2008); “Türkiye’de Sanayi Sektörü-İktisadi Büyüme İlişkisinin Kaldor Hipotezi Çerçevesinde Test Edilmesi”, *Türkiye Ekonomi Kurumu Yayını*, 2008/1.
- Arrow, Kenneth J. (1962); “The Economic Implications of Learning by Doing”, *The Review of Economic Studies*, Vol. 29, No. 3, pp. 155-173.
- Arundel, Anthony (2001); “The Relative Effectiveness of Patents and Secrecy for Appropriation”, *Research Policy*, No. 30, pp. 611-624.
- Atik, Hayriye (2006); “Tercihlerde Benzerlik Teorisi: Türkiye ve Bazı Komşu Ülkelerin Dış Ticareti Üzerine Bir Analiz”, *Ankara Üniversitesi Siyasal Bilgiler Fakültesi Dergisi*, Vol. 61, No. 2, pp. 33-45.
- Austin J. E., (1990); *Managing in Developing Countries*, Free Press, London.

- Blomström, Magnus & Ari Kokko (1998); “The Impact of Foreign Investment on Host Countries: A review of the Empirical Evidence”, *Journal of Economic Surveys*, No. 12, pp. 247–277.
- Borensztein, E, J. De Gregorio & J-W Lee (1998); “How Does Foreign Direct Investment Affect Economic Growth?”, *Journal of International Economics* Vol. 45, No. 1, pp. 115–135.
- Busse, Matthias & Jose L. Groizard (2006); “Technology Trade in Economic Development”, *World Economy*, Vol. 31, No. 4, pp. 569-592.
- Chen, Yongmin & Thitima Puttitanun (2005); “Intellectual Property Rights and Innovation in Developing Countries”, *Journal of Development Economics*, No. 78, pp. 474-493.
- Chin, Judith C. & Gene M. Grossman (1991); “Intellectual Property Rights and North-South Trade”, *NBER Working Papers*, No. 2769.
- Chu, Angus C. (2009); “Macroeconomic Effects of Intellectual Property Rights: A Survey”, *IEAS Working Paper*, No. 09-A007.
- Coe, David T. & Elhanan Helpman (1995); “International R&D Spillovers”, *NBER Working Paper*, No. 4444.
- Coe, David T., Elhanan Helpman & Alexander W. Hoffmaister (1997); “North–South R&D Spillovers,” *Economic Journal*, No. 107, pp. 134–149.
- Cohen, W. M., D. A. Levinthal, (1989), “Innovation and Learning: The Two Faces of R&D”, *The Economic Journal*, No. 99.
- Crespo, Jorge, Carmela Martin & Francisco J. Velazquez (2002); “International Technology Diffusion through Imports and its Impact on Economic Growth” manuscript, *European Economy Group Working Paper Series*, No. 12.
- Çeştepe, Hamza & Şevket Tüylüoğlu (2006); “Yabancı Doğrudan Yatırımlar Yoluyla Teknoloji Transferi: İrlanda Örneğinden Türkiye için Dersler”, *Ankara Üniversitesi SBF Dergisi*, Vol. 61, No. 2, pp. 45-62.
- Dosi, Giovanni & Luc Soete (1990); “Technical Change and International Trade”, *The Economics of Technical Change and International Trade*, (Eds.: Giovanni Dosi, Keith Pavitt, Luc Soete), New York University Press, New York.
- Dosi, Giovanni (1988); “Sources Procedures and Microeconomic Effects of Innovation”, *Journal of Economic Literature*, Vol. 26, No. 3, pp. 1120-1171.
- DPT (2000); *Sanayi Politikaları Özel İhtisas Komisyonu Raporu*, Sekizinci Beş Yıllık Kalkınma Planı, DPT Yayını: 2529-ÖİK:542, Ankara.
- Edwards, Sebastian (1997); “Openness, Productivity and Growth: What Do We Really Know?”, *NBER Working Paper*, No. 5978.

- Falvey, Rod, Neil Foster & David Greenaway (2006); "Intellectual Property Rights and Economic Growth", *Review of Development Economics*, No. 10, Vol. 4, pp.700-719.
- Freeman, Chris (2004); "Technological Infrastructure and International Competitiveness", *Industrial and Corporate Change*, Vol. 13, No. 3, pp. 541-569.
- Furman, Jeffrey L., Michael E. Porter & Scott Stern (2002); "The Determinants of National Innovative Capacity", *Research Policy*, No. 31, pp. 899-933.
- Gerosky, Paul A. & C. F. Walters (1995); "Innovative Activity over the Business Cycle", *The Economic Journal*, No. 105, pp. 916-928.
- Griffith, Rachel; Stephan Redding and John Van Reenen, (2002); "Mapping The Two Faces of R&D: Productivity Growth in a Panel of OECD Countries", *The Institute for Fiscal Studies*, Working Paper 02/00.
- Jones, Charles I. (1998); *Introduction to Economic Growth*, W. W. Norton & Company Inc., USA.
- Jones, Ronald W. (2006), "Eli Heckscher and Holy Trinity", *Eli Heckscher, International Trade and Economic History*, (Eds: Ronald Findlay, Rolf G. H. Henriksson, Hakan Lindgren and Mats Lundahl), The MIT Press, London, England, pp. 91-106.
- Kaldor, N. (1968). "Productivity and Growth in Manufacturing Industry: a Reply", *Economica*, No. 35, pp. 385-391.
- Kanwar, Sunil & Robert Evenson (2003); "Does Intellectual Property Protection spur Technological Change?" *Oxford Economic Papers*, No. 55, pp. 235-264.
- Kibritçioğlu, Aykut (1998); "İktisadi Büyümenin Belirleyicileri ve Yeni Büyüme Modellerinde Beşeri Sermayenin Yeri," *AÜ Siyasal Bilgiler Fakültesi Dergisi*, Vol. 53, No. 1-4, pp. 207-230.
- Kim, Linsu (2000); "The Dynamics of Technological Learning in Industrialisation", *INTECH Discussion Paper Series*, No. 2000-7, pp.1-33.
- Kinoshita, Yuka (2001); "R&D and technology spillovers via FDI: Innovation and Absorptive Capacity", *University of Michigan Business School Working Paper*, No.: 349.
- Krugman, Paul (1979); "A Model of Innovatory Technology Transfer and the World Distribution of Income", *The Journal of Political Economy*, No.:225.
- London, Silvia, Juan Gabriel Brida & Wiston Adrion Risso (2008); "Human Capital and Innovation: a Model of Endogenous Growth with a "skill-loss effect"", *Economics Bulletin*, Vol. 15, No. 7, pp. 1-10.
- Lucas, Robert E. (1988); "On The Mechanics of Economic Development", *Journal of Monetary Economics*, No. 22, pp. 3-42.

- Mayer, Jörg (2001); “Technology Diffusion, Human Capital and Economic Growth in Developing Countries,” *UNCTAD Discussion Paper*, No. 154.
- Moser, Petra (2005); “How Do Patent Laws Influence Innovation? Evidence from Nineteenth-Century World Fairs”, *American Economic Review*, Vol. 95, No. 4, pp. 1214-1236.
- Narula, Rajneesh (2005); “Globalization, EU Expansion and Consequences for MNE Location”, *Working Paper 2005-003*, Maastricht Economic Research Institute on Innovation and Technology.
- Noorbakhsh, Farhard, Alberto Paloni & Ali Youssef (2001); “Human Capital and FDI Flows into Developing Countries: New Empirical Evidence”, *World Development*, Vol. 29, No. 9, pp. 1593–1610.
- OECD & Eurostat (2005); *Oslo Kılavuzu, Yenilik Verilerinin Toplanması Ve Yorumlanması İçin İlkeler*, (Çev.: TÜBİTAK), 3. Baskı, OECD-Eurostat Ortak Yayını.
- OECD (2006); *Glossary of Patent Terminology*, OECD yayını.
- Ortega, Claudia B. & Daniel Lederman (2008); “Intellectual Property Rights, Human Capital and the Incidence of R&D Expenditures”, *Economiay Negocios*, No. 277, pp. 1-27.
- Park, Walter G. (2005); “Do intellectual property rights stimulate R&D and productivity growth? Evidence from cross-national and manufacturing industries data”, *Intellectual Property Rights and Innovation in the Knowledge-Based Economy*, (Ed.: J. Putnam) Chapter 9, University of Calgary Press, Calgary.
- Posner, Micheal V. (1961); “International Trade and Technical Change”, *Oxford Economic Papers*, pp. 323-341.
- Proudman, James, Stephen Redding & Marco Bianchi (1997); “Is International Openness Associated With Faster Economic Growth?”, *Bank of England Working Paper*, No. 63.
- Rebelo, S.T. (1991) “Long-Run Policy Analysis and Long-Run Growth” *Journal of Political Economy*, Vol. 99, No. 3, pp.500-521.
- Romer, Paul M. (1990); “Endogenous Technological Change” *Journal of Political Economy* Vol. 98, No. 5, pp. 71-102.
- Romer, Paul M. (1986); “Increasing Returns and Long-Run Growth”, *Journal of Political Economy*, Vol. 94, No. 5, pp.1002-1037.
- Sachs, Jeffrey D. & Andrew Warner (1995); “Economic Reform and the Process of Global Integration”, *Brookings Papers on Economic Activity*, Vol. 1995, No. 1, pp. 1-118.
- Saggi, Kamal (2000); “Trade, Foreign Direct Investment and International Technology Transfer: A Survey”, *World Bank Research Observer*, Vol. 17, No. 2, pp.191-235.
- Schmookler, Jacob (1966); *Invention and Economic Growth*, Harvard University Press, Cambridge.

- Singh, Lakhwinder (2004); “Globalization, National Innovation Systems and Response of Public Policy”, *International Journal of Technology Management and Sustainable Development*, Vol. 3, No. 3, pp. 215–231.
- Soete, Luc, Bart Verspagen & Bas ter Weel (2009); “Systems of Innovation”, *UNU-MERIT Working Papers*, No. 2009-062.
- Soyak, Alkan (1995); “Teknolojik Gelişme: Neoklasik & Evrimci Kuramlar Açısından Bir Değerlendirme”, *Ekonomik Yaklaşım*, Vol. 6, No. 15, pp. 93-107.
- Soyak, Alkan (2002); “Küreselleşme, Teknoloji Politikası, Türkiye: Sınai Mülkiyet Hakları ve Ar-Ge Destekleri Açısından Bir Değerlendirme”, *Küreselleşme: İktisadi Yönelimler ve Sosyopolitik Karşıtlıklar*, (Der. Alkan Soyak), Om Yayınevi, pp.99-154.
- Soyak, Alkan (2005); “Avrupa Birliği Sürecinde Türkiye Sanayi Politikası Üzerine Eleştirel Bir Yaklaşım”, *TMMOB Ölçü Dergisi*, Aralık No, pp.61-69.
- UN Millennium Project (2005); “*Innovation: Applying Knowledge in Development*”, Task Force on Science, Technology and Innovation.
- Ünlükaplan, İter (2009); “Avrupa Birliği Üyesi Ülkelerde İktisadi Kalkınma, Rekabetçilik ve İnovasyon İlişkilerinin Kanonik Korelasyon Analizi ile Belirlenmesi”, *Maliye Dergisi*, No. 157, pp.235-250.
- Üstün, Ahmet (2002); “Eğitimin Ekonomik Temelleri”, *Eğitim Üzerine*, (Der. Erdal Toprakçı), 1. Baskı, Ütopya Yayınevi, Ankara, pp. 241-264.
- Uygur, Ercan (1990); “Financial Liberalization and the Real Sector in Turkey”, *The Central Bank of The Republic of Turkey Research Department*, Discussion Papers, No. 9010.
- Varsakelis, Nikos C. (2001); “The Impact of Patent Protection, Economy Openness and National Culture on R&D Investment: A Cross-Country Empirical Investigation”, *Research Policy*, 30:1059-1068.
- Zachariadis, Marios (2003), “R&D, Innovation and Technological Progress: A test of the Schumpeterian Framework without Scale Effects”, *Canadian Journal of Economics*, Vol. 36, No. 3, pp. 566-686.

A LOCATION SELECTION MODEL FOR INTERNATIONAL LOGISTICS CENTRES: THE CASE OF ROMANIA FROM THE PERSPECTIVE OF TURKISH FOREIGN TRADE.

Turgay Battal & Sadık Özlen Başer***

Introduction

Logistics has a very important place in Turkey's 'Vision 2023' which sets ambitious targets for 2023 that include a GDP of \$2 trillion, exports of \$500 billion, and a total trade volume of \$1,2 trillion. The vision emphasizes that these objectives cannot be achieved without logistics and good supply chain management (SCM). Therefore, after the Turkish Exporters Assembly (TIM) Logistics Council was established, it has begun a logistics master plan study. The government plans to issue a Law for Logistics administration based on this study.

Logistics centres are specific centres where various logistic based activities are performed. These activities can include distribution, storage, transportation, consolidation, handling, customs clearance, imports, exports, transit processes, infrastructural services, insurance, and banking. These centres are defined for all national and international logistic and related operations (Erkayman et al. 2011, p.50). Logistics Centres, which play a key role in SCM, sites where the essential process is carried out to store and distribute variously finished and semi-finished products. The most important function of the logistics centres is to fulfil value-added works.

The location of the logistics centres is a key element in enhancing the efficiency of freight transport systems and initializing relative supply chain activities sufficiently. Thus, the location of a logistics centre should be selected strategically. Otherwise, it may have irreversible consequences on the overall logistics costs and may create bottlenecks that lead to rapid increases in costs through providing the transportation solutions. All factors that influence the determination of a location should be considered and well planned. Hence, public authorities should consider the importance of this topic in terms of strong economic, social, and environmental implications before announcing an area as a logistics centre (Kayikci 2010, p.6298).

Transportation is a well-known facet of logistics. Accordingly, the name of freight village that facilitates intermodal transportation is often

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used instead of logistics centre. A logistics centre is primarily an inter-modal terminal, which is the principal component of the inter-modal transport chain that constitutes the node where the transshipment of goods from one mode to the other takes place. Logistics centres must be settled near production and commercial centres, highways, railways, air-ports and, if possible, seaports (Erkayman et al. 2011, p.51). However, a logistics centre is more than a freight village or intermodal terminal, as it provides many other logistics-related services mentioned before (Önden et al. 2018, p.323).

At the strategic level, one of the most important decisions in logistics concerns the costs of the location selection. However, overall logistics costs will not be reduced if every firm selects a convenient place to locate themselves separately. In this case, firms need to have logistics centres to consolidate all freight, warehousing, and material handling activities with an aim to reduce the logistics costs in integrated manner (Önden et al. 2018, p.323).

The aim of establishing an international logistics centre to serve Turkish exporter-importers companies and their business partners in Romania, along with all the manufacturing, wholesale and retail sales companies that export from import to Turkey, is to shorten the lead times of companies serving this region, provide quick responses to customer requests and volumetric flexibility, customize end products, help add value by making postponement in necessary positions, and increase trade between two countries in line with Turkey's 'Vision 2023'. In addition, the Turkish and Romanian companies serviced by this centre will benefit from in-house logistics as an operation centre and/or they will be able to increase their productivity by outsourcing certain processes within the supply chain via third-party logistics (3PL) companies. It is anticipated that, because they will be able to concentrate on their core business, they will increase their competitiveness and productivity.

This study, it is aimed that to determine the most appropriate area location to provide effective service and to optimize the supply chain for minimizing the to minimize total transportation costs and time off for the company which will serve to operate the logistics centre in Romania. The location of the logistics centre was determined in three stages. First, the foreign trade volume of Romania's economic development regions was used as weight variable and to find Romania's centre of gravity. In the second phase, there were conflicting multi-criteria problems. Then, asking experts opinion was to create the weight variable. Therefore, the problem was solved with PROMETHEE (Preference Ranking Organization Method for Enrichment Evaluations), GAIA (Graphical Analysis for Interactive Assistance). Finally, the alternative regions established for a logistics centre were sorted and the results were interpreted. At the end of the study, found two different places, one of it theoretical and the others ideally. Then

1.2 Centre of Gravity Method (CoGM) and Finding Romania's Gravity Centre

The CoGM is a quantitative method for selecting a centre of the location. CoG, which is widely used to simplify physics and engineering calculation, is defined as an imaginary point through all the weights of a collaboration of masses of an object are concentrated so that there is no momentum arm to make the object unbalanced. It is also considered as the place where the object's weight concentrates on one point, at which there is no other force disrupting the object's balance. The geographical location of the centre of gravity is defined by weighted methods according to the laws of gravitation in physics (Thai and Grewal, 2005; Ballou 2004; Chopra and Meindl, 2016). Many researchers and practitioners prefer this method because it is easy to use. The centre of gravity method has been extensively referenced in the academic and trade literature as an appropriate method for locating and fixed facility (Ballou, 1973, p.44). Figure 2 helps to better understand the CoG model.

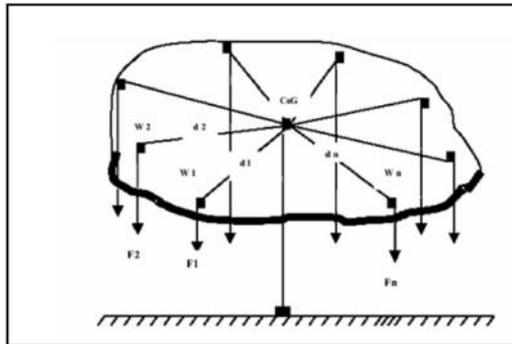


Figure 2: CoG Model
Source: Thai and Grewal 2005:9

In figure 2, CoG is an object that carries the weights W_1, W_2, \dots, W_n . The relevant distance from these weights to the imaginary CoG are d_1, d_2, \dots, d_n . The forces affecting this object's different points are calculated according to Newton's law of gravity calculation:

$$F_1 = W_1 x d_1, F_2 = W_2 x d_2, \dots, F_{n-1} = W_{n-1} x d_{n-1}, F_n = W_n x d_n \quad 1$$

To keep the object in balance, the following equation has to be calculated.

$$F_1 + F_2 + \dots + F_{n-1} + F_n \quad \text{and} \quad \sum_{i=1}^n (W_i x d_i) = 0 \quad 2$$

In equation 2, all the weights from a reciprocal relationship. Hence, if the weight increases in one direction then the weight on the opposite side must balance this increase to maintain equilibrium. The force applied to each weight has an influence that is proportional to the distance from the

CoG to the weight, and response, its distance gets closer or farther back to equilibrium. In such a case, the centre of gravity will shift.

From Equation 2, it can be understood that “in order to have the balance status quo the CoG will tend to locate in the area near major weights to offset other lighter ones in further distances” (Thai and Grewal, 2005, 9).

In this part of the study, Romania’s CoG is found by using CoGM with foreign trade volume variables. The distance of Romania’s CoG to each demand zone is minimized according to the weight of the demand point while the geographical coordinates of the CoG will be found. Various variables have been used by previous studies as the CoG’s weight component, with the most commonly used methods being the zone’s consumption centres.

CoGM defines a facility’s location in a service region as centred on tons (freight), miles (distance), ton-miles (Bowersox and Closs, 1996; 557) investigated whether the optimal location is a port and how convenient it is as a distribution centre, using freight volume as the weight variable. Cetin and Cerit (2010) used CoGM to determine the location of a value-added services centre and the potential logistics centre between the supplier centre (China) and the point of consumption (Germany), with freight volume as the weight variable. Zhang et al. (2012) and Zhang et al. (2014) measure change in energy production and consumption behaviour over a given period using CoGM, with consumption components at demand points as the weight variables.

For the present study, it was difficult to use regional freight quantities as the weight variables because data was unviable and coverage of more than one sector. Therefore, regional freight volumes (Ton or TEU) weren’t used as the weight variable.

As well as population, other factors influence CoG geographically. In shaping the general geographical area for a logistics or distribution centre, these additional factors reflect socio-economic conditions of GDP growth, transport and communication infrastructure, unemployment rates, and workforce quality. This approach is useful when several potential regions have similar weights in terms of population density in the same general geographical area (Thai and Grewal, 2005; 10).

Tartavuela et.al. (2011) used the consumption demand point and population as weights to determine the location of a distribution centre. However, they found that population density was one of the most important factors determining a region’s CoG. A region’s population density also affects the density of freight in that a region with high population density also has a high weight. Kaytuk (2015) determined the optimal location for a distribution centre in the Russian Federation using regional population density is an important demand factor, as indicated by Thai and Grewal (2005).

CoGM, which is derived from analytical geometry, provides a model based on the Cartesian coordinate system with an east-west x-axis and a north-south y-axis, as shown in Figure 3 (Bowersox and Closs, 1996; 557).

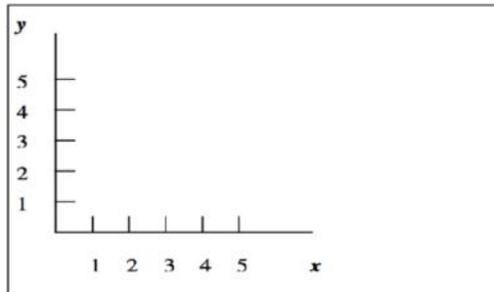


Figure 3: Cartesian Coordinates

Source: Bowersox and Closs, 1996; 557.

All points given in the coordinate system are indicated by x and y coordinates, with the distance between two points on the plane calculated using Pythagorean theory. They use the same distance scale along the axes allows all points in the coordinate system to be positioned relative to each other. Using this basic system, it is possible to determine the geographical location of the market in which a distribution centre will be located. All markets are marked on the Cartesian plane. Similarly, each market and distribution centre are marked in the Cartesian system relative to each other, adhering to single x and y coordinate centre.

It is possible to determine the ideal distribution or production location coordinates using the analytical method by solving the location selection problem, using variables such as distance, weight, population, per capita income, unemployment rate, qualified labour force, foreign trade, and/or a combination of these. In this calculation, the distribution centre location is the depended variable. Algebraic operation is performed according to distribution centre coordinates.

The main goal of CoGM is to determine the optimal location to minimize transport costs based on the key demand points. Because the present study includes more than one sector, such as industrial products, semi-finished goods, and wholesale and retail trade sectors, it is not possible to calculate the demands of the consumption zones, and therefore the freight quantities. Therefore, the selected regions' foreign trade volumes are used as the weight are drawn from the import and export data of the Romanian Chamber of Industry and Commerce (Starea Mediului Economic). In other words, where imports and exports are high, demand will be high and the distance between the logistics centre and the point of consumption will be decisive in the total transportation costs of these

regions. This point, determined by CoGM, presents the optimal logistics centre location.

Romania's CoG was determined by taking into account the data of eight economic development regions establish in 1998 (Figure IV), with the aim of better coordination economic development immediately after Romania's entry into the European Union. These regions are North East Region (RNE), South East Region (RSE), South (Muntenia) Region (RS), South West (Oltenia) Region (RSW), Western Region (RW), North East Region (RNE), Central Region (RC), and Ilfov Region (RI).



Figure 4: Romania's Economic Regions
Source: www.nostalgiizborului.ro, 16.04.2019.

The following equation is used to determine the CoG.

$Long_w$ – Potential logistics centre location longitude,

Lat_w – Potential logistics centre location latitude,

$\sum x_{long}$ – Sum of longitudes of selected regions' capital cities,

$\sum y_{lat}$ – Sum of latitudes of selected regions' capital cities,

$$Long_w = \frac{\sum x_{long} \cdot FTr_i}{\sum FTr_i} \dots\dots\dots 3$$

$$Lat_w = \frac{\sum y_{lat} \cdot FTr_i}{\sum FTr_i} \dots\dots\dots 4$$



Figure 6: Geographical Coordinates of Romania’s CoG
Source: Google Map

Using equations (3) and (4), the CoG coordinates calculated in the Excel table were 45.454555 North, 25.003422 East at 1,249 meters in a mountainous area, located in the Southern Regions (RS). Nearby settlements include Cămpulung to south and Mioveni further south, where the Dacia-Renault production facilities are located. Further south of Mioveni is Pitesti, with Artic, a white goods manufacturing facility, bought by Arçelik in Gaești, which is close to this region. The CoG is also close to settlements in Targoviste and Capina (see Figure 7).



Figure 7: Nearest settlements to Romania’s calculated CoG
Source: Google Map

The most powerful benefit of using CoGM in this study is to reduce travel time and transportation costs by an easy method in the supply chain network. Optimization of transport costs is thus the key concept of CoGM (Zeng, 2004; Cetin and Cerit, 2010; Țarțavulea et al., 2011).

The critical weakness in this method is that it only provides a static model. Locating a logistics centre is a strategic decision with a return on capital investment (ROI) over a long period of 3 to 5 years. The location of the logistics centre is calculated according to available existing data. In the case of unpredictable demand fluctuations, if a customer experiences a significant decrease in demand after six months, the balances will change, leading to higher transportation costs. Such concerns raise doubts about the method. NG and Çetin (2012) therefore discussed whether CoGM can be successful if transportation infrastructure is not suitable in developing economies, despite being an effective method.

Another weakness is that it cannot meet the conditions suitable for the geographical point logistics centre located by COGM. The point that will come out as a result of the calculations -as in our study- can be any point in the field. This point is highly likely to be a point that cannot meet logistics centre conditions. Nevertheless, despite many criticisms, CoGM is still widely used by scientists and practitioners.

1.3 Identifying the location of Romania's Logistic Centre with PROMETHEE-GAIA

For the present study, PROMETHEE, a multi-criteria decision-making method, which takes the preference structure of the decision-maker (DM) into consideration, was chosen to determine the location of Romania's logistics centre. The first step is to identify alternatives using alternative places in CoGM. The second step establishes evaluation criteria. The literature was searched using secondary data sources from the first stage. The selection criteria used to determine the location of logistics centres in similar previous studies were examined. From this literature, more than 200 criteria were identified, literature review was examined. It was found that researchers determined the selection criteria for their purpose in each study. Nevertheless, although some criteria are expressed differently, they have a similar scope.

In addition to the secondary data, the primary data and the variables that are important for establishing and overseas logistics centre in Romania were identified. A total of 16 location selection criteria were identified. Expert views were used to determine the weights of these criteria for the PROMETHEE-GAIA method, and the weights of criteria. Expert opinions were gathered by a questionnaire using a five-point Likert scale to rank the importance of each variable. A total of 20 experts, including university faculty members, senior managers of logistics service providers, the Romanian Trade Consultant (former), and senior managers of companies

operating in Romania, were selected for an expert opinion. The questionnaires were sent to some by e-mail and some of them were interviewed face to face. The responses to 14 completed questionnaires were evaluated and normalized as the criteria in PROMETHEE-GAIA MCDM.

No	Criteria	Total	Nrlz. Weight
C1	Economic Development	50	0.05988
C2	Social dimension	48	0.05749
C3	Average labour cost	46	0.05509
C4	Population	43	0.05150
C5	Schooling rate	40	0.04790
C6	Safety	56	0.06707
C7	Eco-friendliness	41	0.04910
C8	Transportation infrastr.	63	0.07545
C9	Acc. to multiple transport	64	0.07665
C10	Courier services	48	0.05749
C11	Investment level	56	0.06707
C12	Foreign trade volume	59	0.07065
C13	Target markets sales	54	0.06467
C14	Target markets production	57	0.06826
C15	Distance	52	0.06227
C16	Proximity to port	58	0.06946
			1

Table 1: Normalized weight table of criteria according to expert opinions.

The strongest criterion weights were C9 Access to multiple transport modes (64 points) and C8 Transportation infrastructure (63 points). The criteria scores are given in Table 1. Preference function, normalized criterion weights, and the data matrix of the alternatives are shown in Table 2.

Criteria	Objective	Preference Fn.	Weight	Alternative Places							
				RNE-IASI	RSE-CONSTANTA	RS-PLOEȘTI	RSW-CRAIOVA	RW-TIMISOARA	RNW-CLUJ NAPOCA	RC-BRASOV	RI-BUCHAREST
C1	Max	III	0,05988	€4.119	€5.142	€5.827	€5.181	€7.612	€5.864	€6.668	€14.336
C2	Max	III	0,05749	6.89%	6.66%	7.46%	8.31%	3.88%	4.14%	6.01%	1.76%
C3	Max	III	0,05509	€ 409	€ 429	€ 455	€ 447	€ 462	€ 416	€ 433	€ 700
C4	Max	III	0,05150	3.461,00	2.674,40	3.063,45	2.073,27	1.785,45	2.651,58	2.360,24	2.319,73
C5	Max	III	0,47900	0,73	0,64	0,44	0,30	1,16	1,08	1,02	2,32
C6	Max	III	0,06707	5,26	5,56	5,45	6,64	8,00	6,42	6,39	4,21
C7	Max	VI	0,04910	1,73%	21,01%	3,99%	13,31%	9,70%	7,66%	1,44%	0,00%
C8	Max	VI	0,07545	12,61	10,73	13,62	13,50	12,24	10,87	11,50	49,27
C9	Max	III	0,07665	3	5	3	4	3	3	2	3
C10	Max	III	0,05749	175	170	155	96	115	152	171	202
C11	Max	III	0,06707	€ 1.120	€ 3.532	€ 3.480	€ 1.804	€ 2.269	€ 2.214	€ 3.380	€ 4.821
C12	Max	III	0,07066	€ 3.655	€ 12.939	€ 20.228	€ 5.914	€ 19.686	€ 14.847	€ 17.198	€ 37.841
C13	Max	III	0,06467	5274	5800	5683	3414	4736	7326	6421	26084
C14	Max	III	0,06826	2883	2781	3167	1622	2552	3717	3343	7840
C15	Min	IV	0,06228	824	495	495	574	873	846	608	452
C16	Min	VI	0,06946	451	30	293	456	780	674	386	241

Table 2: PROMETHEE data matrix.

The criteria definitions and the PROMETHEE data matrix components are follow:

C1. Economic Development (Euro): In this criterion, the average national income per capita was calculated and the effect of the national income per capita on the logistics centre location region was attempted to be measured. This criterion is the maximization value. The effect of the national income per capita on the decision-making function of the place is desired to be maximum. According to the expert opinions, the weight was 0.05988. The decision-maker considers the average income level of 6844 euros to be sufficient but also wishes to consider places the average. For this reason, the third type (V type) of criterion with a linear preference function was preferred in terms of the evaluation factor.

C2. Social Dimension (%): This measured the effect of the average regional unemployment on the logistic centre location selection in that a relatively high unemployment rate is considered to make it economically easier to take advantage of the unemployed workforce. According to the expert opinions, the weight was 0.057485. The decision-maker sees 5.64

percent unemployment as adequate but wants to consider unemployment rates below the average. Therefore, the third type (V Type) of criterion with a linear preference function was chosen in terms of the evaluation factor.

C 3: Average labour costs (EUR) of active workers in each region was the minimization criterion. That is, regions with lower labour costs in the preference function are preferred over higher ones. It received a weighting score of 0.05508 from expert evaluations. The decision maker sees the average labour cost of 469 Euros as adequate but wants to include those above the average. Therefore, the third type (V Type) of criterion with a linear preference function was chosen.

C 4: The region's total population (thousands) was considered as a maximization criterion. It was estimated that consumption will be higher in regions with greater population. This criterion received a weighting score of 0.05149 from expert evaluations. The decision maker evaluates regions with an average population of 2,548,680 people as adequate but wants to include regions with lower populations. The third type (V Type) of criterion with a linear preference function was therefore selected in the calculations.

C 5: The region's schooling rate (number) was a maximization criterion since the number of universities per 100 thousand people supports the logistic centre location selection. The weight of the criterion was 0.047904 according to expert opinion. The decision maker sees an average rate of 0.96 universities per 100,000 people as sufficient but wants to add a lower rate to the evaluation. In this criterion, the third type (V Type) of criterion with a linear preference function was used.

C 6: Security (score) is the calculated security score for each hundred thousand people living in the region (calculated by including criminal events, such as violence, fraud, and traffic accidents). This security score was a maximization criterion. Security increases as the score increases and vice versa. According to the experts' evaluations, it received 0.06770 points. The decision maker wants to include evaluation areas with lower security scores as Romania is generally a safe country, with an average safety score of 5.99 seeming adequate. For this reason, the third type (V Type) of criterion with a linear preference function was used for the safety criterion.

C 7: Eco-friendliness (%) is the percentage of the green area in each region. The effect of this ratio on the selection of the logistics centre location is this criterion. The total protected natural area was the maximization criterion. According to expert evaluations, the criterion weight was 0.049101. The decision maker prefers to use the Gaussian preference function because Romania has many green natural assets throughout the country and high environmental awareness.

C 8: Transport Infrastructure (km): In this criterion, every 100 km of road and railway in the region is expressed in kilometres. This was a maximization criterion, with 0.754491 as the criterion weight. C8 had the highest criteria weight. As the transportation infrastructure of the regions increases, so does the impact on location selection. For this reason, the fifth (Linear) criterion was selected with an indifference and linear preference function.

	RNE-Iasi	RSE-Constanta	RS-Ploesti	RSW-Craiova	RW-Timisoara	RNW-Cluj-Napoca.	RC-Brasov	RI-Bucharest
Km/100-Km²	12,61	10,71	13,62	13,50	12,24	10,87	11,50	49,27

Table 3: Transport infrastructure

C 9: Access to multiple transport modes (number), representing the number of roads, railways, airports, marine, and inland waterway transport modes. For the maximization criterion, a weight of 0.068493 was taken. In this criterion, the first type (usual) of preference function was used.

C 10: Prevalence of courier services (number): The number of branches of courier companies in the region was a maximization criterion, with a weight of 0.057485. The decision maker used the third type of criterion (Type V) with a linear preference function.

C 11: Investment level (million euros): Direct investment amounts of public and private undertakings to the region were maximization criteria. The decision-maker evaluated an average investment level of 28.274. 500 Euros as adequate but also wanted to consider regions that with below-average investment. The criterion had a weight of 0.06706 according to the expert opinions. The decision maker used the third type (Type V) of criterion with a linear preference function.

C 12: Foreign trade volume (million euros) is the sum of imports and exports of firms operating in the region, which was a maximization criterion. The decision maker evaluated 16,788.91 million euros as adequate, which was the average foreign trade volume (import-export), while also considering regions below the average. The weighting was 0.0706. The decision maker used the third type (V Type) of criterion with a linear preference function.

C 13: Target market, retail and wholesale sales (Number) is the number of retail and wholesale selling companies active in the region. This was a maximization criterion. The decision maker saw 8,092 units as a sufficient number of enterprises but also wanted to include regions below the average. A criterion weight of 0.06467 was determined by expert opinions. The third type (V type) of criterion with a linear preference function was used.

C 14: Target market production (number): The number of production companies in the regions was a maximization criterion, with 3,488, which is the regional average, considered sufficient while also wanting to include regions below the average in the evaluation. The coefficient weight was 0.06068. The third type (V type) of criterion with a linear preference function was selected.

C 15: Distance (km.), measured how far transport had to go to cross the border into Turkey. This was a minimization criterion. The coefficient of 0.06227 was determined as the criterion weight. The fourth type (level) of preference function was selected because The Decision Maker has chosen to have a preference within a range of values.

C 16: Proximity to the port (km.): The distance to the city's nearest seaport, which is the capital of the region. It was a minimization criterion for minimization as the region closest to the port is preferred. A weight of 0.069461 was determined. The fifth (Linear) criterion was selected with an indifference and linear preference function.

	RNE-Iasi	RSE-Constanta	RS-Ploesti	RSW-Craiova	RW-Timisoara	RNW-Cluj-Napoca.	RC-Brasov	RI-Bucharest
Km	451	30	293	456	780	674	386	241

Table 4: Proximity to the Constanta Port

Table 2 shows the data matrix of the generated preference functions and normalized criteria weights.

The software Visual PROMETHEE Academic Edition, Version 1.4.0.0, developed by Bertrand Mareschal, was used to implement the PROMETHEE-GAIA MCDM. After entering the data into the programme, the data entry screen appeared as in Figure 8.



Figure 8: PROMETHEE-GAIA Data Entry Screen

Positive (ϕ^+) and negative (ϕ^-) superiority values, which are necessary for partial sorting, were calculated by entering the data into the calculations. These calculated values are given in Table 5.

Rank	action	Phi	Phi+	Phi-
1	RI- BUCHAREST	0,4275	0,5414	0,1139
2	RSE- CONSTANTA	0,1093	0,229	0,1197
3	RS- PLOESTI	0,0258	0,1658	0,1399
4	RC- BRAȘOV	-0,0502	0,1435	0,1937
5	RNW- CLUJ- NAPOCA	-0,0801	0,1173	0,1974
6	RW- TIMIȘOARA	-0,1256	0,1149	0,2405
7	RNE- IASI	-0,1494	0,0967	0,2461
8	RSW- CRAIOVA	-0,1573	0,1263	0,2837

Table 5: PROMETHEE Flow Chart Data Screen

Regarding the ranking the alternative regions, the first three were RI, RSE, and RS are listed. The other regions were RC, RNW, RW, RNE, and RSW. According to the calculation, the flow value of the RI was about four times that of the RSE, as shown in the table 5. On the other hand, there was little difference in flow value between the SE and the RS. Finally, the flow value for the RC was negative.

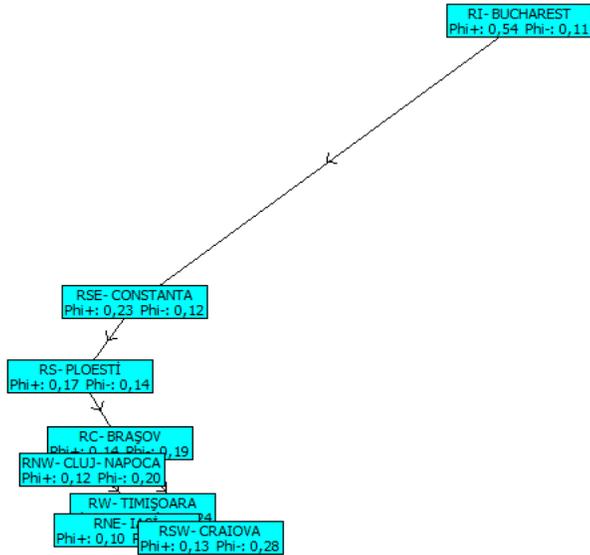


Figure 9: PROMETHEE-GAIA Network Diagram

The network diagram (Figure 9) shows that RI, RSE, and RS were superior to other alternative regions. While the RSE and RS were superior to the RC, they were not compared with other regions. The RC was superior to the RNW. The RNW was superior to the RNE, which was in turn superior to the RNW. Finally, the RSW was superior to the RW.

After obtaining these superiority flow values, PROMETHEE I and PROMETHEE II results were calculated, showing the partial and complete ordering of the alternatives.

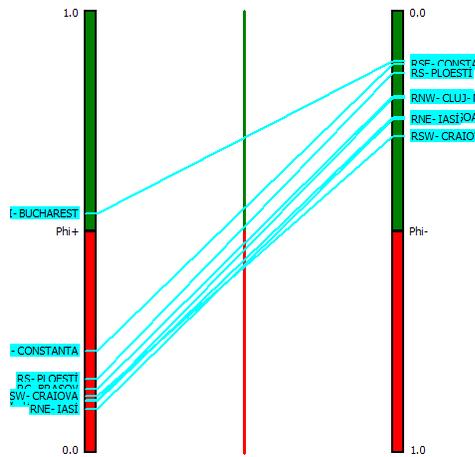


Figure 10: PROMETHEE I Partial Sequence Chart

From the partial order in PROMETHEE I, The RI was first place, the RSE was second, and the RS was third. The RSE and the RS were very close to each other.

