

ADMINISTRATIVE AND ECONOMICS SCIENCES Theory, Current Researches and New Trends 4

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Editor
Assoc. Prof. Dr. Faruk KALAY

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PREFACE

Research in the field of economic and administrative sciences constitutes a sub-field of social sciences that tries to explain a very important area of the development process of humanity. Social sciences is an extremely important branch of science that examines the development of societies, social events and teachings, cultures of societies, legal systems and economic developments at macro and micro levels. Along with global changes and developments, the epistemology on which social sciences are based is being questioned with new approaches every day.

Today, the environment in which organizations operate has become globalized in terms of consumer demands and behaviors, produced goods and services and technology used, and competition between businesses has intensified. Under these conditions, business organizations need to adapt to changing environmental conditions and develop strategies accordingly in order to maintain their existence, earn above-average returns and achieve sustainable competitive advantage. Therefore, new approaches and techniques in the field of economics and administrative sciences appear every day in front of managers who are responsible for managing business organizations effectively and efficiently. The success of societies, states, decision makers and micro-level business organizations depends on the application of the most appropriate approach and technique.

The Administrative And Economics Sciences: Theory, Current Researches and New Trends 4 book is a work prepared based on the developments mentioned above. Recent developments in many fields such as macroeconomics, microeconomics, finance, business, accounting, international economics, management, communication, change and organizational behavior are discussed. It is hoped that the topics covered in this book will be useful to business managers, decision makers and entrepreneurs. In addition, the theoretical and empirical studies discussed in the book provide important contributions to the existing literature and constitute a starting point for future studies. I would like to thank the authors who contributed to the emergence of the book with their valuable scientific studies and wish them continued success.

Assoc. Prof. Faruk KALAY

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CHAPTER I

THE EFFECT OF FIRM SIZE ON PROFITABILITY AND MARKET VALUE

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1.Introduction

Within the framework of corporate management; financial performance management, which takes into account the expectations of shareholders, stakeholders and potential investors, is one of the important issues in the finance literature and the business world. Financial performance indicators are calculations that show whether things are going well in the company that is constantly monitored by the relevant people and that allow comparison with other companies in the sector. While the finance literature researches the indicators that best represent financial performance, on the other hand, it focuses on what affects these indicators. At this point, one of the researched subjects is the effect of firm size on financial performance. As firms grow, factors such as greater market share, competitive advantage and lower purchasing costs are expected to increase financial performance. On the other hand, size brings with it problems such as a more complex organizational structure, conflicts of interest, increased organizational costs and agency problems, and if not managed well, negative effects on performance can be observed.

Although firm size is represented by different variables in the literature, the most used variable is the natural logarithm of assets (Friend and Lang., 1988; Deesomsak, 2004; Padron et al., 2005; Güngör, 2005; Cai et al., 2008; Demirhan, 2009; Özer et al., 2019) and natural logarithm of sales (Rajan and Zingales., 1995; Wiwattanakantang, 1999; Huang, 2006; Gaud et al., 2005, Cai et al., 2008) are the most used variables. In the measurement of financial performance, profitability ratios based on financial statements or measurements based on market value are generally preferred. However, there is no consensus in the literature on the effect of size on both profitability and stocks. Lee (2009), Doğan (2013), Kurtaran et al., (2015), Işık et al. (2017), while studies such as the positive effect of firm size on profitability; On the other hand, studies such as Becker et al., (2010), Demirgüneş (2016), Dilmaç and Korkmaz (2018) have revealed that firm size has a negative effect on profitability. Studies such as Banz (1981), Reinganum (1981) and Basu (1983) have revealed for the first time that firm size has a significant effect on stocks. In these studies, it was

revealed that the stock performance of small firms is better than large firms and entered the literature as a growth anomaly. Brown et al. (1983) argued in his study that this effect may change over time.

In this study, the effect of natural logarithm of assets and natural logarithm of sales, which are frequently used to represent firm size in the literature, on profitability and market value were investigated.

2.Literature

Hall and Weiss (1967) analyzed the data of 341 companies traded in the USA, included in the Fortune magazine's top 500 industry rankings, between 1956 and 1962, using regression analysis. As a result of the analysis, they determined the relationship between size and profitability.

Basu (1983) investigated the effect of firm size on stock performance in the USA between 1963 and 1983. They found that firms with higher P/E ratios have higher returns and the size of firms does not change this effect. They also showed that small firms provide more returns than large firms, but when examined with control variables, this effect disappears.

Heston et al. (1999) examined the effect of size on stock returns in 12 European countries between 1978 and 1995. When countries are examined together, they show that firm size has a significant negative effect, and when analyzed on a country basis, this effect exists in 11 of 12 countries. They stated that this effect was mainly due to the January returns.

Lee (2009), using the data of 7000 publicly traded companies in the USA between 1987 and 2006, examined the determinants of firm performance with panel data analysis. As a result of the analysis, it was determined that profit rates were positively correlated with firm size in a non-linear way.

John and Adebayo (2013), in their study using the data of Nigerian manufacturing companies between 2005 and 2012, used return on assets to represent profitability and logarithms of total assets and total turnover to represent size. As a result of the study, they stated that firm size has a positive effect on financial performance.

Doğan (2013), using the data of 200 companies traded in BIST between 2008 and 2011, examined the effect of the size effect on the profitability of the firm with regression analysis. As a result of the analysis, a positive relationship was determined between the size indicators and the profitability of the enterprise.

Kurtaran et al. (2015) examined the relationship between firm value and certain ratios with multiple regression analysis, using the data of 45 companies included in the BIST100 index between the years 2008-2102. As a result of the analysis, a positive relationship was detected between the

return on assets and the value of the firm, but they could not detect any relationship with the leverage ratio.

Asiri (2015) examined the relationship between market value and financial ratios with cross-sectional time series analysis using data from 65 non-financial companies traded in the UK FTSE between 2000 and 2013. As a result of the analysis, it was determined that the return on assets was positively correlated with leverage and Tobin q, while the leverage ratio and capital structure were negatively correlated.

Demirgüneş (2016) examined the determinants of firm value with factor and multiple regression analysis using the data of the companies traded in the manufacturing industry in the BIST between 2007 and 2014. According to the results of the analysis, it has been determined that the size of the firm affects the firm value positively and the profitability variable negatively.

In his study, Çaba (2017) examined the effect of leverage and size on the market value with multiple regression analysis using the data of 136 companies traded in the BIST Sinai index between 2012 and 2016. As a result of the analysis, it was determined that two variables affected the market value.

Light et al. (2017) examined 112 manufacturing industry companies traded in BIST as of 2005-2013. Whether there is a relationship between the scale size of the companies and the profitability of the companies was analyzed with the GMM model. As a result of the analysis, they determined that as the companies grow, their profitability increases and all size measures affect the profitability of the firm and are positively related.

Dilmaç and Korkmaz (2018), in their study, used the 2008-2015 data of 12 banks and 5 insurance companies traded in the BIST, to examine the relationship between firm value and financial ratio with regression analysis. In terms of insurance companies, while the leverage ratio affects the market value positively, profitability affects it negatively; They found that leverage and size affect negatively and profitability positively in terms of bank companies.

Ege and Topaloğlu (2018) examined the 2010-2016 data of the companies in BIST30 with panel data analysis and examined the relationship between market value and certain variables. Market value is measured by the Tobin q ratio. As a result of the analysis, a positive effect was detected between profitability and Tobin Q, but they could not detect a relationship with leverage and size.

Abeyrathna and Priyadarshana (2019) investigated the effect of firm size on financial performance over 109 sectors in their study conducted in the USA between 1987 and 2002. As a result of the analyzes, they showed that size had no effect on performance in 52 sectors, while in 47 sectors

there was an increase in decreasing rates and then a decrease. In 11 sectors, they found that size had a positive effect on performance. They stated that the effect of size on financial performance varies by sector.

Tepeli and Kahraman (2021), using the data of 68 companies traded in the BIST 100 index between 2009 and 2018, examined the effect of capital structure and partnership value on the market value with time series analysis. As a result of the analysis, they determined that size has an effect on the market value of the firm and is one of the determinants of firm value.

Wardana et al. (2022), in their study, investigated the effects of size, liquidity and profitability through corporate social responsibility on firm value with a structural equation model using 2016-2020 data from 45 companies traded in Indonesian stock exchanges. As a result of the analysis, while determining the effect of profitability on firm value, they could not detect the effect of firm size.

3. Dataset and Methodology

In the study, the effect of size on financial performance of companies operating in BIST was investigated in the 2010Q1 and 2021Q3 periods. During the study period, analyzes were carried out on 258 companies with data continuity. The datasets used in the study were obtained from the Refinitiv-Eikon Datastream database. The data set and abbreviations used in the analyzes are presented in Table 1.

Table 1. Variables and Abbreviations

Variables	Abbreviations
Profitability	
Return on Assets	ROA
Return on Equity	ROE
Size	
Ln (Total Assets)	LnAst
Ln (Sales)	LnSal
Capital Structure	
Total Debts/ Total Assets	DEBT
Liquidity	
Current Ratio	CRT
Market Value	
Market Value/Book Value	M/B

In the study, first of all, the effect of firm size on profitability was investigated in order to investigate the effect of firm size on financial performance, and then its effect on market value. While investigating the

effect on profitability, ROA and ROE were included in the model as dependent variables. To show the effect of size, natural logarithms of total assets and sales are used. Capital structure, Liquidity and PD/DD ratios were added to the model as control variables. Thus, the analyzed models were formed as follows.

$$\text{Model 1: ROA}=\text{LnAst}+\text{DEBT}+\text{CRT}+\text{M/B} \quad (1)$$

$$\text{Model 2: ROA}=\text{LnSal}+\text{DEBT}+\text{CRT}+\text{M/B} \quad (2)$$

$$\text{Model 3: ROE}=\text{LnAst}+\text{DEBT}+\text{CRT}+\text{M/B} \quad (3)$$

$$\text{Model 4: ROE}=\text{LnAst}+\text{DEBT}+\text{CRT}+\text{M/B} \quad (4)$$

After examining the effect of size on profitability, the following models were created to investigate its effect on market value. As in previous models, capital structure and liquidity are accepted as control variables. In addition, in market value models, profitability, which was the dependent variable in previous models, was added to the model as a control variable.

$$\text{Model 5: M/B}=\text{LnAst}+\text{DEBT}+\text{CRT}+\text{ROE} \quad (5)$$

$$\text{Model 6: M/B}=\text{LnSal}+\text{DEBT}+\text{CRT}+\text{ROE} \quad (6)$$

Eviews-10 and Stata-12 program programs and panel data models were used in the analysis of the models created. Pooled, fixed and random effects models were used as panel data models. The F test tests the null hypothesis of the same effects for all firms, and if we accept this hypothesis, we can use the pooled model estimator. The Hausman test, on the other hand, decides which of the fixed and random effect models is more suitable for the study model. The fixed effects model is equivalent to using dummy variables for each firm, while the random effects model assumes independence between error terms and explanatory variables. The Hausman test is performed with dependent variables to verify the externality of firm effects. (Hsiao, 1986; Hausman, 1978; Greene,1997)

4. Results

Before starting the analyzes in the study, descriptive statistics about the variables used are presented in Table 2. Since 258 companies with data set continuity were included in the study, 12,126 observations were obtained for each data.

Table 2. Descriptive Statistics

	Mean	Std. Dev.	Jarque-Bera	Probability	Observations
CRT	1.82397	2.04325	5182884	0.0000	12126
DEBT	0.271559	0.326483	14565591	0.0000	12126
LnAst	5.172524	0.824501	144.1559	0.0000	12126

LnSal	7.298190	0.999916	258.7907	0.0000	12126
M/B	3.146981	18.3785	3.83E+09	0.0000	12126
ROA	0.008727	0.086481	6.22E+09	0.0000	12126
ROE	0.008667	1.084329	3.19E+09	0.0000	12126

The correlation relationship between the variables used in the study is presented in Table 3. Looking at the table, it is seen that the correlation relationship between the variables over 50% is between the natural logarithm of total assets and the natural logarithm of sales, which is used as a size variable. However, since these variables are not included in the same models, they do not cause a spurious relationship problem.

Table 3. Correlation

	CRT	DEBT	LnAst	LnSal	M/B	ROA	ROE
CRT	1,000	-0,195	-0,100	-0,132	-0,004	0,059	0,014
DEBT	-0,195	1,000	0,155	0,098	0,001	-0,069	-0,035
LnAst	-0,100	0,155	1,000	0,751	-0,049	0,055	0,031
LnSal	-0,132	0,098	0,751	1,000	-0,032	0,087	0,037
M/B	-0,004	0,001	-0,049	-0,032	1,000	0,018	-0,188
ROA	0,059	-0,069	0,055	0,087	0,018	1,000	0,068
ROE	0,014	-0,035	0,031	0,037	-0,188	0,068	1,000

In the study, panel unit root tests were performed to ensure the stationarity of the data so that spurious relationships do not appear in the analysis of the models and are presented in Table 4. Levin, Lin&Chu, ADF Fisher and PP Fisher unit root tests were used as panel unit root tests.

Table 4. Panel Unit Root Tests

	Levin, Lin&Chu		ADF Fisher		PP Fisher	
	Level	1.Diff.	Level	1.Diff.	Level	1.Diff.
CRT	-3,4940*		970,031*		5268,7*	
DEBT	-62, 144*		834,358*		3775,7*	
LnAst	1,6613	-94,061*	326,488	9153,46*	442,73	50461*
LnSal	0,5853	-113,68*	249,002	14672,1*	355,35	58678,3*
M/B	-21,643*		2154,47*		4386,7*	
ROA	-32,291*		3495,51*		6871,7*	
ROE	-33,817*		3643,83*		7909,8*	

Note: * %1 indicates the degree of significance.

In Table 4, it is seen that other variables except LnAst and LnSal, which represent the size, are stationary in the level value. Variables that are not stationary at the level value become stationary at the 1st difference value. After solving the stationarity problem of the variables, the F-test and Hausman Test were performed to determine which panel data model is suitable for the models used and are presented in Table 5.

Table 5. Panel Data Modeling Tests

	F-Test	Hausman Test
Model 1	3,5798*	14,6405*
Model 2	4,3217*	23,1780*
Model 3	2.5467*	6,3677
Model 4	2,4865*	7,1932
Model 5	5,3489*	14,2165*
Model 6	4,8856*	15,7838*

Note: * %1 indicates the degree of significance.

Looking at Table 5, the F test for all models used in the study was significant at 1%, and the fixed-effects model was preferred to the pooled model for all models. On the other hand, according to the results of the hausman test, it was insignificant for model 3 and model 4, and the random effect model was preferred to the fixed effect model. For Model1, Model 2, Model 5 and Model 6, the hausman test was significant at 1%. For these models, the fixed effect model was chosen as the appropriate model. After the appropriate models were determined, the panel data analysis results for the 6 models established are presented in Table 6.

Table 6. Panel Data Analysis Results

	Model1	Model2	Model3	Model4	Model5	Model6
	Fixed	Fixed	Rndom	Rndom	Fixed	Fixed
c	-4.7435 (0.0052)*	-7.7439 (0.0060)*	-3.5452 (0.0662)*	-3.9448 (0.0761)*	6,5864 (1,5681)*	1,9337 (4,5613)*
Ln Ast	7.4356 (0.0010)*	-	3.9761 (0.0127)*	-	-4,6367 (0,2961)*	-
Ln Sal	-	10.1286 (0.0008)*	-	4.3210 (0.0103)*	-	-1,3685 (0,6178)
CRT	2.5761 (9.83E-06)*	2.1611 (9.77E-06)**	0.6325 (0.0001)	0.2924 (0.0001)	-0,6456 (0,1118)	-0,7897 (0,1382)
DEBT	-8.1750 (0.0025)*	-8.1164 (0.0025)*	-4.2422 (0.0318)*	-4.0943 (0.0318)*	0,0492 (0,7575)	1,9719 (1,2140)**
M/B	0.8237	0.8919	-0.59893	-0.6039	-	-

	(8.34E-07)	(8.32E-07)	(1.05E-05)	(1.05E-05)		
ROE	-	-	-	-	2,6383 (2,8223)*	2,6685 (2,8846)*
R²	0,143	0,141	0,087	0,092	0,171	0,174
DW	1,97	1,98	2,04	2,05	1,99	1,99
F- Stas.	28,176*	40,148*	17,432*	12,5432*	23,321*	23,245*

Note: * and **, %1 and %5 indicates the degrees of significance.