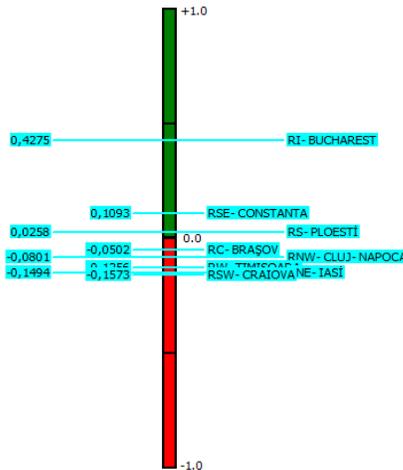


Figure 11: PROMETHEE II Full Order

The PROMETHEE II full order was clearer. As can be seen in Figure 11, the RI was first, the RSE was second, and the RS was third. The results of the RSE and RS were again very close. In the PROMETHEE II exact ranking calculation, certain data can be ignored. However, this is a necessary calculation to determine the full order. The result was below the

0.0 line because the Phi values of the RC were negative in the whole sequence. This shows that the RC and the regions below the RNW, RNE, RSW and RW are not suitable alternatives. Figure 12 shows the PROMETHEE Diamond screen image.

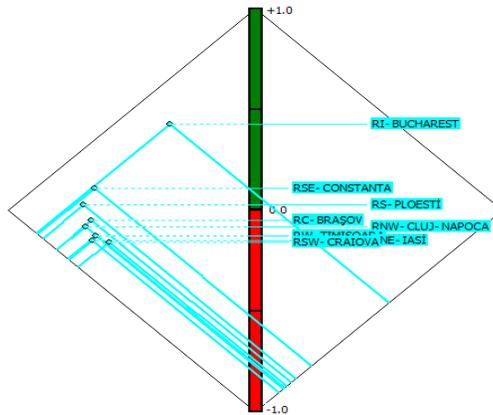


Figure 12: PROMETHEE Diamond

PROMETHEE Diamond, PROMETHEE I Partial sorting, and PROMETHEE II are new methods to show the full ordering in the same plane. Positive and negative preferences are shown at an angle of 45° so that positive currents (Phi +) are displayed above the vertical axis 0.0 whereas negative currents (Phi-) are displayed below it. Thus, the vertical axis net current is $\text{Phi} = (\text{Phi} +) - (\text{Phi}-)$.

A 45° cone was drawn for each action. The cone's tip corresponds to the preference values so that the top cone shows the most preferred alternative. If a cone is overlaid with another cone, the PROMETHEE I partial order is checked first for this action. When two cones overlap, PROMETHEE I and PROMETHEE II do not need to go into full order. Because of the mathematical properties of the preference streams, all the fields are always on the left side of the vertical axis. The order of the alternative regions is clearly visible in the PROMETHEE Diamond. The PROMETHEE Diamond is useful because it is easy to see the locations of different actions in the same axis.

Figure 13 shows the PROMETHEE Rainbow screen output, which collectively shows the criteria for the advantages and weaknesses of the regions.

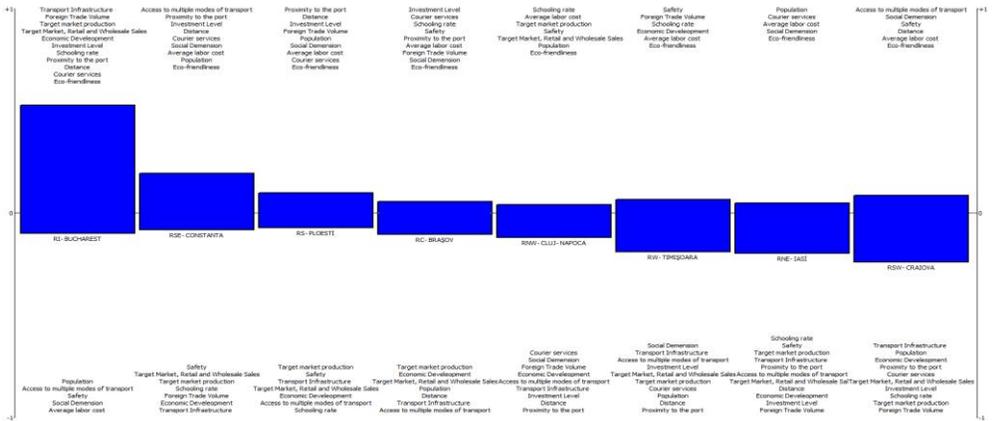


Figure 13: PROMETHEE Rainbow

As seen from the PROMETHEE Rainbow output, The RI was superior to the RSE and RS for the following 10 criteria; Investment Infrastructure, Foreign Trade Volume, Target Market- Production, Target Market-Retail, Investment Level, Distance, Economic Development, Courier Services, Ports Proximity, Schooling Rate. However, it was weak in six criteria: Transportation Modes, Population, Environment, Labour Costs, Security and Social Dimension. Transportation Modalities was weak because of the lack of inland waterway transportation or a seaport.

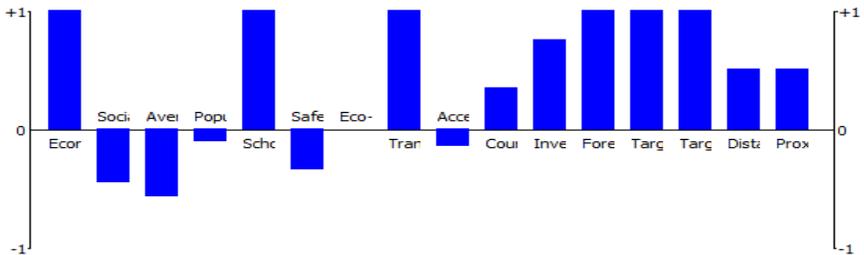


Figure 14: Situation of the RI according to other alternative zones (Action Profile window)

The programme’s Action Profile window can be used to perform sensitivity analysis. Suitability comparison can also be done according to alternative criteria. An alternative region was selected for this review. In the obtained graph, the sections below the 0 line indicate that the alternative was not suitable for the relevant criterion while the upper part shows that it was appropriate. Thus, alternatives can be analysed between each other. If the investigation starts in order from the RI, although the transport infrastructure of the RI is the strongest, it is weak due to the lack

of access to the sea and inland waterways. Although there is a plan to extend one of the Danube's tributaries, the Drambovița river, to Bucharest as an inland waterway, it would be difficult to complete it soon. The other weak criteria were Environment, Security, Population, Workmanship and Social Dimension. However, on the other criteria, the region was clearly ahead of the other regions. Ilfov Region is 241km from Constanta port. With the support of EU funds, the railway line was renewed, and electrification was completed while highways and connections were completed, and a Danube road bridge was renewed.

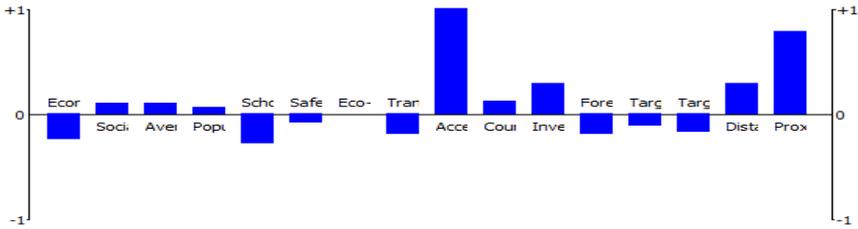


Figure 15: Situation of the RSE According to Alternative Zones (Action Profile window)

The RSE had the weakest transport infrastructure while having the best transportation modes. Railway lines have been completed from the Constanta port area to Bucharest along with new highway routes and a canal to the Danube. With its proximity to motorway between Romania and Turkey it is superior to other modes of road transport in terms of speed. Time losses in customs transit in railway transport make this method disadvantageous. Maritime transport direct lines were opened by various Turkish maritime companies but were unsuccessful.

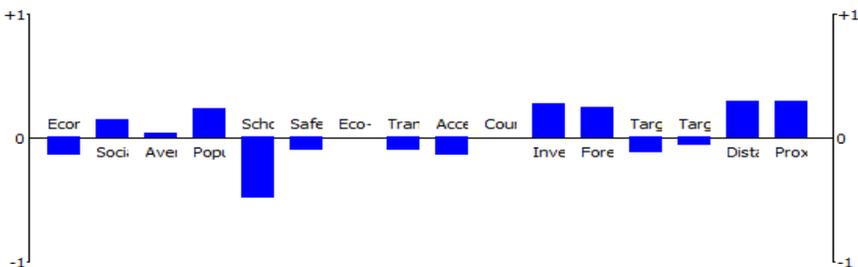


Figure 16: Situation of the RS According to Alternative Zones (Action Profile window)

The weakest criterion for the South Region (RS) concerned the high wage levels. While its Transportation Infrastructure was strong, its Transportation Modes were weak due to the lack of an airport and its

distance from the sea. However, Danube river ports at Giurgiu and Oltenita provide access to Constanta and other Central European harbour. From the distance from Ploiesti, the centre of the RS, to Otopeni Airport is 45 km by road.

It is possible to evaluate alternatives with similar and conflicting criteria to the GAIA plane (Brans and Mareschal, 1992), when partial and complete ranking results of alternatives with PROMETHEE I and PROMETHEE II are obtained. In this plane, criteria with similar characteristics to the alternatives can be represented by vectors in the same direction while contradictory criteria can be represented by vectors in the opposite direction. In addition, alternatives with similar characteristics on the same criterion are placed in the direction of this criterion vector while alternatives that are not similar are located at distant points from each other. This vector, called the PROMETHEE decision axis (Pi vector) and located in the GAIA plane, guides the decision about the choice of the best alternative and the number of contradictory criteria. While showing the best alternative in the direction of the Pi vector, a short vector reflects a decision problem where there is a contradictory criterion (Brans and Mareschal, 1992).

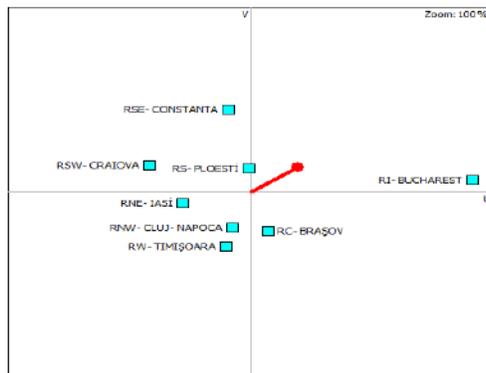


Figure 17: GAIA Plane

The GAIA plane in which the criteria and alternatives are included is given in Figure 17. This shows that the delta parameter (Δ) value, which shows the accuracy of the selected function and the calculation values for the decision problem, is 82.5%. Mareschal (2012) emphasizes the general need for better analysis of smaller values to ensure that the analysis performed is sufficiently accurate and reliable for figures that are 70 percent greater than Δ . The result shows that the analysis we conducted was robust and accurate. Figure 17 includes both similar and conflicting criteria. When we look at the axis of decision on the GAIA plane, the presence of the alternative region of the RI in the direction of Pi vector

indicates that the PROMETHEE I and PROMETHEE II sorting results are compatible. The farthest solution was in the opposite direction of the RW.

2. Results

As a result of this study, we have two locations. The first one being 'The gravity centre of Romania' calculated by the foreign trade data, and the latter being 'The location of the overseas logistics centre in Romania' determined by PROMETHEE-GAIA which is an MCDM method. The establishment of the overseas logistics centre at the location calculated by the PROMETHEE-GAIA method will undoubtedly increase operational efficiency. If the investment is made to the region determined by the MCDM method; There will be a deviation from the centre of gravity of Romania, which we found by using foreign trade data as a variable. This deviation will be reflected in the operational expenses of the logistics centre to be established as cost. It is evaluated that this distance calculated in our study can be used as a correction coefficient in calculating the costs of distribution operations from the logistics centre.

Distance between two spherical points (the spherical distance) can be calculated using the Haversian algorithm;

$$R = \text{Earth radius (6.371 km)}$$

$$\Delta lat = lat2 - lat1 \text{ (Latitude Difference)}$$

$$\Delta long = long2 - long1 \text{ (Longitude Difference)}$$

$$a = \sin^2\left(\frac{\Delta lat}{2}\right) + \cos(lat1) * \cos(lat2) * \sin^2\left(\frac{\Delta long}{2}\right) \quad 5$$

$$c = 2 * \text{atan}^2(\sqrt{a}, \sqrt{(1-a)}) \quad 6$$

$$d = R * c \quad 7$$

The calculation using equations 5, 6, and 7 is given in the Table 6. The distance between Romania's CoG and the location of PROMETHEE-GAIA MCDM is given by this calculation, as shown in Table 6.

Economic Region Name	Location	Latitude	Longitude	Distance (km)
RI	Ilfov-Bucharest	44.450000	26.166666	144.50
RSE	Constanta	44.233333	28.633333	316.77
RS	Ploiesti	44.950000	26.083333	101.58

Table 6: The distance between two location

These results can be easily calculated by road or railway distances (if any) between two points without using equations 5, 6, and 7. Our goal was to enable these distances to be used as correction factors for the logistic

centre administration in the settlement calculations of the place of the future logistics centre.

Although it is generally assumed that there are straight lines between the logistics centre facility and other network points of the supply chain, this is rarely true because transportation relies on a defined road network, a designated rail system, or a city street network. A proportional factor can be included in the model to convert straight-line distances into highway miles, railway miles, or other relevant units. For example, according to Ballou (1999), the calculated straight-line mile needs to be increased by 21 percent to represent the highway direct mile, by 24 percent to obtain the railway direct mile, and by 41 percent for urban streets. This mile calculation can be converted into kilometres by multiplying by 1.61.

3. Conclusions

As outlined in the introduction, logistics has a very important place in Turkey's latest strategic plans. Because the plan's GDP, export, and trade volume targets cannot be achieved without good logistics and supply chain management, Turkey has attached great importance to structuring logistics centres with the establishment of logistics centres being discussed both domestically and abroad.

Anyone -government, private or PPP (Public Private Partnerships)-investing in a logistics centre in a new country has many advantages if they know where the country's CoG is before investing there. The export and import figures from economic development regions provide the most important data concerning the load of that zone. The region's load traffic, with a lot of exports and imports, will also be high. In this study conducted with this assumption, the centre of gravity, which is determined by using foreign trade data as the weight variable, is the optimum location suitable for the purpose.

According to the calculations made with the PROMETHEE-GAIA method, the RI is the most suitable place for an overseas logistics centre in Romania from the perspective of Turkish foreign trade because it has the greatest population and economic advantages among the alternative regions. This study shows that this method provides an appropriate model for overseas logistic centre location selection from the perspective of foreign trade.

The distances calculated by the Haversian algorithm allow the decision maker to be used as a correction factor. If the decision maker decides to establish a logistics centre in the Ilfov Region (RI), it will require 144.50 km as a correction factor which will be reflected in operational cost accounts. Our aim was to use the distances obtained with the help of equations 5, 6, and 7 as a correction coefficient to enable the decision maker use this as the decision correction factor in calculating the location

of the future logistic centre. This is one of the most important results of this study.

Regarding Romania's logistics sector, 50 percent of industry and trade is located around Bucharest-Ilfov while the other 50 percent is scattered throughout the rest of the country. This means that Romania poses great difficulties for enterprises because the concentration of the sector in one region increases competition between firms and while creating inactivity in the remaining regions of the country.

According to PROMETHEE-GAIA, the second most optimal region is the RSE and Constanta port, which provides access to the Black Sea. Because Romania is closely linked to Turkey by road, the companies considered within this study, which are engaged in wholesale and retail trade and export and import of finished and semi-finished products, prefer road haulage to marine transport. Although regular maritime lines were established between Istanbul and Constanta line, they closed as they were unable to compete with road transportation.

This study indicates that a logistics centre in RI would increase Turkey-Romania trade volumes. Opening such a logistics centre would make an important contribution to achieving the objectives in 'Vision 2023' plan for exports and trade volume. It would increase the profitability of investment and trade development benefits, which are also important for job creation and improving the social dimension of the region's economy. Such an investment would further deepen the already good economic and political relations between the two countries.

The system will be much more powerful if the new logistics centre in the RI forms part of a network with other logistics centres in Romania, Turkey, and EU countries. Nowadays, logistics centres are organized within networks, so the stronger this network is, the stronger the cooperation becomes across the network.

Romania should immediately complete structural reforms within the framework of targets and plans approved by the Council of Europe to develop its economy and become entry point and near-shore production area for Central and Eastern Europe (CEE). These infrastructure issues are supported in line with the plans from EU structural funds. In particular, it is considered that the implementation of the issues that require knowledge to increase intermodal transportation-which we have emphasized in our study - will contribute greatly to attracting foreign investments to the country

Although the model applied in the study was proposed for the selection of a logistics centre location in Romania, it is considered that this model is easily and reliably applicable for the selection of locations for logistics centres to be opened in Turkey's target exports markets.

In order to determine whether the RI, which is selected as the logistics centre and located in the south of the country, will cover the whole country,

it is necessary to calculate the maximum coverage of the logistics centre. This problem could be a subject for subsequent studies. In addition, researchers could identify the additional facilities that can be installed to expand the scope of the logistics centre using data accumulated it has begun operating, by means of p-median studies.

In future studies, the problem can be addressed using the Fuzzy PROMETHEE approach, which uses fuzzy logic to evaluate the problem from different perspectives and express uncertain views more accurately.

Land factor selection criteria were not included as part of establishing the logistics centre. However, it is assumed that the cost of land at the place where the logistics centre will be established is similar to the cost of land of similar size in all regions in Romania. Thus, the Romanian government authorities should allocate land through trade diplomacy for the location determined in this study by PROMETHEE-GAIA.

Acknowledgement

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References

- Ballou, R. H., (1973), "Potential Error in the Center of Gravity Approach to Facility Location", *Transportation Journal*, Volume 3, Issue 2, pp: 44- 50.
- Ballou, R. H., (1999), *Business Logistics Management Planning, Organizing and Controlling the Supply Chain*, Fourth Edition, New Jersey: Prentice Hall.
- Ballou, R. H., (2004), *Business Logistics / Supply Chain Management; Planning, Organizing and Controlling the Supply Chain*, New Jersey: Prentice-Hall, International, Inc., Fifth Edition.
- Boroïu, A., (2012), "Determinarea Centroizilor De Zonă Pentru Suprafețele Terestre. Aplicație: Determinarea Centrului Geografic Al României". *Buletinul AGIR*, available at, <http://www.agir.ro/buletine/1587.pdf.supliment1/2012>: pp. 8-14, referred on 10.12.2019.
- Bowersox, D., J. and Closs, D.J., (1996), *Logistical Management: The integrated Supply Chain Process*, New York: McGraw-Hill.
- Brans, J., P., Mareschal, B., (1992), "PROMETHEE-V-MCDM problems with segmentation constraints". *INFOR* 30 (2), 85–96.

- Brans, J. P. and Mareschal, B., (2005), “PROMETHEE Methods”, *Management Science*, Volume 78, III: pp. 163-186,
- Chopra, S. and Meindl, P., (2016), *Supply Chain Management, Strategy, Planning, and Operation*, 6th edition, Boston: Pearson Prentice Hall.
- Cetin, İ., B. and Cerit, A., G., (2010), “The Potential of Turkey as a Logistics Center Between Far East and Europe: An Application in Electronic Industry”. *Dokuz Eylül Üniversitesi Marine Faculty Magazine*, Volume.2, Issiu.1: pp. 49- 75.
- Erkayman, B.; Gundogar, E.; Akkaya, G.; Ipek, M. (2011), “A fuzzy TOPSIS approach for logistics centre location selection”, *Journal of Business Case Studies* 7(3): 49–55, available on, <http://doi.org/10.19030/jbcs.v7i3.4263>, referred on, 10.11.2019.
- Făgărășan, M. and Cristea, C., (2015), “Logistics Centre Location: Selection Using Multi-Criteria Decision Making”, *Annals of the Oradea University Fascicle of Management and Technological Engineering*, Is. 1: pp. 157-162.
- Katyuk, O., (2015), “Application of the Center of Gravity Method for Selection of Distributer Center Location at Russia”, (Unpublished MS Thesis), Dubai: Heriot Watt University, School of Management and Languages, Logistics and Supply Chain Management.
- Kayikci, Y. (2010), “A conceptual model for intermodal freight logistics center location decisions”, *Procedia–Social and Behavioural Sciences* Volume: 2, Issue: 3, pp: 6297 – 6311, available to <http://doi.org/10.1016/j.sbspro.2010.04.039>, referred on 29.05.2019.
- Mareschal, B. (2012), “PROMETHEE-GAIA”. www.promethee-gaia.net, referred on, 16.02.2019.
- NG A., K., Y. and Çetin İ., B., (2012), “Locational Characteristics of Dry Ports in Developing Economies: Some Lessons from Northern India”. *Regional Studies*, Vol. 46:6: pp. 757-773, available to, www.tandfonline.com/doi/pdf/10.1080/00343404.2010, referred on 16.04.2019.
- Önden, İ., Acar, A., Z., and Eldemir, F., (2018), “Evaluation of The Logistics Centre Locations Using A Multi-Criteria Spatial Approach”, *Transport*, Volume 33, Issue 2, pp. 322-334.
- Romania’s Economic Regions Map, available at, <http://www.nostalgiiciizborului.ro/resources/harta1.jpg>, referred on: 16.04.2019.
- Starea Mediului Economic, (2015), *Camera de Comerț și Industrie a României*, available at <http://www.ccir.ro>, referred on 24.04.2018.

- Thai, V. and Grewal, D., (2005), "Selecting the Location Of Distribution Center In Logistics Operations: A Conceptual Framework And Case Study", *Asia Pacific Journal of Marketing and Logistics*, Vol. 17(3): pp. 3-24.
- Țarțavulea R. I., Belu M.,G., and Diaconescu V., C., (2011), "Spatial Modeling in Logistics Decision-Making Processes. Identifying the Optimal Location for A Single Central Warehouse", *The Journal of the Economics*, Vol. 1, Issue. 1: pp. 137-143, available to <http://anale.steconomieuoradea.ro/volume/2011/n1/083.pdf>, referred to, 18.10.2019.
- Zeng, T. (2004), "Distribution Center Location and Organization for Competitive Advantage". (Unpublished MSc Thesis). Gothenburg: Gothenburg University, Logistics and Transport Management.
- Zhang, M., Xia, Q., Wang, W., and Zhou, M., (2014), "Study on temporal and Spatial Evolution of China's Oil Supply and Consumption". *Natural Hazards*, Vol.72, Issue. 2: pp. 809-825.
- Zhang, Y., Zhang, J., Yang, Z., and Li, J., (2012), "Analysis of the Distribution and Evolution of Energy Supply and Demand Centers of Gravity in China". *Energy Policy*, Vol. 49: pp. 695-706.

DETERMINATION OF THE FACTORS THAT AFFECT THE TOTAL EARLY-STAGE ENTREPRENEURIAL ACTIVITIES IN COUNTRIES*

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INTRODUCTION

Regarded as the primary production factor in the science of economy, and having lost none of its importance in years when significant economic and political changes took place in the world and even when borders of countries changed, entrepreneurship became even more important especially in the new world order that followed World War II.

By means of the multilateral agreements made between countries and the international organizations founded after World War II, while cooperation between countries increased, competition in economic terms got fiercer. Particularly with the end of the cold war era, the number of countries where companies operate increased and global markets were divided between companies.

As a result of the increasing globalization with the development of information and communication technologies, changes took place also in the methods and sectors of entrepreneurship that is considered as an important activity in economic growth. The relations the internet and the digital revolution have with entrepreneurship directed the global economy. Countries monitoring these developments have invested in information technologies, computer hardware, communication and internet companies. These changes that took place in entrepreneurship methods and sectors made it a must to better understand the factors affecting entrepreneurship in order to enable economic growth of countries. This is because of the fact that there is a significant relation between entrepreneurship and economic growth. An average economic growth is observed in most of the countries with high entrepreneurship activities. Within the scope of this relation between entrepreneurship and economic growth, all countries have started show more interest in developing and implementing strategies that support and maintain entrepreneurial activities. Today, entrepreneurship is an important

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component of the social, political and economic agenda all around the world.

However, the level of entrepreneurial activities varies between countries. There are several factors effective in this, such as countries' peculiar socio-cultural values, population profiles, economics, labor markets, policies concerning starting up business, educational means and technological infrastructure. Beside these factors that cause the differences between the countries, there are also some individual factors that affect entrepreneurship. While entrepreneurial activities change from one country to the other, individual factors generally have the similar characteristics in all countries. In fact, individual factors are also seen as factors that result from countries' specific structures. Factors such as gender inequality, fear of failure, respectability, individuals' abilities to follow new opportunities, motivation and being incited are closely related with individuals' entrepreneurial intentions. And the transformation of entrepreneurial intentions into entrepreneurial activities is affected from these factors.

The main purpose of this study is to estimate the changes in countries' total early-stage entrepreneurial activity (TAE) rates, considered to be an important entrepreneurial indicator, according to the variables included in entrepreneurship literature as the individual factors affecting entrepreneurship (perceived opportunities, perceived capabilities, fear of failure, entrepreneurial intention) with the use of quantitative research methods.

In this context, the first part of the study starts with literature review, followed by information on the concept of entrepreneurship in the second part, the method and findings of the study are presented in the third part, and finally the fourth part presents conclusions.

1. LITERATURE REVIEW

It is seen that the initial works in the literature concerning the concept of entrepreneurship are conceptual studies that address entrepreneurship with all of its aspects (Kent, Sexton & Vesper, 1982; Hisrich, 1990; Cunningham & Lischeron, 1991). In the following periods, studies that discuss the relationship of entrepreneurship with various different concepts can be seen. It is observed that there is a high concentration on the topics of entrepreneurship and economic growth (King & Levine, 1993; Wennekers & Thunik, 1999; Acs, Desai & Hessels, 2008; Carree & Thunik, 2010; Audretsch & Kelbach, 2010), entrepreneurship education (Vesper & Gartner, 1997; Henry, Hill & Leitch, 2005; Matlay, 2008; Oosterbeek, Praag & Ijsselstein, 2010), social entrepreneurship (Harding, 2004; Haugh, 2005; Thompson, 2008; Chell, Nicolopoulou & Karataş-Özkan, 2010), entrepreneurship and

leadership (Vecchio, 2003; Harrison and Leitch, 2006; Lewis, 2015; Felix, Aporicio & Urbano, 2019; Lee & Kelly, 2019) and entrepreneurship and gender (Bruni, Gherardi & Poggio, 2004; Marlow and Potton, 2005; Minniti, 2009; Diaz-Garcia & Jimenez-Moreno, 2010).

It is observed that studies concerning the factors that constitute the basic variables of the present study gain weight in the 2010s.

In the study Edelman and Yli-Renko (2010) carried out on 116 new entrepreneurs in USA, it was determined that the entrepreneur perception concerning market opportunity is largely related with the entrepreneurs' efforts to create an entrepreneurship and that these efforts are significantly dependent at the start of the entrepreneurship.

In the study where Yan (2010) examined the effects of personal entrepreneurial characteristics (success motivation, control focus, risk tendency and proactivity) on the new entrepreneurship opportunity perception with a sample of 207 people, the author reported that control focus, risk tendency and proactivity have important effects on the perception of the new entrepreneurship opportunity in the expected way. Yan concluded that proactivity had the strongest effect.

In the study Linan et. al. (2011) conducted on 33.731 data Global Entrepreneurship Monitor (GEM) collected from 13 countries in 2004 for the purpose of forming a theoretical frame of entrepreneurial perceptions and to test their effects on entrepreneurial intention, the authors defined three types of perception in entrepreneurs as individual perceptions (role model, self-competency, risk perception), perceptions concerning entrepreneurial opportunities and socio-cultural perceptions (desired choice of career, status and respect, public media). Among the individual perceptions, self-competency was found out to be the strongest perception that affects entrepreneurial intention. On the other hand, having a role model and risk perception causing fear of failure were respectively determined to be the second and third strongest factors affecting entrepreneurial intention. It was further determined that also the perception of entrepreneurial opportunities increases entrepreneurial intention and accordingly enables the establishment of new companies. Although socio-cultural factors were found out to have relatively smaller effect in comparison with other factors, it was reported that the factor of public media is more effectual than the other socio-cultural factors.

In the study conducted by Stuetzer et. al. (2013) on seven-year data of East Germany (2002-2006, 2008-2009), as provided by GEM, in order to analyze the relation between regional characteristics and individual entrepreneurship, no direct relation is found between regional information creation, the economic context and an entrepreneurial culture on the one side and individual business start-up intentions and start-up

activity on the other side. On the other hand, the findings the authors found emphasize the importance of the indirect effects of regional characteristics such as information creation, economic context and an entrepreneurial culture on the individual perception of founding opportunities, which in turn predicts entrepreneurial intentions and activity.

Bandura (1991), states that individuals' beliefs that they have the necessary skills to achieve a goal are effective in the realization of the activity. Studies included in the literature emphasize the importance of self-competency and accordingly perception of capabilities for entrepreneurial intention (Boyd & Vozikis, 1994; Chen et. al., 1998; Zhao et. al., 2005; Wilson et. al., 2007). In the study conducted by Chen et. al. (1998) the individuals' confidence their own capabilities concerning their entrepreneurial objectives is reflected positively. Similarly, Zhao et. al. (2005) suggest that the entrepreneurial desire depends on high levels of entrepreneur self-competency. Similar to the case concerning self-competency (Bandura, 1993), there are also research findings denoting that perceived capabilities do not only increase entrepreneurial intention, but also entrepreneurial activities (Bohlman, Rauch & Zacher, 2017).

In the study Demiral (2016) conducted on 11 EU countries by using GEM's 2007-2013 data with panel data method, the author reports that the effects of entrepreneurship conditions and education vary according to individual attitude and perceptions. While perceived capabilities are affected positively by commercial and professional infrastructure, they are negatively related with taxes and bureaucracy, domestic market openness and general level of secondary education. Entrepreneurship education and training, both in school or after school level, does not have any significant effect on perceived entrepreneurial capabilities. In terms of perceived opportunities, entrepreneur financing, cultural and social norms and general higher education have positive effects. Availability of physical and service infrastructures have negative effect, since they show the pressure of the competitive power that may prevent individuals to establish businesses.

In entrepreneurship studies fear of failure is usually addressed as a psychological problem that prevents entrepreneurial behavior (Henderson and Robertson, 1999; Bosma et. al., 2007). Although there are several studies confirming that fear of failure has a negative effect on entrepreneurial activity (Arenius & Minniti, 2005; Minniti & Nardone, 2007; Wagner, 2007; Li, 2011, Hessels et. al., 2011; Wennberg et. al., 2013, Morgan & Sisak, 2016), some empirical evidence point out that

fear of failure may have both motivating and inhibiting effects on entrepreneurial behavior (Ray, 1994; Mitchell and Shepherd, 2011).

Vaillant & Lafuente (2007), examined entrepreneurial behavior and the social fear concerning failure in the study they conducted with the use of 2013 Global Entrepreneurship Monitor (GEM) data on Spain. The study concluded that the fear of being socially stigmatized due to a business failure has a negative effect on entrepreneurial activity.

In the study Mitchell and Shepherd (2011) conducted on senior managers of SMEs in the USA, it is reported that the fear of failure may have different effects on entrepreneurial activity depending on the type of the fear and the characteristics of the individual. It is explained that the fear of failure may have motivating or inhibiting effects depending the type of fear and characteristics of the individual.

Furthermore, in a study conducted by Kollman et. al. (2017) on 5218 people in Germany, it was determined that the barriers entrepreneurs face in the start-up phase cause fear of failure, which in turn has negative effects both on the evaluation of entrepreneurial opportunities and taking such opportunities.

In several studies conducted in different times and geographies (Edelman and Yli-Renko, 2010; Yan, 2010; Linan et. al., 2011; Mitchell and Shepherd, 2011; Stuetzer et. al., 2013; Demiral, 2016; Kollman et. al., 2017) it is reported that perceived opportunities affect entrepreneurial intentions and activities positively, yet obstacles that are met cause fear of failure and negatively affect the perception concerning one's capabilities to follow, evaluate and turn perceived opportunities into entrepreneurial activities. It is also reported that, beside the negative effect of fear of failure, it may also cause positive effects on individual characteristics. In these studies included in the literature, the effects of perceived opportunities, perceived capabilities and fear of failure on entrepreneurial intentions and activities are covered along with the factors that affect these concepts. Also, in other studies supporting these and addressing the concepts together it is concluded that perceived opportunities, perceived capabilities and entrepreneurial intention affect entrepreneurship interconnectedly (Pradhan and Nath, 2012; Noguera et. al., 2013; Tsai et. al., 2016).

2. THE CONCEPT OF ENTREPRENEURSHIP

Due to the fact that the concept of entrepreneurship concerns various disciplines such as economics, management, psychology and sociology, throughout its history it has been defined in different ways according to the economic, political and social developments in the world.

Entrepreneurship requires forecasting the future and the success as well as innovation, decision making, application and independency. Entrepreneurship can be regarded as a team sport. The most important task any leading entrepreneur takes on is to define who should be included in the team and then to create an environment in which the team can develop (Bygrave and Zacharakis, 2011: 220).

According to Al-Askari (2011) there is an interaction between the four main elements of entrepreneurship. These four elements are

- 1- the entrepreneur as the center of entrepreneurial activities,
- 2- the opportunity as the gap between what is real and what is expected in the market,
- 3- the origination as the as the framework that incorporates the harmony between activities, sources and individuals, and
- 4- the materials that include supplies and present capabilities which can invested by an entrepreneur in his business.

According to Howard Stevenson, entrepreneurship is the search for an opportunity beyond controlled sources. The concept of opportunity included in this definition corresponds to either one or multiple of the options of pioneering a product that is truly innovative, developing a new business model, creating a better or cheaper version of an existing product and orienting an existing product for a new customer group (as cited in Eisenmann, 2013).

According to another definition, entrepreneurship is an activity that incorporates the discovery, evaluation and utilization of business opportunities in order to introduce new products and services, new organizational structures, markets, processes and materials with the employment of sources that did not exist before (Carayannis, 2013: 1354).

According to Khuong & An (2016), entrepreneurship can be defined as the process of creating new organization and new enterprise.

According to the Global Entrepreneurship Monitor, which is known for the entrepreneurial data it provides, entrepreneurship is defined as attempts made by an individual, a team of individuals, or an established business to form new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business (<https://www.gemconsortium.org/wiki/1149>, Date of Access: 11.08.2019).

Examining the definitions made for entrepreneurship shows that entrepreneurship is a process. While the individuals, organizations and entities that establish and manage this process are called the entrepreneurs, the business model set forth is called the enterprise. Entrepreneurship is considered to be an activity that is affected by various factors. The extent at which each of these factors affect entrepreneurship varies according to personal and environmental factors. In the following part of the present study the factors affecting entrepreneurship are discussed.

2.1. Factors Affecting Entrepreneurship

Examining the literature concerning entrepreneurship it can be seen that in studies conducted with the purpose of determining the factors affecting entrepreneurship these factors are gathered under two categories as individual and environmental factors and that there is no study that covers all of the factors included in these categories. While in general studies take individual factors and environmental factors separately as their topic, there are also some recent studies conducted on the effects of environmental factors on personal factors (Linan et. al., 2011; Mitchel & Shepherd, 2011; Stuetzer et. al., 2013; Demiral, 2016; Tsai et. al., 2016; Kollman et. al., 2017).

In studies conducted for the determination of the individual factors affecting entrepreneurship, individuals' demographical, personal and psychological characteristics are focused on and the psychological and sociological effects, as the source of entrepreneurship skills, are emphasized upon. According to the common results of these studies, entrepreneurs are people that tend to attain high success, have inner control and take risks in psychological aspect (Durak, 2011).

Kaygın & Güven (2015) list the individual factors that affect entrepreneurship as the need for success, control focus, creativity, tolerance of ambiguity, tendency to take risks, independence and self-confidence. As for the demographic factors within the individual factors affecting entrepreneurship, these are family support, gender, education, work experience, age, role model and personal values. Cacciotti et. al. (2016), on the other hand, determined that fear of failure affects entrepreneurship both as a motivating and inhibiting factor.

In the studies conducted for the purpose of determining the environmental factors affecting entrepreneurship it is agreed that economic, socio-cultural factors, political, country regimes and psychological factors affect entrepreneurship, although the weight of each may vary. The environment the entrepreneur is in creates structures such as its development conditions, family structure, education, culture, country regime and politic stability (Zengin & Çelik, 2016).

Stambolous (2015) examines the factors affecting entrepreneurship under 6 categories as psychological factors, social factors, environmental factors, demographic factors, cultural factors and any factor other than these. In terms of entrepreneurial activity, the most important demographic variables are determined as age, experience and educational level.

Global Entrepreneurship Monitor (GEM) associates individuals' cognitive perceptions with their will to establish business and report these as critical factors. Various demographic factors (gender, age, geographical location), psychological factors (perceived capabilities, perceived opportunities, fear of failure) and motivational factors (need-based, opportunity-based and improvement-oriented entrepreneurial activities, etc.) are mentioned under the topic of individual characteristics of critical factors.

In the GEM 2018/2019 (2019) global report, in which country assessments are made by comparing perceived opportunities and the skills required to take these opportunities, it is reported that very few people among those who perceive an opportunity to embark upon an enterprise actually take the necessary steps to do so. In this context, India, Sweden, Poland, Saudi Arabia and United Arab Emirates are reported to have the same characteristics with low entrepreneurial activity rates in comparison to the rates of perceived opportunities. Due to Swedish and Polish people's thinking that they do not possess the capability to follow and realize the opportunities they perceive, or in other words due to their low level of self-competency perceptions, their capability to follow up the opportunities they perceive is quite low. On the other hand, in India and Saudi Arabia, it is observed that the perception on the capability of taking the opportunities is higher than opportunity perceptions.

It is stated in the report that in many economies with high opportunity perceptions there are relatively few people that believe they can utilize the opportunities, due to the individuals having rather high expectations concerning the requirements to manage a typical business in their countries. It is also mentioned, as an opposite indicator, that in some economies where the perception on opportunities is low, the rate of people believing they have good entrepreneurial skills is high.

It is further reported that opportunity and capability perceptions are balanced in East and South Asia, that there are more people who believe they could start business in many economies than those who perceive opportunities in Latin America and the Caribbean, and that both indicators are at equal levels in some countries in the Middle East and Africa.

It is reported both by the Global Entrepreneurship Report and the studies included in the literature that, within the frame of perceived capabilities, socio-cultural factors such as gender, innovative behavior, emotional intelligence, self-competency, fear of failure, entrepreneurial intentions and role models are among the most important driving forces of entrepreneurial behavior (Arenius & Minniti, 2005; Koellinger et. al., 2005; Pradhan & Nath, 2012; Cacciotti & Hayton, 2015; Tsai et. al., 2016).

In the present study, the importance of country differences, other than their socio-cultural structures, was tried to be set forth by manifesting the effects of perceived opportunities, perceived capabilities, fear of failure and entrepreneurial intentions, concepts that are emphasized upon in the literature in terms of behavioral theory, on either low or high level early-stage entrepreneurial activities in countries. Due to this reason, the factors of perceived opportunities, perceived capabilities, fear of failure and entrepreneurial intention were taken as the subject topics of the study.