When the panel data analysis results in Table 6 are examined, it is seen that the variables of natural logarithm of assets and natural logarithm of sales, which are used to represent size, have a significant effect at 1% on the profitability of assets and return on equity, which are used to represent profitability. Looking at the direction of the relationship, it is seen that there is a positive relationship in all models. It can be said that as the size of the companies in BIST increases, the profitability also increases. When the models examining the relationship between market value and size are examined, it is seen that the positive relationship with profitability turns negative. However, while this relationship was significant in model 5, this relationship was insignificant in model 6 established with the natural logarithm of sales. Looking at the control variables, it is seen that the market value, which is used as a control variable in profitability models, is meaningless in all models. On the other hand, ROE, which is used as a control variable in market value models, had a positive and significant effect in both models. Capital structure and liquidity are used as control variables in all models. The current ratio, which is used to represent liquidity, is meaningless except for the return on assets models. A positive and significant effect was found on the return on assets. Finally, the total debt/total asset ratio, which is used to represent the capital structure, was significant in all models except for one model. While it had a negative effect on profitability, it had a positive effect on market value. In summary, although the profitability of companies in Turkey increases as they grow, the effect of this effect on stocks is negative. This result is known as the growth anomaly in the stock market.

5. Conclusion

In this study, analyzes were carried out using the quarterly data announced in the financial statements of companies listed on Borsa Istanbul between 2010 and 2021. Since 2010, 258 companies whose uninterrupted data can be accessed, including the third quarter of 2021, were included in the study. The aim of the study is to investigate the effect of firm size on financial performance. Natural logarithm of total assets and natural logarithm of sales were used as firm size variables. Financial

performance is discussed in two dimensions as profitability and market value. ROA and ROE were used as profitability variables, and PD/DD ratio was used as market value variables. In order to analyze the size effect, 6 different models were created and analyzed with the help of appropriate panel data analysis. As a result of the analyzes made, it has been determined that the size of the firms in Turkey has a positive effect on profitability, while it has a negative effect on market value.

The results support that firm size is related to profitability and market value, as in the studies in the literature. Contrary to Demirgüneş (2016), Lee (2009), Doğan (2013), Kurtaran et al. (2015), Asiri (2015), Işık et al (2017) and Ege and Topaloğlu (2018) studies have found the same positive effect. Contrary to the studies of John and Adebayo (2013) and Abeyrathna and Priyadarshana (2019) on the market value of firm size, Heston et al. (1999) and Dilmaç and Korkmaz (2018) studies found the same negative effect. The fact that the results are compatible with the literature increases the importance of investors considering these variables when making investment decisions.

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CHAPTER II

EXAMINING CORE-PERIPHERY THEORY IN THE CONTEXT OF HUMAN DEVELOPMENT: CLUB CONVERGENCE ANALYSIS ¹

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1. Introduction

The world's economic and political system is affected by many historical and social factors. There are three structural positions in this system: core, semi-periphery and periphery. Countries at the core of the economic structure often specialize in skilled labor, using wage labor to control the workforce while more industrially complex, diverse in agricultural production. Core countries include major world powers and countries that have a large share of the world's wealth. Countries in the periphery of the economic structure tend to specialize in agriculture and the mode of production that requires labor controls, such as raw material production. Peripheral countries appear as countries that do not see the benefits of wealth and globalization. Countries in the semi-periphery of the economic structure specialize in high-cost industrial products. These countries, which ensure the functioning of the capitalist world system, act as an intermediary and buffer between the core and peripheral countries. In this context, countries are divided into three major world regions: core, semi-periphery and periphery. The guiding principle in the core-periphery relationship is that as general welfare grows around the world, much of that growth is transferred to a core region in wealthy countries. While there are many political and economic reasons for the formation of this global structure, there are generally many physical and political barriers that prevent poor individuals or countries from participating in global relations. The difference in wealth between the core and peripheral countries shed light on the explanation of this situation; 15% of the global population has

¹ This study is derived from the doctoral thesis titled "The Relationship Of Core-Periphery In The Context Of Institutional Quality Differences Between Countries" prepared by Aykut Yağlıkara, under the supervision of Associate Professor Şenay Saraç, at Zonguldak Bülent Ecevit University, Social Sciences Institute, Department of Economics.

75% of the world's annual income.

The terms economic growth and economic development are sometimes used interchangeably. However, it has been stated using different sources that these are fundamentally different concepts. Economic growth refers to the increase in national or per capita income. If the production of goods and services increases in a country, no matter what, the country has achieved economic growth with the increase in average income. Economic development, on the other hand, does not generally mean increasing production and per capita income alone, but also means experiencing economic and social change with developments that increase human welfare. Development is often accompanied by significant changes in the structure of the economy. Economic growth that will occur without structural change is generally an indication that new income is concentrated in the hands of a few people (Perkins et al., 2013:13-14).

While discussing the concept of core and periphery, different definitions can be given about this subject. Many factors affect the emergence of regions or countries as a core and a periphery. Some regions and countries are developing more and becoming cores due to different human and physical advantages. Other regions and countries without human and physical advantages are becoming less important to the environment (Horvath and Grabovski, 1999).

Modern World Systems theory, which is at an important point in the core environment, divides countries into three categories: core, semi-periphery and periphery. These three elements are interdependent and affect each other in terms of economic development and underdevelopment. The power of countries in the international economy changes over time. According to the power changes of the countries, there are some transitions between the center, semi-periphery and peripheral countries. According to Wallerstein (2012), core means the separation of power and wealth on behalf of developed countries. Core countries are well equipped with machinery, tools and stable capital to support their economies. Core countries often maintain their economic organizations by making use of semi-periphery and peripheral countries. Semi-periphery countries are defined as countries between the core and peripheral countries. Core countries benefit from semi-peripheral countries through unequal exchange relations, and these countries are in the position of intermediaries of the core and periphery countries. Semi-periphery countries need to have an intensive labor force, an average level of capital, and some of the advanced tools in order to sustain their economies. Peripheral countries, on the other hand, are considered as countries that continue their development as a result of dependency. Peripheral countries are exploited by core and semi-peripheral countries. In peripheral countries, there is cheap and low-skilled labor and they do not have the

technological progress necessary for a stable economy (Kathleen, 2015:11).

The relationship between core, semi-periphery and periphery countries is discussed thoroughly. While high value-added goods are exported from central countries to semi-periphery and peripheral countries, more unprocessed goods and low-value-added goods can be exported from peripheral and semi-peripheral countries. The fact that the goods produced by the core and the periphery are different is based on one of the main issues of the relationship between the core and the periphery. Wallerstein states that the capitalist world divides the economy into the production of products belonging to the core and the production of peripheral products. Core-periphery is a relational concept in the context of production processes, and what we mean by core-periphery relationship is the degree of profitability of the production process. Since profitability is directly dependent on the degree of monopoly, we mean by core-specific production processes mainly those controlled by partial monopolies. In this case, environmental processes also appear as competitive processes, and when exchange occurs, competitive products are in a weak position. As a result, there is a flow of surplus value from the producers of peripheral products to the producers located at the core. This unequal exchange reveals the core and periphery dependency (Wallerstein: 2014:59).

Samir Amin (1976), who looks at the core-periphery approach with a hierarchical approach, deals with the concepts of core and periphery as follows. According to the model of Amin (1976), countries are ranked hierarchically. At the top of this hierarchical structure, there are sovereign countries called cores. Core countries have high capital accumulation and high technology is used. At the lowest level of the hierarchical structure, the neighboring countries are located. Worker wages are very low in peripheral countries and technologies provided from core countries are used. There is no production of capital goods in the periphery, instead, the production of luxury goods is widespread and the links between the industrial sector and agriculture to encourage development are not strong. Peripheral countries are generally dependent on the production and capital accumulation cores in the core, and the reason for the establishment of advanced export industries established in peripheral countries is that the core countries want to exploit the resources and cheap labor power in the peripheral countries.

In addition to the aims of development theories to reveal the reasons for the differences in the development levels of regions or countries, the determination of the core and peripheral countries also has an important place. While listing the causes of development and underdevelopment in these theories, no details are given about country grouping. Although there are studies in the literature that determine the core and peripheral countries,

they are not at a satisfactory level. In most of the studies conducted in the context of the core country, the determination of the core and periphery country sample is generally based on the country group distinction determined by the World Bank according to income level. Developed countries are taken as the core country group, developing countries are taken as the semi-periphery country group, and less developed countries are taken as the peripheral country group. In some studies, the G7 country group is taken as the core country, and semi-periphery and peripheral countries are determined from other countries. Babones (2005) determined the core, semi-periphery and periphery country groups in his study using the SWE analytical method using the per capita income data 1960-2000. In addition, Chase-Dunn et al. (2000) determined the core, semi-periphery and periphery countries by using the average trade globalization openness ratio in their study. In addition to the few studies determining the core-periphery country, the development phenomenon has not been mentioned much in the analysis of the core and periphery countries in the analysis. Considering how important development is in the context of the core-periphery relationship, from this point of view, core, semi-periphery and peripheral countries were determined by the club convergence method by using the Human Development Index, which is one of the important indicators of development.

2. Data and Methodology

2.1. Data

In this study, based on the human development index, eight convergence groups were obtained, belonging to the center, semi-periphery and peripheral country groups. The sample of these eight-country groups used in the study was determined by the club convergence method, which constitutes the first part of the study analysis. For the club convergence method, the Human Development Index data were used for the 1990-2017 period and 25 countries were defined as the core, 85 countries as semi-periphery, and 33 countries as periphery.

In this context, in order to determine the core, semi-periphery, and periphery countries, the Human Development Index is handled for the period covering the years 1990-2017, and these country groups are decided by the club convergence method. And eight-country clubs, namely upper core, lower core, upper semi-periphery, middle semi-periphery, lower semi-periphery, upper periphery, middle periphery, and lower periphery, were obtained and definition of the variable are shown in Table 1.

Table 1: Data Set and Resources

Variables	Acronym	Explanation	Source
Human Development Index (1990-2017)	HDI	It is an index calculated by considering the distribution of education, life length, and GDP domestic distribution.	UNDP

In the analysis carried out in the study, club convergence analysis was conducted in order to determine the country groups in which the relationship between development and institution will be examined. Because of the club's convergence analysis, the core (upper and middle), semi-periphery (upper, middle, and lower) and periphery (upper, middle, and lower) country groups were determined.

2.2. Club Convergence Analysis

The econometric method used in the analysis part of the study was performed as described in Phillips and Sul's (2007, 2009) studies. This method used by Phillips and Sul is called "log t" and with this method, it is ensured that countries are classified according to convergence groups or clubs. This method has several advantages over other available convergence measurements, including the fact that it is grounded on a general non-linear time variable factor model that includes the probability of heterogeneity of variance (Panopoulou and Pantelidis, 2009).

The concept of convergence is tested using a unilateral t-test where the inequality portion of the null hypothesis is $\alpha \geq 0$. Also, the test statistic is performed using a consistent standard error (HAC) on the heteroscedasticity and autocorrelation. A 5% significance level is used, and when $t_b < -1.65$, the null hypothesis is rejected.

Phillips and Sul (2007, 2009) show that the refusal of the convergence null hypothesis does not exclude the possibility of convergence in the subclasses of individuals who fit the entire panel. Therefore, to permit this possibility, the authors developed a clustering algorithm to determine the number of potential convergence clubs and eligible members.

By using the club convergence analysis method advanced by Phillips and Sul (2007, 2009), as a result of the series obtained by benefiting from the largest country sample, club convergence analysis was conducted. Convergence analysis was conducted using the Human Development Index to reveal the differences between countries in the analysis.

Following the recommendation of Phillips and Sul (2007), the Hodrick

and Prescott (1997) filter is applied before the convergence test to remove the conversion component of each series. Then, as a first step, all panel convergence is examined by applying the log t-test. While the log t-test was applied to the Human Development Index series, which handled 143 countries for the period of 1990-2017, the results were obtained as shown in Table 2. Since the value of t statistic (calculated as -132.1084) under the general convergence assumption is smaller than -1.65, the hypothesis that there is convergence for the whole panel is rejected at 5%. Thus, it is concluded that for these 143 countries, the same stable balance according to the Human Development Index is not approached and as a result the convergence assumption is rejected for the whole panel.

Table 2: Log t-Test

Variable	The Number of Countries	Beta Coefficient	Stand. Error	T-stat
log(t)	143	-0.9047	0.0068	-132.1084

The rejection of the convergence hypothesis applied for the whole panel allows the analysis to pass to the place to be applied to the subgroups by using the cluster mechanism.

Table 3: Classification of Convergence Clubs Test (Pre-Classification)

Clubs	The Number of Countries	β coefficient	t-stat
Club 1	17	-0.163	-1.273
Club 2	8	0.777	9.982
Club 3	12	0.404	3.876
Club 4	18	0.165	2.384
Club 5	14	0.258	2.319
Club 6	11	0.349	6.183
Club 7	12	0.062	1.180
Club 8	18	0.069	1.333
Club 9	8	0.004	0.203

Club 10	23	0.143	2.689
Club 11	2	3.325	6.334

According to the test results in Table 3, the β coefficient in log t that shows the convergence between countries at each club is negative for club 1 and positive value for other clubs. The countries in the clubs coming to exist in the preliminary test result are listed in Table 4.

Table 4: The Countries in the Pre-Classification Result

Clubs	The Number of Countries	Countries
Club 1	17	The USA, Germany, Australia, Belgium, United Kingdom, China (SAR), Denmark, Finland, Netherlands, Hong Kong, Ireland, Sweden, Switzerland, Iceland, Canada, Norway, Singapore, New Zealand
Club 2	8	Austria, Czech Republic, France, Israel, Japan, Republic of Korea, Luxembourg, Slovenia
Club 3	12	UAE, Estonia, Cyprus, Italy, Spain, Latvia, Lithuania, Malta, Poland, Saudi Arabia, Slovakia, Greece
Club 4	18	Albania, Argentina, Bahrain, Brunei, Bulgaria, China, Croatia, Iran, Qatar, Kazakhstan, Hungary, Mauritius, Mongolia, Portugal, Romania, Russia, Chile, Turkey
Club 5	14	Barbados, Botswana, Algeria, Armenia, Costa Rica, Cuba, Kuwait, Malaysia, Panama, Serbia, Sri Lanka, Trinidad and Tobago, Uruguay, Venezuela
Club 6	11	Colombia, Ecuador, Colombia, Libya, Mexico, Peru, Rwanda, Thailand, Tunisia, Ukraine, Jordan
Club 7	12	Dominican Republic, Indonesia, Morocco, Fiji, India, Jamaica, Cambodia, Egypt, Moldova, Tonga, Vietnam, Zambia
Club 8	18	Bangladesh, Belize, Bolivia, El Salvador, Philippines, Gabon, Guatemala, South Africa, Iraq, Kenya, Kyrgyzstan, Lao, Myanmar, Nepal, Nicaragua, Paraguay, Samoa, Tajikistan
Club 9	8	Eswatini, Ghana, Guyana, Cameroon, Congo, Namibia, Tanzania, Uganda

Club 10	23	Benin, Burundi, Ivory Coast, Gambia, Guinea, Haiti, Honduras, Congo Democratic Republic, Lesotho, Malawi, Mali, Mauritania, Mozambique, Pakistan, Papua New Guinea, Sao Tome, and Principe, Senegal, Sierra Leone, Sudan, Syria, Togo, Yemen, Zimbabwe
Club 11	2	Niger, Central African Republic

Merging tests are performed to prevent the over-estimation of convergence clubs and to assess whether adjacent groups can be combined or not. According to the results in Table 5, the value of t must be greater than -1.65 to support the merging of clubs. In this context, according to the applied club convergence test, for Club 1 + 2, Club 2 + 3, Club 3 + 4, Club 8+ 9, Club 9 + 10, Club 10 + 11, the t value is smaller than -1.65, and test result merging is not supported. On the other hand, for Club 4 + 5, Club 5 + 6, Club 6 + 7, Club 7 + 8, the t value is greater than -1.65 and merging is in question for these clubs.

Table 5: Between Clubs Convergence Test (Merging Test)

Clubs	β- coefficient	t-stat
Club 1+2	-0.7818	-11.7954
Club 2+3	-0.4117	-8.4310
Club 3+4	-0.3085	-6.3689
Club 4+5	-0.0408	-0.5815*
Club 5+6	0.1169	2.8061*
Club 6+7	0.1643	3.2454*
Club 7+8	0.0105	0.2164*
Club 8+9	-0.1619	-4.4996
Club 9+10	-0.1990	-10.2428
Club 10+11	-0.2155	-6.2634

Note: The value (*) indicates that the t-statistic value is greater than -1.65.