Perceived Opportunities: Entrepreneurs do not undertake an enterprise without any personal/institutional/social objective. The objectives resulting in entrepreneurship take shape with entrepreneurs perceiving opportunities that could not be seen before. According to Kirzner, the essence of entrepreneurship is in the entrepreneurs' awareness on entrepreneurial opportunities. Entrepreneurial opportunities are essentially arbitrage opportunities that exist due to the undervaluation of sources (raw materials, intermediate products, services) required to produce a product in the market. The entrepreneur "sees" a way to produce this product, so that its market value exceeds the market value of the combination of its production inputs, and thereby makes profit. By this means, entrepreneurship provides a systemic coordination function in facilitating the distribution of sources over usage areas where their values would be the highest (Cited by Lewin, 2015). Entrepreneurial opportunities come in various forms such as new technologies, information asymmetries and environmental changes, and are typically sector-specific (Massis et. al., 2017). GEM defines the rate of perceived opportunity as the percentage of population between the ages of 18 and 64 (excluding individuals that are involved in any stage of entrepreneurial activity) who see opportunities to start a business where they live (<https://www.gemconsortium.org/wiki/1375>, Date of Access: 13.08.2019).

Perceived Capabilities: Comprehensive studies show that human capital and capabilities affect entrepreneurship and performance in a positive way. Human capacity consists of the important stimulus of

entrepreneurship agility and opportunity recognition, namely education, professional experience and entrepreneurial experience (Afzal et. al., 2018). Entrepreneurial capabilities can be seen through several complementary dimensions taking into consideration various endogenous and exogenous factors such as entrepreneurial cognition, individual and social biases concerning entrepreneurial and market initiatives (Carayannis, 2013: 608). GEM defines the rate of perceived capabilities as the percentage of population between the ages of 18 and 64 (excluding individuals that are involved in any stage of entrepreneurial activity) who are in the belief that they possess the skills and background to start a business (<https://www.gemconsortium.org/wiki/1375>, Date of Access: 13.08.2019).

Fear of Failure Fear of failure occurs as a responsive reason of avoidance that comes forth along with the obstacles in the process of establishing a new enterprise and that has significant effects on the individual's future entrepreneurial activities, opportunity evaluation and utilization (Kollman et. al., 2017). It is related with the assessment of threats to an individual's ability to accomplish personally meaningful goals when one fails in performance (Noguera et. al., 2013). GEM defines fear of failure rate as the percentage of population between the ages of 18 and 64 (excluding individuals that are involved in any stage of entrepreneurial activity) who state that fear of failure would prevent them from starting a business (<https://www.gemconsortium.org/wiki/1375>, Date of Access: 13.08.2019).

Entrepreneurial Intention: Intention is considered the basis of any action or activity (Shamsudin et. al., 2018). Entrepreneurial behavior can be characterized as an intentional behavior, or in other words, intention can be considered as an indicator of planned entrepreneurial behavior (Marangoz, et. al., 2014). Entrepreneurial intention represents the idea to organize in order to use potential opportunities other than the career choices that are attainable within the frame of concepts such as independence, creativity, career and the eagerness to succeed (Yeşilay and Yavaş, 2017). GEM defines entrepreneurial intention rate as the percentage of population between the ages of 18 and 64, excluding individuals that are involved in any stage of entrepreneurial activity, who are described as latent entrepreneurs and who intends to start a business within the period of three years.

2.2. Total Early-Stage Entrepreneurial Activities Rate

Total Early-Stage Entrepreneurial Activity Rate is a data calculated in consequence of the research conducted by the Global Entrepreneurship Monitor. It is calculated as the percentage of population between the ages of 18 and 64 population who is either a newly emerged

entrepreneur or who owns a new enterprise (<https://www.gemconsortium.org/wiki/1375>, Date of Access: 11.08.2019).

Global Entrepreneurial Monitor (GEM) was initially started as a project jointly run by Babson College (USA) and London Business School (UK), in order to determine why some countries are more 'enterprising' than others (<https://www.gemconsortium.org/>, Date of Access: 11.08.2019). GEM is a reliable source on entrepreneurship that provides special data sets, special reports and expert opinion to key international organizations such as United Nations, World Economic Forum, World Bank and the Organization for Economic Cooperation and Development (OECD). Beside special reports, GEM provides data on 27 different topics including individuals' entrepreneurial behaviors and attitudes (15 separate topics) and countries' entrepreneurship environment conditions (12 separate topics).

3. METHOD

Within the scope of the main purpose of the study, as to manifest the significance of country differences other than their socio-cultural structures by setting forth the effects of the concepts of perceived opportunities, perceived capabilities, fear of failure and entrepreneurial intentions on the level of entrepreneurial activities, logistic regression analysis was used as the method of the study.

3.1. Model, Data and Method

The data used in the study are compiled from World Economic Forum Global Competitive Index and Global Entrepreneurship Monitor (GEM) data. Perceived opportunities, perceived capabilities, fear of failure, entrepreneurial intention and total early-stage entrepreneurial activity data of 69 countries between the years 2016 and 2018 as published by Global Entrepreneurship Monitor were tested by means of logistic regression analysis.

Within the frame of the study's purpose, accessible data of 69 countries was subjected to logistic regression analysis. In line with the purpose of the study, while perceived opportunities, perceived capabilities, fear of failure and entrepreneurial intention were included as independent variables in the model, the classification of low (1) and high (0) total early-stage entrepreneurial activity rates were taken as the dependent variable.

3.2. Analysis and Findings

Logistics regression analysis was used in order to measure the effects of perception of opportunities for entrepreneurship, perception of

capabilities required to maintain the process concerning the opportunities, entrepreneurial intention and fear of failure that is effective on this intention put into action, on the total early-stage entrepreneurship (TEA) level. The objective in using logistic regression analysis, as in other model structuring techniques used in statistics, is to establish an admissible model that can define the relation between dependent (predicted) and independent (predictor) variables with the use of minimum number of variables and in a way to have highest fitness (Çokluk, 2010). Logistic regression analysis is a regression model that facilitates classification and assignation and, as distinct from linear regression analysis, the fact that it does not have the prerequisites of normal distribution assumption and continuity assumption makes it easier to use (Güzel et. al., 2013).

Before the implementation of logistic regression analysis, the dependent variable TEA was converted into a binary discrete variable. For this purpose, the median of the series was taken as basis by determining the lowest and highest values in TEA rates. While those that remained above the median value were assessed to be high TEA rates (0), those below the median value were taken as low TEA rates (1). With this arrangement, the dependent variable was made suitable for binary logistic regression analysis that would give only 2 (two) results.

Qualities of logistic regression analysis such as the fewness of distribution assumptions, as compared to other analysis techniques, the fact that it allows the use of different types of variables and that its results can be interpreted with ease make it a commonly preferred technique (Alpar, 2013). In this context, with the purpose of evaluating the assumptions concerning the distribution even to a limited extent, it is necessary to scan the data, examine in terms of extreme and missing values and carry out the required conversions. Since no extreme or missing value was available in the study, data conversion was not carried out. Also, it is necessary to examine whether there is any multicollinearity problem between the predictor variables (Çokluk et. al., 2012). In order to check whether any multicollinearity problem exists, VIF (Variance Increase Factor) values were calculated and it was determined that the VIF values of the variables are less than 10 for all predictor variables. The mean VIF value, on the other hand, was calculated to be 1,808. These values indicate that there is no multicollinearity problem between the variables. Table 1 presents the VIF values and the correlations between the variables.

Table 1. Correlation and VIF Values Between the Variables Included in the Study

	Variables	Average	SD	1	2	3	4	VIF
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1	Perception Opportunity	45,50	15,82	1				1,486
2	Perception Capability	50,44	14,52	0,564**	1			2,433
3	Fear of Failure	35,31	9,86	-0,206	-0,488**	1		1,351
4	Entrepreneurial Intention	23,85	16,50	0,405**	0,658**	-0,409**	1	1,804
5	TEA	13,4909	7,84	0,484**	0,731**	-0,412**	0,734**	

** at 0,01 level of significance

Examining the results of correlation analysis shows that perceiving entrepreneurship opportunities has medium strength positive correlation with perception of capabilities ($r=0,564$, $p<0,01$), entrepreneurial intention ($r=0,405$, $p<0,01$) and TEA ($r=0,484$, $p<0,01$). As for the perception of the capabilities to develop entrepreneurial process by using the perceived opportunities, it is determined to have positive and high-strength relations with entrepreneurial intentions ($r=0,658$, $p<0,01$) and TEA ($r=0,731$, $p<0,01$). Entrepreneurial intentions also have a high-strength and positive effect on TEA ($r=0,734$, $p<0,01$). On the other hand, while it is determined that fear of failure has no correlation with perception of opportunities, it has medium-strength negative correlations with perception of capabilities ($r= -0,488$, $p<0,01$), entrepreneurial intentions ($r= -0,409$, $p<0,01$) and TEA ($r= -0,412$, $p<0,01$).

From the characterization of the entrepreneurship process, by perceiving and using opportunities the perception on whether one has the capabilities to start the entrepreneurial process gains prominence, and at this point fear of failure can have a negative effect on this to turn into an entrepreneurial intention and early-stage entrepreneurship.

While TEA rates were included in the two-category logistic regression analysis as a dependent variable with two categories as low and high, perceived opportunities, perceived capabilities, fear of failure and entrepreneurial intentions are the independent continuous variables. The results obtained in consequence of the analysis give the estimated slope coefficient (β), the standard error of the estimated slope coefficient (SE), Wald statistics, estimated odds ratios ($\text{Exp}(\beta)$), 95% confidence limits for the estimated odds ratios, $-2\log$ -likelihood value for the model, likelihood-ratio test statistics that tests whether slope coefficient is equal to zero (G) and P (significant) values. In addition, multipurpose test of

model coefficients, Hosmer and Lemeshow test and classification charts are presented in Table 2.

Table 2. Logistic Regression Analysis Results

-	Analysis Results								
Multipurpose Test of Model Coefficients	$\chi^2=35,976$ df= 4 p=0,000								
Model Summary	-2Log likelihood= 33,630 Cox&Snell R Square= 0,406 Nagelkerke R Square= 0,640								
Hosmer and Lemeshow Test	$\chi^2=1,900$ df= 8 p=0,984								
Classification Table	-	-	Expected						
	-	-	TEA			-			
	Observed		0,00	1,00	Correct Classification (%)				
	TEA	0,00	0	14	0				
		1,00	0	55	100				
	General Percentage	-		-		79,7			
Variables Included in the Model	β	S.E.	Wald Stat.	Sig.	Exp (β)	95% Confidence Intervals	-2LL	G	
Perception Opportunity	0,017	0,043	0,151	0,697	1,017	0,935-1,105	35,718	8,24	
Perception Capability	-0,111	0,052	4,576	0,032	0,895	0,808-0,991	33,844	10,11	
Failure	-0,037	0,053	0,499	0,480	0,963	0,868-1,069	33,635	10,32	
Ent. Intention	-0,096	0,039	6,118	0,013	0,908	0,841-0,980	33,630	10,31	
Constant	11,090	3,943	7,911	0,005	65516,61		43,957		

The likelihood-ratio test statistic (G) that tests the significance of the coefficients belonging to the variables in the model is equal to the difference of the -2log-likelihood value calculated when there is only a constant term in the model and the -2log-likelihood value calculated when there is the variable to be tested in the model. Obtained small values indicate that the variables added into the model do not have any significant contribution in the estimation of the model and that there is no need to include these variables in the model. Wald and score tests, on the other hand, are the other tests examining the significance of the variables in the model (Alpar, 2013).

Evaluating the multipurpose test results of model coefficients shows that with chi-square value and p value being at 0,05 significance level, the final form of the model as ($\chi^2=35,976$, $df= 4$, $p=0,000$) is statistically significant.

In logistic regression analysis, explanatory coefficients Cox & Snell R^2 and Nagelkerke R^2 values that are similar to the R^2 statistic in regression analysis and that represent the ratio of the relation between the dependent variable and the independent variables (Kalaycı, 2010) are available. Examining the values presented in Table 2 in terms of the correlation between the dependent variable and the independent variables shows that Cox-Snell value is 0,406% and Nagelkerke R^2 value is 0,604%. Due to the fact that these statistics usually have small values, it is suggested that they are used for evaluating the performance of different models rather than for evaluating the fitness of the model (Alpar, 2013). As it can be also seen from the results, both values are observed to be rather small. In order to assess the fitness of the model predicted via logistic regression analysis, the -2 logarithm (-2LL) of the likelihood value is used. While perfect fitness is achieved when the -2LL value is equal to zero, with the addition of predictor variables the changes that take place in the model and the improvements observed in model-data fitness decrease the -2LL value (Çokluk, et. al., 2012). Due to the fact that the -2LL value presented in Table 2 as 33,630 being significantly bigger than zero, it can be stated that at least one coefficient other than the constant coefficient is different than zero, and therefore model fitness is achieved.

In order to determine model-data fitness in logistic regression analysis, the significance value (p value) obtained in consequence of Hosmer-Lemeshow test needs to be compared with the previously determined significance level of the test (0,05). Any significant result from this test ($p>0,05$) indicates that model-data fitness is at sufficient level (Çokluk, et. al., 2012). Due to the fact that Hosmer and Lemeshow

Test resulted in $p=0,984>0,05$ as presented in Table 2, it is possible to assert that the model has acceptable fitness.

Examining the classification chart in the initial chart where only the constant is included, it can be seen that 79,7% of the total units in the first stage were correctly categorized. While carrying out this assessment in logistic regression analysis, the units belonging to only one group are correctly categorized in the initial model (Kalaycı, 2010). Accordingly, also in our study all of the participants are determined to be in low TEA rate category.

Examining the standard error belonging to the constant term forming the initial model, Wald statistic that tests the significance of the variable, the level of significance of Wald statistic, its degree of freedom, the $\text{Exp}(\beta)$ (odds ratio) value that signifies the change that takes place when the related variable increased by one unit, and odds ratio confidence intervals shows that the variables of perceived opportunities and fear of failure are not significant in the model.

According to Table 2, at 5% level of significance the (β) and $\text{Exp}(\beta)$ values of the perceived capabilities variable, which is among the factors found to be significant in the model, are -0,111 and 0,895 respectively. $\text{Exp}(\beta)$ is the change that is expected in the odds ratio as a result of 1 unit of increase in the independent variable. By assessing the negative value of the β coefficient, it can be interpreted that as the perceived capability score increases, the value y will decrease, or in other words, the likelihood of TEA rate being at high level will increase. One unit of increase in perceived capabilities will enhance the increase of TEA rates by 0,895 folds. It is observed that the values of Wald statistic, as the indicator of whether the presence each independent variable included in the model is significant, are larger than 2 for each variable included in the model and smaller for other variables.

Similarly, the (β) and $\text{Exp}(\beta)$ values of entrepreneurial intention, which is among the factors found out to be significant in the model are respectively -0,096 and 0,908. $\text{Exp}(\beta)$ is the change that is expected in the odds ratio, which is the criterion of the relation between the two variables, when the independent variable increases by 1 unit. By assessing the negative value of the β coefficient, it can be interpreted that as the entrepreneurial intention score increases, the value y will decrease, or in other words, the likelihood of TEA rate being at high level will increase. One unit of increase in the entrepreneurial intentions will enhance the increase of TEA rates by 0,908 folds.

The fact that confidence intervals for neither of the two variables found out to be significant in the model include the value 1, shows that the value p is significant (Alpar, 2013).

4.CONCLUSIONS

Among the individual factors affecting entrepreneurship, the determining effects of the psychologically based perceived opportunities, perceived capabilities, fear of failure and entrepreneurial intention on the total early-stage entrepreneurial activity (TEA) rates being high or low were examined within the scope of the study. For this purpose, data belonging to 69 countries compiled from the data provided by the Global Entrepreneurship Monitor GEM and World Economic Forum, were tested with the use of correlation and logistic regression analysis.

In consequence of the correlation analysis it was determined that the independent variables perceived opportunities, perceived capabilities, fear of failure and entrepreneurial intentions have significant relations with TEA and that the relation between TEA and fear of failure is negative oriented. According to the results of the correlation analysis, also significant relations that are positive were determined to exist between the independent variables. A significant relation could not be found only between perceived opportunities and fear of failure. The results obtained from correlation analysis are in line with the findings reported in the literature. In their respective studies Pradhan & Nath (2012), Noguera et. al. (2013) and Tsai et. al. (2016) report that perceived opportunities, perceived capabilities and entrepreneurial intentions affect entrepreneurship in an interconnected way. On the other hand, it is stated in other studies that in cases where fear of failure is low, the desire to form a business is generally higher (Ebrahim & Schött, 2011; Koellinger et. al., 2011, Noguera et. al., 2013).

Also according to Ajzen's (1991) Theory of Planned Behavior, positive attitude towards entrepreneurship is related with perceived opportunities and perceived behavior control (perceived capabilities) is related with the prevention of potential failure (Cited by Tsai et. al., 2016).

While perceived opportunities, perceived capabilities, fear of failure and entrepreneurial intentions were included in logistic regression analysis as independent variables, TEA was included as dependent variable. Tea rates were categorized for logistic regression and two categories were set as low (1) and high (0) level.

It was observed that from the four independent variables included in logistic regression analysis only two were significant and took place in the model. It was seen that the Wald statistic values, as the indicators of whether the presence of the independent variables in the model are significant, for both of the two variables included in the model were larger than 2. The general correct categorization rate of the model was found out to be 79,7%.

The two variables, the presences in the model of which were significant, were perceived capabilities and entrepreneurial intentions. On the other hand, the presences of perceived opportunities and fear of failure in the model were determined to be insignificant. According to the results of the analysis, as entrepreneurial intention was determined to have the primary importance in the determination of countries' TEA levels, perceived capabilities took the second place of importance in the model. A one unit of increase in entrepreneurial intention and perceived capabilities will affect countries' TEA rates to be respectively 0,908 and 0,895 folds higher. The conclusions of the study have similar findings with those reported in the literature.

While Tsai et. al. (2016) reports that there is a significant relation between perceived capabilities and entrepreneurship, Walker et. al. (2013) emphasized that entrepreneurship-oriented intentions are in a strong relation with entrepreneurial acting capabilities. Perceived opportunities are carried onwards to entrepreneurial intention phase by individuals who are aware that they possess the capability in following and utilizing these opportunities and focusing on the objective, or in other words, by those who know their capabilities. Thereby, perceived opportunities are moved forward a step as perceived capabilities. In turn, individuals that have the determination to start up a business from their perceived capabilities experience lower fear of failure and therefore realize their entrepreneurial intentions. In this context, it makes sense that only perceived capabilities and entrepreneurial intentions are included in the model.

While it is asserted in the literature that the relation between perceived capabilities and entrepreneurial intention may differ according to gender, it is essential that country facts and differences between countries should also be taken into consideration along with individual characteristics (Tsai et. al., 2016). Accordingly, in the study conducted by Lakovleva et. al. (2011) on whether entrepreneurial intentions and its predecessors show any difference between developing and developed countries, it is concluded that stronger entrepreneurial intentions exist in developing countries and that the entrepreneurial predecessors' attitudes and perceived behavioral controls (perceived opportunities, perceived capabilities, etc.) have higher points in developing countries in comparison with those in developed countries.

While the findings obtained in the study correspond with the findings reported in the literature, it would be accurate to state that further contribution to the literature can be made by future studies with the inclusion of other factors such country-specific differences, gender

inequality or economic status to the model either as dependent or independent variables.

References

- ACS, Z.J., Desai, S. & Hessels, J. (2008), "Entrepreneurship, economic development and institutions", *Small Business Economics*, 31, pp.219–234.
- AFZAL, M.I.I.; Siddiqui, S.A.; Mansur, K.H.M. & Sulong, R.S. (2018), An Empirical Investigation of Factors Affecting Entrepreneurial Capability (EC) Environment in ASEAN-5 Economies, *Asian ACADEMY OF Management Journal*, Vol. 23, No. 2, s 25-44
- AL-ASKARI, A.S. (2011), "The impact of entrepreneurship and innovation on developing the marketing strategy in business organizations -An Analytical Study", *Journal of Business and Retail Management Research (JBRMR)* Vol 5 Issue 2
- ALPAR, R. (2013), "Uygulamalı Çok Değişkenli İstatistiksel Yöntemler", Detay Yayıncılık.
- AJZEN, I. (1991), "Theory of planned behavior". *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- ARENIUS, P., & Minniti, M. (2005), "Perceptual variables and nascent entrepreneurship", *Small Business Economics*, Vol.24(3), 233–247.
- AUDRETSCH, David & Max Keilbach (2004), "Entrepreneurship Capital and Economic Performance", *Regional Studies*, 38:8, 949-959.
- BANDURA, A. (1991). "Social cognitive theory of self-regulation". *Organ. Behav. Hum. Decis. Process.* 50, pp.248–287
- BANDURA, A. (1993). "Perceived self-efficacy in cognitive development and functioning", *Educ. Psychol.* 28, pp.117–148.
- BOHLMANN C, Rauch A. & Zacher H (2017), "A Lifespan Perspective on Entrepreneurship: Perceived Opportunities and Skills Explain the Negative Association between Age and Entrepreneurial Activity", *Front. Psychol.* 8:2015.
- BOSMA, N., Jones, K., Autio, E. & Levie, J., (2007), "Global Entrepreneurship Monitor: 2007 Executive Report". London Business School, London.
- BOYD, N. G., & Vozikis, G. S. (1994). "The influence of self-efficacy on the development of entrepreneurial intentions and actions", *Entrep. Theory Pract.* 18, pp.63–63.

- BRUNI, Attila, Gherardi, Silvia & Poggio, Barbara, (2004), "Entrepreneur-mentality, gender and the study of women entrepreneurs", *Journal of Organizational Change Management*, Vol. 17 No. 3, pp. 256-268.
- BYGRAVE, W. & Zacharakis, A. (2011), *Entrepreneurship*, John Wiley & Sons, Inc, s. 220
- CACCIOTTI, G. & Hayton J.C. (2015), "Fear and Entrepreneurship: A Review and Research Agenda", *International Journal of Management Reviews*, Vol.17(2).
- CACCIOTTI, G.; Hayton, J.C.; Mitchell, J.R. & Giazitzoglu, A. (2016), "A reconceptualization of fear of failure in entrepreneurship", *Journal of Business Venturing* 31 (2016) 302–325.
- CARAYANNİS, E.G. (2013), *Encyclopedia of Creativity, Invention, Innovation, and Entrepreneurship*, SpringerReference, s 1354
- CARREE M.A. & Thurik A.R. (2010) The Impact of Entrepreneurship on Economic Growth. In: Acs Z., Audretsch D. (eds) *Handbook of Entrepreneurship Research. International Handbook Series on Entrepreneurship*, vol 5. *Springer*, New York, NY
- CHELL, Elizabeth, Katerina Nicolopoulou & Mine Karataş-Özkan (2010) Social entrepreneurship and enterprise: International and innovation perspectives, *Entrepreneurship & Regional Development*, 22:6, 485-493
- CHEN, C. C., Greene, P. G., & Crick, A. (1998). "Does entrepreneurial self-efficacy distinguish entrepreneurs from managers?" *J. Bus. Ventur.* 13, pp.295–316.
- CUNNINGHAM, J Barton & Lischeron, Joe. (1991), "Defining Entrepreneurship", *Journal of Small Business Management*; Milwaukee Vol. 29, Iss. 1, pp.45-61.
- ÇOKLUK, Ö. (2010). Lojistik Regresyon Analizi: Kavram ve Uygulama. Kuram ve Uygulamada Eğitim Bilimleri / Educational Sciences: Theory & Practice 10 (3) • Yaz / Summer 2010 • 1357-1407, Eğitim Danışmanlığı ve Araştırmaları İletişim Hizmetleri Tic. Ltd. Şti.
- ÇOKLUK, Ö., Şekercioğlu G & Büyüköztürk Ş. (2012), "Sosyal Bilimler İçin Çok Değişkenli İstatistik SPSS ve LISREL Uygulamaları", Ankara: Pegem Akademi.
- DEMİRAL, O. (2016), "Factors Affecting Individual Attitudes and Perceptions towards Entrepreneurship: Does Education Really Matter?", *International Journal of Business Administration* Vol. 7, No. 4, S.43-54

- DIAZ-GARCIA, M.C., & Jiménez-Moreno, J., (2009), "Entrepreneurial intention: the role of gender", *International Entrepreneurship and Management Journal*, 6, pp. 261–283.
- DURAK, İ. (2011), "Girişimciliği Etkileyen Çevresel Faktörlerle İlgili Girişimcilerin Tutumları: Bir Alan Araştırması", *Yönetim Bilimleri Dergisi* (9: 2)
- EBRAHİM, M., & Schøtt, T. (2011), "Entrepreneurial intention promoted by perceived capabilities, risk propensity and opportunity awareness: a global study", *56th International Council of Small Businesses*, Stockholm, Sweden.
- EDELMAN, L.F. & Yli-Renko, (2010), "The Impact of Environment and Entrepreneurial Perceptions on Venture-Creation Efforts: Bridging the Discovery and Creation Views of Entrepreneurship", *Entrepreneurship Theory and Practice*, Vol. 34, Issue 5, pp. 833-856
- EİSENMANN, T.R. (2013), "What is entrepreneurship", <https://hbr.org/2013/01/what-is-entrepreneurship>, Erişim Tarihi:07.08.2019
- FELIX, C. , Aparicio, S. & Urbano, D. (2019), "Girişimciliği yönlendiren liderlik: uluslararası bir keşif çalışması", *Journal of Small Business and Enterprise Development* , Vol. 26, Issue 3, pp.397-420.
- GEM (2018), *Global Entrepreneurship Monitor 2018/2019 Global Report*, s.52
- GÜZEL, Ö., Gök Atilla, G. & İşler Büyüker, D. (2013), "Duygusal Emek Ve İşten Ayrılma Niyeti İlişkisi: Turist Rehberleri Üzerinde Bir Araştırma", *Seyahat ve Otel İşletmeciliği Dergisi*, 10 (3), 107-123.
- HARDING, Rebecca, (2004), "Social Enterprise: The New Economic Engine?", *Business Strategy Review*, Volume15, Issue4, p. 39-43.
- HARRISON, Richard T. & Leitch Claire M., (1994), "Entrepreneurship and leadership: the implications for education and development", *Entrepreneurship & Regional Development An International Journal*, Volume 6, Issue 2, pp.111-125.
- HAUGH, Helen, (2005), "The role of social enterprise in regional development", *International Journal of Entrepreneurship and Small Business*, Vol.2, Issue 4, pp. 334 – 357.
- HENDERSON, R. & Robertson, M., (1999), "Who wants to be an entrepreneur?", *Young attitudes to entrepreneurship as a career. Educ. Train.* 41, pp.236–245.

- HENRY, Collette, Hill, Frances & Leitch Claire, (2005), "Entrepreneurship education and training: can entrepreneurship be taught?", *Education + Training*, Vol. 47 No. 2, pp. 98-111.
- HESSELS, J., Grilo, I., Thurik, R. & van der Zwan, P., (2011), "Entrepreneurial exit and entrepreneurial engagement", *J. Evol. Econ.* 21, pp.447-471.
- HISRICH, R. D. (1990). "Entrepreneurship/intrapreneurship". *American Psychologist*, 45(2), 209-222.
- KALAYCI, Ş. (2005), "SPSS Uygulamalı Çok Değişkenli İstatistik Teknikleri", Ankara: Asil Yayın Dağıtım.
- KAYGIN, E. & Güven, B. (2015), *Girişimcilik: Temel Kavramlar, Girişimcilik Türleri, Girişimcilikte Güncel Konular*, Siyah İnci Akademi, Yazın Matbaacılık, İstanbul, s 36
- KHUONG, M.N. & An, N. H. (2016), "The Factors Affecting Entrepreneurial Intention of the Students of Vietnam National University — A Mediation Analysis of Perception toward Entrepreneurship", *Journal of Economics, Business and Management*, Vol. 4(2), S. 104- 111
- KENT, Calvin A. and Sexton, Donald L. & Vesper, Karl H., *Encyclopedia of Entrepreneurship* (1982). University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.
- KING, Robert G. & Levine Ross, (1993), "Finance, entrepreneurship, and growth Theory and evidence", *Journal of Monetary Economics* 32 (1993), pp.513-542.
- KOELLINGER, P., Minniti, M., & Schade, C. (2005), "I think I can, I think I can": Overconfidence and entrepreneurial behavior", *Discussion Papers 501*, German Institute for Economic Research.
- KOELLINGER, P., Minniti, M., & Schade, C. (2011), "Gender differences in entrepreneurial propensity", *Oxford bulletin of economics and statistics*.
- KOLLMAN, T.; Stöckmann, C. & Kensbock, J.M. (2017), "Fear of failure as a mediator of the relationship between obstacles and nascent entrepreneurial activity—An experimental approach", *An experimental approach*, *J. Bus. Venturing*,
- LAKOVLEVA, T., Kolvereid, L. A & Stephan, U. (2011), "Entrepreneurial intentions in developing and developed countries", *Education + Training*, Vol. 53(5), 353-370.

- LEE, Byungku & Kelly, Lousie, (2019), "Cultural leadership ideals and social entrepreneurship: an international study", *Journal of Social Entrepreneurship*, Volume 10, Issue 1, pp.108-128.
- LEWIN, P (2015), "Entrepreneurial Opportunity as the Potential to Create Value", *Review of Austrian Economics*, 28, s 1-15
- LEWIS, Kate V., (2015), "Enacting Entrepreneurship and Leadership: A Longitudinal Exploration of Gendered Identity Work", *Journal of Small Business Management*, 53 (3). pp. 662-682.
- LI, Y., (2011), "Emotions and new venture judgment in China", *Asia Pac. J. Manag.* 28, pp.277–298.
- LINAN, F., Santos, F. J., & Fernández, J. (2011), "The influence of perceptions on potential entrepreneurs", *International Entrepreneurship and Management Journal*, Vol.7(3), 373–390.
- MASSIS, A.D.; Kotlar, J.; Wright, M & Kellermanns, F.W. (2017), "Sector-Based Entrepreneurial Capabilities and the Promise of Sector Studies in Entrepreneurship", *Entrepreneurship Theory and Practice*, s.1-21
- MARANGOZ, M.; Kaya, F. & Bakan, H. (2014), "Eğitim Alanı Girişimcilik Niyetini Nasıl Etkilemektedir? Üniversite Öğrencilerine Yönelik Bir İnceleme", *Ekonomi ve Yönetim Araştırmaları Dergisi*, 3(1), 75-96.
- MARLOW, Susan & Patton Dean, (2005), "All Credit to Men? Entrepreneurship, Finance, and Gender", *Entrepreneurship Theory and Practice*, Volume: 29 issue: 6, page(s): 717-735.
- MATLAY, Harry, (2008), "The impact of entrepreneurship education on entrepreneurial outcomes", *Journal of Small Business and Enterprise Development*, Vol. 15 No. 2, pp. 382-396.
- MINNITI, M., & Nardone, C., (2007). "Being in someone else's shoes: the role of gender in entrepreneurship". *Small Business Economics*, 28, pp.223–238.
- MINNITI, Maria (2009), "Gender Issues in Entrepreneurship", *Foundations and Trends® in Entrepreneurship*: Vol. 5: No. 7–8, pp 497-621.
- MITCHELL, J.R. & Shepherd, D.A. (2011), "Afraid Of Opportunity: The Effects Of Fear Of Failure On Entrepreneurial Action, *Frontiers of Entrepreneurship Research*", Vol.31(6), 194-209.

- MORGAN, J., & Sisak, D. (2016). Aspiring to succeed: A model of entrepreneurship and fear of failure. *Journal of Business Venturing*, 31(1), pp.1–21.
- NOGUERA, M., Alvarez, C. & Urbano, D. (2013), “Socio-cultural factors and female entrepreneurship”, *International Entrepreneurship and Management Journal*, Vol.9(2), 183–197.
- OOSTERBEEK, Hessel, Mirjam van Praag & Auke Ijsselstein, (2010), “The impact of entrepreneurship education on entrepreneurship skills and motivation”, *European Economic Review*, Volume 54, Issue 3, pp. 442-454.
- PRADHAN, R.K. & Nath, P. (2012), “Perception of Entrepreneurial Orientation and Emotional Intelligence: A Study on India’s Future Techno-Managers”, *Global Business Review*, Vol.13(1), 89–108.
- RAY, D.M., (1994), “The role of risk-taking in Singapore”. *Journal Business. Ventur.* 9, pp.157–177.
- SHAMSUDIN, A. S.; Adelaja, A. A. & Minai, M. S. (2018). “Conceptualizing The Effect Of Entrepreneurial Education And Industrial Interface Mix In Enhancing The Entrepreneurial Intention Amongst Graduates”, *Journal of Entrepreneurship Education*, 21 (3).
- STAMBOULIS, Y. & Barlas, A. (2015), “Entrepreneurship education impact on student attitudes”, *The International Journal of Management Education*, 12 (2014), 365-373.
- STUETZER, M.; Obschonka, M.; Brixy, U.; Sternberg, R. & Cantner, U. (2013), “Regional characteristics, opportunity perception and entrepreneurial activities”, *MPRA Munich Personal RePEc Archive*, No: 48277
- THOMPSON, John L (2008), "Social enterprise and social entrepreneurship: where have we reached? A summary of issues and discussion points", *Social Enterprise Journal*, Vol. 4 No. 2, pp. 149-161.
- TSAI, KH., Chang, HC. & Peng, CY. (2016), “Refining the linkage between perceived capability and entrepreneurial intention: roles of perceived opportunity, fear of failure, and gender”, *International Entrepreneurship and Management Journal*, Vol.12(4), 1127–1145.
- VAILLANT, Y. & Lafuente, E., (2007), “Do different institutional frameworks condition the influence of local fear of failure and entrepreneurial examples over entrepreneurial activity?”, *Entrep. Reg. Dev.* 19, pp.313–337.

- VECCHIO, Robert P., (2003), "Entrepreneurship and leadership: common trends and common threads", *Human Resource Management Review*, Volume 13, Issue 2, pp. 303-327.
- VESPER, Karl, H & Gartner, William B., (1997), "Measuring progress in entrepreneurship education", *Journal of Business Venturing*, Vol.12, Issue 5, pp.403-421.
- WAGNER, J., (2007), "What difference a Y makes — female and male nascent entrepreneurs in Germany", *Small Business Economics*. 28, pp.1–21.
- WALKER, JK, Jeger, M. & Kopecki, D. (2013), "The role of perceived abilities, subjective norm, and intentions". *Journal of Entrepreneurship*, 22(2), 181–202.
- WENNERBERG, K., Pathak, S., Autio, E., (2013), "How culture moulds the effects of self-efficacy and fear of failure on entrepreneurship", *Entrep. Reg. Dev. Int. J.* 25 (9–10), pp.756–780
- WENNEKERS, S.& Thurik, R., (1999), "Linking Entrepreneurship and Economic Growth", *Small Business Economics* 13, pp.27–56.
- WILSON F., Kickul, J., & Marlino, D. (2007). "Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: implications for entrepreneurship education", *Entrep. Theory Pract.* 31, 387–406.
- YAN, J. (2010), "The impact of entrepreneurial personality traits on perception of new venture opportunity", *New England Journal of Entrepreneurship*, Vol.13(2), 21-35.
- YEŞİLAY, R. B. & Yavaş, V. (2017), "Öğrencilerin Girişimcilik Niyetinin Planlanmış Davranış Teorisi Çerçevesinde İncelenmesi: Sivil Havacılık Alanında Öğrenim Gören Önlisans Öğrencileri Üzerine Bir Araştırma", *Girişimcilik ve İnovasyon Yönetimi Dergisi*, 6(1), 145-172.
- ZHAO, H., Seibert, S. E., & Hills, G. E. (2005). "The mediating role of self-efficacy in the development of entrepreneurial intentions", *J. Appl. Psychol.* 90, pp.1265–1272.
- ZENGİN, N. & Çelik, O. (2016), "Çevresel Faktörlerin Girişimcilik Üzerindeki Etkileri", 19. Uluslararası İktisat Öğrencileri Kongresi, Tam Metin Bildiri, İzmir
- <https://www.gemconsortium.org/wiki/1149>, Date of Access: 11.08.2019
- <https://www.gemconsortium.org/wiki/1375>, Date of Access: 13.08.2019
- <https://www.gemconsortium.org/>, Date of Access: 11.08.2019

**DOES FORMALIZATION RUIN PUBLIC SERVICE
MOTIVATION? EXPLORING THE MEDIATING EFFECT OF
WORK ALIENATION***

*Utku Güğerçin***

Introduction

Through many years, a great amount of research has been conducted regarding the differences between public and private organizations. Scholars have made comparisons and criticized the public-private distinction on the basis of specific issues such as organizational structures and processes (e.g. Russell et al., 2007), human resources and management practices (e.g. Bordia & Blau, 1998; Faiz, 2013), leadership styles (e.g. Bourantas & Papalexandris, 1993), and values (e.g. Carrim & Basson, 2013). It is quite obvious that all these variables have reflections on employees, particularly in terms of their work-related needs and reward choices (Crewson, 1997; Perry & Porter, 1982; Rainey, 1982; Wittmer, 1991). From this point forth, it has been argued that employees' motivational processes differ in public and private organizations (Brewer & Selden, 1998; Buelens & Van den Broeck, 2007; Houston, 2000). Accordingly, conceptual and empirical arguments focusing on the motivation processes of public employees are under the spotlight. In time, the concept of public service motivation (PSM), which separates the drivers of public sector employees, has been widely accepted by scholars (Perry & Hondeghem, 2008).

In the last decade of the 20th century, Perry and Wise (1990: 368) formulated the concept of PSM as "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations." This paradigm that separates the nature and drivers of public sector employees' motivation from others has received the attention of many scholars. Initially, the concept started to be evaluated in terms of its influence on job performance and organizational effectiveness (Leisink & Steijn, 2009; Naff & Crum, 1999; Perry & Wise, 1990; Rainey, 1982; Romzek, 1990; Vandenabeele, 2009). Additionally, PSM was associated with organizational structure, organizational processes, and personal issues, such as religion, parental relations in childhood, and political ideology (e.g. Harari et al., 2017, Moynihan & Pandey, 2007; Pandey & Rainey, 2006; Perry, 1997). In time, particularly after the development of a measurement tool to assess PSM, psychological, organizational, and demographic characteristics have been analyzed as the antecedents of PSM

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in numerous studies. However, the evidence is often mixed and no consensus has yet been reached regarding the antecedents of PSM. In this study, the perceived level of formalization in organizations is considered as a potential predictor of PSM. Additionally, work alienation is evaluated as a mediator variable between formalization and PSM. The purpose of the study is to determine the direct effect of formalization on PSM and also the indirect effect through work alienation.

PSM was asserted to encompass various meanings in different cultures (Kim et al., 2013). In this study, PSM, which takes its roots from the West, will be evaluated in the context of the culture of an emerging country, namely Turkey. Considering the limited number of studies as regards to PSM in Turkey, most of which are generally conceptual discussions or literature reviews (e.g. Akıllı & Cingöz, 2015; Arslan, 2018, 2019; Arslan & Karacaoğlu, 2019; Aydın et al., 2017; Coşkun, 2015; Kavas et al., 2017; Ökmen & Demir, 2010), this study is hoped to be helpful in exploring PSM in Turkey. Understanding the correlates of PSM is thought to be beneficial for practitioners in the public sector to advance management practices.