New country groups emerged according to the results of between clubs merge test applied to between clubs convergence test have been rearranged and shown in Table 6. As a result of the convergence analysis applied by using the Human Development Index, the core, semi-periphery and periphery countries which are planned to be used within the scope of the thesis, were obtained by a new analysis which was not included in the previous literature according to the definitions of determinations of other core, semi-periphery, and periphery countries in the literature. In this

context, the eight clubs that emerged after the merged analysis were determined as the upper core, the lower core, the upper half of the periphery, the middle half of the periphery, the lower half of the periphery, the upper periphery, the middle periphery and the lower periphery in turn.

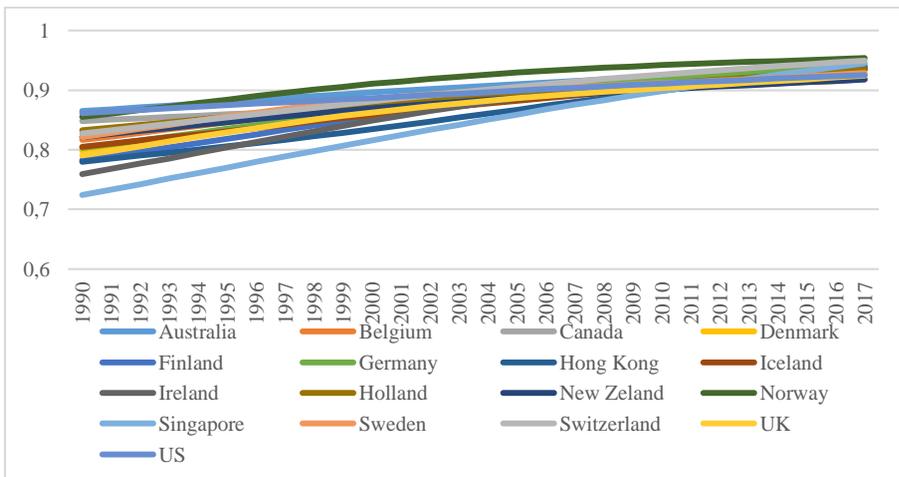
Table 6: Countries According to Clubs Converged by Between Clubs Convergence Test Results

Country Classification	The Number of Countries	Countries
Upper Core	17	The USA, Germany, Australia, Belgium, United Kingdom, China (SAR), Denmark, Finland, Netherlands, Hong Kong, Ireland, Sweden, Switzerland, Iceland, Canada, Norway, Singapore, New Zealand
Lower Core	8	Austria, Czech Republic, France, Israel, Japan, Republic of Korea, Luxembourg, Slovenia
Upper Semi-Periphery	12	UAE, Estonia, Southern Cyprus, Italy, Spain, Latvia, Lithuania, Malta, Poland, Saudi Arabia, Slovakia, Greece
Middle Semi-Periphery	32	Albania, Argentina, Bahrain, Brunei, Bulgaria, China,
Periphery		Croatia, Iran, Qatar, Kazakhstan, Hungary, Mauritius, Mongolia, Portugal, Romania, Russia, Chile, Turkey Barbados, Botswana, Algeria, Armenia, Costa Rica, Cuba, Kuwait, Malaysia, Panama, Serbia, Sri Lanka, Trinidad and Tobago, Uruguay, Venezuela
Lower Semi-Periphery	41	Bangladesh, Belize, Bolivia, El Salvador, Philippines, Gabon, Guatemala, South Africa, Iraq, Kenya, Kyrgyzstan, Lao, Myanmar, Nepal, Nicaragua, Paraguay, Samoa, Tajikistan Dominican Republic, Indonesia, Morocco, Fiji, India, Jamaica, Cambodia, Egypt, Moldova, Tonga, Vietnam, Zambia, Brazil, Equatorial, Colombia, Libya, Mexico, Peru, Rwanda, Thailand, Tunisia, Ukraine, Jordan
Upper Periphery	8	Eswatini, Ghana, Guyana, Cameroon, Congo, Namibia, Tanzania, Uganda

Middle Periphery	23	Benin, Burundi, Ivory Coast, Gambia, Guinea, Haiti, Honduras, Congo Democratic Republic, Lesotho, Malawi, Mali, Mauritania, Mozambique, Pakistan, Papua New Guinea, Sao Tome, and Principe, Senegal, Sierra Leone, Sudan, Syria, Togo, Yemen, Zimbabwe
Lower Periphery	2	Niger, Central African Republic

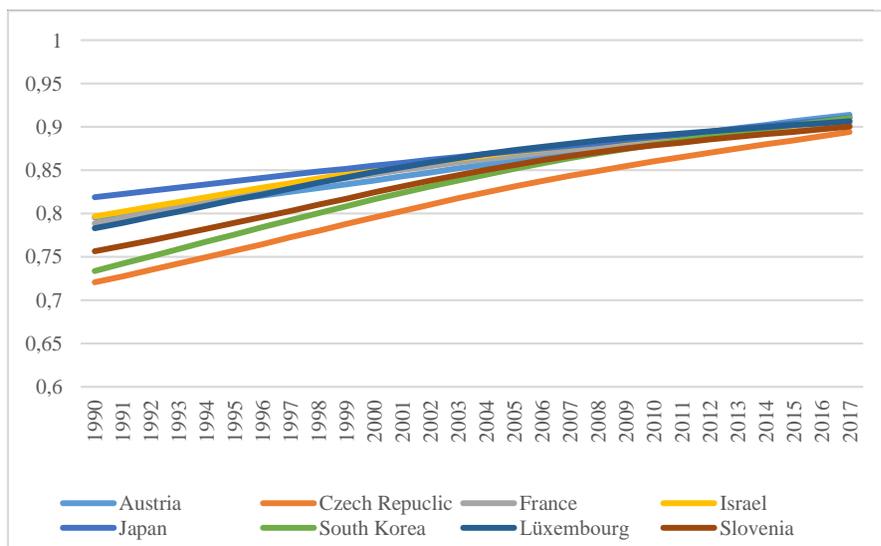
In the light of the findings obtained as a result of the convergence analysis, relative transition path curves were created for each country group. The eight charts below show the relative pathway curves within each country's club for the eight clubs obtained. In Graph 1.1, there are relative transition routes created according to the convergence results of the upper core countries. It is seen that these 17 countries, which are considered as the upper core country group, converged to the index value range of 0.9-0.95 in the context of the Human Development Index between 1990 and 2017. It is an undeniable fact that the countries in this group, which we define as the upper core, converge according to the Human Development Index, as well as act together in the upper groups among the variables that show the level of development. In addition, these countries are expected to be in the upper groups in terms of income level.

Graph 1.1: HDI Convergence Results (Upper Core Countries)



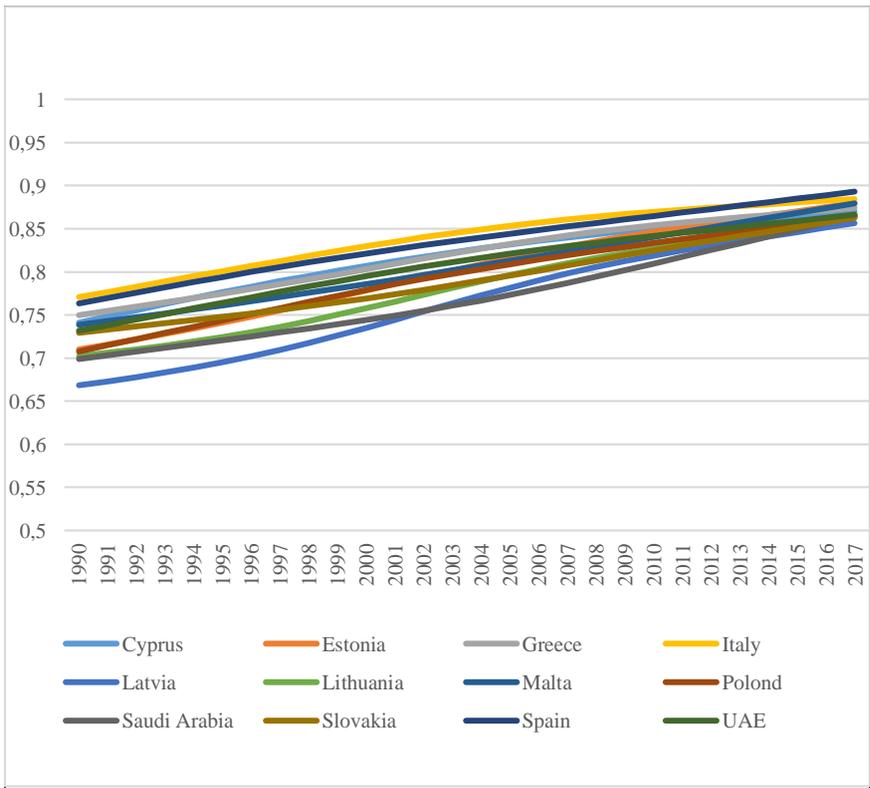
Other countries that make up the core group are shown in Graph 1.2 under the lower-core country group by indicating their relative transit routes. In the graph, which includes 8 countries converging in the lower core country group, it is seen that the countries converge to the Human Development Index value of 0.9.