As one of the earliest studies to empirically examine PSM in Turkey, the originality of the paper lies in the fact that it sheds light on PSM, which associates the effort for public good and administrative practices. Additionally, the paper analyzes the formalization–PSM relationship, which previously produced contradictory findings. Since the study is an attempt to fill this gap, the results of the study are hoped to contribute to the literature.

1. Conceptual Framework

1.1. Public Service Motivation

In comparison with the services in private sector, public service is evaluated as a distinct, specific area. It is explained as “a sense of public morality” (Staats, 1988) or “a reflective of an intrinsic desire to perform work that is deemed worthwhile for society” (Scott & Pandey, 2005: 160). In this context, scholars discussed the roots of the motivational controversy between public and private sector employees in terms of money or merit pay and concluded that in contrast with private sector, the role of these incentives on motivation was relatively low in public sector employees (Perry, 1986). Indeed, for instance, it is not always possible to run the mostly used ‘higher pay for higher performance’ method in the public sector. Additionally, the absence of salary increases for good performers leaves no room for salary negotiations in the public sector (Perry & Porter, 1982). Many public organizations are less competitive in terms of pay because they are non-profit (Akinyele, 2007). Drawing upon this point of view, conceptual and empirical arguments about the differences between

public–private organizations pointed out that employees in public organizations had a unique motivational process (Rainey, 1982; Rawls et al., 1975), as an extension of the public service ethic (Perry, 1997).

Public sector employees, in comparison with private ones, are motivated by intrinsic motivating factors, meaning that motivation comes from within (Buelens & Van den Broeck, 2007). The source for good performers in the public sector is intrinsic rewards rather than external ones (Rawls et al., 1975). In line with this paradigm, PSM refers to a tendency toward working with a commitment to public service, striving for public welfare, and the betterment of the society (Scott & Pandey, 2005: 156). In the framework of PSM, public service employees are presumed to be ready for self-sacrifice, and work with civic duty and compassion (Vandenabeele et al., 2014: 781). Not surprisingly, it is noted that individuals with high levels of PSM are willing to work in the public sector and their level of performance is higher (Perry & Wise, 1990; Scott & Pandey, 2005).

According to Perry and Wise (1990), PSM arises from three categories of motives. One is rational motive involves the desire to influence public policy and the attraction of public policymaking. Public employees are expected to be fostered in terms of conducting meaningful work. The second motive to engage in PSM is norm-based motive, which is about following the accepted and the shared norms such as the commitment to the public interest, being loyal to the government, and social justice. The third motive for PSM is affective motive, which is about the emotions of the employees. Affective motive is considered as the main motive for employees to engage in PSM and takes its roots from ‘patriotism of benevolence’ (Frederickson & Hart, 1985: 548-549).

Although PSM is a term that specifically focuses on the motives of employees in public service employees, it is worth noting that PSM is different from public sector motivation (Scott & Pandey, 2005: 161). PSM is associated with altruism and public welfare (Liu & Perry, 2016). Hence, rather than a positive concept that is expected from employees in the public sector, PSM is claimed to be evaluated as a characteristic of the public service ethos (Frederickson & Hart, 1985). Additionally, PSM is in contradiction with the assumptions of rationality, which assumes that decision-makers strive for the maximum output since PSM encompasses elements such as altruism, self-sacrifice, and intrinsic motivation (Camilleri, 2007; Vandenabeele & Ban, 2009: 358). Consequently, within the framework of PSM, an employee is not considered as an actor who strives for self-maximization, as opposed to the assumption of rationality (Perry & Wise, 1990).

1.2. Formalization and Work Alienation as the Predictors of PSM

Formalization briefly refers to the degree to which rules, procedures, instructions, and communications are written (Pugh et al., 1968). Nevertheless, labeling formalization as rules is an output of a narrow perspective (Walsh & Dewar, 1987: 217). More broadly, formalization is defined as the degree to which rules and procedures in an organization are clearly written, formally established, and followed in carrying out different activities (Rai, 1983; Rainey, 2009: 209). These activities may be related to decision-making, decision-sharing, instructions, or information dissemination (Pugh et al., 1963: 303-304). Clearance of roles, strict authority, encouragement of written communication, a high degree of norms, sanctions, and procedures are basic reflections of a high level of formalization in any organization (Hall et al., 1967: 906-907).

The linkage between PSM and formalization lies in the organizational structure of public organizations. These organizations tend to have a high level of hierarchy and the number of bureaucratic levels is expected to be high in these organizations. Additionally, public organizations are expected to have less flexibility in rules and procedures (Lan & Rainey, 1992). Hence, the existing nature of the structure of the public organizations legitimizes the existence of formal rules and procedures (Giauque et al., 2013).

Although formalization is a neutral concept for the sake of the organizations, it is held responsible for unintended consequences (Chen & Rainey, 2014). In this line, in contrast to the limited number of exceptional studies, a great many studies in the field revealed that the increase in the perceived level of formalization had an inverse effect on PSM (Aiken & Hage, 1966; Michaels et al., 1996; Moynihan & Pandey, 2007). In other words, organizational characteristics such as high levels of centralization, formalization, and standardization, which are known as the structural characteristics of public organizations, lead to lower intrinsic motivation (Manolopoulos, 2008; Sherman & Smith, 1984). However, this negative relationship is clearer when rules substitute for goals. In this situation, employees strive to comply with the requirements of formalization rather than seeking out ways to accomplish the goals of the organization (Scott & Pandey, 2005: 157). Additionally, the type of problems encountered plays a role in benefiting from formalization. In this line, Merton (1940) noted that formalization could be dysfunctional, particularly when the organization tried to rely on formalization while solving unstructured problems.

To the author's knowledge, no study has focused on the relationship between the degree of formalization and PSM. Yet, an inverse relationship is expected. The potential negative effects of formalization on PSM could

be explained with reference to the perception of burdensome rules. Even though rules, regulations, and procedures offer guidelines and minimize ambiguity for public employees (Jakobsen & Mortensen, 2016), if the level of formalization is perceived as high, it has the potential to reduce PSM (Jakobsen & Jakobsen, 2018: 25). Therefore, more formalization is expected to cause less PSM. In a similar vein, the belief among the members of the organization about the detrimental effect of rules is stated as an obstacle to organizational performance (Jakobsen & Jakobsen, 2018: 24). In this line, studies focusing on PSM and red tape, which occurs when rules lead to inefficiencies by creating boundaries (Cooke, et al., 2019: 767), concluded that the direction of the relationship between these variables was negative. Moynihan & Pandey (2007: 47) found that if employees perceived formalization as detrimental, employees might be discouraged. Hence, the first hypothesis is formulated as “H₁: Formalization is negatively associated with PSM.”

Along with a decrease in PSM, another unintended effect of formalization may be work alienation (Agarwal, 1993). Alienation has been discussed in the field of management and organization since the second half of the 20th century (Seeman, 1983: 171). In time, it is asserted that alienation is not limited to blue-collar employees who exert their physical power while at work. White-collar employees may also feel alienated due to work (Gerth & Mills, 1946: 50). In the following years, work alienation, which refers to “a feeling of disappointment with career and professional development, as well as disappointment over the inability to fulfill professional norms,” has been widely analyzed both theoretically and empirically (Aiken & Hage, 1966: 497).

Studies in the literature on the association between formalization and alienation generally indicate an inverse relationship. Empirical and theoretical studies showed that formalization was linked with triggered alienation (Aiken & Hage, 1966; Chen & Rainey, 2014; Hall, 1968; Michaels et al., 1996; Sarros et al., 2002; Zeffane 1994). Formalization, namely strict written rules and bureaucratic controls, may block the use of autonomy of employees, and make them feel detached, powerless, and meaningless. However, alienation will particularly increase when employees perceive formalization as burdensome and dysfunctional (Aiken & Hage, 1966; DeHart-Davis & Pandey, 2005: 133; Smith, 1971). Overall, a pre-determined work routine and the lack of decisional activities may aggravate feelings of alienation (Agarwal, 1993). However, an interesting point is that there is a disparity in the findings of studies about the formalization–alienation relationship. Formalization was considered as a tool to mitigate alienation by providing guidance and clarifying job responsibilities (Adler & Borys, 1996; Michaels et al. 1988; Organ & Greene, 1981; Podsakoff et al., 1986). In this study, in line with the widely

accepted paradigm in the literature, formalization is considered as a key trigger for work alienation. Hence, the second hypothesis of the study is formulated as “H₂: Formalization is positively associated with work alienation.”

While increasing work alienation, formalization is expected to lessen PSM (Matei & Cornea, 2011). Although there is a limited number of studies directly focusing on the relationship between alienation and PSM, the inverse relationship between alienation and motivation has been studied before (Ankony & Kelley, 1999). Theoretically, alienation is expected to prevent the employee from being motivated because alienation comes with a sense of meaninglessness (Tummers, 2009). When the employee cannot find meaning in conducting the job, the desire to conduct meaningful public service will decrease. In this context, alienation may play a mediating role between formalization and PSM. The constraints that arise from formalization may cause alienation, and it may lead to lower PSM. Hence, the third and fourth hypotheses are formulated as “H₃: Work alienation is negatively associated with PSM,” and “H₄: Work alienation has a mediating role between formalization and PSM.”

2. Methodology

2.1. Research Model and Data Analysis

The research model of the study is illustrated in Figure 1. In order to examine the relationships among the variables, data were gathered using the survey method in the context of a cross-sectional design. Structural equation modeling was applied to test the research model. As the initial analysis, data screening was carried out. In this process, data were found to be far from matching the multivariate normal distribution assumption. Accordingly, partial least squares-structural equation modeling (PLS-SEM), which is a variance-based structural equation modeling, was decided to be used because it has more tolerance in comparison with covariance-based structural equation modeling when the data are nonnormal (Hair et al., 2014: 108). Yet, it is worth noting that when the skewness of the data is high, PLS-SEM may lead to problematic statistical results. Therefore, skewness of the data was analyzed and the related values were found to be in the range of ± 2 , which is considered as the acceptable limit (Gravetter & Wallnau, 2014). Another reason for the use of PLS-SEM was the iterative approach of the algorithm that maximizes the explained variance of the endogenous latent construct (Chin, 2010; Jöreskog & Wold, 1982), which is PSM in this study. Considering the fact that predicting PSM within the context of uncovered relationships is of the essence in this study, PLS-SEM was considered to be an appropriate

approach due to its focus on explaining endogenous latent constructs. The PLS-SEM algorithm was followed by the use of SMART PLS software.

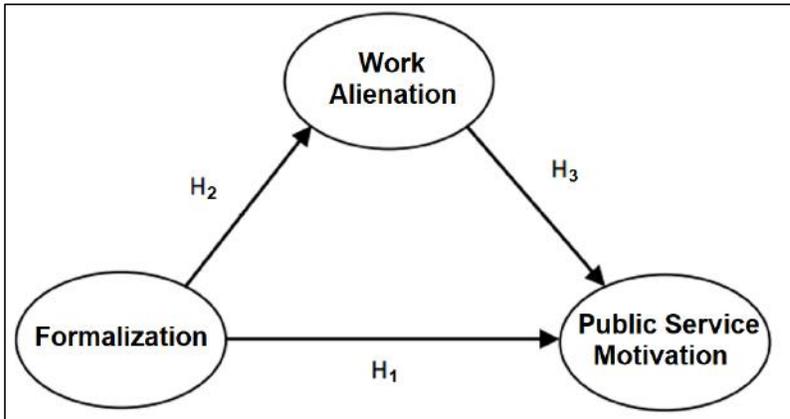


Figure 1. Research Model

1.2. Sample and Instrument

Data were gathered from white-collar employees working in municipalities in Adana, Turkey. Municipalities face various constraints while striving to achieve their desired goals despite their administrative and financial autonomy. The constraints mainly arise from the pressure of elections, which can be evaluated as a reflection of satisfaction with the provided service, and the limitations due to legislation. In this context, the PSM of municipality employees was considered to be an interesting issue, and the sample was thought to be well-suited for examining PSM. The target population was all municipalities in Adana, but due to the inability to reach all of them, employees in three district municipalities were taken as the sample.

From among 500 survey forms, a total of 400 were returned. The results of the data screening process indicated that 321 forms were suitable for analysis. Following Marcoulides and Saunders (2006) to calculate the required sample size, it was found that 147 responses were adequate for a PLS-SEM test. Therefore, the analyses were conducted with the data from the 321 responses.

The survey form consisted of three scales and demographic variables: the work alienation scale (Pandey & Kingsley, 2000), formalization scale (Andrews & Kacmar, 2001), and short form of public service motivation scale (Liu & Perry, 2016) were involved in the survey form in a 5-point Likert format. All measurement tools were originally developed in English.

Hence, translation into Turkish for each questionnaire was executed via the back-translation method.

3. Results

3.1. Demographics

Respondents were asked to answer demographic questions, which were gender, age, marital status, education level, position in the organization, and work experience. All demographic variables are given in Table 1. The average values of these variables are given in the table below because age and work experience demographics were in a ratio scale.

Table 1. Demographic Variables

Demographics	n	%	Demographics	n	%
<i>Gender</i>			<i>Marital Status</i>		
Female	136	42.4	Married	227	70.7
Male	178	55.5	Single	82	25.5
No Response	7	2.2	No Response	12	3.7
<i>Position</i>			<i>Education Level</i>		
Managerial	42	13.1	High school graduate	87	27.1
Non-managerial	370	84.1	Two-year degree	53	16.5
No Response	9	2.8	Bachelor's degree	143	44.5
			Postgraduate	31	9.7
			No Response	7	2.2

* Average age was 36.73 (missing values: 33)

** Average work experience was 12.8 years (missing values: 14)

3.2. The Measurement Model

In order to assess the measurement model (a.k.a. outer model), which shows how the indicators are associated with their latent variables, reliability, validity, and collinearity statistics were evaluated. Since all scales were in reflective measurement format, outer loadings, and composite reliability (CR) values were checked to assess indicator reliability and internal consistency reliability (Wong, 2013). All outer loadings, with one exception, were found to satisfy the requirement for indicator reliability with loadings at the .70 level or higher on their respective constructs (Hair et al., 2014: 103). The exceptional indicator was PSM6, of which loading was below .70. PSM6 was removed because the exclusion of this indicator increases the composite reliability. Secondly, for internal consistency reliability, CR values were checked and

all values were found to be well above the threshold level of .70 (Bagozzi and Yi, 1988). All related values are given in Table 2.

Table 2. Outer Loadings and Composite Reliability

Latent Variable	Outer Loadings	Composite Reliability
Work Alienation	.74	.87
	.76	
	.80	
	.73	
	.77	
Formalization	.75	.85
	.91	
	.75	
Public Service Motivation	.71	.86
	.78	
	.78	
	.74	
	.72	

In order to test convergent validity, the average variance extracted (AVE) value of each latent variable was evaluated. Convergent validity was established because all AVE values exceeded the threshold of .50 (Fornell & Larcker, 1981). For discriminant validity, along with Fornell–Larcker criterion, the heterotrait-monotrait (HTMT) ratio of correlations was assessed due to its superior performance in comparison to the Fornell–Larcker criterion. HTMT values were found to be below the expected level of .90, confirming discriminant validity (Gold et al., 2001; Teo et al., 2008). Additionally, discriminant validity was established because the AVE value for each construct was higher than its squared correlation with the remaining constructs (Fornell & Larcker, 1981), as depicted in Table 3. In order to assess the existence of collinearity, VIF values were evaluated. The highest VIF value was 2.0, which is below the threshold of 10 (Hair et al., 2006), revealing that no significant effect of collinearity existed in the model.

Table 3. AVE Values and Square of Intercorrelations*

	Formalization	PSM	Work Alienation
Formalization	.65		
PSM	.33	.56	
Work Alienation	.06	.41	.58

* Values on the diagonal (shown in bold) are AVE for each latent variable (LV). Off-diagonal elements are square of correlations between LVs.

3.3. The Structural Model

Because the data met the criteria of reliability and validity, the structural (the inner) model was analyzed and the results of the hypothesis tests were demonstrated. The significance of the structural model was tested using a bootstrapping procedure, which allows a large number of subsamples to be taken from the original sample with replacement. Using a one-tailed test with .05 significance level, the results of the bootstrapping procedure revealed that all paths, except formalization–PSM, were statistically significant. The path coefficients are depicted in Table 4.

Table 4. Path Coefficients

Model Pathway	Path Coefficient	Standard Deviation	t- Value	Percentile Bootstrap 95% CI	
				Lower	Upper
Formalization-PSM	.03	.05	.64	-.05	.10
Formalization-Work Alienation	-.25*	.05	5.13	-.03	-.17
Work Alienation-PSM	-.64*	.04	17.80	-.07	-.58

* $p < .001$

The first hypothesis H_1 , examining the association between formalization and PSM, was rejected because the effect was insignificant ($\beta=.03$, $t=.644$, $p=.26$). H_2 , which posits that formalization is positively associated with work alienation, was also rejected due to the direction of the relationship. Although the effect was significant, the association was found to be negative ($\beta= -.25$, $t=5.125$, $p< .001$). H_3 , which posits that work alienation is negatively associated with PSM, was supported ($\beta=-.64$, $t=17.80$, $p< .001$). The t-values of the path coefficients are illustrated in Figure 2.

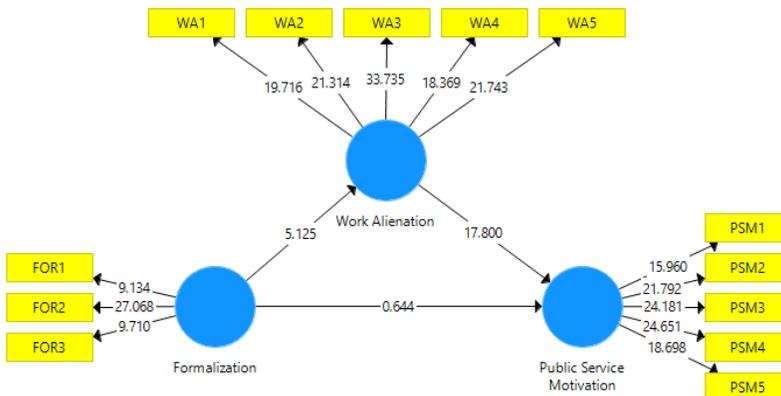


Figure 2. Test Results of the Research Model

The last hypothesis H₄, which asserts that work alienation has a mediation role between formalization and PSM, was supported. Following the procedure developed by Nitzl et al. (2016) to test mediation effects on PLS-SEM, it was revealed that work alienation mediated the relationship between formalization and PSM. In the absence of work alienation as a mediating variable, formalization had a positive and significant direct effect on PSM ($\beta=.21$, $t=4.743$, $p<.001$). When work alienation was included in the research model, the indirect effect of formalization was significant ($\beta=.16$, $t=4.663$, $p<.001$) as seen in Table 5, but the direct effect was not significant ($\beta=.03$, $t=.644$, $p=.26$). Therefore, work alienation was found to be a full mediator, with a variance accounted for (VAF) value of .84.

Table 5. Indirect Effect of Formalization on PSM

Model Pathway	Coefficient	Percentile Bootstrap 95% CI	
		Lower	Upper
Formalization-Work Alienation-PSM	.16*	.11	.22

* $p<.001$

The results indicated that with the mediating effect of work alienation, formalization explained .41 of the variance in PSM. As the last analysis, for the predictive relevance of the PLS path model, Stone-Geisser's Q² values were evaluated by blindfolding (Hair et al., 2011: 147). The Q² values were calculated as .03 for work alienation and .22 for PSM. The PLS model was considered to have predictive relevance because these values were larger than zero for the endogenous latent variables in the model.

Discussion and Conclusion

Authorities in the public sector have strived to increase employees' motivation by following a great number of motivation techniques used in the private sector. Nevertheless, characteristics of public employees, particularly in terms of their values, needs, and reward choices that are related to work, were found to be different from private sector employees (Crewson, 1997; Perry & Porter, 1982; Rainey, 1982; Wittmer, 1991). Accordingly, the concept of public service motivation (PSM), which refers to "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (Perry & Wise, 1990: 368) and separates the drivers of public sector employees, has received the attention of many scholars (Perry & Hondeghem, 2008). This

paper is an attempt to clarify the ambiguous relationship between formalization-PSM by analyzing work alienation as a mediating variable.

The results of the analysis showed that in the absence of work alienation as a mediating variable, formalization had a positive and significant effect on PSM ($\beta=.21$, $t=4.743$, $p<.001$). Therefore, as opposed to the first hypothesis, it is understood that formalization is not considered as a detrimental factor by employees. In the literature, positive, negative, and null findings have been reported about the link between organizational characteristics and PSM. However, it seems that formalization, namely the existence of explicitly written rules and less flexibility in procedures (Lan & Rainey, 1992), are legitimized -or even sanctified- issues in municipalities (Giauque et al., 2013).

The finding about the positive association between formalization and PSM is in line with the value activation theory, which sets an appropriate stage to assess motivation because values are closely related to motivation (Schwartz & Bilsky, 1990). Value activation entails that values need to be activated in order to influence behaviors or judgments (Verplanken & Holland, 2002). In the context of this study, formalization may work as an activator for values that are related to the public good, resulting in an increase in PSM. Findings lend support to previous studies that have shown that rules, regulations, and procedures minimize ambiguity (Jakobsen & Mortensen, 2016) and allow employees to accomplish the goals of the organization. Therefore, rather than formalization itself, the belief of the organization members about the detrimental effect of rules may be an obstacle to PSM (Jakobsen & Jakobsen, 2018: 24; Moynihan & Pandey, 2007: 47). Accordingly, it is noteworthy that how an organization uses formalization has the potential to determine its impact on PSM. As DeHart-Davis and Pandey (2005: 133) noted, if the type of bureaucracy was enabling, it would help employees to master tasks and be more committed to the organization, which in turn increases PSM. As Kaufman (1977) stated, employees might differ totally in perceiving formalization. Indeed, some may benefit from formalization as a guideline, whereas the rest may perceive formalization as red tape. It is understood that the sample of this study perceived formalization as a guideline, which led to a high degree of PSM.

An inverse impact was revealed regarding the relationship between perceived level of formalization and work alienation. Interestingly, the generally accepted view in the literature is that formalization, as an element of organizational structure, is responsible for unintended consequences (Merton, 1940) and associated with higher work alienation (Agarwal 1993; Aiken & Hage 1966; Bonjean & Grimes, 1970). Nevertheless, this linkage is only acceptable when formalization results in compliance (DeHart-

Davis & Pandey, 2005: 133). In other words, when employees evaluate the organizational structures and processes irrelevant and detrimental, alienation will be triggered. Otherwise, namely when formalization is interpreted as a requirement, formalization was found to extinguish alienation (Aiken & Hage, 1966; DeHart-Davis & Pandey, 2005; Smith, 1971). In this study, formalization, as an instrument that sets the standards within the organization and minimizes ambiguity in terms of expected behaviors, was found to reduce work alienation. This result supported the findings of Aiken and Hage (1966), Smith (1971), Walsh and Dewar (1987), and DeHart-Davis and Pandey (2005).

As expected, the effect of work alienation on PSM was found to be negative. In the literature, there is a limited number of studies directly focusing on the relationship between work alienation and PSM. Instead of work alienation-PSM relationship, the inverse relationship between alienation and motivation was studied before (Ankony & Kelley, 1999). Theoretically, alienation is expected to prevent the employee from being motivated because alienation comes with a sense of meaninglessness (Tummers, 2009). The results of this study supported that when employees could not find meaning in dealing with any task, the desire to work for the public, namely public service motivation, lessened.

The last assertion of the study was the mediation effect of work alienation on formalization and PSM. As expected, work alienation was found to be a full mediator in this relationship. Overall, it is claimed that formalization itself is not a direct threat to employees. On the contrary, formalization may lead to desired conditions in the organization, such as high PSM and low work alienation. Nevertheless, it is worth noting that findings in the related literature revealed that how employees perceived formalization was crucial at this point. In this respect, because municipalities are public organizations, which are generally close to the mechanistic organization type, the motivation of employees might be positively influenced by formalization. Consequently, formalization was found to diminish work alienation, and then work alienation was found to lessen PSM.

As one of the earliest studies to empirically examine PSM in Turkey, the originality of this paper lies in the fact that it sheds light on PSM and hopes to contribute to the PSM literature in Turkey, which is still in its infancy. Additionally, the paper analyzes the formalization-PSM relationship, which previously produced contradictory findings. The results of the study are hoped to contribute to the literature because the study is an attempt to fill this gap.

PSM in Turkey is important because the ratio of public employees is on the rise. According to the periodic Labour Force Statistics report published

by the Turkish Statistical Institute (2020), public employment has a share of 18% with 4.7 million employees. The ratio was 7.9% in 1990 (Özdemir, 2007), and starting from the 2000s, the rate of public employment was approximately 10% (Akbulut, 2015). The current ratio of 18% shows that public employment has risen over time and today almost one in six employed persons (including self-employed ones) in Turkey works in the public sector. In this respect, the findings are hoped to be beneficial for the managers of public organizations, of which employee numbers are increasing. As a practical implication/avenue, it is revealed that formalization itself may not be a direct threat to PSM. Nevertheless, work alienation possesses the potential to lessen PSM. Understanding the correlates of PSM is thought to be beneficial for practitioners in the public sector to advance management practices. Therefore, managers are expected to cope with work alienation by creating room for participation in decision-making.

In further studies, along with formalization, other elements of organizational structure such as degree of centralization or work specialization are suggested to be considered as exogenous variables to explain PSM. Moreover, contemporary applications such as job rotation or remote working are also suggested to be considered as possible exogenous variables. Additionally, cultural characteristics or administrative traditions, which differ from one country to another, may have an impact on PSM (Harari et al., 2017). Therefore, the cultural characteristics are strongly suggested to be involved in the research models of further studies. Analyzing how formalization and PSM are related in the context of a curvilinear relationship may contribute to the literature because it establishes whether the relation is U-shaped. Lastly, researchers may focus on an investigation regarding the possible bi-directional relationship between formalization and PSM by applying longitudinal methodology.

REFERENCES

- Adler, P. S., & Borys, B. (1996). "Two types of bureaucracy: Enabling and coercive". *Administrative Science Quarterly*, 41(1), 61-89.
- Agarwal, S. (1993). "Influence of formalization on role stress, organizational commitment, and work alienation of salespersons: A cross-national comparative study". *Journal of International Business Studies*, 24(4), 715-739.
- Aiken, M., & Hage, J. (1966). "Organizational alienation: A comparative analysis". *American Sociological Review*, 31(4), 497-507.
- Akbulut, H. (2015). "Kamu sektörünün hacmi: Türkiye-Avrupa Birliği karşılaştırılması". *Amme İdaresi Dergisi*, 48(3), 41-59.

- Akinyele, S. T. (2007). "A critical assessment of environmental impact on workers' productivity in Nigeria". *Research Journal on Business Management*, 1(1), 50-61.
- Akıllı, S.H., & Cingoz, A. (2015). "The relationship between organizational trust and job performance: The mediating effect of public service motivation". Paper presented at the *EGPA Annual Conference*, 26-28 August, Toulouse, France
- Andrews, M. C., & Kacmar, K. M. (2001). "Discriminating among organizational politics, justice, and support". *Journal of Organizational Behavior*, 22(4), 347-366.
- Ankony, R. C., & Kelley, T. M. (1999). "The impact of perceived alienation on police officers' sense of mastery and subsequent motivation for proactive enforcement". *Policing: An International Journal of Police Strategies & Management*. 22(2), 120-134.
- Arslan, M. (2018). "Özel sektör motivasyon araçlarının Türk kamu sektöründe uygulanabilirliği". *Sayıştay Dergisi*, 109, 103-106.
- Arslan, M. (2019). "Kamu hizmeti motivasyonunu şekillendiren faktörler ve sektör tercihi". *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi*, 21(4), 1261-1277.
- Arslan, M., & Karacaoğlu, K. (2019). "Kamu hizmeti motivasyonunun sektör tercihinde etkisinde özgeci davranışın aracılık rolü: Lisans öğrencileri örneği". *Üçüncü Sektör Sosyal Ekonomi Dergisi*, 54(3), 1150-1167.
- Aydın, İ., Demirkasimoğlu, N., Demir, T. G., & Erdemli, Ö. (2017). "Kamu hizmeti motivasyonu ölçeğinin geliştirilmesi". *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 50(2), 105-126.
- Bagozzi, R. P., & Yi, Y. (1988). "On the evaluation of structural equation models". *Journal of The Academy of Marketing Science*, 16(1), 74-94.
- Bonjean, C. M., & Grimes, M. D. (1970). "Bureaucracy and alienation: A dimensional approach". *Social Forces*, 48(3), 365-373.
- Bordia, P., & Blau, G. (1998). "Pay referent comparison and pay level satisfaction in private versus public sector organizations in India". *International Journal of Human Resource Management*, 9(1), 155-167.
- Bourantas, D., & Papalexandris, N. (1993). "Differences in leadership behaviour and influence between public and private organizations in Greece". *International Journal of Human Resource Management*, 4(4), 859-871.

- Brewer, G. A., & Selden, S. C. (1998). "Whistle blowers in the federal civil service: New evidence of the public service ethic". *Journal of Public Administration Research and Theory*, 8(3), 413-440.
- Buelens, M., & Van den Broeck, H. (2007). "An analysis of differences in work motivation between public and private sector organizations". *Public Administration Review*, 67(1), 65-74.
- Camilleri, E. (2007). "Antecedents affecting public service motivation". *Personnel Review*, 36(3), 356-377.
- Carrim, N. M. H., & Basson, J. S. (2013). "Creating a learning climate: A South African study". *The Learning Organization*, 20(1), 6-19.
- Chen, C. A., & Rainey, H. G. (2014). "Personnel formalization and the enhancement of teamwork: A public-private comparison". *Public Management Review*, 16(7), 945-968.
- Chin, W. W. (2010). "How to write up and report PLS analyses". In V. Esposito Vinzi, W.W. Chin, J. Henseler, & H. Wang (Eds.) *Handbook of Partial Least Squares Concepts, Methods and Applications*, Springer, Dordrecht, 645-689.
- Cooke, D. K., Brant, K. K., & Woods, J. M. (2019). "The role of public service motivation in employee work engagement: A test of the job demands-resources model". *International Journal of Public Administration*, 42(9), 765-775.
- Coşkun, S. (2015). "Kamu hizmetleri motivasyonu kuramı: Bir literatür taraması". *Ekonomik and Sosyal Araştırmalar Dergisi*, 11(1), 61-74.
- Crewson, P. E. (1997). "Public-service motivation: Building empirical evidence of incidence and effect". *Journal of Public Administration Research and Theory*, 7(4), 499-518.
- DeHart-Davis, L., & Pandey, S. K. (2005). "Red tape and public employees: Does perceived rule dysfunction alienate managers?" *Journal of Public Administration Research and Theory*, 15(1), 133-148.
- Faiz, N. (2013). "Impact of manager's reward power and coercive power on employee's job satisfaction: a comparative study of public and private sector". *International Journal of Management and Business Research*, 3(4), 383-392.
- Fornell, C. & Larcker D.F. (1981). "Evaluating structural equation models with unobservable variables and measurement error". *Journal of Marketing Research*, 18(1), 39-50.

- Frederickson, H. G., & Hart, D. K. (1985). "The public service and the patriotism of benevolence". *Public Administration Review*, 45(5), 547-553.
- Gerth, H. & Mills, C. W. (1946). *Introduction to From Max Weber: Essays in Sociology*. New York: Oxford University Press.
- Giauque, D., Anderfuhren-Biget, S., & Varone, F. (2013). "Stress perception in public organisations: Expanding the job demands–job resources model by including public service motivation". *Review of Public Personnel Administration*, 33(1), 58-83.
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). "Knowledge management: An organizational capabilities perspective". *Journal of Management Information Systems*, 18(1), 185–214.
- Gravetter, F., & Wallnau, L. (2014). *Essentials of Statistics for the Behavioural Sciences*. California: Wadsworth.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). "PLS-SEM: Indeed a silver bullet". *Journal of Marketing Theory and Practice*, 19(2), 139-152.
- Hair, J.F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). "Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research". *European Business Review*, 26(2), 106-121.
- Hall, R. H. (1968). "Professionalization and bureaucratization". *American Sociological Review*, 33(2), 92-104.
- Hall, R. H., Johnson, N. J., & Haas, J. E. (1967). "Organizational size, complexity, and formalization". *American Sociological Review*, 32(6), 903-912.
- Harari, M. B., Herst, D. E., Parola, H. R., & Carmona, B. P. (2017). "Organizational correlates of public service motivation: A meta-analysis of two decades of empirical research". *Journal of Public Administration Research and Theory*, 27(1), 68-84.
- Houston, D. J. (2006). "Walking the walk of public service motivation: Public employees and charitable gifts of time, blood, and money". *Journal of Public Administration Research and Theory*, 16(1), 67-86.

- Jakobsen, M. L. & Mortensen, P.B. (2016). "Rules and the doctrine of performance management". *Public Administration Review* 76(2), 302–312.
- Jacobsen, C. B., & Jakobsen, M. L. (2018). "Perceived organizational red tape and organizational performance in public services". *Public Administration Review*, 78(1), 24-36.
- Jöreskog, G. & Wold, H. (1982). "The ML and PLS techniques for modeling with latent variables: Historical and comparative aspects", In K. G. Jöreskog & H. Wold (Eds.), *Systems Under Indirect Observation: Causality, Structure, Prediction* (pp. 263-270). Amsterdam: North Holland.
- Kaufman, H (1977). *Red tape: Its Origins, Uses, and Abuses*. Washington DC: Brookings Institute.
- Kavas, M. Turgut, E., & Ercan, M. (2017). "Kamu hizmeti motivasyonu: Bir ölçek uyarlama çalışması". 25. *Ulusal Yönetim ve Organizasyon Kongresi*, 365-374, 25-27 Mayıs, Ankara.
- Kim, S., Vandenberg, W., Wright, B. E., Andersen, L. B., Cerase, F. P., Christensen, R. K., . . . Liu, B. (2013). "Investigating the structure and meaning of public service motivation across populations: Developing an international instrument and addressing issues of measurement invariance". *Journal of Public Administration Research and Theory*, 23(1), 79-102.
- Lan, Z., & Rainey, H. G. (1992). "Goals, rules, and effectiveness in public, private, and hybrid organizations: More evidence on frequent assertions about differences". *Journal of Public Administration Research and Theory*, 2(1), 5-28.
- Leisink, P., & Steijn, B. (2009). "Public service motivation and job performance of public sector employees in the Netherlands". *International Review of Administrative Sciences*, 75(1), 35-52.
- Liu, B., & Perry, J. L. (2016). "The psychological mechanisms of public service motivation: A two-wave examination". *Review of Public Personnel Administration*, 36(1), 4-30.
- Manolopoulos, D. (2008). "An evaluation of employee motivation in the extended public sector in Greece". *Employee Relations*, 30(1), 63-85.
- Marcoulides, G. A., & Saunders, C. (2006). "Editor's comments: PLS: A silver bullet?" *MIS Quarterly*, 30(2): iii-ix.
- Matei, L., & Cornea, C. I. (2011). "Human resource motivation in romanian public administration - the european union enlargement context." In A. Matei & C. Radulescu (Eds.), *National and European*

Values of Public Administration in The Balkans (pp. 334-352),
Economica Publishing House.

- Merton, R. (1940). "Bureaucratic structure and personality". *Social Forces*, 18(4), 560-568.
- Michaels, R. E., Dubinsky, A. J., & Kotabe, M. (1996). "The effects of organizational formalization on organizational commitment and work alienation in US, Japanese and Korean sales forces". *European Journal of Marketing*, 30(7), 8-24.
- Moynihan, D. P., & Pandey, S. K. (2007). "The role of organizations in fostering public service motivation". *Public Administration Review*, 67(1), 40-53.
- Naff, K. C., & Crum, J. (1999). "Working for America: Does public service motivation make a difference?". *Review of Public Personnel Administration*, 19(4), 5-16.
- Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). "Mediation analysis in partial least squares path modeling". *Industrial Management & Data Systems*, 116(9), 1849-1864.
- Organ, D. W., & Greene, C. N. (1981). "The effects of formalization on professional involvement: A compensatory process approach". *Administrative Science Quarterly*, 26(2), 237-252.
- Ökmen, M., & Demir, F. (2010). "Kamu hizmetinin felsefi temelleri ve yeni kamu yönetiminde geçirdiği dönüşüm". *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 15(3), 19-42.
- Özdemir, S. (2007). *Küreselleşme Sürecinde Refah Devleti*. İstanbul Ticaret Odası Yayınları, Yayın No:2007/57: İstanbul.
- Pandey, S. K., & Kingsley, G. A. (2000). "Examining red tape in public and private organizations: Alternative explanations from a social psychological model". *Journal of Public Administration Research and Theory*, 10(4), 779-800.
- Pandey, S. K., & Rainey, H. G. (2006). "Public managers' perceptions of organizational goal ambiguity: Analyzing alternative models". *International Public Management Journal*, 9(2), 85-112.
- Perry, J. L. (1986). "Merit pay in the public sector: The case for a failure of theory". *Review of Public Personnel Administration*, 7(1), 57-69.
- Perry, J. L. (1997). "Antecedents of public service motivation". *Journal of Public Administration Research and Theory*, 7(2), 181-197.

- Perry, J. L., & Hondeghem, A. (2008). "Building theory and empirical evidence about public service motivation". *International Public Management Journal*, 11(1), 3-12.
- Perry, J. L., & Porter, L. W. (1982). "Factors affecting the context for motivation in public organizations". *Academy of Management Review*, 7(1), 89-98.
- Perry, J. L., & Wise, L. R. (1990). "The motivational bases of public service". *Public Administration Review*, 50(3), 367-373.
- Podsakoff, P. M., Williams, L. J., & Todor, W. D. (1986). "Effects of organizational formalization on alienation among professionals and nonprofessionals". *Academy of Management Journal*, 29(4), 820-831.
- Pugh, D.S., Hickson D.J., Hinings, C.R., Macdonald, K. M. Turner, C. & Lupton, T. (1963). "A scheme for organizational analysis". *Administrative Science Quarterly*, 8(64), 289-315.
- Pugh, D.S., Hickson, D.J., Hinings, C.R. & Turner, C. (1968). "Dimensions of organization structure". *Administrative Science Quarterly*, 13(1), 65-105.
- Rainey, H. G. (1982). "Reward preferences among public and private managers: In search of the service ethic". *The American Review of Public Administration*, 16(4), 288-302.
- Rainey, H. G. (2009). *Understanding and Managing Public Organizations*. 4th ed. San Francisco, CA: Jossey-Bass.
- Rawls, J.R., Ullrich, R.A. & Nelson, O.T. (1975). "A comparison of managers entering and reentering the profit and nonprofit sectors". *Academy of Management Journal*, 18(3), 616-622.
- Romzek, B. S. (1990). "Employee investment and commitment: The ties that bind". *Public Administration Review*, 50(3), 374-382
- Russell, S. V., Haigh, N. L., & Griffiths, A. (2007). "Understanding corporate sustainability". In S. Benn & D. Dunphy (Eds.), *Corporate governance and sustainability: Challenges for theory and practice* (pp. 36-56). New York: Routledge.
- Sarros, J. C., Tanewski, G. A., Winter, R. P., Santora, J. C., & Densten, I. L. (2002). "Work alienation and organizational leadership". *British Journal of Management*, 13(4), 285-304.
- Schwartz, S. H., & Bilsky, W. (1990). "Toward a theory of the universal content and structure of values: Extensions and cross-cultural replications". *Journal of Personality and Social Psychology*, 58, 878-891.

- Scott, P. G., & Pandey, S. K. (2005). "Red tape and public service motivation: Findings from a national survey of managers in state health and human services agencies". *Review of Public Personnel Administration*, 25(2), 155-180.
- Seeman, M. (1983). "Alienation motifs in contemporary theorizing: The hidden continuity of the classic themes". *Social Psychology Quarterly*, 46(3), 171-184.
- Sherman, J. D., & Smith, H. L. (1984). "The influence of organizational structure on intrinsic versus extrinsic motivation". *Academy of Management Journal*, 27(4), 877-885.
- Smith, M. P. (1971). "Alienation and bureaucracy: The role of participatory administration". *Public Administration Review*, 31(6), 658-664.
- Staats, E. B. (1988). "Public service and the public interest". *Public Administration Review*, 48(2), 601-605.
- Teo, T. S. H., Srivastava, S. C., & Jiang, L. (2008). "Trust and electronic government success: An empirical study". *Journal of Management Information Systems*, 25(3), 99-132.
- Tummers, L.G. (2009). "Policy alienation of public professionals: The development of a scale". *Annual Work Conference Netherlands Institute of Government (NIG)*, 12-13 November, Leiden University: Leiden.
- Turkish Statistical Institute (2017, August). "Labour Force Statistics" Retrieved from: <http://tuikweb.tuik.gov.tr/PreHaberBultenleri.do?id=24633>
- Vandenabeele, W., & Ban, C. (2009). "The impact of public service motivation in an international organization: job satisfaction and organizational commitment in the European Commission". *International Public Service Motivation Conference*, 7-9 June, Bloomington.
- Vandenabeele, W., Brewer, G.A. & Ritz, A. (2014). "Past, present, and future of public service motivation research". *Public Administration*, 92(4), 779-789.
- Verplanken, B., & Holland, R. W. (2002). "Motivated decision making: effects of activation and self-centrality of values on choices and behavior". *Journal of Personality and Social Psychology*, 82(3), 434-447.
- Walsh, J. P. & Dewar, R. D. (1987). "Formalization and the organizational life cycle". *Journal of Management Studies*, 24(3), 215-231.

- Wittmer, D. (1991). "Serving the people or serving for pay: Reward preference among government, hybrid sector, and business managers". *Public Productivity and Management Review*, 14, 369-383.
- Wong, K. K. (2013). "Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS". *Marketing Bulletin*, 24(1), 1-32.
- Zeffane, R. (1994). "Patterns of organizational commitment and perceived management style: A comparison of public and private sector employees". *Human Relations*, 47(8), 977-1010.

IMPACTS OF THE EU'S ANTI-DUMPING AND SAFEGUARD MEASURES ON TURKISH EXPORTS

*Volkan Sezgin**

JEL codes: F10, F12, F13

1. Introduction

During the last two decades, particularly after Turkey's accession negotiations with the EU started in 2004, Turkey and the EU accelerated their partnerships in various fields, especially in trade. EU has been the top export destination for Turkish exporters for many years. Similarly, Turkey is considered as a crucial market for the EU products. According to TUIK data, EU countries accounted for 48.5 percent of Turkey's trade in 2019 while this rate was 50.0 percent in 2018. Germany topped the list of Turkey's major export markets in 2019 with 15.4 billion USD, followed by the UK and Italy with 10.8 billion USD and 9.3 billion USD, respectively. There was a fall in exports to some important EU trading partners in 2019 compared to 2018, but they were not significant: Germany (-4.3 percent), Belgium (-17.7 percent), and UK (-2.1 percent).

Although EU and Turkey have close commercial ties, both partners have not abstained from applying various trade policy actions against each other as we see an increasing trend in the numbers of trade policy investigations initiated (or measures taken) by both sides recently.¹ This might be related with EU and Turkey being among the frequent users of the trade remedies along with the U.S.A., India, China, Indonesia, Egypt, Canada etc.

In this respect, the EU and Turkey prefer using different types of remedies which have direct negative impacts on various sectors against one another. To illustrate it, the EU initiated an antidumping investigation on imports of ferro chromium from Turkey in 2017 and decided to impose a definitive AD measure on imports of Turkey origin pipe fittings in 2013. On the other side, Turkey implemented trade policy actions against imports from EU which include the following: Antidumping duties on imports of polyvinyl chloride and laminated floorings from Germany in 2015, and an antidumping measure on imports of uncolored float glass from Romania in 2013.

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¹ For instance, there is notably a rise in the numbers of restrictive trade policies by the EU targeting Turkish iron and steel exports.

In short, our analysis focuses on trade distorting impacts of EU's trade policy actions on Turkish exports and Turkey's major non-EU trade partners between 2001 and 2015.

The paper first illustrates the literature review on the empirical analysis of the impacts of the AD and SG actions on international trade flows. Section 2 presents the empirical model and a discussion of variable construction and data. The empirical investigation is based on Generalized Method of Moments (GMM) proposed by Arellano and Bond (1991), and the model is originated from the methodology presented by Bown and Crowley (2007). In the last section, we discuss our empirical results, and a conclusion is drawn.

2.Literature Review

Several seminal studies have been carried out in the past with the purpose of identifying distorting impacts of the AD duties by investigating different countries. A high percentage of research conducted in past decades has focused on the problem of usual trade diversion/deflection analysis. In that sense, among the theoretical seminal works, the impact of AD measures by USA concerning Mexican and Japanese of portland cement imports was examined by Cohen-Meidan (2013), and she revealed heterogeneous market effects occurred in the U.S. market. Cohen-Meidan found out that AD duties cause significant price and production effects, but these effects are highly localized and had little impact on more distant U.S. markets.

Some other models focused on the firm and plant level impacts of the trade remedies. For instance, Chandra and Long (2013) focused on firm level data from China to check the impacts of AD duties of the U.S. Some scholars studied effects of trade remedies empirically using a variety of methods for revealing different features of these actions. It was Baylis and Perloff (2010), who investigated the suspension agreement that came out as a result of the AD measures by the U.S. on fresh tomatoes from Mexico by specifying how AD duties can cause unexpected incentives to product shift. As a result of their study, they concluded that both trade diversion (Canada to export more tomatoes to the U.S.) and trade deflection (Mexico to export more tomatoes to Canada) effects occurred following AD. Besides, they revealed that 80% of the direct effect was offset by the indirect trade effects.

Apart from these, Bown and Crowley (2007) empirically examined whether a country's use of an import restricting trade policy distorts a foreign country's exports to third markets. They tested the model that they developed by investigating the effect of the United States' use of such import restrictions on Japanese exports of roughly 4800 products into 37 countries between 1992 and 2001. As a result, they realized that

U.S. restrictions both deflect and depress Japanese export flows to third countries. ² AD measures against Japan leads to a 5-7 percentage increase in Japanese exports of the same product to the average third country market (trade deflection). They also found that the imposition of a U.S. antidumping measure against a third country depresses Japanese trade, as the average U.S. duty imposed on a third country leads to a 5-19% decrease in Japanese exports of that same product to the average third country's market. (Bown and Crowley (2007)).

As far as we know, there are not many major studies on the myriad effects of trade barriers of the EU on Turkish trade. One of the interesting analysis was made by Togan (2015), where he exposes in his research the difficulties that Turkey still faces in eliminating technical barriers to trade with the EU, which persist in areas such as pharmaceuticals, chemicals, food and textiles, all of which lead to the continued use of SG, AD and CV duties. The author lists some of the reasons for the non-elimination of TBTs between Turkey and the EU: the framework of Turkish laws and associated legislation has not been sufficiently harmonized with that of the EU, the enormous adjustment costs arising from the elimination of TBT for the Turkish public sector, and finally the tendency to eliminate TBT only in those sectors where there are comparative advantages. We think that our paper is one of the first papers aiming to empirically examine the impacts of the EU's AD and SG measures on Turkish exports.

3.An Overview of EU's AD and SG applications against Turkey, 2001 - 2015

When an anti-dumping measure is imposed against Turkish products by the EU and no tariffs rise against others, we expect to view a rise in the exports of the other countries into EU market instead of Turkish products and a "trade deflection" effect to occur since Turkish exports will be directed into other countries/markets but not into the EU market. Under these circumstances, Turkish products can be expected to be replaced by some products coming from other exporting countries into the EU market. Besides, if EU decides to implement a trade action against imports from other countries but not Turkey; this time Turkish exports to these other countries will also fall since these countries would not be able to export to the EU; thus, the supplies will be sold domestically causing Turkish exports to fall to the 3rd countries. ³ We should also keep in mind that if EU imposes trade remedies against imports from other countries, but not to Turkey, Turkish exports to the EU might be expected to rise to the EU since the others might

² See Bown and Crowley (2007) for thorough analysis.

³ This is an example of a trade diversion.

experience falls in their shares in the EU market. In addition to this, if EU implements a SG action against the imports from all of the exporting countries, we can anticipate an increase in Turkish exports to the other trade partners countries and in other countries' exports to Turkey, since EU markets will be closed for imports in case of a safeguard.

Table 1 shows the details about EU's three antidumping duties against Turkey origin products within the period of investigation.

Table 1. EU's AD Measures Against Turkey Origin Products, 2001-2015

Year	Country	Harmonized Schedule (HS) Code	Initiation Date	Date of Final Duty	Amount of AD Duty	Type of Duty
2001	Russia, Turkey	731210	05 May 2000	4 Aug. 2001	Russia: 50,7%; Turkey: 31%	Ad val. duty
2002	Turkey, Ukraine	730630	29 June 2001	27 Sep. 2002	Turkey: 6%; Ukraine: 44,1 %	Ad val. duty
2013	Russia, Turkey	730793, 730799	1 Nov. 2011	29 Jan. 2013	Russia: 23,8%, Turkey: 16,7%	Ad val. duty

In addition to AD measures, it is possible to claim that EU's SG actions also restricted Turkish exports to flow into the EU as SG duties are temporary trade measures aiming to relieve the domestic producers from negative impacts of the sudden, recent and sharp import surges.

EU imposed 93 antidumping actions and 3 safeguard actions in 2001-2015. Table 2 illustrates the safeguard duties that EU implemented in this period which has also impressions on Turkish trade.

Table 2. SG Duties Applied by the EU,
2001-2015

Year	HS Code	Initiation Date	Date of Expi.	Type of SG Measure	Name of the Product
2002	720810, 720825, 720826, 720827, 720836, 720837, 720838, 720839	28 Mar. 2002	28 Jan. 2003	Tariff Quotas	Hot Colled Roils
2004	030212, 030311, 030319, 030322, 030410, 030420	06 Mar. 2004	23 Apr. 2005	Tariff Quotas and Additional Duties	Salmon
2005	081110	06 Jul. 2005	4 Apr. 2006	Tariff Quotas and Additional Duties	Strawberries

4.Variable Construction and Data

We empirically calculate the impacts of EU's AD and SG actions on Turkish trade flows using a GMM approach.

In order to do this, we firstly compiled information concerning EU's AD and SG actions for 2001-2015 using European Commission's (DG Trade) website and Eur-Lex database. Our estimates use data on the country-specific, trade-weighted average of the antidumping duty in the year in which the antidumping measure was imposed. Eur-Lex provided us the details about the trade remedies including the date of the initiation of the investigations and definitive measures taken, HS codes of the products subject to measures, countries/firms under investigation, types of the measures etc.

Our endogenous variable for the empirical analysis is the EU's imports from Turkey. Apart from that, we used various variables like trade openness,⁴ real bilateral Turkish Lira currency rates, annual GDP growth rates, and industry level variables such as annual growth of average wage of manufacturing industry of Turkey. We construct real bilateral Turkish Lira rate using data supplied by the Central Bank of Turkey. Data on real GDP, real aggregate imports, and real aggregate exports come OECD and TUIK.

⁴ Openness is defined as the sum of real aggregate imports and exports divided by real GDP. For some countries, real aggregate import and export series were not available. We expect a positive sign on its coefficient.

For the antidumping policies, we interact a variable indicating that the policy was imposed in year t with the level of the antidumping duty that is imposed, to help control for the heterogeneity in duties imposed across exporters and across investigations.⁵

Annual data on the nominal value of imports into the EU for roughly 2100 6-digit HS products are compiled from Turkish Statistical Institute's (TUIK) database. We collected data about Turkish exports from Turkish Statistical Institute's Data Bank. We excluded all the partner countries, which constitute less than 1% of Turkish exports by the end of 2014, from our analysis and we focused on remaining 17 countries. We finally decided to use 11 selected countries for our empirical analysis, where we considered 28 EU countries as a single market. The details about trade shares are given in Table 3 below.

Table 3. Turkey's Top 17 Export Partners, 2014

Rank	Code	Country	% in Total Exports of Turkey in 2014
1	100	EU	37.3
2	612	Iraq	6.9
3	400	USA	4.0
4	75	Russia	3.8
5	647	UAE	3.0
6	616	Iran	2.5
7	220	Egypt	2.1
8	39	Switzerland	2.0
9	632	Saudi Arabia	1.9
10	624	Israel	1.9
11	78	Azerbaijan	1.8
12	720	China	1.8
13	80	Turkmenistan	1.4
14	208	Algeria	1.3
15	216	Libya	1.3

⁵ Following a similar argument raised by Bown and Crowley (2007).

16	608	Syria	1.1
17	72	Ukraine	1.1

Among this list, we selected 5 major export partners of Turkey whose exports had been subject to EU's AD duties between 2001 and 2015 for our empirical analysis: Egypt, Saudi Arabia, USA, Russia and Ukraine. The complete list of trade remedies imposed by the EU against imports of these countries in 2001-2015 period is demonstrated at Table 4.

Table 4. EU's Trade Policy Actions Against Selected Countries, 2001-2015

Year	Country	HS Code	Initiati on Date	Date of Final Duty	AD Duty	Type of Duty
2001	Russia, Turkey	731210	05 May 2000	4 Aug. 2001	Russia: 50,7%; Turkey: 31%	Ad val. Duty
2002	Russia	730793, 730799	1 June 2001	24 Aug. 2002	43,3%	Ad val. Duty
2002	Ukraine	310210	21 Oct. 2000	19 Jan. 2002	16,84 Euro/Ton nes	Specific duty
2002	Turkey, Ukraine	730630	29 June 2001	27 Sept. 2002	Turkey: 6%; Ukraine: 44,1 %	Ad val. Duty
2003	Russia	280469	12 Oct. 2002	24 Dec. 2003	23,6%	Ad val. Duty
2005	USA, Russia	722511, 722611	28 May 2004	27 Aug. 2005	USA: 37,8%; Russia: 11,5%	Ad val. Duty
2005	Saudi Arabia	550320	19 Dec. 2003	13 Aug. 2005	20,9%	Ad val. Duty
2005	Russia	390461	9 Sep. 2004	8 Dec. 2005	36,6%	Ad val. Duty
2005	USA	293369, 380840	10 July 2004	7 Oct. 2005	25,0%	Ad val. Duty
2006	Russia, Ukraine	730411, 730419, 730423,	31 Mar. 2005	29 June 2006	Russia: 35,8%;	Ad val. Duty

		730429, 730431, 730439, 730451, 730459			Ukraine: 25,7%	
2007	Ukraine	392490, 442190, 732393, 732399, 851679, 851690	4 Feb. 2006	26 April 2007	9,9%	Ad val. Duty
2007	USA	283340, 284290	13 July 2006	11 Oct. 2007	39%	Ad val. Duty
2008	Egypt, Russia	720221, 720229	30 Nov. 2006	28 Feb. 2008	Egypt: 18%; Russia: 22,7%	Ad val. Duty
2008	Russia	730630	26 Sep. 2007	19 Dec. 2008	Russia: 20,5%; Ukraine: 44,1%	Ad val. Duty
2009	USA	151620, 151800, 271019, 382490	13 June 2008	10 July 2009	EUR per tonne net: 172,2	Specific duty
2013	Russia, Turkey	730793, 730799	1 Nov. 2011	29 Jan. 2013	Russia: 23,8%, Turkey: 16,7%	Ad val. Duty
2013	USA	220710, 220720, 220890, 271012, 381400, 382000, 382490	25 Nov. 2011	22 Feb. 2013	EUR 62,3 per tonne net	Specific Duty
2015	Russia, USA	722511, 722611	14 Aug. 2014	30 Oct. 2015	Russia: 21,6%; USA: 22%	Ad val. Duty
2015	Russia	760711	8 Oct. 2014	18 Dec. 2015	12,2%	Ad val. Duty

In addition to this, we specified 5 countries whose exports were not subject to any EU trade policy actions during specified period (the list given at Table 3). These countries are Iran, Switzerland, Israel, Algeria, Syria. ⁶

We tested our model by investigating the effect of the EU's use of such import restrictions on Turkish exports into 11 countries (including the EU as one country) between 2001 and 2015, and we also analyzed whether the trade remedies by the EU on different countries depress and deflect Turkish exports in particular.

5.Methodology, Empirical Model and Estimation

GMM is used in order to estimate the following empirical model:

$$\Delta \ln (vm_{iht}) = \beta_1' \Delta \ln (Y_t) + \beta_2' \Delta \ln (Y_{it}) + \beta_3' \Delta \ln (e_{it}) + \beta_4' \Delta (\tau_{ht}) + \beta_5' \Delta (\tau_{zht}) + \beta_6' \Delta \ln (c_{kt}) + \beta_7' \Delta \ln (vm_{iht-1}) + \Delta \varepsilon_{iht}$$

We base our study on Turkish exports to the EU. In the equation, *vm* shows the value of imports, *z* depicts other countries, *i* denotes the EU, *h* denotes a 6-digit HS product subject to trade remedies, and *t* shows the years.

To clarify, *vm_{iht}* denotes the value of imports from Turkey of *h* into Europe at time *t* while *Y_t* denotes Turkey's national income, *Y_{it}* denotes EU's national income (an import-demand shifter) and *e_{it}* is the exchange rate between the Turkish Lira and the Euro. The variable *τ_{ht}* designates EU's trade policy against Turkey and *τ_{zht}* captures EU trade policy against another importing country *z*.

Turkey's industry *k* cost variables are denoted by *c_{kt}*. *β*'s are the parameters to be estimated and *ε_{iht}* is the error term. The index *k* denotes an industry aggregate at the 3-digit ISIC level.

Every trading good is denoted by a 6-digit HS code, which constitutes the cross-sectional dimension of our panel, while years constitute the time-series dimension of our panel. However, our dataset contained one more dimension – countries which didn't fit into standard two-dimensional panel. To solve this issue, we opted for the pairwise regressions – we took two countries at a time (EU and one of the third countries from Table 3) and analyzed how antidumping and safeguard measures affected the trade of all the involved goods.

⁶ We focused on selected countries for our study. For instance, we decided to exclude China for the goods of interest, thus no exports to China from Turkey have been taken into consideration. This creates a limitation on our results and approach, so a further investigation is required for better results.

Furthermore, we use prefixes “ad” with country codes to denote EU antidumping duties against countries and “exp” with country codes to denote Turkish exports to countries. Therefore, our main variable of interest – EU imports from Turkey – is depicted as “exp100”.⁷ Moreover, we gave Turkey the code 900, and our main exogeneous variable – EU duties against Turkey – is denoted by “ad900”. Lastly, we took the logarithmic forms for the sake of our analysis.⁸

We use two measures of productivity changes for Turkish manufacturing industries: the growth of the average wage and the growth of value-added per worker. We expect the sign on both productivity measures to be positive. Turkish manufacturing industry figures at the 3-digit ISIC (Rev. 2) level are retrieved from TUIK.

Among top 17 export partners of Turkey given, EU didn’t apply any antidumping duties on UAE, Syria, Libya, Algeria, Turkmenistan, Azerbaijan, Israel, Switzerland and Iraq for the time period of interest. On the other hand, EU imposed AD measures from the products originating from Ukraine, Russia, Saudi Arabia, Egypt, and the U.S. In line with Bown et al. (2007), we performed Arellano-Bond regressions of logarithms of EU imports from Turkey (“exp100”) and 3rd country imports from Turkey (“expXXX”) on anti-dumping and safeguarding duties, and macroeconomic control variables such as GDP, trade openness and real bilateral exchange rates. We performed pairwise analyses for the remaining countries.

Table 5. Arellano-Bond Regression on EU Imports from Turkey

lnexp100	Ukraine (72)	Saudi Arabia (632)	Egypt (220)	Russia (75)	USA (400)
L1.	0.0760588* (0.0071666)	0.0941694* (0.0068437)	0.1022464* (0.0065053)	0.0905509* (0.0071624)	0.0832284* (0.0061854)
lnaugdp	4.575223* (0.3292987)	3.844632* (0.2794839)	3.27037* (0.3230623)	4.11426* (0.3568158)	3.959773* (0.2765815)
Lntrgdp	-1.096148* (0.1483587)	-0.808415* (0.112442)	- 0.5787556* (0.1189308)	- 0.8405415* (0.1352831)	-0.89249* (0.1224997)

⁷ Since EU’s imports from TR are equal TR’s exports to the EU.

⁸ Summary of the data and the Stata codes are available upon request.

Intropen	0.2571913 (0.1463571)	0.1083094 (0.1221437)	0.162063 (0.127235)	-0.0323678 (0.127265)	0.1844363 (0.1221458)
ad900	- 0.8522216* (0.5806662)	-0.7458* (0.4999917)	-1.068605* (0.7391467)	-2.134624* (2.477133)	-0.884247* (0.5177864)
adXXX	-3.173574* (0.5095115)	0.1992302* (0.2180275)	-1.534902* (0.5276881)	-2.402917* (0.2889399)	0.2864839* (0.1621284)
Sg	- 0.4255098* (0.1968955)	- 0.3027101* (0.2012732)	- 0.1345539* (0.1841878)	- 0.1965336* (0.1753415)	- 0.3727196* (0.1950889)
_cons	-95.6047 (6.296647)	-81.151 (5.909164)	-70.39945 (6.715134)	-87.88988 (7.410938)	-82.48292 (5.577725)

Table 5 shows the trade depression – increase in EU’s antidumping duties against Turkey and/or safeguards against all countries causes decline in Turkish exports to the EU. We found out that to be the case for all the relevant major trading partners as well. Concerning the antidumping duties against other countries, we see that this effects Turkish exports to the EU in various ways, depending on country.

We performed a similar analysis for some other trading partners of Turkey, which are Syria, Algeria, Israel, Iran, Switzerland and considered the effects on trade with those countries. Table 6 shows the continuation of the same regression and it confirms our findings at Table 5 – an application of AD and/or SG actions by the EU against Turkey origin products, decreases trade to EU.

Table 6. Arellano-Bond Regression on EU Imports from Turkey (ctd)

Variable	Syria (608)	Algeria (208)	Israel (624)	Switzerlan d (39)	Iran (616)
L1.	0.057214 42	0.0931708 7	0.0639509 9	0.0953773 4	0.0830152 7

Se	- 0.007704 4	0.0061674 8	0.0069497 5	0.0069110 2	0.0059377 5
Lneugdp	3.7148911	3.7166453	3.6683155	3.7703084	3.6978874
Se	0.317922 81	0.3128121 8	0.3239289 4	0.2800461 2	0.3945751 1
Lntrgdp	- 0.740432 68	- 0.7922677 3	- 0.7522939 6	- 0.8158818 5	- 0.7263426 8
Se	0.134971 8	0.1285403 6	0.1363840 6	0.1231853 2	0.1540760 3
Lntropen	0.136171 82	0.1667833 2	0.1715217 9	0.1592444 2	0.0981539 7
Se	0.141271 4	0.1256225 9	0.1347127	0.1274903 7	0.1309238 4
ad900	- 1.422723 2	- 0.9325863 1	- 0.9984833 9	- 0.8611373 5	-1.162368
Se	0.763940 4	0.5754429 4	0.5360152 2	0.5325418 6	0.7922823 2
Sg	- 0.375606 36	- 0.4011990 1	- 0.3639708 2	- 0.4101081 6	- 0.2207766 5
Se	0.183930 53	0.1918501	0.1883571 9	0.1937900 5	0.1789486 2
_cons	- 78.64941 9	-77.927581	-77.137561	-78.900135	-78.738503
Se	6.375336 9	6.3229296	6.452079	5.5156104	7.9419095

Table 7 shows the findings of the regression analysis on the exports to 3rd countries. Table 6 demonstrates that trade deflection existence. When EU applied antidumping duties against Turkey origin goods, Turkish exports to its relevant trading partners, which are not targeted

by the EU through trade remedies, increase. All our findings are statistically significant at 10%.⁹

Table 7. Arellano Bond Regression on Turkish Exports to 3rdCountries

expXXX	Syria (608)	Algeria (208)	Israel (624)	Switzerland (39)	Iran (616)
L1.	0.116245 (0.006189)	0.081639 (0.011574)	0.136459 (0.0041)	0.107729 (0.0073443)	0.093959 (0.018539)
lnuegdp	4.81119 (0.612270)	-5.04459 (0.553173)	-2.56558 (0.414055)	-5.43562 (0.308784)	8.70990 (1.25348)
lntrgdp	-0.72706 (0.253925)	3.36213 (0.257377)	1.45537 (0.154132)	3.00450 (0.110899)	-2.10781 (0.503001)
lnrexch	2.83417 (0.150316)	2.46611 (0.271055)	-0.060762 (0.103704)	2.0074 (0.141424)	0.886860 (0.349349)
lntropen	-4.38776 (0.094370)	-3.43897 (0.187356)	-0.587516 (0.103741)	-0.664642 (0.099825)	2.29018 (0.263995)
ad900	0.034447* (0.876265)	1.77058* (1.654555)	0.854899* (0.317701)	17.0049* (2.23527)	1.4483* (0.310891)
sg	-	-	-1.46419 (0.199420)	-0.159019 (0.1261)	-
_cons	-112.024 (11.42)	72.8070 (10.00)	50.8360 (8.748)	85.3386 (6.6797)	-208.439 (24.16)

6. Conclusion

In contrast to the strong economic ties, EU - Turkey trade relations continue to be tested by various trade disputes including applications of the trade remedies in the last decades. This paper empirically examines whether a country's use of a trade remedy distorts a foreign country's exports. To answer this question, we match data on EU's use of AD and SG actions over the 2001-2015 period to Turkish product-level exports to the third countries. We find evidence that EU trade remedies both deflect and depress Turkish exports.

Our findings suggest that there is a statistically significant evidence that both trade frictions occur for Turkish exports following EU's trade

⁹ In table 6, coefficients for trade openness are statistically insignificant, this is the reason behind their negative sign, but this is not our focus. Other coefficients are all significant.

policy actions. One thing to point out is that, obviously, trade deflection doesn't occur for all of the trading partners, because there are some other factors which we didn't consider in this model – like geographical closeness, other countries' all relevant macroeconomic indicators, and deflection among the 3rd countries. However, we still found statistical significance for some of the major trade partners.

Our results on the “deflection” and “depression” of Turkish exports vary substantially across importing countries. There are some limitations of our approach and results as well. First, we focused on the export response of only `one EU trading partner` but we didn't consider country level data from different members of the EU. Furthermore, we are less confident in our results regarding the impact of safeguard policies, as there are relatively few safeguard observations in our dataset like Bown and Crowley (2007). We focused on selected countries for our study which might create a limitation on our results and approach, so a further investigation is required for better results.

References

- ARELLANO, M., BOND, S., (1991), “Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations”, *Review of Economic Studies*, Vol. 58, pp. 277-297.
- BAGWELL, K., STAIGER, R.W., (1999), “An Economic Theory of GATT”, *American Economic Review*, Vol. 89, pp. 215-248.
- BAYLIS, K., PERLOFF J.M., (2010), "Trade diversion from tomato suspension agreements", *Canadian Journal of Economics*, Canadian Economics Association, Vol. 43(1), pp. 127-151.
- BLONIGEN, B.A., PRUSA, T.J., (2004), Antidumping. in: Harrigan, J., Choi, E.K., (Eds.), *Handbook of International Trade*, Vol. I. Blackwell, Oxford, pp. 251-284.
- BOND, E.W., SYROPOLOUS, C., (1996), “The Size of Trading Blocs: Market Power and World Welfare Effects”, *Journal of International Economics*, Vol. 40, pp. 411-437.
- BOWN, C. P., (2002), “Why Are Safeguards Under the WTO so Unpopular?”, *World Trade Review*, Vol. 1(1), pp. 47–62.
- BOWN, Chad P., (2011), “Taking Stock of Antidumping, Safeguards and Countervailing Duties 1990-2009”, *The World Economy*, Vol. 34(12), pp. 1955-1998.
- BOWN, Chad P., CROWLEY, M. A., (2007), "Trade deflection and trade depression", *Journal of International Economics*, Vol. 72(1), pp. 176-201.

- BOWN, Chad P., CROWLEY, M.A., (2005), “Safeguards”, in: Macrory, P., Appleton, A., Plummer, M. (Eds.), *The World Trade Organization Legal, Economic and Political Analysis*, Vol. II. Springer, pp. 43-66.
- CHANDRA, P., LONG C., (2013), “VAT Rebates and Export Performance in China: Firm-level Evidence”, *Journal of Public Economics*, Vol. 102, pp. 13–22.
- CLAUSING, K.A., (2001), “Trade Creation and Trade Diversion in the Canada - United States Free Trade Agreement”, *Canadian Journal of Economics*, Vol. 34, pp. 677-696.
- COHEN-MEIDAN, M., (2013), “The Heterogeneous Effects of Trade Protection: A Study of U.S. Antidumping Duties on Portland Cement”, *Review of Industrial Organization* (Special Issue: Antidumping and Industrial Organization), Vol. 42(4), pp. 369–394
- EUROPEAN UNION, (2002), “Proposed EU Steel Safeguard Measures”, *EU Press release MEMO/02/67*, 25 March.
- EUR-LEX, *EU's Official Journal*, Notices on AD and SG Duties, (2001-2015), Available at: <https://eur-lex.europa.eu/homepage.html?locale=en>
- EUROSTAT, *Statistics on International Trade*, Available at: <https://ec.europa.eu/eurostat/web/international-trade-in-goods/overview>
- INTERNATIONAL MONETARY FUND, (2017-2018), *International Financial Statistics*, Database.
- MIRANDA, J., TORRES, R.A., RUIZ, M., (1998), “The International Use of Antidumping: 1987-1997”, *Journal of World Trade*, Vol. 32, pp. 5-71.
- ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, (2017 - 2018), *OECD Main Economic Indicators*.
- PRUSA, T.J., (1997), The Trade Effects of US Antidumping Actions in: Feenstra, R.C. (Ed.), *The Effects of US Trade Protection and Promotion Policies*, University of Chicago Press, Chicago.
- PRUSA, T.J., (2001), “On the Spread and Impact of Anti-Dumping”, *Canadian Journal of Economics*, Vol. 34, pp. 591-611
- PRUSA, T.J., SKEATH, S., (2002), “The Economic and Strategic Motives for Antidumping Filings”, *Weltwirtschaftliches Archiv*, Vol. 138, pp. 389-413.

- TOGAN, S., (2015), “Technical Barriers to Trade: The case of Turkey and the European Union”, *Journal of Economic Integration*, Center for Economic Integration, Sejong University, Vol. 30, pp. 121–148.
- TURKISH STATISTICAL INSTITUTE (TUIK), (2019), *Statistics by Theme*, Database.
- TUIK, (2018), *Foreign Trade Statistics*. Ankara: Turkiye Istatistik Kurumu. Available at:
http://www.tuik.gov.tr/PreTablo.do?alt_id=1046.
- UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT, *UNCTAD's various issues*. Trade Analysis and Information System (TRAINS)
- WORLD TRADE ORGANIZATION, (2002-2015), *Reports for 2002-2015 of the Committees on Safeguards and Anti-Dumping to the Council for Trade in Goods*.

FOOD SECTOR IN TURKEY DURING COVID-19 PANDEMIC

*Yılmaz Toktaş**

Introduction

Through pandemic outbreaks in recent years such as SARS, Ebola, MERS and finally Covid-19, we have come to understand that pandemics are among the most important threats to the world. The immensity of the new threat is due to its rapid spreading. Upon its first identification in China on January 3rd, the virus has affected more than 210 countries in less than 3 months' time and continues to spread. When deaths began to occur due to the novel coronavirus, the world has initiated researches in order to develop a vaccine and medication to cure the pandemic. Among several essential measures taken against the virus, social distancing and isolation at home are considered the most important. Although they are enforced at various levels of strictness in the major part of the world, lockdowns are affecting human behaviours on a global scale. These lockdowns are causing changes in the household consumption in terms of amount and form. The fact that during the lockdown people stay at home and are allowed to leave their homes only for essential food shopping has directly affected the form and volume of the consumption. It is interesting to take into consideration these changes in human behaviour in the long term. On the other hand, lockdowns have caused an increase in energy and material usage (Criteo, 2020; WHO, 2020).

The spread of diseases such as SARS-CoV-2 and Covid-19 has had an unprecedented impact on all food markets including fruit and vegetable markets. Producers were accustomed to work in accordance with Just in Time (JIT) principle and provide the demanded amount of goods at the demanded time. Empty shelves in supermarkets are due to the fact that supermarkets do not store additional food products in their facilities. Food products are delivered when requested and are stored in storages far from supermarkets. When products are purchased in higher amounts than usual, supermarkets do not fill up the shelves until the next delivery. However, retailers have grasped the importance of having the capability of stocking goods in terms of both supply and demand (Price, 2020; Richards and Rickard, 2020: 1-2). We have observed that Covid-19 has significantly changed the household expenditure. In general, food expenses have significantly increased due to the attempt of stocking essential goods and the expectation that retailers cannot be preserved. In many countries, a distinctive demand shock has urged panic-buying or hoarding behaviours

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in consumers. Even at the earlier stages of the Covid-19 pandemic, supermarkets' shelves ran out of key food and non-food products including pasta, rice, canned products, flour, frozen foods, bottled water, and hand sanitizers. Food expenses increased by 4% per capita in the US, in comparison with February 2019. Furthermore, as the household became indebted to stock goods, credit card spending has seen a surge and began to radically alter their typical spending across a number of major categories (Baker, Farrokhnia, Meyer, Pagel, & Yannelis, 2020: 1). A negative supply shock may trigger a lack of demand, which can cause a recession in production and employment greater than the shock itself. Temporary negative supply shocks such as the one caused by this type of pandemic can reduce production and employment (Guerrieri, Lorenzoni, Straub, & Werning, 2020: 1-2). While food supply chains rapidly adapt to the demand shocks due to panic-buying, it is feared that a supply-related problem caused by the interruption of transportation and supply chains as well as lack of potential labour force could turn into a serious issue in case the effects of the pandemic last (Hobbs, 2020: 2). Provided that central banks continue with their monetary incentive policies aimed at supporting the demand, eventually the demand will surpass the potential output (Dietrich, Keuster, Müller, & Schoenle, 2020: 26; FRED, 2020).

Although 2019-2020 coronavirus disease (Covid-19) is a public health problem, the socio-economic effects of the measures taken against it cause certain problems and consequences as well. In a study carried out on the consumers in Tunisia which measured the consumers' behaviours regarding food consumption and food waste, it is found that, along with their grocery shopping behaviours, their food waste behaviours have dramatically changed. The study's other findings suggest that the consumers are careful about waste, and that the main factors affecting food waste are cooking in excessive amounts, unsuitable storing, and excessive buying (Jribi, Ismail, Doggui, & Debbabi, 2020: 3939, 3952). Nielsen Company, in a study carried out on 10 African and Middle Eastern countries, has found that consumers have preferred online shopping more than they did before Covid-19. 40% of consumers in the United Arab Emirates and Saudi Arabia, and 30% of consumers in Qatar, Bahrain, Nigeria and Kenya have stated that during this period they do more online shopping than before (Nielsen, 2020b).

Shopping in food markets is expected to decrease due to the fear of contracting the disease caused by its fast spread and the ways it is transmitted. As evidenced in China, changes are occurring in food-buying and consumption habits. Consumers moved their grocery shopping to online retailers (Chen, Qian and Wen, 2020: 14). As restaurant-based food traffic has decreased, online food orders and deliveries have increased, and more people have begun eating at home. This situation indicates that, as a

result of lockdowns imposed in several parts of the world and the way the disease is spreading, the household members have preferred home-production (FAO, 2020). On a survey carried out on Twitter regarding online food orders with the participation of 10,346 individuals, more than half of the participants (53%) have responded that they will not order food online, 13% have responded that they may order food online, and the remaining 34% have responded that they will continue ordering food online (Jain, 2020).

Nielsen Company's study has identified six thresholds for consumer behaviours related to concerns directly about the Covid-19 pandemic. As the scope of the virus grows wider, governments impose stricter regulations earlier, thus causing consumers' to surpass these thresholds more quickly and even to skip them. These thresholds are given in respective order below (Nielsen, 2020a).

1. Proactive Health-Health Minded Buying: The consumer's interest is focused on products helping maintain overall health and wellness
2. Reactive Health Management: The consumer gives priority to products essential to virus containment, health and public safety. e.g. face masks, hand sanitizers.
3. Pantry preparation: The consumer turns to stockpiling shelf-stable foods and broader assortment of health and safety products; store visits increase; basket sizes grow.
4. Quarantined Living Preparation: Online shopping increases, while store visits are reduced; running out-of-stocks, strains on the supply chain.
5. Restricted Living: Shopping trips are extremely restricted, online fulfilment is limited, price concerns rise as limited stock impacts pricing in some cases.
6. Living A New Normal: People return to daily routines but operate with a renewed cautiousness about health. Permanent shifts in supply chain, the use of e-commerce and hygiene practices.

In the macroeconomic context, there are various views and perspectives on the effect of Covid-19. According to views assuming that supply is internal as supply and demand are intertwined, when workers lose their income due to the shock, they cut down on their expenses and cause a decline in demand. Yet, one of the questions arising from this thought is whether this decline is strong enough to cause a general decline in demand

(Guerrieri et al., 2020: 2). At this point the following questions come up: What are the sectoral differences in the decline of demand? What will be the reaction of food demand which is an essential need indicated in Maslow's hierarchy of needs? In previous financial recessions, a decline in spending and thus in demand was observed due to the decreasing incomes, and, as a result, sales and production decreased. The earlier stages of the Covid-19 pandemic saw a substantial increase in food demand. Generally, food demand does not have a flexible structure. Therefore, the pandemic's effect on food consumption is expected to be limited. Food demand in poor countries is more related to income and in these countries the loss of income-earning opportunities may affect consumption (FAO, 2020).