Graph 1.2: HDI Convergence Results (Lower Core Countries)



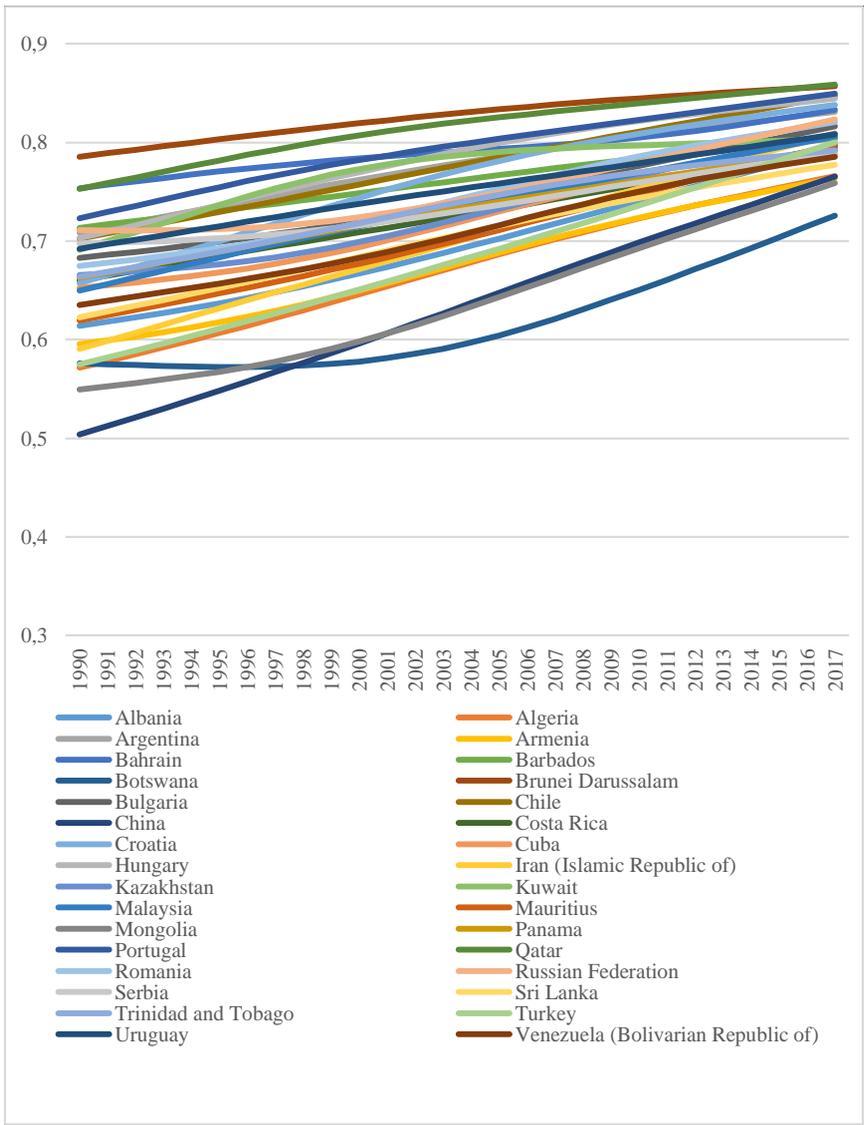
After showing the graphical convergence of the core countries, the graphical representation of the country groups belonging to the three sub-headings of the semi-periphery is discussed. The convergence results covering the so-called upper semi-periphery countries are shown in Graph 1.3. According to the convergence results obtained, the upper semi-periphery country group converges to the Human Development Index value range of 0.85-0.9. It is one of the issues that should be noted that the countries from the upper semi-periphery group are clearly distinguished from the core countries in terms of development level and income level.

Graph 1.3: HDI Convergence Results (Upper Semi-Periphery Countries)



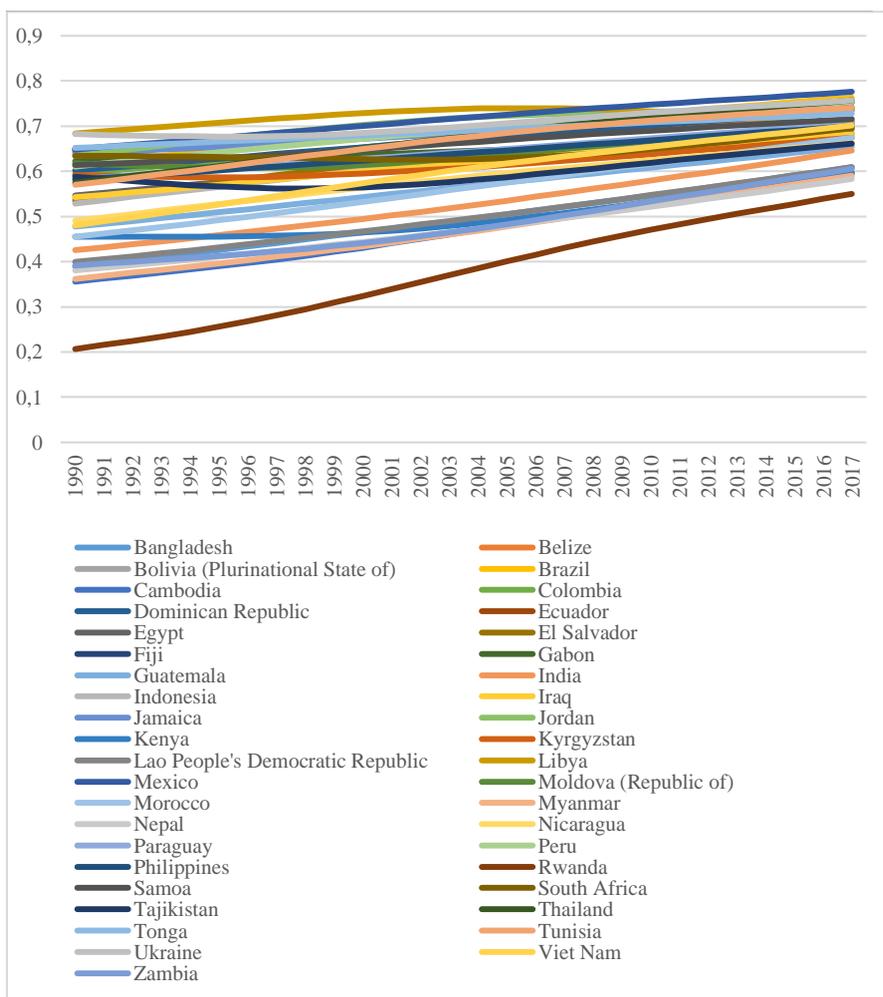
Another group of countries consists of the countries called the middle semi-periphery, and the convergence results created by the relative transit routes of these countries are shown in Graph 1.4. Most of the countries in this group, which is called the middle semi-periphery, are in the category of developing countries and are completely different from the central country group in terms of development level and income level.