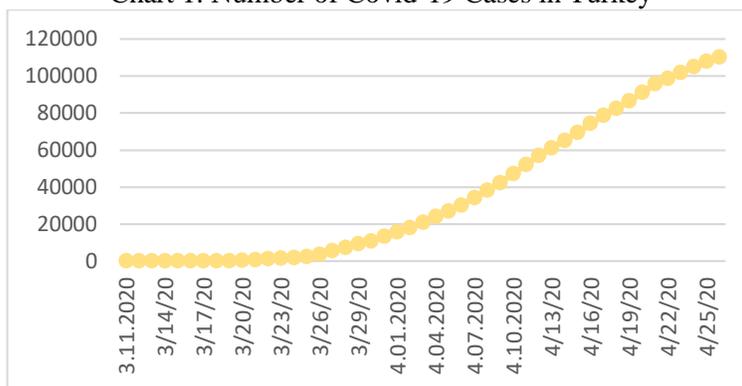
Covid-19's impact on employment will be varying from sector to sector; some sectors will encounter a surge in demand, others a surge in supply. While sectors related to healthcare and social services have seen an increased demand in employment, airline pilots and hotel staff have faced low supply shocks and strong demand shocks. Manual workers such as stonemasons and roofers, for whom it is impossible to work from home, are threatened by a strong supply shock. Professions such as cooks, waiters, and dishwashers are threatened not only by unfavourable demand shocks as the demand for restaurants go down, but also by a supply shock as they cannot work from home (del Rio-Chanona, Mealy, Pichler, Lafond, & Farmer, 2020: 15). Moreover, measures restricting people's free movement which affect the likes of seasonal workers may have an impact on food production and hence may affect market prices globally (FAO 2020).

Measures taken against Covid-19 may have an impact on trade. For instance, in many countries, transportation operations are threatened. Perishable goods such as fresh fruits and vegetables, fish and fish products are facing the risk of getting spoilt due to the strict measures imposed on transportation operations. Factories producing food products may slow down their production process due to the effort they put in keeping up with the health standards (FAO 2020).

1. An Outlook on Covid-19 in Turkey

According to the John Hopkins University database, the first case in Turkey was confirmed on March 11. From then on, the number of Covid-19 cases in Turkey is shown in the chart below.

Chart 1. Number of Covid-19 Cases in Turkey



Source: CSSE (2020)

Covid-19 cases in Turkey increased starting from March 11. As of March 27, a high increase trend in cases started as of March 27 and reached a total of 110130 cases on April 26 which is the last date included on the table.

Table 1. Number of Covid-19 Cases in Turkish Provinces

Province	Number of Cases	Population	Number of Cases per Capita
Adana	241	2,237,940	0.00011
Adiyaman	32	626,465	0.00005
Afyonkarahisar	18	729,483	0.00002
Agri	31	536,199	0.00006
Aksaray	5	416,367	0.00001
Amasya	38	337,800	0.00011
Ankara	860	5,639,076	0.00015
Antalya	102	2,511,700	0.00004
Ardahan	5	97,319	0.00005
Artvin	20	170,875	0.00012
Aydin	20	1,110,972	0.00002
Balikesir	106	1,228,620	0.00009
Bartın	9	198,249	0.00005
Batman	9	608,659	0.00001
Bayburt	23	84,843	0.00027
Bilecik	16	219,427	0.00007
Bingol	10	279,812	0.00004
Bitlis	22	348,115	0.00006

Bolu	19	316,126	0.00006
Burdur	3	270,796	0.00001
Bursa	259	3,056,120	0.00008
Çanakkale	30	542,157	0.00006
Çankırı	25	195,789	0.00013
Corum	35	530,864	0.00007
Denizli	86	1,037,208	0.00008
Diyarbakır	46	1,756,353	0.00003
Düzce	32	392,166	0.00008
Edirne	91	413,903	0.00022
Elazığ	12	591,098	0.00002
Erzincan	15	234,747	0.00006
Erzurum	78	762,062	0.00010
Eskişehir	118	887,475	0.00013
Gaziantep	49	2,069,364	0.00002
Giresun	73	448,400	0.00016
Gümüşhane	12	164,521	0.00007
Hakkari	2	280,991	0.00001
Hatay	32	1,628,894	0.00002
Iğdır	26	199,442	0.00013
Isparta	289	444,914	0.00065
İstanbul	12231	15,519,267	0.00079
İzmir	1105	4,367,251	0.00025
Kahramanmaraş	28	1,154,102	0.00002
Karabük	20	248,458	0.00008
Karaman	14	253,279	0.00006
Kars	18	285,410	0.00006
Kastamonu	26	379,405	0.00007
Kayseri	130	1,407,409	0.00009
Kırıkkale	23	283,017	0.00008
Kırklareli	49	361,836	0.00014
Kırşehir	7	242,938	0.00003
Kilis	17	142,490	0.00012
Kocaeli	500	1,953,035	0.00026
Konya	601	2,232,374	0.00027
Kütahya	5	579,257	0.00001
Malatya	66	800,165	0.00008

Manisa	100	1,440,611	0.00007
Mardin	51	838,778	0.00006
Mersin	17	1,840,425	0.00001
Muğla	46	983,142	0.00005
Muş	14	408,809	0.00003
Nevşehir	27	303,010	0.00009
Niğde	12	362,861	0.00003
Ordu	88	754,198	0.00012
Osmaniye	47	538,759	0.00009
Rize	101	343,212	0.00029
Sakarya	337	1,029,650	0.00033
Samsun	167	1,348,542	0.00012
Siirt	44	330,280	0.00013
Sinop	35	218,243	0.00016
Sivas	80	638,956	0.00013
Şanlıurfa	18	2,073,614	0.00001
Şırnak	9	529,615	0.00002
Tekirdağ	121	1,055,412	0.00011
Tokat	90	612,747	0.00015
Trabzon	87	808,974	0.00011
Tunceli	6	84,660	0.00007
Uşak	40	370,509	0.00011
Van	24	1,136,757	0.00002
Yalova	64	270,976	0.00024
Yozgat	15	421,200	0.00004
Zonguldak	197	596,053	0.00033

Source: Anadolu Agency (2020)

An analysis of Table 1 shows that the provinces with the highest number of cases are İstanbul, İzmir, Ankara, Konya, and Kocaeli. İstanbul remains at the top when the number of cases is compared to the total population.

2. Turkish Economy and Food Sector during Covid-19

Although several economic relief packages are initiated by all world economies in order to tackle the negative effects of both the pandemic and the measures taken against it on economy, it is considered unlikely to prevent the economic recession. General economic data and expectations

regarding the same months' comparison with the previous year are given below in Table 2.

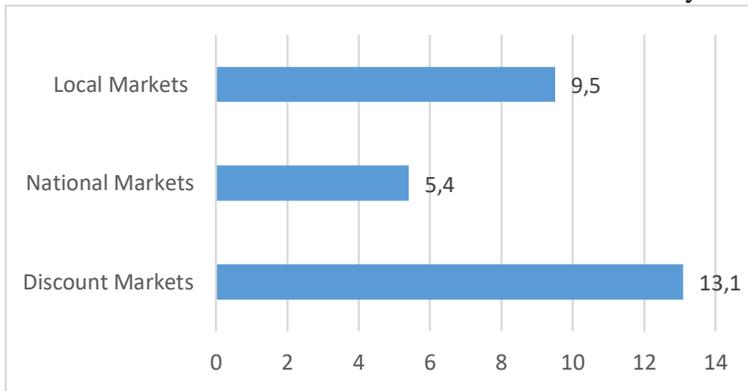
Table 2. General Economic Situation and Expectation

2020	Change Ratio of General Economic Situation (%)	Change Ratio of Household Income Expectation (%)	Change Ratio of Household Income (%)	Change Ratio of Consumer Confidence Index (%)
12-December	1.21	-2.08	2.92	0.001
01-January	-1.74	2.33	-1.47	0.01
02-February	4.78	-3.39	-0.85	-0.01
03-March	0.95	2.31	4.56	-0.02
04-April	15.34	-7.76	-1.84	-0.14

Source: TURKSTAT (2020a)

In April, a substantial decline in household income expectation occurred, which gives the impression that household consumption behaviour in the future will not demonstrate a positive tendency.

Chart 2. Retail Food Sales Share of Markets in Turkey



Source: TPF (2020)

According to the data from the TPF (Turkish Federation of Retailers), an analysis of the market shares of retail food sales in pre-pandemic period shows that markets described as discount markets were in the lead. In the light of the data given in the chart above, local markets hold an important place in total food sales share in Turkey.

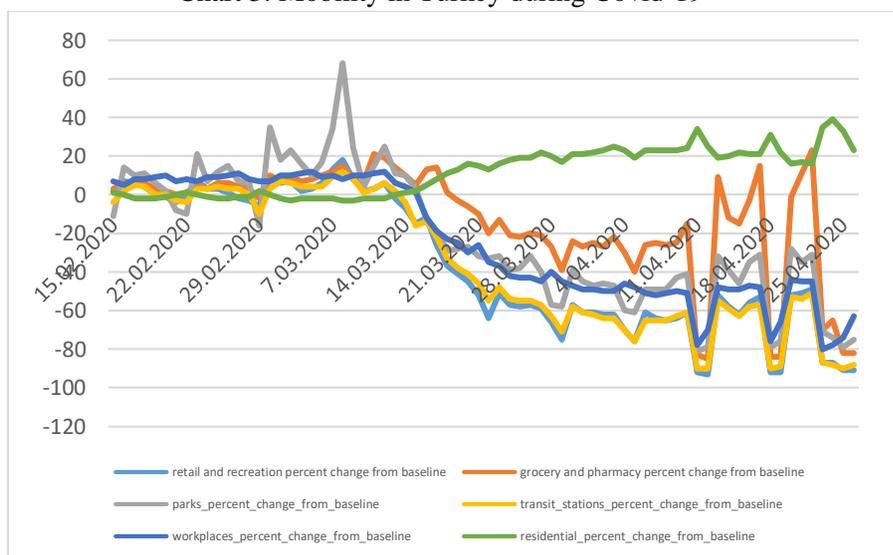
Table 3. National and Discount Markets in Turkey

Ranking	Market Name	Number of Branches	Online Shopping
1	A101 (National-Discount)	9.125	Available
2	BİM (National-Discount)	7.652	Not Available
3	ŞOK (National-Discount)	7.271	Available
4	MİGROS (National)	2.127	Available
5	EKOMİNİ (National-Discount)	1.972	Not Available

Source: Ortakalan (2020)

According to number of branches, A101 ranked at the top with 9.125. A101 followed by BİM with 7.652. The top 5 market chains in Turkey are given in Table 3 above. As of 2019, sanalmarket.com owned by Migros ranked at the top with 83.8 million USD in online sales. Sanalmarket was followed by carrefoursa.com with 27 million USD (Ortakalan, 2020). During the pandemic, some discount markets started online shopping and home delivery services. ŞOK markets started operations for home delivery of online orders from the nearest branch. In many provinces, Migros provides home delivery for online orders by means of its own personnel. It can be said that chain markets are in a leading position in retail shopping in Turkey.

Chart 3. Mobility in Turkey during Covid-19



Source: Google (2020)

When Chart 3 is examined, it is observed that grocery and pharmacy mobility shows a high fluctuation. The main reason behind this fluctuation is the temporary lockdowns imposed on 31 provinces. During these lockdowns, the highest degree of change occurred in grocery and pharmacy mobility, which peaked on April 22, 2020.

Table 4. Consumer Price Index based on Food

	01- January	02-February	03- March	04-April
2019	6.89	0.95	2.6	1.46
2020	4.94	2.47	1.97	2.54

Source: TURKSTAT (2020a)

When consumer price index is analysed on the basis of food, a decline is observed in January and March, while an increase is observed in February and April.

Table 5. Food Prices (TL/KG)

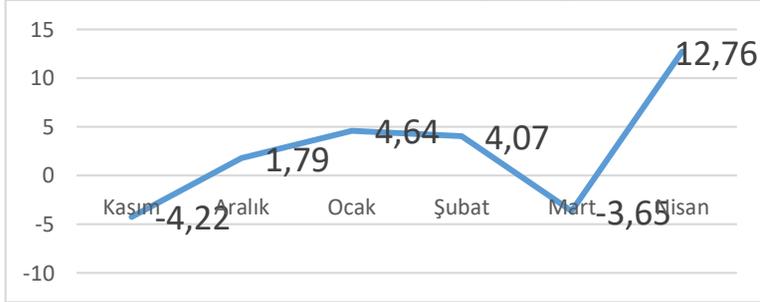
Date	Chic ken	Sug ar	Eg g	Ric e	Wheat Flour	Pas ta	Tomato Paste	Bee f	Bre ad
2019 January	10.84	4.5 6	0. 64	8.4 3	3.51	3.6 6	11.07	40. 57	5
2019 February	10.95	4.5 5	0. 63	8.7 7	3.5	3.6 6	11.09	40. 48	5.0 6
2019 March	11.13	5.4 1	0. 57	8.8 1	3.56	3.7 4	11.06	41. 49	5.0 7
2019 April	12.49	4.6 7	0. 54	8.9 3	3.61	3.8 2	11.1	45. 32	5.1 1
2020 January	11.59	5.3 4	0. 54	9.6 6	3.95	4.8 1	10.54	46. 7	6.0 4
2020 February	11.49	5.3 2	0. 55	9.7 9.7	4.14	4.8 5	10.47	47. 88	6.0 8
2020 March	12.2	5.3 4	0. 49	9.8 6	4.19	4.9 2	10.53	50. 23	6.1
2020 April	12.51	5.4 1	0. 56	10. 23	4.32	4.9 8	10.67	52. 91	6.1 9

Source: TGDF (2020)

During the pandemic, people preferred easily-preserved food products and tended to stock them at the earlier stages of the pandemic. Pasta and wheat flour rank at the top of these foods. When Table 5 is analysed, no excessive price increase is observed in the prices of essential food products. Since the price increases are at a reasonable level, it can be concluded that

there was no supply problem for these products despite the increased demand at this period.

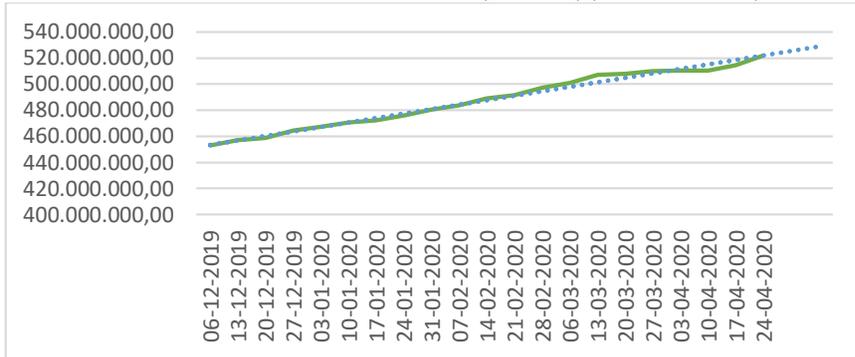
Chart 4. Potential Loaning for the Purpose of Consumption Financing – Seasonal Effects Omitted – Monthly Change Rate (%)



Source: TURKSTAT (2020a)

In order to finance consumption during the Covid-19 pandemic, economic relief packages are announced with the aim of reducing household income loss. Within the scope of Economic Stability Shield Package and as part of the Pandemic Social Support Program, a financial aid of 1000 TL was put into effect by the Ministry of Family, Labour and Social Services (2020). Furthermore, through İŞKUR (Institute of Providing Jobs and Employees), terms and conditions for several applications such as short-term employment allowances have been revised (İŞKUR, 2020). Consumers' tendency towards loaning as a means of financing their consumption decreased in March, but increased substantially in April. It can be said that housing loans saw a very slim increase in April compared to that of March or even that they partially remained stable. It is observed that there was a decrease in car loans in April compared to that of March. Loans categorised as other loans are the ones that saw the most striking change with an increase of 2%. In the light of the data, it can be stated that probability of loaning in order to finance consumption is more directed towards general consumption rather than purchasing houses and cars (TURKSTAT, 2020b).

Chart 5. Total Consumer Loans (TL+YP)(Thousand TL)



Source: TURKSTAT (2020b)

An increase in consumer loans occurred during the period that began with the confirmation of the first Covid-19 case in Turkey. When the results of the survey on bank loans tendency were analysed, the net percentage change over the past three months' period was found to be 36 in housing loans, 30 in car loans, and 20 in other loans. The net percentage change expected in the next three months is 35 in housing loans, 23 in car loans, and 20 in other loans.

Covid-19 is transmitted from person to person when an infected person releases droplets by coughing, sneezing, or talking. These droplets can remain on objects and surfaces such as tables, door handles, and railings. By first touching these surfaces and then touching their eyes, noses or mouths, people can become infected (WHO, 2020). Following the WHO statement that the virus can be transmitted by contact, credit card use as a payment method has increased. The data regarding credit card use in Turkey in the first quarter of 2020 is given below in Table 6.

Table 6. Change in Credit Card Use in 2020 (compared to the same period in the previous year)

Period	Number of Transactions			Total Amount (Million TL)		
	Shopping	Cash Withdrawal	Total	Shopping	Cash Withdrawal	Total
January	14%	6%	14%	22%	14%	21%
February	16%	8%	16%	25%	21%	25%
March	1%	-5%	1%	7%	12%	7%
1st Quarter	10%	3%	10%	17%	16%	17%

Source: BKM (2020)

According to the credit card use data from the Interbank Card Center (BKM), credit card use for shopping and cash withdrawal has increased compared to the same period in the previous year. Many people have preferred contactless payment method while shopping with credit card, and in this period banks have increased the usage limit for contactless payment.

Table 7. Online Credit Card Payments in 2020

Period	Number of Transactions			Total Amount (Million TL)			Percentage of Change	
	Domestic Use of Local and International Credit Cards			Domestic Use of Local and International Credit Cards			Number of Transactions	Total Amount
	Local Credit Card	International Credit Card	Total	Local Credit Card	International Credit Card	Total	Total	Total
January	56929719	1315976	58245695	16177	1824	18002	29%	34%
February	56390324	1255009	57645333	15190	1765	16956	33%	37%
March	57324334	783759	58108093	15514	838	16353	21%	10%

Ist Quarter	170644377	3354744	173999121	46883	4428	51311	28%	26%
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Source: BKM (2020)

During the pandemic, online credit card payments have seen a considerable increase. Measures against the Covid-19 such as social distancing, lockdowns, and self-isolation can be said to have increased online shopping.

Table 8. Monthly Use of Local Credit Cards in Food Sector in 2020

Period	Number of Transactions		Total Amount (Million TL)		Percentage of Change			
	Number of Transactions	Number of Transactions	Total Amount	Total Amount	Number of Transactions	Number of Transactions	Total Amount	Total Amount
	(Debit card)	(Credit Card)	(Debit card)	(Credit card)	(Debit card)	(Credit Card)	(Debit card)	(Credit card)
January	21569718	33777181	1123.63	5284.27	42%	19%	67%	18%
February	21075562	32253698	1194.56	5132.5	48%	23%	91%	24%
March	22433799	34617579	1241.72	5707.25	30%	15%	59%	19%
1st Quarter	65079079	1.01E+08	3559.92	16124.01	39%	19%	71%	20%

Source: BKM (2020)

According to the data from BKM (the Interbank Card Center), a substantial increase is observed in food shopping via credit card in Turkey during the pandemic compared to the previous year. It must also be noted that many groceries and e-commerce websites have begun offering services in food products delivery through mobile applications and thus have had an impact on the increase mentioned above. In this light, we can say that food demand has been met during the pandemic in Turkey in 4 ways:

1. Online shops and mobile applications
2. Websites of chain markets and their mobile applications
3. Social Media (Instagram, Facebook and so on)
4. WhatsApp lines of local markets

Credit card use and cash payment vary among these 4 alternatives. Both payment methods are available in some. However, for food purchases directly from the producer on social media and food orders through local markets' WhatsApp lines, the only option is generally cash payment.

Conclusion

This study has investigated the effect of the Covid-19 pandemic on the food sector in Turkey through currently available data. Unlike other countries, consumers did not encounter with empty supermarket shelves in Turkey during the pandemic, which shows that Turkey did not have an issue in terms of food supply chain. The fact that increases in the prices of essential food products remained within the reasonable range goes on to support that Turkey's food supply chain did not have an issue.

There was an increase in consumers' credit card use for food shopping. There can be two main reasons for this increase. The first main reason is considered to be the raising of contactless credit card payment limit since the Covid-19 is transmitted through contact. The second main reason is online shopping.

The loss of employment and the resulting income loss during the Covid-19 pandemic have caused a negative demand shock on consumption. The impact of this shock on demand is sought to be reduced by the government through several economic support and relief packages. In the early days of the pandemic, demand for storable food products increased. Home production increased, food products formerly provided from markets and bakeries, such as bread, began to be made at home.

It is considered that after the Covid-19 the concept of normal life will be reshaped, and that in this new period new lifestyles will emerge. The normalisation period will take a long time and food consumption at places such as cafes, restaurants, and shopping centres will not reach the former levels for a while due to the social distance rule. In open and covered

markets, which have an important place in food shopping in Turkey, new regulations in food sales may come into effect due to new practices such as the product being picked by the seller.

Turkey did not experience any issues during the pandemic in terms of supply and procurement. However, due to the uncertainty of how the process will proceed and the possibility of a second and a third wave, policies regarding production should be given importance in terms of food safety.

REFERENCES

- Anadolu Agency. (2020), Türkiye'nin İl İl Kovid-19 Vaka Haritası (Turkey Covid-19 Map). Retrieved from <https://www.aa.com.tr/tr/koronavirus/turkiyenin-il-il-kovid-19-vaka-haritasi/1788776>
- BAKER, R. Scott, FARROKHNIA, A. Robert, MEYER, Steffen, PAGEL, Michaela, & YANNELIS, Constantine. (2020), “How does household spending respond to an epidemic? consumption during the 2020 covid-19 pandemic”, pp.1-33. Retrieved from <https://www.nber.org/papers/w26949>
- BKM (the Interbank Card Center). (2020), Dönemsel Bilgiler (Reports). Retrieved from <https://bkm.com.tr/raporlar-ve-yayinlar/donemsel-bilgiler/>
- CHEN, Haiqiang, QIAN, Wenlan, & WEN, Qiang, (2020), “The impact of the COVID-19 pandemic on consumption: Learning from high frequency transaction data”, Retrieved from <https://ssrn.com/abstract=3568574>
- Criteo. (2020), Coronavirus Consumer Trends: Consumer Electronics, Pet Supplies, and More. Retrieved from <https://www.criteo.com/insights/coronavirus-consumer-trends/>
- CSSE, J. H. (2020), 2019 Novel Coronavirus COVID-19 (2019-nCoV) Data, Retrieved from <https://github.com/CSSEGISandData/COVID-19>
- DEL RIO-CHANONA, R. Maria, MEALY, Penny, PICHLER, Anton, LAFOND, François, & FARMER, J. Doyne, (2020), “Supply and demand shocks in the COVID-19 pandemic: An industry and occupation perspective”, *COVID Economics Vetted and Real-Time Papers, Centre for Economic Policy Research Press*, Issue 6, pp.1-38, Retrieved from: <https://cepr.org/content/covid-economics-vetted-and-real-time-papers-0>,
- DIETRICH, M. Alexander, KEUSTER, Keith., MÜLLER, J. Gernot, & SCHOENLE, S. Raphael, (2020), “News and uncertainty about covid-

- 19: Survey evidence and short-run economic impact”, *Federal Reserve Bank of Cleveland Working Paper*, No. 20-12. pp.1-42, Retrieved from <https://doi.org/10.26509/frbc-wp-202012>
- FAO. (2020). Novel Coronavirus (COVID-19), Retrieved from <http://www.fao.org/2019-ncov/q-and-a/impact-on-food-and-agriculture/en/>
- FRED. (2020), Personal consumption expenditures: Food <https://fred.stlouisfed.org/series/DFXARC1M027SBEA>
- GOOGLE. (2020), Google COVID-19 Community Mobility Reports, Retrieved from <https://www.google.com/covid19/mobility/>
- GUERRIERI, Veronica, LORENZONI, Guido, STRAUB, Ludwig, & WERNING, Iván, (2020), “Macroeconomic Implications of COVID-19: Can Negative Supply Shocks Cause Demand Shortages?”, Rep. No. 0898-2937. *National Bureau of Economic Research*, pp.1-36.
- HOBBS, E. Jill, (2020), “Food supply chains during the COVID-19 pandemic”, *Canadian Journal of Agricultural Economics*, pp.1-14. Retrieved from <https://doi.org/10.1111/cjag.12237>
- İŞKUR. (2020), Kısa Çalışma Ödeneği Uygulaması (Short-Term Employment Allowance), Retrieved from <https://www.iskur.gov.tr/isveren/kisa-calisma-odeneği/genel-bilgiler/>
- JAIN, Sidhartha, (2020), “Effect of COVID-19 on Restaurant Industry–How to Cope With Changing Demand. Effect of COVID-19 on Restaurant Industry–How to Cope With Changing Demand”, Retrieved from <https://ssrn.com/abstract=3577764>
- JRIBI, Sarra, ISMAIL, H. Ben, DOGGUI, Darine, & DEBBABI, Hajer, (2020), “COVID-19 virus outbreak lockdown: What impacts on household food wastage?” *Environment, Development and Sustainability*, pp. 3939-3955.
- Ministry of Family, Labour and Social Services. (2020), Pandemi Sosyal Destek Programı (Pandemic Social Support Program). Retrieved from <https://www.ailevecalisma.gov.tr/tr-tr/duyurular/2-milyon-1111-bin-haneyeye-1-000-er-tl-nakdi-destegin-odeme-tarihleri-aciklandi/>
- NIELSEN, (2020a), Covid-19: Tracking The Impact On FMCG, Retail And Media, Retrieved from <https://www.nielsen.com/ca/en/insights/article/2020/covid-19-tracking-the-impact-on-fmcg-and-retail/>
- NIELSEN, (2020b), Overcoming Online Shopping Obstacles Amid Lockdowns In Africa And The Middle East Is Not Only Retailer Driven, Retrieved from

<https://www.nielsen.com/mena/en/insights/article/2020/overcoming-online-shopping-obstacles-amid-lockdowns-in-africa-and-the-middle-east-is-not-only-retailer-driven/>

- ORTAKALAN, (2020), Ulusal ve Discount Zincirler Etkileşimli Araştırması (National and Discount Chains Interactive Research), Retrieved from <https://www.ortakalan.org/bilgi-bankasi>
- PRICE, Catherine, (2020), The UK Food System in the time of Covid-19, Retrieved from <https://discoversociety.org/2020/03/30/the-uk-food-system-in-the-time-of-covid-19/>
- RICHARDS, J. Timothy, & RICKARD, Bradley. (2020), “COVID-19 impact on fruit and vegetable markets”, *Canadian Journal of Agricultural Economics*, pp. 1-17.
- TGDF, (2020), Tüketici Fiyatları (Consumer Price Index), Retrieved from <https://www.tgdf.org.tr/ufe-ve-tufe-verileri/>
- TPF, (2020), Sektörel Bilgiler (Sectoral Informations), Retrieved from <https://www.tpf.com.tr/sektorel-bilgiler/>
- TURKSTAT, (2020a), Tüketici Eğilim İstatistikleri (Consumer Trend Statistics), Retrieved from <https://biruni.tuik.gov.tr/medas/?kn=131&locale=tr>
- TURKSTAT, (2020b), Tüketici Kredileri (Consumer Loans) , Retrieved from <https://evds2.tcmb.gov.tr/index.php/?evds/serieMarket>
- WHO, (2020), Coronavirus disease (COVID-19) Pandemic, Retrieved from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

THE IMPACT OF ICT ON STRATEGIC MANAGEMENT: IN THE CONTEXT OF EVENTS IN TOURISM ORGANIZATIONS

*Gaye Onan**

Introduction

Events are of great importance for both the tourism industry and companies. They are a significant component of the tourism industry because they generate strong social and economic benefits, while they serve as an additional competitive advantage to attract visitors to a destination, they can help urban renewal, foster national identities, and community development. They also provide benefits for the organization include a positive image, inward investment, and income generation (Burgan and Mules, 2001). Therefore, planned events that are managed effectively are a common tool used in achieving strategic goals for the private, public, and not for profit organizations. Across all these sectors, it should be stated that events play a comprehensive role to deliver strategic objectives. As stated by Getz (2008:422), “Events have increasingly been produced, bid on and fostered for strategic reasons ...”.

With the emergence of information and communication technologies (ICT), having easy access to information for everyone everywhere has been one of the most important changes in the global tourism industry in recent years. Companies are increasingly addicted to ICT to manage tourism and events and turn them into affirmative consumer experiences (Gössling, 2017:1024).

Moving from this point, this chapter examines the impact of ICT on the management of events strategically. In order to understand this effect, the concepts of strategy and strategic management must be clearly understood. Therefore, the scope of these two concepts will be explained in detail. Then, the most important and vital stages of the strategic management process, internal and external environment analysis, analysis elements, and the role of ICT at this stage will be discussed. Next, the steps of formulating, selecting, evaluating, and controlling the strategy that will lead the company to success will be explained with the role ICT plays in these stages.

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1. Background

The term “event” has been used “to describe specific rituals, presentations, performances or celebrations that are consciously planned and created to mark special occasions and/or to achieve particular social, cultural or corporate goals and objectives” (Bowdin, 2006).

Event management, on the other hand, is “the applied field of study and area of professional practice devoted to the design, production, and management of planned events, encompassing festivals and other celebrations, entertainment, recreation, political and state, scientific, sport and arts events, those in the domain of business and corporate affairs (including meetings, conventions, fairs, and exhibitions), and those in the private domain (including rites of passage such as weddings and parties, and social events for affinity groups)” (Getz,2008:404).

After the internet emerged in the 1990s, and widespread use since then (Buhalis,1998), information and communication technologies (ICT), which can be recognized as a series of tools, such as especially in hand-held smartphone applications, the internet, wireless, digital cameras, GPS, and user-developed content (Web 2.0), has gained strategic importance in the tourism industry. ICT has become an important strategic weapon that provides competitive advantage especially for tourism companies and event organizations thanks to the important role information they play in defining, promoting, distributing, organizing, and presenting products and services (Poon, 1993; Sheldon 1997). With this feature, ICT, as a strategic weapon, which has a great impact on the strategic management of tourism and event companies, has the capacity to make radical changes in the functioning and structure of organizations, and thus provides great benefits in efficiency, differentiation, cost reduction and processing time (Buhalis, 2000: 54). To provide these benefits, tourism and event companies must have effective strategic management skills.

1.1. What Is Strategy?

One of the most important concepts of management studies is “strategy”. According to some sources, the word strategy is derived from the Greek “strategos” meaning a set of carried out maneuvers to overcome an enemy (Eden and Ackermann,2013:4), which emerged from the combination of “stratos (army) and“ agein (administration) (Çiftçi, 2011: 10). But Andrews (1971) stated that that "strategos" was a former Greek general, and the word was used to tribute his knowledge and art. However, in some sources, it is stated that it is derived from the Latin word "stratos" which means road, line, or river bed (Tosun, 1974:220).

Although there is no consensus on its origin, the word strategy, which has been accepted as a military concept for centuries, was first used in the business world in the 1950s (Ansoff et al., 2018:17) and has been made many definitions since then;

‘the determination of the basic, long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for those goals’ (Chandler, 1962: 13)

“is a major organizational plan for action to reach a major organizational objective” (Higgins and Vincze, 1989:166)

“is a plan, or something equivalent—a direction, a guide or course of action into the future, a path to get from here to there, etc. Strategy is also a pattern, that is, consistency in behavior over time”. (Mintzberg, 1994: 2)

“a pattern of purposes, policies, programs, actions, decisions, or resource allocations that define what an organization is, what it does, and why it does it” (Bryson,1995)

“is understanding an industry structure and dynamics, determining the organization's relative 'position in that industry and taking action to either change the industry's structure or the organization's position to improve organizational results” (Oliver,2001: 7)

Although it has different definitions as seen, these definitions have similar characteristics. The common point of all definitions tells us that strategies are dynamic and looking into the future concept that is compatible with the organization, and its environment. Mintzberg et al. (2002), also proposed a theory of “five P’s” of strategy. He suggested that the term can be used in several ways; a plan, a ploy, a pattern, a position, and a perspective.

Strategy as a plan; It refers to the desired process to take place from beginning to a predetermined finish. It is a designed course of action or a guide to dealing with a situation.

Strategy as a ploy; It is regarded as tactical actions that will be taken to outwit a competitor or opponent. It is generally short-term actions, has limited objectives, and changes in a very short time.

Strategy as a pattern; Strategy occurs as a result of consistent behavior that can be purposeful or spontaneous. Unlike plans and ploys, it is not considered before and “just happens”

Strategy as a position; If the most important issue for the organization is perceived as its relations or positioning to its competitors, its market and

its customers, strategy as a position is appropriate to achieve or maintain a certain position.

Strategy as a perspective; An organization that wants its employees to think in a certain way can use the strategy to create a collective mind, thereby making them achieve success. That is, the strategy can be used to create the personality of the organization.

As events are becoming an increasingly remarkable component for tourism businesses, Bowdin et al. (2006), although say that organizations consider events as key elements in their marketing strategies, but they play a much more comprehensive role in achieving strategic goals (Crowther,2010:228). It has become imperative to establish a clearer link between organizational strategy and events. In order to consistently provide higher standards of event production and to attract more demanding customers, a strategic approach is necessary. The way to do this is through understanding the importance of ICT.

ICT is the driving force of the tourism sector with its advantages. These are; cost (low labor costs and due to increased productivity), market (customer satisfaction, quick response to demand, flexibility in working time, multiple integrated products), and competition (flexibility, business network management, information, strategic tool) (Buhalis, 1998). Thus, ICT has a critical importance for the competitiveness and strategic management of tourism companies.

2. Strategic Management

Strategic management is the process of planning, organizing, directing, coordinating, and controlling the assets and resources of the organization to maintain it has a sustainable competitive advantage, thus ensuring the long-term existence and achieving its goals. In this process, which is managed by the top managers, the ultimate goal is to increase the performance of the firm in the external environment by deciding, implementing, and evaluating the inter-functions that will help the company achieve its goals. Strategic management is a 5 step process. The process starts with, in which an institution develops its strategies, determination of the vision and mission that are embodied as firm-wide goals and objectives. After determining the direction of the company, it continues with the analysis of internal and external factors, planning, implementation of plans, and evaluation of the latest results.

2.1. Developing Mision and Vision

Mission- what an organization does; reveals the cause of the existence and activities of an institution, for what purpose it was established, to

whom it aims to serve, and its privileged aspects from others. It draws an outline to “who we are, what we do, and where we are going”.

Vision- is the whole set of paths and goals the organization must follow in order to be successful in the future. It is the combination of an organization’s mission, objectives, and values. The first task of the manager is to formulate an event vision to determine the direction of the company.

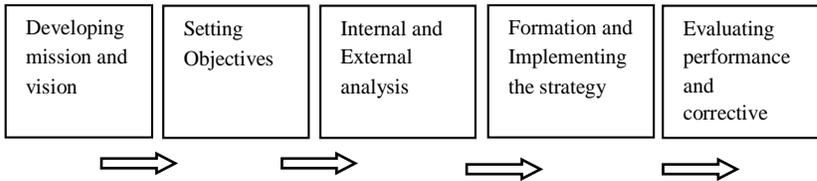


Figure 1: Five Tasks of Strategic Management

Chaneta,2011:18

Managers responsible for developing a strategy should set general goals that need to address several different issues.

2.2. Setting Objectives

Objectives serve as a benchmark for tracking an organization's performance and progress. The purpose of setting goals for an organization is to turn the mission statement into specific performance goals. The most important of all objectives is survival as an ongoing concern. Others depend on the type of organization and the nature of its environment.

The objectives are essential to the success of the business because (Evans,2015:32; Khemesh,2017:13);

- provide a sense of direction,
- provide a standard of measurement and help to make valuations,
- create synergy,
- set priorities,
- project an image of the organization’s style.

To determine the objective of an event, first, it is necessary to clearly assign the type and nature of the event to organize before planning and conducting it. For example, the objective of the event could be to promote culture or art or to increase the sales of the

company. According to Watt (1998) objective of an event must be SMART; “*Specific to the event, Measurable in static terms, Agreed (or achievable) by those involved, Realistic (or relevant) by the resources available, Timed around the event schedule.*” Also, it should be noted that every decision taken during the planning and production process should promote the event objectives.

Basically, the most important objective of a company is to survive as an ongoing concern. Other objectives vary depending on the type, scope of an organization, and its environment (Evans,2015:32). The objectives set should include a short and long term horizon. Short-term objectives reveal the results that the management wants to reach immediately. The sum of the objectives set for each unit and for which the unit managers are responsible should reach the actual objective that the company wants to achieve.

Objectives can be mentioned as corporate, business, or operational. Corporate goals are medium to long-term goals that are determined by senior management, relating to the whole organization. These translate the vision and mission into specific measurable long-term goals. Generally, they are related to economic and social concerns and concern growth and a competitive advantage such as profitability, activity, resource use, market leadership, contribution to employees, technological leadership.

Business objectives, on the other hand, relate to the objectives of the important parts of the overall company (strategic business units-SBU), while operational objectives will, in general, regard to smaller units or teams within each SBU.

After determining the mission, vision, and objectives of the event, the evaluation phase of the resources should be carried out.

2.3. Analysis of Environmental Factors

Environmental analysis, which has a direct impact on the formulation of strategies, is an important stage of the strategic management process. Top management should analyze internal and external factors affecting the business before formulating the strategy.

Internal environment analysis

Internal environment analysis, also called business or microenvironment analysis, is the determination and evaluation of strengths and weaknesses by examining the current situation of the company. This situation arises from the factors that the organization can

control in the internal environment. Strengths are positive aspects that the business can utilize to achieve its goals. Weaknesses are deficiencies that can hinder the success of the business, that is, negative issues that must be overcome.

Internal analysis is based on the resources of an organization that can be combined and developed into competitive capabilities. The resources of a firm can be tangible and intangible.

Although the distinction between tangible and intangible resources is not as clear as it might seem at first glance these definitions can give an idea about them. With a simple definition, a tangible resource can be stated as a resource that can be seen, touched, or felt. Intangible resources reflect the private identity of an organization. It occurs as a result of interactions within individuals outside the company. This interaction reflects and strengthens the network of shared beliefs, values, and commitments between both sides. Figure 2 shows an example of tangible and intangible resources.

These resources can be combined in a variety of different ways, each constituting a different competitive capability. These capabilities are;

- more efficient distribution channels and retail outlets
- to take attention of the consumer through marketing efforts and,
- long-term brand loyalty with customer relationship management

These capabilities, which are the result of a combination of tangible, and intangible resources, are difficult to imitate, and these skills become the core competencies of the firm. The resources, capabilities, and core competencies of an organization and the combination of them are the sources of competitive advantage, and creating value for the consumers.

The outcomes of the analysis of resources, capabilities and core competencies are; the organization determines the need for existing core competencies their quality and resources, decide whether to build new core competencies, identifies potential core competence resources and ensures that they are customer- oriented (Evans, 2015: 90), identify and resolve weak areas to establish future strategies and ensure their successful implementation, to evaluate financial performance and performance of products.

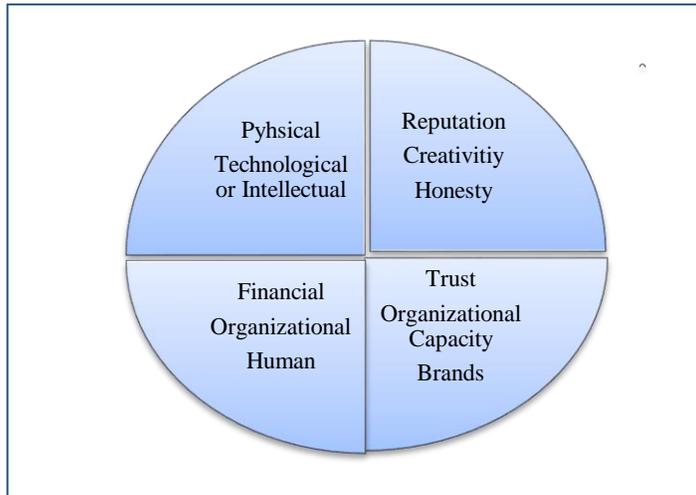


Figure 2: List of Resources

White,2004:239

As a result, internal environment analysis is the process of determining the current state of the firm and, resources and capabilities. It will be revealed by analyzing the resources and capabilities of the company according to the resources and capabilities of the competitors.