Graph 1.4: HDI Convergence Results (Middle Semi-Periphery Countries)



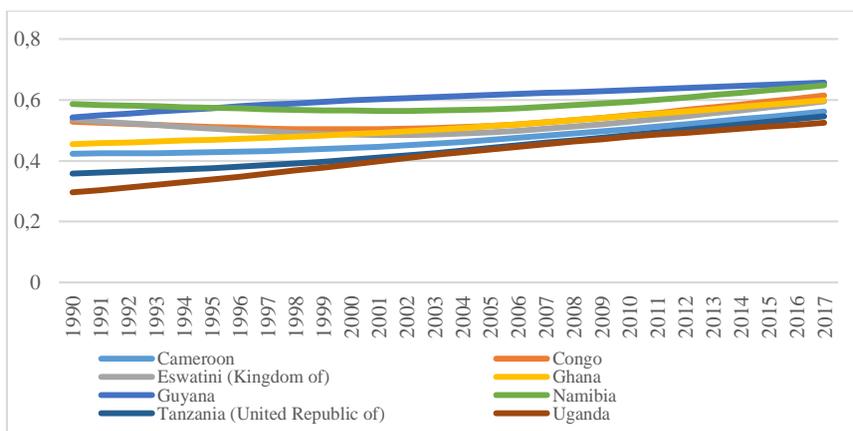
The convergence results of the lower semi-periphery countries, which we consider as another close semi-periphery group, are shown in Graph 1.5. The Human Development Index value, to which the countries belonging to the lower immediate environment converge, is 0.6. Most of the countries in the sub-neighborhood country group consist of countries that are in the low-income country groups and are closer to the peripheral country groups.

Graph 1.5: HDI Convergence Results (Lower Semi-Periphery Countries)



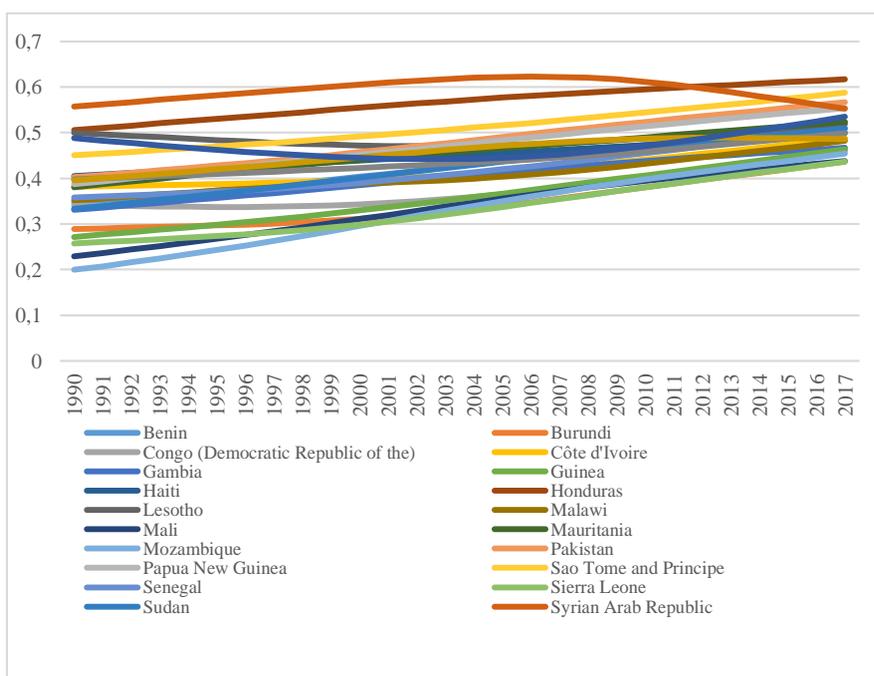
Graph 1.6 showing the convergence results of the upper periphery countries evaluated in terms of the Human Development Index is given below. While the index value to which the upper periphery countries converge is between 0.5-0.6, another important issue is that eight countries in this country group are located in the African continent.

Graph 1.6: HDI Convergence Results (Upper Periphery Countries)



The relative transition paths created for the countries as a result of the convergence analysis created by using the Human Development Index for the so-called middle periphery countries are given in Graph 1.7. As can be seen from the chart, the middle periphery countries converge to 0.5 as an index value.

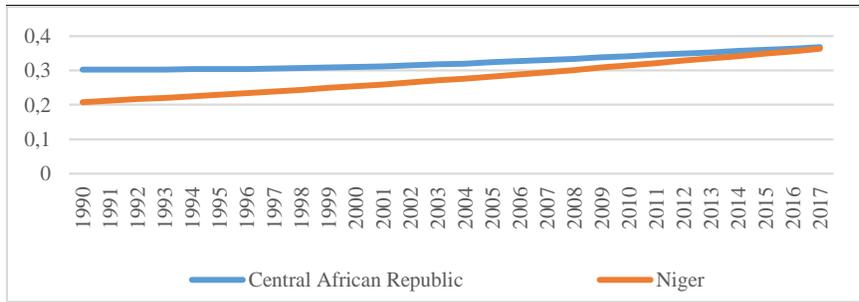
Graph 1.7: HDI Convergence Results (Middle Periphery Countries)



The last group of countries, called the lower periphery, includes two countries: the Central African Republic and Niger. These two countries in

the lower periphery converge to the HDI value of 0.35 and differ completely from other peripheral countries.

Graph 1.8: HDI Convergence Results (Lower Periphery Countries)



3. Conclusion

In the context of the center-periphery relationship, liberal, nationalist and Marxist views deal with developmental differences between countries from different perspectives. In these trends, the difference between developed and underdeveloped countries is tried to be explained on the basis of economic and political foundations. The different production systems, geographical locations, historical processes, cultural memories and institutions of the countries are effective in making the countries core, semi-periphery and periphery countries.

In the analysis, a club convergence test was applied to the sample group of 141 countries for the period covering 1990-2017 to determine the core, semi-periphery, and periphery country groups. The Human Development Index formed by the United Nations and used as the indicator of development was used during club convergence analysis. Eight sub-clubs obtained from the analysis were grouped and core (upper and lower), semi-periphery (upper, middle and lower) and periphery (upper and middle) country groups to be used in the second part of the analysis were formed. Core, semi-periphery, and periphery country groups based on the results of the club convergence test have consistently revealed the country groups in the context of the core-periphery approach.

The core, semi-periphery and periphery country groups obtained as a result of the analysis were handled as eight sub-convergence groups. It is concluded that eight-country groups converge to each other in terms of development level for the period covered in the analysis. It is noteworthy that the countries obtained in the upper core and lower core groups are countries with a high level of development. In addition, it can be stated that the countries located in the core area in the upper-income group in the income ranking determined by the World Bank. In addition, it is striking that the countries in the core are the countries of Europe, America, South

East Asia and the continent of Australia, which are historically strong. It is seen that most of the countries in the core are importers of raw materials and intermediate goods, as well as exporting industrial goods and technological products. It is striking that most of the countries in the upper semi-periphery, middle semi-periphery and lower semi-periphery country groups are countries in the developing countries group of the World Bank. It is also seen that most of these countries are from Asia, South America, Eastern Europe and Africa. In addition, it can be stated that these countries are mostly the countries that provide intermediate goods to the core countries. It is revealed that the countries in the upper periphery, middle periphery and lower periphery country groups are the countries in the low-income group of the World Bank, and they are generally located in the African Continent and Asia. On the other hand, the countries in the periphery are generally the ones that products based on agriculture, and the export goods of these countries are generally agricultural products and natural resources. In addition, most of the countries in the peripheral country groups are countries that have not been able to make product differentiation in terms of exports and have a high economic dependence on a core country.

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CHAPTER III

THE RELATIONSHIP BETWEEN OIL PRICES AND MACROECONOMIC INDICATORS IN TURKEY

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1. INTRODUCTION

Petrol has the highest production multiplier in Turkish economy. Therefore, it constitutes the input of all sectors and indirectly affects all sectors (Güler, 2020). Changes in oil prices affect fuel prices because petroleum is the raw material of fuel products. Oil goes through many stages until it reaches the final consumer. The costs and taxes incurred at these stages are included and reflected in the prices. Another important factor for fuel prices in our country is the exchange rate. Most of the oil is bought in US dollars and sold in TL. Therefore, when oil prices decrease, the effect on pump prices is very limited. Even when the US dollar falls, due to the costs and taxes that arise until the oil becomes the final product, there is no decrease as much as the dollar does (PETDER, 2020).

With globalization, crude oil prices create different effects on macroeconomic variables. Since the two oil crises in the 1970s, especially in oil importing countries, the effect of fluctuations in oil prices on inflation and the relationship between exchange rate and oil prices have begun to be examined frequently. In this context, the focus of our study is inflation and exchange rate, which are macroeconomic factors affecting oil prices.