External environment analysis

It means analyzing opportunities, threats, or constraints existing in the industry and external environment of the organization. It also can be expressed as a methodology for dealing with external problems that may be difficult to observe or diagnose but are so important that they cannot be ignored. Elements of external environment (sometimes called the broad, general or macroenvironment) analysis consist of variables such as political, economic, social, technological, as well as legal, ecological, demographic, ethical, which are beyond the control of an organization but require analysis to reorganize their corporate and marketing strategy to changing business environments.

External analysis can be handled on two levels: “macro environment” and “close environment”. The macro environment includes several factors that affect not only the organization itself but also all other actors in the industry. These factors, which are mostly expressed by the STEP (or PEST) approach, have been expanded as STEEP from a tourism perspective.

This analysis helps to get a comprehensive view of an organization's current environment so that it can respond to potential threats that are likely

to face current or future and thanks to this analysis an organization can identify the deficiencies so that it can be better positioned than its competitors. The most widely used technique to analyze the external environment.

The most widely used technique to analyze the external environment is STEEP analysis, and the S-T-E-E-P alphabets ('P' interchangeable with 'L') refer to the categories of external impact factors described below.

Socio-demographic factors – Social, cultural, and demographics (age, gender, education), consumer attitudes and opinions, buying patterns.

Technological factors – Innovation level of an organization such as products, communication, Internet, ICT.

Economic Factors – Incomes, taxation regulations, national and international economies and trends, job growth, fiscal and monetary policy.

Ecological and environmental factors - waste management, energy saving, climate change, and pollution

Political (and Legal) Factors - Laws and regulations, trading policies, employment law

Analysis of socio-demographic factors examines the potential impacts of changes in society on company, industry, or the market. Socio-cultural (values, attitudes, and beliefs), demographic, and social structure of the society are included in the analysis.

Analysis of the technological environment aims to reveal the effects of changes and advances in technology on all activities of an organization. Especially thanks to the developments in information and communication technology (ICT), business activities are now better coordinated. Works such as the processing and reporting of the data, which are the result of the operational activities of a company, and performed by mid-level managers, are now performed more effectively using ICT solutions. ICT can lead to faster and more effective results, but it also has consequences such as reducing the number of employees and hence costs. In summary, it is vital for a company to be flexible enough to closely follow the technological advances and changes in the industry in which they operate, to innovate and to adopt new technologies. Because of the adoption and use of technology is an important determinant of competitive advantage (Evans,2015:249).

Analysis of the economic environment focuses on changes in the macro-economy and their impact on business and consumers. The

regulation of a national economy is carried out by two key policy instruments: fiscal policy and monetary policy. These policy tools determine the economic climate in the country where a company competes, as well as the effects of international markets (Evans et al., 2003:161).

The environmental impacts represent the impact of changes and concerns on the physical environment, including both the natural and the built environment, on organizations. Today, most consumers agree on the effects of environmental pollution, climate change, the risk of the nonexistence of natural resources on human life, and therefore the necessity for the protection of natural life.

The political environment, under the direct control or influence of the government, is a part of the macro-environment. Governments have a direct impact on economic policy, international policy, government-owned enterprises, and legislation and regulations. In addition, it creates policy on unemployment, inflation, the balance of payments, and economic growth. Political and legal regulations of the government can change frequently at both national and international levels.

The second level of the external environment, the "close or micro" environment, is a sphere where the organization interacts most often (usually daily). The layers of this sphere can be identified as the main components, are customers, competitors, and suppliers (Evans, 2015:153). ICT approaches can help reduce the negative impact of the microenvironment on the company by providing real-time communication with stakeholders and customers (Gibson and Wong, 2011). In addition, ICT provides many opportunities to establish new networks among event organizers, event agencies, and other stakeholders (Milne et al., 2004).

Any changes in the close environment can affect the organization very quickly. This environment includes impacts of the competitive environment, industry, and markets. The competitive environment consists of the competitors of a company. The number and size of the competitors, the products/services of the competitors, features of products/services, and the competitive advantages of the competitors determine the competitive environment in which the company operates. Industry analysis aims to reveal the nature of competition in the industry and the competitive position of the business. The market analysis includes factors such as local or international markets, the direction of consumer demands, the market share of the company, barriers to entry to the market, and intensity of competition.

It is important for the organization to adapt to its environment and technology. There is a tight connection between the business environment

and the strategy. ICT creates new industries, restructures existing industries, and reshapes the competitive environment in most economic activities. It changes the conditions of competition for almost all businesses. Using ICT, a company can achieve various strategic benefits such as creating new entry barriers, easing supply and decreasing supply costs, increasing cost efficiency, product/service differentiation, using the information as a product, competitive pricing, organizational differentiation, access or restriction to distribution channels and building closer relationships with suppliers and customers (Buhalis,1998:410).

SWOT Analysis

In terms of strategic management, the relationship between the company and its environment focuses on two different factors, external environmental conditions and the capability and resources of the organization. In order to achieve its goals, a harmony between two factors is required for a company. SWOT analysis is used to examine the current situation of the company, identify its strengths and weaknesses, and harmonize them with external environmental conditions. This analysis can be briefly defined as simultaneously examining the internal and external environmental factors of the organization. It would be wrong to call this method a simple situation analysis. With the SWOT analysis, management focuses on causal actions that provide a more dynamic response to several challenges and opportunities that are likely to encounter (Carlsen and Andersson, 2011:85).

Rapid changes in the external environment make the organization to get an opportunity (O) or to face a threat (T). In addition, every organization has strengths (S) and weaknesses (W), which depend on its resources and capabilities. Opportunity can be defined as any situation that the environment offers to the company and can help to achieve its goals. Threat means a new situation that makes it difficult or impossible for the business to achieve its objectives. Strength is that the company is more effective and efficient in any subject than its competitors. Weakness means that the company is less effective and efficient, ie worse than its competitors. An example of implementing a SWOT is shown in Table 1.

Table 1: Sample Swot Analysis Factors

INTERNAL	
<i>Strengths</i>	<i>Weaknesses</i>

<ul style="list-style-type: none"> • Market dominance • Core strengths • Economies of scale • Low-cost position • Leadership and management skills • Financial and cash resources • Operational ability and age of equipment • Innovation processes and results • Organizational structure • Reputation • Service quality 	<ul style="list-style-type: none"> • Few core strengths and low on key skills • Old equipment with higher costs than the competition • Weak finances and poor cash flow • Management skills and leadership lacking • Poor organizational structure • Low quality and reputation • Products not differentiated • Low market share
EXTERNAL	
<i>Opportunities</i>	<i>Threats</i>
<ul style="list-style-type: none"> • New markets and segments • Diversification opportunities • Market growth • Competitor weaknesses • Demographic and social change • Change in the political and economic environment • New take-over or partnership opportunities • Economic upturn • International growth 	<ul style="list-style-type: none"> • New market entrants • Increased competition • Increased pressure from customers and suppliers • Low market growth • Economic downturn • Technological threat • Change in the political or economic environment • Demographic change • New international barriers to trade • Environmental impacts of activities • New destinations

Evans et al.,2003:199

First of all, the aim of a company should be to develop strategies to evaluate opportunities and respond to threats by turning weaknesses into strengths. A strong organization that learns to exploit all suitable opportunities will have the skills and resources to detect and take action against threats that have arisen over time. However, the process of exploitation of opportunities can create strengths. Likewise, every threat can be considered as an opportunity that can cause another strength. Therefore, the final strategic steps in SWOT analysis should be as follows; developing and implementing strategies to convert weaknesses into strengths, evaluate opportunities, and respond to threats.

Developments in ICT create both opportunities and threats for tourism companies, it is important to keep up with these developments by following the trends in technology. In this way, companies can take advantage of technology-oriented opportunities occurring in the external

environment, or they can overcome threats by creating technology-based strategies, such as using technology as a strong core competency.

2.4. Strategy Formulation

The stage of formulating and selecting strategies can be seen as the most important stage of the strategic management process. All the process mentioned so far is based on strategies, foremost internal and external environmental analysis because choosing the right strategies that are suitable for the scope, size, resources, goals, etc. of the company and the correct implementation of these will lead the business to success.

While determining the strategies, with the mentioned analysis phase, the reason for the entity (mission) and the point that the company wants to reach as a result of its activities (vision) must be taken into consideration together. Because the business starts to steer its strategies according to the situation it aims and with the results, it wants to achieve. That is the mission and vision statement direct strategies and make them clear and feasible. However, another issue that needs to be taken into consideration while formulating the strategies is to create them in accordance with the objectives of the company (Göral,2014:205).

Strategy formation and execution is essential for companies to survive, create value, and achieve long-term success. However, today, companies are not sure what the strategy would be and how to formulate a successful strategy in such a dynamic environment. The process of strategy formulation, which is the tool that a company chooses to achieve long-term organizational goals and objectives, consists of three steps (Zafar et al.,2013:17, Evans et al.,2003:201):

- (a) Formulating various options
- (b) Evaluating available options
- (c) Selecting a suitable strategy

Formulating various options

The next step after analyzing the environmental factors is to formulate various options that help the company achieve its goals and objectives. This stage requires creativity.

Evaluating available options

After formulating the options, the evaluation phase of these options is carried out. Factors such as possible success, cost effects, risk, and time are analyzed and then the strategist can decide on the most preferred option.

Selecting a suitable strategy

After all options are evaluated, the most preferred and suitable option should be selected. Strategies should be chosen among some alternatives that will be compatible with the mission and vision, in line with the goals and objectives, in the light of the data obtained as a result of internal and external environmental analysis.

The scale of the operations, scopes, and the way of management of all companies are different from each other. There are various companies consisting of many different departments or units, serving in different geographic regions or operating internationally. This complex nature of organizations reveals several levels of strategic choice. There are three levels of corporate strategy (Evans,2015:319):

- corporate level
- business level
- operational level

Figure 4. shows the hierarchy of the three levels of strategy:

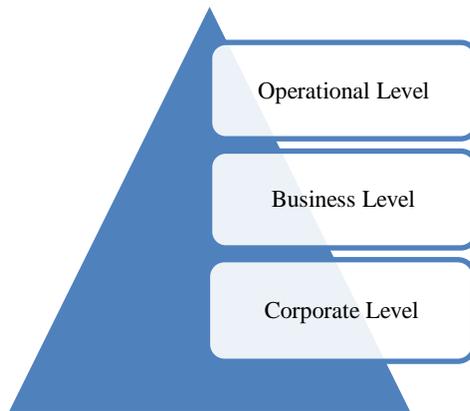


Figure 4. The levels of strategy

Evans,2015:20

Corporate level strategy (also called firm strategies) is related to an organization's overall purpose and scope. Clearly, this strategic choice area is involved in the mission and vision of the organization. This strategy explains the general attitude and direction of the business towards growth. It can be used in three main categories: stability strategy, growth strategy, and retrenchment strategy (Miller and Dess,1993). Strategies at this level are often determined by the organization's senior executives (i.e.CEO).

Business level strategy (also called competitive strategies) usually takes place at the business unit or product level and emphasizes the improvement of the competitiveness and positions of products and services in a particular area or market segment served by the company or business unit. (Dess and Miller 1993). In short, the business level strategy is about how to successfully compete in certain markets. As in the corporate level strategy, it focuses on not only the organization but also the business units. This level of the strategy includes topics such as which products and services to be developed to gain a competitive advantage against competitors, which markets they will be sold in, and how to gain an advantage over competitors. Along with senior management, unit managers are also involved in strategic decisions (Evans,2015:320).

This level of strategies (also called tactics) relates to implementation subjects adopted by a functional area in order to successfully practice the proposed corporate and business unit level strategies. The important point to be emphasized here is that the changes caused by the adoption of corporate and business level strategies and implementation of top management decisions are managed in a way that does not affect the resource efficiency.

Given the competitive advantage of the business, the technology must be connected and adapted to all levels of strategies. ICT has become one of the key elements at all operational, structural, and strategic levels to enable global interaction among suppliers, intermediaries, and consumers for event and tourism companies as in all other sectors (Buhalis and Law, 2008). It can offer significant strategic advantages in every level of a company; corporate level (e.g. decision support systems), business level (e.g. property management systems), and operational (tactical) level (e.g. financial modeling, yield management) (Buhalis and Main, 1998). As in seen it is used in almost every unit and process in a company, and its correct and effective implementation and integration within the corporate strategy provides positive feedback on cost, productivity, efficiency, and service quality.

Strategy and ICT

WTO (1988) declares that “the key to success lies in the quick identification of consumer needs and in reaching potential clients with comprehensive, personalized and up-to-date information”.

ICT would be the most suitable method for companies seeking new methods to meet the increasing sophistication of consumers, their demands to high-quality products and information, and the need to interact with both suppliers and other consumers. In this way, while consumers can access

accurate and reliable information quickly, companies can also save time and decrease costs and prevent consumer discomfort caused by delays.

ICT has critical importance in the competitiveness of the tourism or event organization with its effects on; information flows and management, shapes on consumer behavior, new product development, labor security, training and skills, disintermediation and planning, and participation. Hence, the impacts of ICT for both consumers and event or tourism companies can be expressed as follows (Buhalis,1998; Buhalis and Zoge, 2007) ;

- Increasing the quality of service thanks to rapid information transfer and comfort
- Creating customer satisfaction through the fact that customers have more information and options about the event, destination and facilities and the accuracy and scope of the information provided
- Reducing bureaucracy and paperwork to spend more time on customer service
- Reducing communication and transaction costs
- More time spent on customer service as a result of reduced bureaucracy and paperwork
- Create one-to-one marketing thanks to the personalization of the product and loyalty programs
- Facilitating operational tasks, ensuring that the activation process is carried out faster and without problems
- New and personalized services
- To influence consumer decision-making processes
- Changing consumer perceptions
- Providing quality service through better integration of business departments and units
- Workers become active participants in decision making
- Creates new forms of public participation
- Changing traditional tourism distribution channels
- Changing the role of intermediaries
- Networking between industry elements

ICT is considered as one of the most important factors in achieving the goals and objectives of a company and plays an important role in the mobilization of an organization's strategy. ICT, which can be used as a strategy or a strategic tool, can be applied in at least four different ways: gaining competitive advantage; improving productivity and performance; facilitating new ways of management and organization, and developing new jobs.

ICT that has a strong impact on competition are required to be regulated in accordance with the strategy chosen by the company. However, while changes in technology push the strategies to change, a change in the strategy may lead the technology used to change. As a result, the more a company can make ICT compatible and integrated with the corporate strategy, the highest level of value and speed will gain. In other words, as a strategy, ICT will provide the necessary agility for an organization to achieve its strategic goals in the most appropriate time.

2.5. Implementation, Evaluation, and Control of Strategies

Implementation

It is the stage where the words are turned into action, that is, the formulated strategies are applied. This is one of the most important stages in the strategic management process because, no matter how well the strategies are designed, their implementation may fail. For this reason, it is very important to determine strategies in which implementation processes are clearly determined and appropriate to the needs of the organization.

The key question at this stage is how to turn ideas into reality and make changes. Given the resistance of people to change, activities such as identifying the basic resources and capabilities necessary for the implementation of the strategy, adapting the organizational structure of the organization to change, and taking measures to get over the change process without resistance are important. It is necessary to plan the distribution of resources and capabilities to implement the strategy, to establish a system of indicators and to manage the strategic change process to monitor the plan properly (Planellas, 2013:10).

In order to achieve the objectives of a strategy and to be successfully implemented, it is necessary to focus on five Cs as the basic conditions for separate units in business to work together (White, 2004: 619).

Coordination: Coordination between different stakeholders, between different organizational levels and between different internal units within the business must be ensured at every step of the process of creating and implementing a strategy.

Communication: Like coordination, communication is a two-way process and involves repeated interaction. The important point here is that if information transfer affects the strategy, it is necessary to suppress and encourage the flow of information, and there should be incentives for the transfer of correct and appropriate information.

Command: Command is passed downward to reflect the authority hierarchy that characterizes each organization. Often the command is related to attempts to ensure coordination. It should be given rarely and only when absolutely necessary to resolve a crisis or a particular conflict.

Control: Control is often indirectly and confidentially implemented through incentive structures and the internalization of the corporate culture. Each decision-maker has its own area or control area, all of them are well understood and avoid interfering with other areas unless invited or a crisis occurs.

Conflict/Consensus: It is inevitable to face conflict in any organization. Any proposal for change almost always invites a kind of hostility conflict in those who are against a new way of thinking or change. Conflict can get out of control and result in widespread hostility that hinders effective coordination or communication. Conflict should be kept within reasonable limits and not allowed to get out of control.

Successful implementation of the strategies requires that the organizational structure, culture, system, management style, human resources, and talents are brought together harmoniously. However, as soon as the implementation activities are underway, strategic success factors should be constantly monitored and controlled. Because, with the application, it is possible to encounter undesirable situations in the business environment. For this reason, the internal and external environment must be constantly examined. Thus, it will be possible to identify factors that will render strategic practices insufficient and take corrective measures.

Evaluation and control

After the implementation of the strategies, the final and necessary step of the strategic management process is to decide whether the outcome is good or not is; “evaluation and control”. At this stage, it is evaluated whether the determined strategies are implemented properly in order to achieve the objectives of the company and to ensure compliance with the environment. To make this assessment, evaluation criteria are prepared and it is checked whether the strategies implemented are still valid. This process includes comparing the actual performance results after the implementation of the strategies with the desired performance. In this way, managers can understand that strategies are working properly or dysfunctional, and before they become critical, they can take action against potential negative situations.

The performance of the company may not remain constant, changing conditions in the environment affect the long-term expectations and goals

of the company. Objectives adapted to these changes also require a renewal of the strategy. Evaluating performance, reviewing, and adjusting necessity changes are essential parts of the strategic management process. For this reason, a company's mission goals and strategy can never remain stable (Chaneta, 2011:21).

This step is also a control step created to monitor that the strategic management process is working properly. The main goal here is to help management achieve organizational goals by monitoring and evaluating strategic practices. Strategic evaluation and control make it possible to identify possible disruptions in advance and creates the feedback necessary to determine whether the planned steps of the strategic management process are working properly, consistently, and accurately. Also, it provides a balance between short-term and long-term profitability, directs business activities to objectives, and provides methods for measuring activities. In addition, it also helps the integration of a complex and diverse organizational structure.

Briefly, strategic control creates the feedback necessary to determine that the planned steps of the strategic management process are working properly, consistently, and accurately. In this way, it gives the chance to control whether the strategic management process is working properly.

Solutions and Recommendations

Communication and information technologies, which have a strategic importance today, have become an important factor in terms of the survival and development of a company. The things that companies that want to survive in today's competitive and rapidly changing world should do can be expressed as follows;

- ✓ They should develop competitive strategies, make them flexible, and adapt quickly to organization and market conditions.
- ✓ It is important to set explicit and clear strategic goals, and adhere to them, as well as to develop an appropriate technology-based strategy.
- ✓ In order to apply appropriate technological solutions, an innovative management approach must be followed.
- ✓ New and existing ICT tools should be used to redesign and restructure the inter and intra-organizational business processes.
- ✓ Technological innovations in the industry must be constantly monitored and reviewed.
- ✓ Also, technological solutions such as websites need to be improved.

Because of all the above, companies have to rethink and evaluate information and the role of ICT in the management process and corporate functioning. It is an inevitable fact that ICT is effective in restructuring management strategies and will be even more in the future.

Conclusion

The developments in information technologies and the transition to the information age have rendered the traditional management approach inadequate. Technology is now considered as one of the most important elements to provide a sustainable competitive advantage for companies operating in a constantly changing and complex environment. However, in addition to its constant competitive power, companies must be able to use and implement technologies and strategies together to work efficiently, innovate and be open to new markets, and it is essential for companies to have strategic management skills to achieve all these advantages of technology and to achieve high performance.

ICT has a major impact on the strategic management of tourism companies: ICT have the capacity to make radical changes in the functioning and structure of organizations and It is the driving force for tourism businesses with the advantages it provides in the following areas; cost (due to increased efficiency, low distribution, communication, labor costs, and flexible pricing), market (satisfaction of upper segment customer demand; flexibility in working time; supporting relationship marketing strategies; quick response to demand; multiple integrated products; profit management) and competition (business network management; value-added training; flexibility; obtaining information; strategic tool) thereby providing huge benefits in efficiency, differentiation, reducing costs and process time (Buhalis 1998, 2000). With these features, ICT plays a critical role in the competitiveness of tourism and event organizations and is an important determinant of organizational competitiveness. In short, ICT is critical to the strategic management of organizations, as entering the new market, empowering employees, lowering costs, and increasing distribution.

As a result, tourism companies need to strategically understand, combine, and use ICT to serve their target markets, increase their efficiency, maximize profitability, improve services, and maintain long-term profitability.

Future Research

As a strategy and strategic tool, ICT plays a key role in the relationship between firms and consumers. Due to this importance and all the

advantages mentioned, it requires a more in-depth examination and evaluation for tourism and event organizations. Companies need to grasp the importance of strategic event management as well as the outputs of the ICT effect on the event on a firm and consumer basis. Examining the benefits of tourism and event businesses with ICT will provide important results. The effect of constantly renewed technological tools on event organizations can be analyzed on a tool basis or in a collective. Not only benefits but also disadvantages should be carefully examined. In addition, solutions should be developed by taking the opinions of both internal and external stakeholders regarding these advantages and disadvantages.

References

- Andrews, K.,R. (1971). *The Concept of Corporate Strategy*. Illinois: Dow Jones-Irwin. Inc.
- Ansoff, H. I., Kipley, D., Lewis, A. O., Helm-Stevens, R., & Ansoff, R. (2018). *Implanting strategic management*. Switzerland:Springer.
- Bowdin, G., Allen, J., O'Toole, W., Harris, R., & McDonnell, I. (2006). *Events management* (2nd ed.).Great Britain: Elsevier.
- Bryson, John M. (1995). *Strategic planning for public and nonprofit organizations*. San Fransisco: Jossey-Bass.
- Buhalis, D. (1998). "Strategic use of information technologies in the tourism industry". *Tourism management*, 19(5), 409-421.
- Buhalis, D., & Main, H. (1998). "Information technology in peripheral small and medium hospitality enterprises: strategic analysis and critical factors". *International Journal of Contemporary Hospitality Management*. 10/5, 198-202
- Buhalis, D. (2000). "Tourism and information technologies: Past, present and future". *Tourism Recreation Research*, 25(1), 41-58.
- Buhalis, D., & Zoge, M. (2007). The strategic impact of the Internet on the tourism industry. In *Information and communication technologies in tourism* (pp. 481-492). Springer, Vienna.
- Buhalis, D., & Law, R. (2008). "Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research". *Tourism Management*, 29(4), 609-623.
- Burgan, B., & Mules, T. (2001). "Reconciling cost-benefit and economic impact assessment for event tourism". *Tourism Economics*, 7(4), 321-330

- Carlsen, J., & Andersson, T. D. (2011). "Strategic SWOT analysis of public, private and not-for-profit festival organisations". *International Journal of Event and Festival Management*, 2(1), 83-97
- Chandler, A.D. Jr (1962). *Strategy and structure: chapters in the history of industrial enterprise*. Cambridge: MIT Press
- Chaneta, I. (2011). "Strategic management process". Retrieved February 18 2020 from: <http://ir.uz.ac.zw/handle/10646/638> (18.02.2020)
- Crowther, P. (2010). "Strategic application of events". *International Journal of Hospitality Management*, 29(2), 227-235.
- Çiftçi, T. (2011). *Üç Adımda Stratejik Yönetim. İstihbarat-İstikamet-İcraat*. İstanbul Sanayi Odası, İstanbul.
- Dess, G.G. & Miller, A. (1993). *Strategic management*. Mc Grow-Hill Book Co. New York.
- Eden, C., & Ackermann, F. (2013). *Making strategy: The journey of strategic management*. Great Britain: Sage.
- Evans, N., Campbell, D. & Stonehouse, G.(2012). *Strategic management for travel and tourism*. Great Britain: Butterworth-Heinemann
- Evans, N. (2015). *Strategic management for tourism, hospitality and events*. New York: Routledge.
- Getz, D. (2008)." Event tourism: Definition, evolution, and research". *Tourism Management*, 29, 403–428
- Gibson C.,& Wong C (2011) Greening rural festivals: Ecology, sustainability and human-nature relations. In: Gibson C, Connell J (eds) *Festival places: revitalising rural Australia*. (pp 92–105) Bristol: Channel View Publications.
- Göral, R. (2014). *Turizm işletmelerinde stratejik yönetim*. Ankara: Detay Yayıncılık.
- Gössling, S. (2017). "Tourism, information technologies and sustainability: an exploratory review". *Journal of Sustainable Tourism*, 25(7), 1024-1041.
- Higgins, J.M., & Vincze, J.W. (1989). *Strategic Management, Text and Cases*. The Dreyden Press, Japan: CBS Publishing.
- Johnson, G. & Scholes, K. 2002. *Exploring Corporate Strategy*. (6th ed). UK: Essex: Pearson Education Limited.

- Khemesh, S. (2017). *Strategic Management-Basic concepts*. Eskisehir: Anadolu University Publication
- Miller, A., & Dess, G. G. (1993). "Assessing Porter's (1980) model in terms of its generalizability, accuracy and simplicity". *Journal of management studies*, 30(4), 553-585.
- Milne S, Mason D, & Hasse J (2004). Tourism, information technology, and development: resolution or reinforcement. In: Lew A, Hall CM, Williams A (eds) *A Companion to Tourism*. (pp 184–194). Oxford: Blackwell Publishing.
- Mintzberg, H. (1994). "The fall and rise of strategic planning". *Harvard Business Review*, 72(1), 107-114.
- Mintzberg, H., J. Lampel, J.B. Quinn and S. Ghoshal (2002) *The Strategy Process: Global*, 4th ed, Hemel Hempstead: Prentice Hall.
- Oliver, R. W. (2001). "Real-time strategy: What is strategy, anyway?". *Journal of Business Strategy*, 22(6), 7-10.
- Peppard, J. (1993). Using IS/IT to gain competitive advantage. *IT Strategy for Business*. London: Pitman
- Planellas, M. (2013). "In search of the essence of strategy, a model for strategic management in three stages". *ESADE Business School Research Paper*, No:250
- Tosun, K. (1974). *İşletme Yönetimi*. İstanbul: Fakülteler Matbaası,
- Watt, D C. 1998. *Event Management in Leisure and Tourism*. New York: John Wiley & Sons, Inc.
- White, C.(2004). *Strategic Management*. China: Palgrave Macmillan.
- WTO, (1988). *Guidelines for the Transfer of New Technologies in the Field of Tourism*. Madrid: World Tourism Organisation.
- Zafar, F., Babar, S., & Abbas, H. (2013). "The art of strategic management—a key to success in corporate sector". *European Journal of Research and Reflection in Management Sciences*, 1(1), 15-24.

Additional Reading

- Buhalis, D., & O'Connor, P.(2005). "Information Communication Technology Revolutionizing Tourism". *Tourism Recreation Research*. 30(3), 7-16.

- Claudio, Petti & Passiante, Giuseppina. (2009). "Getting The Benefits Of ICTs In Tourism Destinations: Models, Strategies And Tools". *International Arab Journal of E-Technology*. 1(1), 46-57
- Farkhondehzadeh, A., Robat Karim, M. R., Roshanfekar, M., Azizi, J., & Legha Hatami, F. (2013). "E-Tourism: The role of ICT in tourism industry". *European Online Journal of Natural and Social Sciences*, 2(3),566-573
- Stokes, R. (2008). "Tourism strategy making: Insights to the events tourism domain". *Tourism Management*, 29(2), 252-262.
- Versteeg, G., & Bouwman, H. (2006). "Business architecture: A new paradigm to relate business strategy to ICT". *Inf Syst Front* 8, 91–102, <https://doi.org/10.1007/s10796-006-7973-z>

EFFECTS OF ORGANIZATIONAL CULTURE AND TYPES ON INNOVATION CULTURE CREATION ACTIVITIES

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Introduction

In today's world where competition is intense, the need for innovation increases day by day. When the innovative culture is evaluated in terms of sustainability, profitability and growth for the organizations of the modern economy, it is seen that it has become a vital phenomenon. In this context, environmental changes create opportunities for innovation. As a result, businesses need to enter new markets, creating opportunities to survive. New technologies that accelerate environmental change, shorten product lifetimes by changing customer needs, and with this rapid change, competition between companies increases with the elimination of borders. For the realization of innovations, it is necessary to focus on organizational culture, creating an innovative environment and how to create a cultural structure and which type of organizational culture is more suitable for innovation.

1. Organizational Culture

Defining the organizational culture in an organization is difficult for both managers and other researchers. Despite the fact that almost every manager sees the organizational cultures unique and special, when they try to define the concept, they state that they use expressions like “we are customer-oriented”, “we see employees as our most valuable asset” and not very different from other businesses (Alvesson & Sveningsson, 2007). The reason for this is that the concept of organizational culture has a complex structure that is difficult to define and measure, has a lot of relationships with many other concepts (Alvesson & Sveningsson, 2007; Schein, 2004). However, considering the common characteristics of different definitions of organizational culture or corporate culture structure, they defined organizational culture as a concept that is holistic, based on an accumulation of history, which is related to other concepts related to human and society, and difficult to change and understand (Hofstede et al., 1990). Accordingly, culture is a mental event that enables individuals within a certain group to think and evaluate the facts differently than other groups, rather than social structures and behaviors (Alvesson &

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Sveningsson, 2007). It defined organizational culture as a social unit as a pattern of shared basic assumptions that will be taught as a method of perception, thinking and feeling about the problems, which is considered valid by a group of members who have solved an external harmony and internal integration problem (Schein, 1992).

2. Organizational Culture Elements

Studies of examining the organizational culture generally showed two different approaches. The first is the studies that categorically examine the organizational culture (Desphande et al., 1993). Studies that show a categorical approach have tried to determine the unique characteristics of each class by subjecting the cultures of the organizations to various classifications. The second approach is interpretive approaches. Studies that deal with organizational culture with an interpretive approach have tried to explain the culture as seen in figure 1 through symbols, rituals and myths that dominate the organization (Schein 1992).

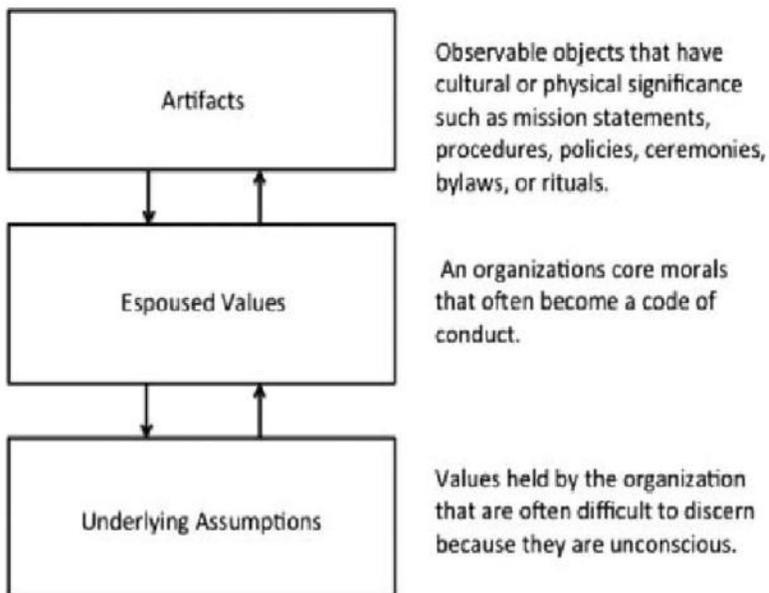


Figure 1: Organizational Culture Model

Source: Schein, (1992)

Artifacts: It is the visible aspect of culture and includes the seen and heard behavioral patterns of groups such as physical environments, technology and products, artistic creations, styles and behaviors of

individuals, emotional indicators, values, stories and legends about the organization, observable rituals and ceremonies. The purpose of cultural analysis at this stage is to understand the organizational process and the visible behaviors of groups within the routine behavior. Understanding these behavioral patterns that are seen and heard requires long-term living within the group and a degree analysis (Schein, 1992). Artifacts, creations, reflect the apparent and symbolic aspect of culture. This visible part of the culture can be classified into three ways: physical, behavioral and verbal. Examples of physical creations are symbols such as symbols, logos, clothing, layout, organizational chart, and procedures. Behavioral cultural creations consist of ceremonies, ceremonies and meetings. Verbal creations can be given as examples of language, slogans, stories and heroes spoken within the organization.

Expoused Values: “It is the criteria adopted by members of the organization in evaluating and judging the events, situations and behaviors” (Şişman, 2002). Values have an important place in organizational life as well as in human life and social life (Schein, 1992). If the values accepted within the organization match the basic assumptions, then it will be useful to express these values in the management philosophy, bringing the group together, creating a sense of belonging and attachment (Can, Aşan & Aydın, 2006). Values, in other words, reflect the general agreement created by the members of the organization about what the organization intends to do by summarizing the situation of the employees (Christensen, 1999). Various opinions have been proposed about what might be the source of organizational values. According to Schein (1984), the sources of these are the members of the organization, the beliefs that arise and accepted as a result of the interaction of the two. These beliefs and values also affect the attitudes and behaviors of people towards other people, objects, events and facts. The lack of common values, the dominance of different values in the organization causes organizational conflicts. Norms are formed depending on a certain system of values within the social system. Norms are social rules and standards that guide members of the social system in explaining and interpreting events, facts and situations. Culture is also defined as a normative system (Schein, 1984). In short, norms, approved behaviors, expected behavior standards are defined as the unwritten rules of the game or behavior.

Underlying Assumptions: “It is the basic beliefs that organization members share in relation to environmental relations, real human actions and the nature of human relations” (Türk, 2007; Şişman, 2002). The basic assumptions are predictions, thoughts, feelings, and subconscious beliefs.

So it is very difficult to change. The human mind needs conceptual invariance. Thus, shared basic assumptions to support the culture of a group can be considered as psychological conceptual defense mechanisms that allow the group to complete its function, both individually and at the group stage (Schein, 1992).

3. Organizational Culture Types

We see that in the literature by different social scientists classified as a variety of organizational culture. In terms of organizations, Harrison (1972) and Handy (1985) used culture in exchange for the character of the organization and mentioned four types of cultures or organizations. These are called power culture, role culture, task culture and individual culture.

Power Culture: Culture type where power and control are central. It is based on sovereignty and interest, and those who hold power in the organization establish a sovereignty over others. Its main feature is constant power and conflicts of interest and it is characterized as a type of culture mostly observed in organizations managed by traditional management approach.

Role Culture: It is a type of culture where bureaucratic features and principles are at the forefront, and in this culture, issues such as rationality, rules, hierarchy, role, status, authority and responsibility are given importance. The source of power is the authority. Emphasis is placed on choosing a man by job.

Task Culture: Organizational goals are at the forefront rather than individual goals. Therefore, almost everything in the organization is evaluated in the rate of serving the purposes. Therefore, it is essential to organize and change organizational structure, roles and processes towards achieving organizational goals. The source of power is expertise. Decision powers are given to the teams.

Individual Culture: This culture is defined as a dominant culture in organizations created based on the understanding that organizations are for individuals. In this culture, contrary to the task culture, priorities are given to individual goals and interests. In task-centered organizations, individuals are seen as a tool for organization and organizational purposes, while in individual-centered organizations, organizations are seen as a tool for achieving individuals and individual goals.

Handy and Harrison's classification in a similar manner based on the power of culture, role culture has mentioned the four types of

organizational culture, including culture-based tasks. Pheysey's classification was also based on the classifications of Harrison and Handy, and was organized into four groups as organizational cultures, role culture, success culture, power culture and support culture, similar to the above. Quinn and McGrath have classified organizational cultures as rational, developmental, compromising and hierarchical cultures differently from the above (Şişman, 2002).

The most generally accepted classification in terms of organizational culture types are four culture types that are under two dimensions. The first dimension shows the orientation of the business towards flexibility and judgment, and stationary and control. This size of enterprise is between flexibility and rigidity. The second dimension shows whether the business is oriented inward or outward. He examined organizational culture in four groups: Clan, Adocracy, Hierarchy and Sunday culture (Cameron & Quinn (1999). These types of culture can be found in various rates in each organization. The distinction is which is the dominant culture (Desphande et al., 1993).

Shared values, harmony, participation, individuality and “us” identity are important for clan (collaboration) culture type businesses. Businesses of this type operate like a large family rather than an economic unit. Rules and procedures from the hierarchy have been replaced by teamwork, employee engagement programs, and corporate loyalty.

The main purpose of the adhocracy (creativity) culture type enterprises is to promote compatibility, flexibility and creativity in an uncertain, complex and overloaded environment. The main thing for organizations of this type is to offer innovative products and services and adapt them quickly to new opportunities. There is a scattered flow of power between individuals and teams rather than a central power or authority relationship.

In the hierarchy (control) culture type, control of the external environment is essential. Rules and procedures guide the behavior of people. Especially in large organizations and bureaucratic structures, the clarity of decision making authorities of this type, standardized rules and procedures, control and accountability mechanisms are required for success.

Market (competition) culture type control drives market mechanisms, competition dynamics and money exchange. The aims of businesses in this culture are to be profitable, to be strong in market segments and to create a reliable customer base (Cameron & Quinn, 2006).

It has been stated by various researchers that organizational culture influences innovation (Pfister, 2009; Uz Kurt & Şen 2012) and even organizational culture is at the center of innovation (Tushman & O'Reilly, 1997). In addition, organizational culture not only has an enormous impact on an organization's ability to innovate, but also determines how it will innovate, what kind of innovation it will focus on, and the skills it will use to deal with potential threats (Kelley, 2010).

Organizational culture supports innovation in several ways. The first one is that it enables the members of the organization to see innovation as an appropriate strategy for solving problems related to competition. It also creates an empowering network of values and beliefs, giving formality to the activities carried out for innovation. Organizational culture motivates its members by waiting for them to act in an innovative manner and by accepting these behaviors and ensures that those who engage in innovative activities are rewarded. Finally, it allows to support innovative changes among the members of the organization (Russell, 1989).

According to the organizational culture model, organizational culture can be divided into four groups: cooperation, innovation, determination / consistency, effectiveness as shown in Figure 2 (Chang & Lin, 2007).

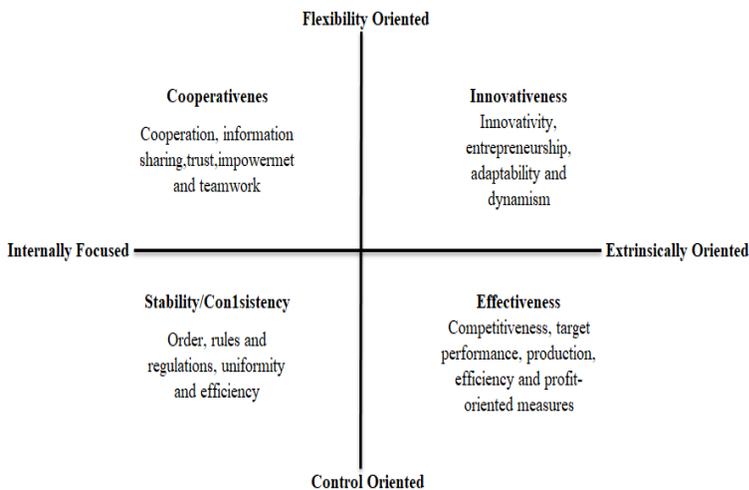


Figure 2. Organizational Culture Model
Source: Chang & Lin (2007)

Cooperativeness Culture: In the two-dimensional model of organizational culture, it is located in the upper left corner. It is internal and resilient and focuses primarily on collaboration, information sharing,

trust, empowerment and teamwork. This collaborative culture is typical of a friendly atmosphere. Organization members share information in team work. Thanks to the authorization in the organization, each individual has a certain division of labor and has an internal flexibility in performing this task. Relations are based on trust, and members of the organization treat each other just like members of a family.

Innovativeness Culture: It is located in the upper right corner of the two-dimensional model of organizational culture. Innovation culture, which is external and flexible oriented within the organizational culture model, has the characteristics of creativity, entrepreneurship, adaptation and dynamism. The company, which has an innovation, supports creativity by being in a completely dynamic environment.

Stability / Consistency Culture: it is located in the lower left section of the organizational culture model and is also internal and control oriented. It focuses on order, rules and regulations, uniformity and efficiency. This organizational culture, with determination and consistency, is typically a structured and organized organization.

Effectiveness Culture: It is located in the lower right part of the two dimensional organizational culture model. This exogenous and control-oriented culture model focuses on competitiveness, target achievement, production, efficiency and profit-oriented measures. The company with an event culture is primarily a result-oriented and profit-oriented company.

It is observed that there is no consensus on what the company will do more innovative organizational culture is analyzed studies cited above. However, according to Mortimer (1995), they stressed that in order to have a creative and innovative organizational culture, actions that would encourage innovations and motivate members should be taken and the following conditions should be fulfilled (Mortimer, 1995):

Organizations;

1. Must have predictive leaders,
2. Must have managers who can lead new programs and achieve goals,
3. Encourage and reward entrepreneurial actions,

4. Must be able to create the necessary funds to develop and evaluate new and original ideas,
5. To be able to produce appropriate values by forecasting customers' future needs and wishes,
6. Ensure mutual convergence and communication between employees and marketing staff at all levels,
7. Be able to understand the value of errors,
8. Pay attention to informal communication as well as formal communications,
9. Must value and motivate employees,
10. Besides those who are satisfied with the activities of the organization, they should be able to recognize and control those who are not satisfied.

In another study, the cultural environment that supports and motivates innovation should be summarized as follows (Zangwill, 1993):

1. Top management adopts innovation,
2. Building trust and honesty instead of behaviors where individual interests are at the forefront,
3. To emphasize the support and tolerance instead of punishment and reproach,
4. Encouraging creative discussions,
5. Creating a communication in which innovative ideas are listened and valued by bosses,
6. To establish and develop creative collaborations between individuals and groups,
7. Valuing consumer demands,
8. To learn employees' thoughts on innovative organizational culture.

Based on the above studies, it can be said that strong management support, effective internal and external communication, paying attention to customer needs and forgiving mistakes and rewarding successes for an innovative organizational culture.

4. Innovation and Innovation Culture

Before making a definition about innovation, it will be more accurate to mention its relation and types with similar concepts. The first of these concepts is creativity. Creativity, defined as the production of new and useful ideas in any field, is part of the innovation process, but innovation is the implementation of an idea developed with creativity. Accordingly, it can be said that creativity constitutes the first step of the innovation process (Amabile et al., 1996).

Invention is one of the concepts that are similar to innovation. However, in order for an innovation to occur, there is no need for inventions, invention can take place after innovation and multiple inventions can contribute to a single innovation (Samsonowa, 2012). In addition, in order to qualify as innovation, it must be commercialized. In this respect, innovation is an economic rather than a technological concept (Rothwell & Wissema, 1986; Drucker, 2001). Innovation is a word used instead of innovation. However, it is possible to say that innovation is much more than yen, since not every innovation has a commercial value (it has no value in the eyes of the customer).

In the literature, product and process innovation (Schumpeter, 1934; Utterback, 1996; North & Smallbone, 2000; Damanpo is & Goplkrishan, 2001, Boer & During 2001, Francis & Bessant, 2005), organizational innovation (Boer & During, 2001) marketing innovation (Schumpeter, 1934; North & Smallbone, 2000; Francis & Bessant, 2005), destructive and sustainable innovation (Christensen & Raynor, 2003), discontinuous innovation (Robertson, 1967), paradigm innovation (Francis & Bessant, 2005), innovation types such as finding a new source of raw materials or semi-finished products and repositioning the business in the sector (Schumpeter, 1934). What is meant by innovation is product innovations, the direct effect of which is most easily observed.

As a result of examining the types and their differences with other concepts, it is possible to define innovation as follows. Innovation is innovations or significant improvements in products, production processes, marketing methods or managerial activities that have commercial value. Innovation is one of the most important resources that businesses will use to increase their competitiveness (Drucker, 2001; Bessant, 2002; Afuah, 2009; Betz, 2011). Therefore, it is necessary to get help from any kind of instrument that will support innovation.

Organizational culture affects innovation processes as well as it affects many processes in the organization.

Therefore, creating an organizational culture (innovation culture) focused on innovation activities is a must for any business that wants to innovate. There is no guarantee that an innovation culture will result in innovation, but an innovation culture is definitely a prerequisite (Angel, 2006).

Gandotra (2010) defined the culture of innovation as a culture associated with organizational structures and processes that make innovation a daily business. The culture of innovation determines how creativity, risk taking, entrepreneurship and sharing of information and ideas are encouraged (Gandotra, 2010). The culture of innovation enables the formation of norms that help members of the organization develop behaviors that do not hinder their innovation activities but support them. These norms are listed below.

- Supporting the creative activities of the members of the organization,
- Seeing innovation as a suitable solution method for strategic organizational problems,
- To ensure free and open exchange of information within the organization,
- Maintaining close contact with groups outside the business that have knowledge of potential innovations,
- To be open-minded for new ideas,
- To provide psychological and financial support to those who produce new ideas,
- To encourage a reasonable risk taking for new ventures,
- Listed to support an effective change practice (Russell, 1989).

Innovation is divided into different types according to researchers. It is possible to divide them into general topics such as product innovation, process innovation, strategy innovation, market innovation (Henard & Szymanski, 2001). Although innovations are related to each other, it is seen that each innovation offers separate benefits to the business. Product innovation enables to achieve a higher market share, strategy innovation to achieve sustainable competitive advantage, Market innovation enables

reaching new customers, and process innovation enables internal functions to work more efficiently. From this point of view, it will be useful to determine what kind of innovation culture affects on which type of innovation. In addition, it is aimed to explain the role of staff empowerment in this relationship.

The culture that supports innovation has the characteristics of creativity, risk taking, independence, teamwork, solution orientation, communication, high confidence and respect and decision making speed. He also stated that innovation culture has four general dimensions. The first is the intention to be innovative, the second is the infrastructure that provides support for advancing innovation activities, the third is the information and orientations that will support employees' ideas and activities required for innovation, and finally environmental dimensions to support implementation (Dobni, 2008).

Conclusion

Undoubtedly, the concept of innovation is becoming more and more involved in our lives with the increasing influence of today's world. It would not be wrong to say that the competitive conditions and customer expectations in the market have changed rapidly. For this reason, innovation, which used to be the business of only large-scale enterprises, has become an imperative for every business or even every organization. Since it is such an important concept, the culture of the organization and its relation with each other, which is considered to be one of the factors that can help enterprises to innovate, should also be examined closely.

As in many other activities, the organizational culture has a two-way impact on innovation activity. In other words, it can both facilitate the realization of the activities and prevent this activity. When considered in terms of innovation activity, it is clear that not all features of organizational culture will have an impact on innovation. At this point, a subculture consisting of the sum of the characteristics associated with the organizational culture of the innovation activity emerges, which is the innovation culture. Innovation culture features are always handled within the framework of the literature. It is not known exactly what these features are and what is known is not supported by empirical studies.

According to the information obtained from the studies studied, the first feature of the innovation culture is that it has a structure similar to the adhocracy organizational culture type features. This is an expected result due to the characteristics of the adhocracy culture type (supporting

innovation and creativity). Apart from that, organizational learning should be encouraged again as it will provide the necessary information flow for innovation. In order to take advantage of different ideas and empower employees, a participatory way must be followed in decision making. The fact that managers are open-minded against external ideas will both provide flexibility and support the flow of information. It is important that business objectives, goals, mission and vision are innovation-oriented and shared by employees. Encouraging risk-taking is imperative for innovation activities that always include a risk factor. Failures should be seen as events that require lessons. While group and team works are supported to benefit from the synergy effect, the independence of individuals should not be ignored and internal competition should be encouraged. Trust and open communication within the organization will enable the sharing of information, which is the most important input of innovation. Giving individual support and rewards to employees is important for the continuity of innovation activities.

References

- AFUAH, A. (2009). *Strategic Innovation: New Game Strategies for Competitive Advantage*. New York: Routledge.
- ALVESSON, M., & SVENINGSSON, S. (2007). *Changing Organizational Culture*. New York: Routledge.
- AMABILE, T. M. (1997). "Motivating Creativity in Organizations: On Doing What You Love and Loving What You Do". *California Management Review*, 40(1):39-58.
- ANGEL, R. (2006). "Putting an Innovation Culture into Practice". *Ivey Business Journal*, (1): 1-5.
- BESSANT, J. (2002). "Developing routines for innovation management within the firm". J. Sundbo, & L. Fuglsang içinde, *Innovation as Strategic Reflexivity* (s. 127-139). New York: Routledge.
- BETZ, F. (2011). *Managing Technological Innovation: Competitive Advantage From Change (3rd Edition)*. New Jersey: John Wiley & Sons.
- BOER, H., & DURING, W. (2001). "Innovation, What Innovation? A comparison Between Product, Process and Organisational Innovation". *International Journal of Technology Management*, 22(1):83-107.

- CAMERON, K. S., & QUINN, R. E. (2006). *Diagnosing and Changing Organizational Culture*. San Francisco: John Wiley & Sons.
- CAMERON, K.S. & QUINN, R.E. (1999). *Diagnosing and Changing Organisational Culture, Based on the Competing Values Framework*. Massachusetts: Addison-Westley.
- CAN, H., AŞAN, Ö., AYDIN, E.M. (2006). *Örgütsel Davranış*, İstanbul, Arıkan Yayınları.
- CHANG, S.E. ve LIN, C.S. (2007). "Exploring Organizational Culture for Information Security Management. *Industrial Management and Data Systems*", 107 (3), 438-458.
- CHRISTENSEN, C. M., & RAYNOR, M. E. (2003). *The Innovator's Solution: Creating and Sustaining Successful Growth*. Boston: Harvard Business School Press.
- CHRISTENSEN, C.M. (1999). *Innovation and The General Manager*, Boston, Mass.: Irwin/McGraw-Hill.
- DAMANPOUR, F., & GOPALAKRISHNAN, S. (2001). "The Dynamics of the Adoption of Product and Process Innovations in Organizations". *Journal of Management Studies*, 38(1):45-65.
- DESPHANDE, R., FARLEY, J. U. ve WEBSTER, F. E. (1993). "Corporate Culture, Customer Orientation, and Innovativeness in Japanese Firms: A Quadrant Analysis". *Journal of Marketing*, 57, (Ocak), 23-37.
- DOBNI, C.B. (2008). "Measuring Innovation Culture in Organizations The Development of a Generalized Innovation Culture Construct Using Exploratory Factor Analysis". *European Journal of Innovation Management*, 11 (4), 539-559.
- DRUCKER, P. F. (2001). *The Essential Drucker*. New York: HarperCollins.
- FRANCIS, D., & BESSANT, J. (2005). "Targeting Innovation and Implications for Capability Development". *Technovation*, 25(3):171-183.
- GANDOTRA, N. K. (2010). "Innovation Culture for Sustainable Competitive Advantage". *APJRB*, 1(2):51-59.

- HANDY, C. (1993), *Understanding Organizations, (4th Edit.)*, England: Penguin Books Ltd.
- HARRISON, R. (1970), "Nonverbal communication: Explorations into time, space, action, and object". In J. Campbell ve H. Helper (Edit.) *Dimensions in communication* (pp. 110-146). Belmont, CA: Wadsworth.
- HENARD, H., SZYMANSKI D. (2001), "Why Some New Products Are More Successful Than Others", *Journal of Marketing Research*, Vol. XXXVIII, August, pp. 362-375.
- HOFSTEDE, G., NEUIJEN, B., OHAYV, D. D., & SANDERS, G. (1990). "Measuring Organizational Cultures: A Qualitative and Quantitative Study Across Twenty Cases". *Administrative Science Quarterly*, 35(2): 286–316.
- KELLEY, B. (2010). *Stoking Your Innovation Bonfire*. New Jersey: John Wiley & Sons.
- MORTIMER F. (1995). "Conceptual Change or Conceptual Profile Change?" *Science & Education*. 4, 267–285.
- NORTH, D., & SMALLBONE, D. (2000). "The Innovativeness and Growth of Rural SMEs During the 1990s". *Regional Studies*, 34(2):145-157.
- PFISTER, J. (2009). *Managing Organizational Culture for Effective Internal Control*. Berlin: Physica-Verlag.
- ROBERTSON, T. S. (1967). "The Process of Innovation and the Diffusion of Innovation". *Journal of Marketing*, 31(1):14-19.
- ROTHWELL, R., & WISSEMA, H. (1986). "Technology, Culture and Public Policy". *Technovation*, 4(2):91-115.
- RUSSELL, R. D. (1989). "How Organisational Culture Can Help to Institutionalise the Spirit of Innovation in Entrepreneurial Ventures". *Journal of Organizational Change Management*, 2(3):7-15.
- SAMSONOWA, T. (2012). *Industrial Research Performance Management: Key Performance Indicators in The ICT Industry*. Berlin: Springer-Verlag.
- SCHEIN, E. H. (1992). *Organizational Culture and Leadership*, (2nd Edition). San Francisco: Jossey-Bass Publishers.

- SCHEIN, E. H. (2004). *Organizational Culture and Leadership*,(3rd Edition). San Francisco: Jossey-Bass.
- SCHEIN, E.H. (1984). ‘‘Coming To A New Awareness of Organizational Culture’’. Sloan Management Review, 25 (2), 3-16.
- SCHUMPETER, J. A. (1934 [2004]). The Theory of Economic Development. New Jersey: Transaction Publishers.
- İŞMAN, M. (2002). *Örgütler ve Kùltürler. 1. Baskı*, Ankara, Pegem A Yayınları.
- TUSHMAN, M. L., & O'REILLY, C. A. (1997). ‘‘Winning Through Innovation: A Practical Guide to Leading Organizational Change and Renewal. Massachusetts’’: Harvard Business Review Press.
- TÜRK, M.S. (2007). *Örgüt Kùltürü ve İş Tatmini*. Ankara: Gazi Kitabevi.
- UTTERBACK, J. M. (1996). Mastering the Dynamics of Innovation. Boston: Harvard Business School Press.
- UZKURT, C., & Şen, R. (2012). "Örgüt Kùltürü ve Örgütsel Yeniliğın Pazarlama Yeniliğine Etkisi: Gazlı İçecek Sektöründe Bir Araştırma". Anadolu Üniversitesi Sosyal Bilimler Dergisi, 12(3):27-50.
- ZANGWILL, W.I. (1993). *Lightning Strategies for Innovation*. New York: Lexington Books.

TURKISH ACADEMY AT THE DAWN OF THE LIVING DEAD: A RESEARCH ABOUT WORK SPIRITUALITY*

*Umut Can Öztürk***

INTRODUCTION

Strategic human resources management adopted today aims to consolidate the strategic management of the company by integrating human capital with all the functions of the company and by making human resources functions a business strategy (Acuner and Genç, 2008). In fact, it is desired to strengthen the employees in the organizations, thus enabling enterprises to move away from the traditional hierarchical structure, motivate employees to do business by adopting their jobs, encourage participation in decisions and increase the satisfaction of employees by providing an environment in which they can improve themselves (Pekdemir et al., 2006). In other words, it is the integration of human and organization desired by the administrators of the organization. However, even some managers within the working life reduce the organization to the size of financial values and physical structures. However, even when we look at the definition of the oldest and basic organization, we see that ‘‘the material and spiritual elements come together in harmony in accordance with a certain purpose’’ (Öztürk, 2015). In that sense, the organization consists of both the physical elements that can be touched and the abstract and beyond spiritual elements that cannot be touched, because the human being that created it is literally this way (Anderson, 2000 cited by Baloğlu and Karadağ, 2009: 174; Korkut, 2012: 80).

In Korkut's (2012: 80) study, the human definition of Zohar in Jewish mysticism is Human is not primarily an economic entity, it is essentially a creature of meaning; one that has conveyed meaning and value to one's life and has the ability to reveal its' own 'story' which makes its' life meaningful. At this precise point, the concept of spirituality emerges, which is defined as feelings, thoughts and behaviors that appear in pursuit of the sacred in the literature of religion psychology (Sheep, 2006: 358). However, the subject of the study is the workplace spirituality developed from this relationship between man and organization. Although the workplace spirituality is perceived from the religious and secular point of

* This study has been prepared by extending the study presented at the 27th National Management and Organization Congress within the framework of the feedbacks received.

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view, different perceptual dynamics are generally extended from the secular point of view in terms of inner satisfaction and motivation by removing the perception of inner spirituality and spirituality as much as possible from the perception of classical religion (Korkut, 2012). The subject, which is still at the level of preliminary studies in our country, is therefore intriguing and intriguing.

The main purpose of this study is to examine the levels of workplace spirituality of young academics. The spirituality values of the workplace were examined in three dimensions comparatively in the frame of the socio-demographic variables of the academicians. The study has reached to 102 young academics from both state and private colleges in Turkey through convenience sampling method. The title also refers to a zombie film "Dawn of the Dead". The reason for that title reference is "In a metaphoric sense, is academy dynamic or a walking dead in terms of workplace spirituality?" The answer to this question is sought.

WORKPLACE SPIRITUALITY & FUNDAMENTAL STRUCTURE

As a matter of fact, there is no clear consensus about the conceptualization of the concept of spirituality, which is the main title of the subject, especially in the field of management science; ruhsallık (*spirituality*) (Karadağ, 2009), tinsellik (*spirituality*) (Yılmaz et al., 2015), maneviyat (*spirituality, morale*) (Örgey and Günalan, 2011) were developed. At the base of the studies in organizational and cultural theories, there are various assumptions about the ontological status of social reality (objective – subjective dilemma) and human nature (determinist – voluntarist dilemma) (İlhan, 2006). It is not different for workplace spirituality; One of the most important reasons for this is the approach to the subject from different perspectives on ideological aspects and the similar distinction in the foreign literature. A branch nurtured from the religion psychology by describing the spirituality as "feelings, thoughts and actions that arise in the search for the sacred" (Sheep, 2006: 358), the secular branch, without entering into Religiosity, defined spirituality as a basic feeling that one is connected to one's own integrity, the others and the whole universe (Mitroff and Denton, 1999: 83) by emphasizing the search for meaning and satisfaction to each person (Krishnakumar and Neck, 2002). Since the phenomenon of religion is almost a person-to-person phenomenon when approached from a holistic perspective, it may be more appropriate to use a more secular context in order to benefit from this concept in the managerial area on the basis of the organization.

In parallel with the concept of spirituality, the concept of workplace spirituality emerged by adapting the spirituality to the working life.

Nowadays, spirituality has long ceased to be the only subject of personal concern. Since spirituality positively affects employees' motivation and performance, employers incorporate their 'spirituality at work' approach into strategic HRM concepts (Açıkel and Sunar; 2013 cited by Seyyar and Evkaya, 2015). In the basic context, it is possible to define workplace spirituality as 'to find the person's purpose in life, to establish strong ties with the people in the workplace and in relation to the work, and to reconcile the human's own values with the goals of the organization' (Mitroff and Denton, 1999).

The theories of organizational behavior in the modernist current generally focuses on organization, although it is generally felt as individual-oriented from the upper window, it is not given much space to the inner world of the person. With the effect of generation Y and cultural equations, issues such as organizational spirituality began to be discussed. Employees always had internal worlds of ideas about the organization, but Robbins et al. (2009) summarized the possible causes of the search for meaning and purpose in the work;

- As a counterweight to the pressure and stress of a turbulent lifestyle; Contemporary lifestyles, single-parent families, geographical mobility, temporary nature of jobs, new technologies that create distance between people,
- The perception of formatted religion has lost its importance for many people and strives to fill the feeling of growing emptiness created by the lack of faith,
- Labor demands, workplace being dominant in the lives of many people, resulting people to question the 'essence of business',
- The desire to integrate personal life values into the professional life of the individual,
- An increasing number of people are finding that the pursuit of more material acquisitions leaves them unfulfilled.

Based on the assumptions of Robins et al. (2009), modernist perceptions of today's organizations are expected to be insufficient to understand the Y generation and its' successors, and to begin to fail to fully integrate the valuable human resources into its intellectual capital. While positive concepts such as leadership/commitment on the same sample at the most basic dimension are high, they are high in values such as desire to leave the organization/remain silent/psychological burnout at the same time. This provides us with clues to the existence of variables that are not clearly seen in the organizational level. In this understanding, the concept of organizational spirituality can be meaningful for the researchers of organizational behavior. The main objective of the workplace spirituality

is to create an internal motivation by meeting the needs of employees such as belief, sacrifice and belonging in the business environment and thus to increase the level of organizational or business performance (Karadağ, 2009). As the subject is discussed by the researchers in the context of literature, the size and content will change and different definitions will emerge, which already have different definitions. But focusing on the concept rather than focusing on the definition difference would be useful to understand the issue. In this context, when we look at the basic dimensions of workplace spirituality, the following table appears in the light of the predecessor models.

Chart 1: Dimensions of Workplace Spirituality in the Light of Preliminary Modeling

Milliman et al. (2003)	Ashmos and Duchon (2000)	Sheep (2006)
A meaningful business	A meaningful business	Significance of business done
Sense of Unity(Community)	Sense of Community	Self-transcendence
Alignment with organizational values	-	Integration between Person and Workplace
-	Inner Life	Progress

In the light of the pioneering studies, it is observed that the main dimensions are almost in agreement. In all three models, ‘Meaningful Business’ and ‘Sense of Unity/Community’ takes place in common, and is focused on organizational integration. When the study of Milliman et al. (2003) is examined on the scale used in the study, the content of these dimensions is as follows;

Chart 2: Dimensions and Interactions of Workplace Spirituality

BASIC DIMENSIONS		CONTENT	DEFINITION
INDIVIDUAL LEVEL	Meaningful Business	<ul style="list-style-type: none"> • Rejoice in business • Energized by work • Finding purpose & meaning from work 	<p>“What is my purpose in doing this business?”, “Where does this job lead me?”, “What will I leave behind after this job I am doing?”. Employees asks these questions to themselves (Örgev and Günalan, 2011). Workplace spirituality emphasizes the assumption that each individual has their own “internal motivation, truths and willingness to participate in activities”, which gives a greater meaning to their lives and the lives of others (Ashmos and Duchon, 2000). A meaningful job is not just an interesting and enjoyable job, it seeks a deeper meaning and purpose, wants to live its dream, contribute to others and want to satisfy its inner feelings. (Milliman et al, 2003)</p>
	Sense of Community	<ul style="list-style-type: none"> • Creating a spirit of unity with colleagues • Supporting each other • Uniting around a common purpose 	<p>This dimension of workplace spirituality occurs at the group level in human behavior and focuses on the interaction between the worker and other colleagues (Milliman et al., 2003). In the case of this feeling, the employees connect and support each other as a family. In order to achieve this situation, trust, support, quality communication and sincerity are required in the relationship of individuals (Brown, 2003).</p>

ORGANIZATIONAL LEVEL	Alignment with organizational values	<ul style="list-style-type: none"> • Commitment to organizational purposes • Clarity of the aims and values of the organization • The organization valuing the employee 	At this level, the organizational goals are perceived as superior to the employees' own internal needs: The person should be able to contribute to others and to society. This adaptation also means that employees believe that managers/executives have the right values, they are aware of the job and they are really interested in the health of their employees (Ashmos and Duchon, 2000). Compliance with organizational values includes the notion that employees desire to work not only in good corporate citizenship, but also seeking ethical or honest feelings and seeking to contribute in an organization more than a typical company for the welfare of employees, customers and society (Milliman et al., 2003).
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METHODOLOGY

Data Acquisition Process & Sampling

The sampling of the study includes 102 young academics under the age of 35, reached through convenience sampling method from private and state universities in Turkey. The scales were delivered to the participants by hand and e-mail addresses and it was stated that the participation was on a volunteer basis. Four socio-demographic questions were asked to participants (Gender, Science Fields, Titles and where they saw themselves in a conservative and secular dimension). When the answers to the questions are examined; 53.9% of the participants were women. 48% of the participants are in human sciences, 25,5% in natural sciences, 6,9% in fine arts, 14,7 in health sciences and 4,9% in sports sciences.

In terms of title, majority of the participants by 57.8% were research assistants, 20.6% were lecturers and 21.6% were Assist. Assoc. Dr. . According to the answers to the questions asked by the 5-point Likert scale on the conservative and secular scale, 49% of the respondents found themselves to be *in between*, while the ratio of those who considered themselves to be *quite conservative* was 6,9% and those who considers themselves as *conservative* was 25,5%. There is no one who positions themselves as *quite secular*, however, there are 18.6% participants who mark the *secular* option.

Scale

In order to measure spirituality at work, the scale Milliman et al. (2003) derived from Ashmos and Duchon's (2000) work is organized by reviewing both studies. The scale with 21 statements consists of three dimensions; meaningful business (9), sense of community (6) and alignment with organizational values (6). Answers in the likert scale consists of five steps from 'Absolutely Disagreed (1)' to 'Absolutely Agreed (5)'. Statements in the scale has been translated into Turkish by the author. Subsequently, in order to control the English-Turkish meaning integrity, statements were reviewed by a group of people who were fluent in English and Turkish and necessary corrections were made. Then, the scale was tested on 12 people with a preliminary study, and the applied reliability analysis gave a high alpha value ($\alpha = 0.95$) for the scale of spirituality in the workplace.

Reliability and Validity

The variables used in the research were tested by factor analysis (EFA) in IBM SPSS 24 program. The Cronbach's alpha values of the scales for overall scale and three sub-dimensions (meaningful business, sense of community, alignment with organizational values) are; $\alpha=.94$, $\alpha=.91$, $\alpha=.78$ ve $\alpha=.95$, respectively. These results indicate that the scale is sufficiently reliable (Hair et al. 2010).

RESULTS

Before proceeding to comparative tables, a descriptive study of the values of the workplace spirituality of the participants will be useful to relate the situation.

Chart 3: Descriptive Analysis of Participants

	N	Minimum	Maximum	Average
Meaningful Business	102	1,33	3,67	2,5338
Sense of Community	102	1,00	3,50	2,3121
Alignment with Organizational Values	102	1,50	3,17	2,0523

Although Chart 3 does not give us a clear, illustrative result, the analysis of the study will help to make sense. When the institutions are evaluated from the perspective of young academicians, we can say that the values on the basis of general averages are below the 3 limit, which is *quite low*. Among the three dimensions, the spirituality values are the highest in the

section related to the work itself, while the lowest is the compliance with the organizational values. When the minimum values are examined, at least one person have marked “1” in all variables of ‘sense of community’ dimension. In complementary statistics, the relationship between demographic variables and factors was tested with t-test and Anova. In this respect, the relationship between factors and gender variable was interpreted according to t-test results.

Chart 4: T-Test Results According to Gender Variable

Dimensions	Gender	n	Avg.	ss	sd	t	p
Meaningful Business	Female	55	2,5495	,65155	,08785	,287	,77
	Male	47	2,5154	,55042	,08029		
Sense of Community	Female	55	2,3030	,72086	,09720	- ,149	,88
	Male	47	2,3227	,59528	,08683		
Alignment with Organizational Values	Female	55	2,0758	,48625	,06557	,609	,54
	Male	47	2,0248	,35607	,05194		

Looking at Chart 4, when we analyze factors from demographic variables to gender, there is no significant difference between males and females as it could be seen by the average values. ($p > ,05$).

Chart 5: Anova Results According to ‘Title’ Variable

Dimensions	Title	n	Avg.	ss	sd	Levene p	p
Meaningful Business	Research Assistant	59	2,4388	,67757	,08821	,000	,003
	Lecturer	21	2,3968	,36442	,07952		
	Assist. Assoc. Dr.	22	2,9192	,40308	,08594		
Sense of Community	Research Assistant	59	2,2627	,71264	,09278	,011	,040

	Lecturer	21	2,1349	,61151	,13344		
	Assist. Assoc. Dr.	22	2,6136	,46968	,10014		
Alignment with Organizational Values	Research Assistant	59	1,9237	,27038	,03520	,000	,000
	Lecturer	21	1,7857	,17593	,03839		
	Assist. Assoc. Dr.	22	2,6515	,40470	,08628		

According to Anova results could be interpreted. There are significant differences between three factors and title. In ‘Meaningful Business’ dimension, Assist. Assoc. Dr.’s have a higher value with 0.480 mean difference compared to the research assistants; and with a mean difference of 0,522 compared to the lecturers ($p=0,01$; $p=0,000$). In other words, they find their work *more valuable*. When we look at ‘Sense of Community’ dimension, Assist. Assoc. Dr.’s results are higher than research assistants by 0,350 mean difference and higher than lecturers by 0,478 mean difference ($p=0,038$; $p=0,020$). In ‘Alignment with Organizational Values’ dimension, according to the Tukey test results, Assist. Assoc. Dr.’s have a higher value of 0.727 mean difference compared to research assistants, and 0,865 mean difference compared to the lecturers. ($p=0,000$).

Chart 6: Anova Results According to Variable Fields of Science.

Factors	Field of Science	n	Avg.	ss	sd	Levene p	p
Meaningful Business	Humanities	49	2,4127	,50205	,07172	,000	,000
	Natural Science	26	2,4316	,52147	,10227		
	Fine Arts	7	3,5238	,10569	,03995		

	Health Science	15	2,3259	,58864	,15199		
	Science of Sports	5	3,4889	,06086	,02722		
Sense of Community	Humanities	49	2,1973	,63161	,09023	,013	,000
	Natural Science	26	2,2628	,61855	,12131		
	Fine Arts	7	3,0952	,13113	,04956		
	Health Science	15	2,1444	,69826	,18029		
	Science of Sports	5	3,1000	,22361	,10000		
Alignment with Organizational Values	Humanities	49	1,9796	,42442	,06063	,064	,108
	Natural Science	26	2,0321	,44726	,08772		
	Fine Arts	7	2,4048	,08909	,03367		
	Health Science	15	2,0889	,50343	,12998		
	Science of Sports	5	2,2667	,09129	,04082		

According to Anoya results in terms of 'Field of Science', Tamhane test is examined since the variances at 0.05 significance level are not homogeneously distributed for the 'Meaningful Business' and 'Sense of Community' dimensions. As for the 'Alignment with Organizational Values' dimension, Tukey test results are examined hence the assumption of homogeneity of variances are provided. In 'Meaningful Business' dimension, the results show that Fine Arts, have a higher value with a mean difference of 1.111 compared to Humanities; 1.092 mean difference to Natural Science; 1.197 mean difference to Health Science, expressively. ($p=0.000$). Again in 'Meaningful Business' dimension, Science of Sports, have a higher value with a mean difference of 1.076 compared to Humanities; 1.057 mean difference to Natural Science; 1.162 mean difference to Health Science, expressively. ($p=0.000$). Looking at the

results of ‘Sense of Community’ dimension, Fine Arts, , have a higher value with a mean difference of 0.897 compared to Humanities; 0.832 mean difference to Natural Science; 0.950 mean difference to Health Science, expressively ($p=0,000;p=0,001$). Science of Sports, have a higher value with a mean difference of 0.902 compared to Humanities; 0.837 mean difference to Natural Science; 0.955 mean difference to Health Science, expressively. ($p=0.000$). There was no significant difference between the results of the ‘Alignment with Organizational Values’ dimension.

Chart 7 : Descriptive evaluation according to the perception of conservatism

Factors	Field of Science	n	Avg.	Min.	Max.
Meaningful Business	Very Conservative	7	2,8889	2,22	3,33
	Conservative	26	2,3846	1,33	3,33
	In Between	50	2,5111	1,56	3,67
	Secular	19	2,6667	1,67	3,56
Sense of Community	Very Conservative	7	2,5714	2,00	3,00
	Conservative	26	2,1026	1,00	3,00
	In Between	50	2,3433	1,00	3,50
	Secular	19	2,4211	1,00	3,00
Alignment with Organizational Values	Very Conservative	7	2,5238	1,57	3,17
	Conservative	26	2,0064	1,50	3,00
	In Between	50	1,9833	1,50	2,50
	Secular	19	2,1228	1,50	3,17

When examining feedbacks from participants about ‘how conservative they are’ and Anova results about sub-headings of organizational spiritualism perceptions, no significant difference in the statistical dimension was found. But when the results of the given answers are examined descriptively, although it may be wrong to present a result in a positivist context, participants who express themselves as Highly Conservative have higher values in all dimensions than other participants. The major surprising result is that, considering the average values,

immediately after the 'Very Conservative' ones, the following is the academics who feels themselves within the "secular" dimension, in which is the opposite pole. Although it is necessary to examine the reasons for this through qualitative studies, it would not be wrong to state that 'minority influence' brings people closer to each other and that they are connected to work.

CONCLUSION

In conjunction with Generation Y in almost all the work management paradigms are changing. This generation, which is less devoted, free-spirited and independent, remains dissatisfied under the classical and rigid bureaucratic structure. The workplace attracts spirituality to the personal sphere from a postmodern point of view of organizational behavior. When the workplace spirituality, which is described as "Spirit" in the metaphorical context, is examined on young academicians, the result is below average values in all dimensions. It can be said that young academics can only find meaning in the work they do, even though it is relatively low. It is possible to say that the institutions they work for are far from the sense of community and they are in conflict with the organizational values of their institutions. However, it is seen that academicians in the field of Sports Science and Fine Arts have a relatively high value especially in a 'Meaningful Business' dimension. It may be possible to connect this matter from an interpretive perspective, depending on the fact that their work is based on individual successes in talent-based and human desire to complete oneself compared to other fields. In another dimension, Asst. Assoc. Dr.'s value among the academicians staff is higher than those in the other group. It may not be wrong to attribute this to the expansion of the area of relaxation, authority and power in the hierarchical position. However, larger studies are needed to make these comments. The biggest limitation of the study is the limited sample size. Therefore, it is not possible to make a generalization about the thoughts of all young academics. However, it is thought that this study will create a beginning and awareness for larger studies.

REFERENCES

- Acuner, T. and Genç, K.Y. (2008), "The Strategic Approach In Human Resources Management And A Research About Influences Of Environmental Variables On Human Resources Policies", *Uluslararası İktisadi Ve İdari İncelemeler Journal*, 1(1): 35-42.
- Ashmos, D. P. and Duchon, D. (2000), "Spirituality At Work: A Conceptualization And Measure". *Journal Of Management Inquiry*, 9 (2): 134-145.

- Balođlu, N. and Karadađ, E. (2009), “Ruhsal Liderlik Üzerine Teorik Bir Çözümleme”, *Kuram ve Uygulamada Eğitim Yönetimi*, (15) 58:165-190.
- Brown, R. B. (2003), “Organizational Spirituality: The Skeptic’s Version”, *Organization*, 102: 393-400.
- Hair, J. F.; Black, W. C.; Babin, B. J.; and Anderson, R. E. (2010), “Multivariate Data Analysis, Upper Saddle River, Nj: Prentice Hall.
- İlhan Nas T. (2006), “Kültürün Örgütlerdeki Rolü: Benimsenen Teorik Perspektifler ve Yöntem Tartışmalarına İlişkin Kavramsal Bir İnceleme”, *Atatürk Üniversitesi İİBF Journal*, 20: 273-292.
- Karadađ, E. (2009), “Ruhsal Liderlik Ve Örgüt Kültürü: Bir Yapısal Eşitlik Modelleme Çalışması”, *Kuram ve Uygulamada Eğitim Bilimleri*, 9 (3): 1357-1405.
- Korkut, A. (2012), “Ruhsal Liderliğe İlişkin Kuramsal Bir İnceleme”, İnönü University Institute of Educational Sciences Master Thesis, Malatya.
- Krishnakumar, S. and Neck, C. P. (2002), “The -What-, -Why- And -How- Of Spirituality In The Workplace”, *Journal Of Managerial Psychology*, 17(3): 153-164.
- Milliman, J.; Czaplewski, A. J.; and Ferguson, J. (2003), “Workplace Spirituality And Employee Work Attitudes: An Exploratory Empirical Assessment”, *Journal Of Organizational Change Management*, 16 (4):426-447.
- Mitroff, I. and Denton, E. (1999), “A Study Of Spirituality In The Workplace”, *Sloan Management Review* ,(40) 4: 83-92.
- Örgev, M. and Günelan, M. (2011), “İşyeri Maneviyatı Üzerine Eleştirel Bir Deđerlendirme”, *KSÜ İİBF Journal*, 1(2): 51-63.
- Öztürk, U.C. (2015), “Örgüt Kültürü Algısında Cinsiyet Faktörünün Etkisi ve Bir Uygulama”, *Süleyman Demirel Üniversitesi Vizyoner Journal*, 6(12): 62-86.
- Pakdemir, I. M. ; Özçelik, O.; Karabulut, E. and Arslantaş, C.C. (2006), “Personel Güçlendirme, İş Tatmini ve Örgütsel Bağlılık Arasındaki İlişkileri Belirlemeye Yönelik Bir Çalışma”, *Verimlilik Journal*, 4: 11-36.
- Robbins, S.P.; Judge T.A.; Odendaal, A. and Roodt, G. (2009), “Organisational Behaviour: Global and Southern African Perspectives”, 2. Ed., Pearson Publication, Cape Town.

- Seyyar, A. and Evkaya, C. (2015), “Batıda -İşyeri Maneviyatı- Üzerine Yapılan Bilimsel Çalışmaların Türk Bilim Camiasına Etkileri”, *Siyaset, Ekonomi Ve Yönetim Araştırmaları Journal*, 2015 Special Issue:143-171.
- Sheep, M. L. (2006), “Nurturing The Whole Person: The Ethics Of Workplace Spirituality In A Society Of Organizations”, *Journal Of Business Ethics*, 66: 357-375.
- Yılmaz, A.; Çelik, A. and Ulukapı, H. (2015), “Çalışanların Tinsel Değerlere İlişkin Algılarının İş Stresi Üzerindeki Etkisinde Birey-Örgüt Uyumunun Aracılık Rolü: Selçuk Üniversitesi Örneği”, 23. *Ulusal Yönetim ve Organizasyon Kongresi*, 14-16 May 2015, Muğla.