When the relationship between oil prices and inflation is examined theoretically, it is accepted that there is a positive relationship between them. Especially in our country, it is on the agenda that oil prices are one of the important causes of inflation (Kibritçioğlu & Kibritçioğlu, 1999; Zhao, Zhang, Wang & Xu, 2016). When the relationship between oil prices and the exchange rate is examined theoretically, it is expected that when oil prices increase, the amount of dollars in oil exporting countries will increase, so local currencies will appreciate. In countries like Turkey, which imports oil, the opposite situation is foreseen.

In our study, ARDL method is applied to Turkey's oil prices, inflation and exchange rate data of 2005:1-2022:1 monthly period. The price

formation in the oil market is explained in the second part, a literature review is made in the third part, analysis and empirical results are included in the fourth part and the conclusion and general evaluation are presented in the fifth part.

2. PRICE FORMATION IN THE OIL MARKET

As in determining the prices of all goods and services, supply and demand are the main factors in determining oil prices. The elasticity of supply and demand for oil differs when analyzed in the short and long term. In the short run, the elasticity of supply is low since production capacity is limited. Since there is no substitution for oil, the elasticity of demand is also low. In the long run, both demand and supply are relatively more elastic, as there is the possibility of making new production or accessing substitute energy sources. Graphic 1 shows the change in consumption, i.e. demand, and production, i.e., supply of the oil market¹ over the years.

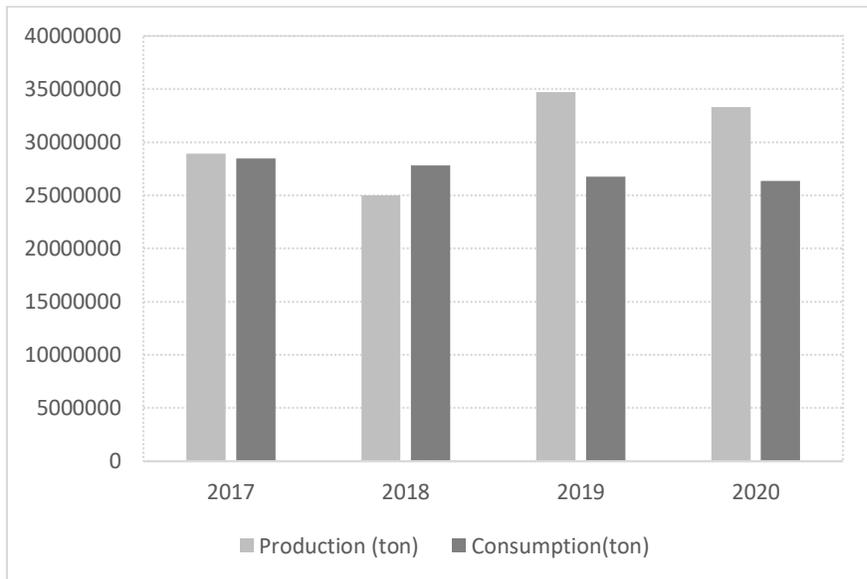


Figure 1: Oil Supply and Demand (BP,2021; EPDK, 2020; EPDK,2021)

Oil prices are also affected by other positive or negative factors as well as supply and demand of oil. These factors are (KPMG,2021):

- Revival or contraction of national economies
- Production decisions made by OPEC, which has almost a monopoly in world oil supply
- Gradual recovery in oil demand in the US and China
- Capacity of storage facilities and occupancy rate of existing capacity

¹ It consists of gasoline types, diesel types, fuel oil types, aviation fuels, marine fuels, kerosene and other products.

- Alternative energy sources, shale gas production in the USA and Canada
- New drilling and oil production activities

Crises, economic fluctuations, geopolitical events and natural disasters affect oil prices in our country as well as all over the World. This situation is shown in graph 2.



Figure 2: Crude Oil Prices (TCMB, 2021)

As it is seen in Graphic 2, the events during the periods of oil price changes are as follows (KPMG, 2021; SETA, 2020):

- After the financial crisis in Asia, OPEC countries' cut in production in 1999.
- The September 11 attacks in 2001
- OPEC countries' cut in production in 2003.
- Global economic crisis in 2008.
- Global economic recession in 2009.
- The Arab Spring in 2011.
- Sanctions against Iran in 2012.
- Increase in shale gas production in 2014. Abandoning production cuts by OPEC countries.
- Production restriction of OPEC countries and Russia in 2017.
- Qatar's withdrawal from OPEC membership in 2018.
- Trade wars in 2019.
- The Covid-19 pandemic in 2020.

3. LITERATURE REVIEW

To date, many studies have been conducted on the relationships between oil prices and macroeconomic variables. Variables, times², countries, econometric models differ in studies. In this part, studies in the literature are analyzed from two perspectives. The first is the relationship between oil prices and inflation, and the second consists of studies on the relationship between oil prices and exchange rates.

3.1. The Relationship between Oil Prices and Inflation

Kibritleioğlu & Kibritleioğlu (1999) applied two different analyzes to examine the relationship between oil prices and inflation in Turkey. The first one is the analysis performed with the 1979, 1985 and 1990 input-output tables, and the second is the VAR analysis for the 1986M01-1998M03 period. As a result, contrary to the general expectations, it was determined that the direct effects of crude oil prices on inflation were low.

Berument & Taşçı (2002) analyzed eight different scenarios by using Turkey's 1990 input-output table in their study. As a result, it was found that an increase of 20% in oil prices increased the general level of prices by only 1.08%. Therefore, the general belief that the increase in oil prices causes inflation did not find support.

In their study, LeBlanc & Chinn (2004) applied Benchmark, Hamilton net price and asymmetric effect models to 1980Q1-2001Q4 data of G5 countries. They concluded that when there is an increase of 10% in oil prices in the USA, Germany, Japan, France and England, it affects inflation at a very small rate, at the levels of 0.1% and 0.8%.

In the studies of Peker & Mercan (2010), Engle-Granger cointegration analysis was performed with Turkey's 1992M01-2009M03 period data. Contrary to the popular belief, the relationship between oil prices and inflation in the long run was not statistically significant.

In their study, Öksüzler & İpek (2011) applied the VAR Model by using the data of Turkey's 1987:M01-2010:M09 period. As a result, while unidirectional causality was found from oil prices to economic growth, no causality was found between oil prices and inflation, contrary to expectations.

In the study by Mercan, Peker & Göçer (2015), the cross-sectional dependence (CSD) was tested with 1960Y-2011Y period data of 15 OECD member oil importing countries. As a result, it was determined that economic growth and the increase in crude oil import prices increase

² Y: represents annual data, Q: quarterly data, M: monthly data.

inflation, and the effect of economic growth on inflation is more than the effect of crude oil import prices.

Koçak, Balan & Albayrak (2017) applied the VAR model by using the oil prices and inflation data of Turkey's 2003:M01-2017:M02 period. As a result, they determined a positive long-term relationship between oil prices and inflation.

In their studies, Salisu, Isah, Oyewole & Akanni (2017) examined the relationship between oil prices and inflation in Canada, Mexico, Nigeria, Norway and Russia with the panel ARDL test by using 2000:Q1-2014:Q4 data. As a result, they determined that there is a significant positive relationship between oil price and inflation in the long run. They also determined that oil prices have a greater effect on the inflation of net oil importing countries than oil exporting countries.

3.2. The Relationship between Oil Prices and Exchange Rates

Ito (2010), in his study, examined the relationship between oil prices and exchange rates in Russia for the 1994Q1-2009Q3 period with the VAR model. He concluded that a 1% increase (decrease) in oil prices causes the exchange rate to depreciate (appreciate) in the long run.

Ghosh (2011), applied GARCH analysis with daily data of India between 02.07.2007-28.11.2008 in his study. They found a symmetrical relationship between oil shocks and the exchange rate, and concluded that the increase in oil prices caused the rupee to depreciate against the dollar.

Altıntaş (2013), in his study, applied ARDL method and causality tests by using the data of 1987Q3-2010Q3 period to determine Turkey's export function. As a result, it was determined that the real oil price has a positive effect on exports. In addition, while unidirectional Granger causality was determined from real exchange rate to foreign income, from relative export price to exports and from foreign income to real oil price, a bidirectional Granger causality relationship was found between exports and foreign income, relative export price and real oil price.

Wu & Zhang (2014), applied VAR analysis for China's 2005:M10-2013:M11 period in their study. They concluded that crude oil imports do not affect oil price changes to a large extent, that there is a unidirectional causality from oil price to 5% crude oil imports in China, and that oil prices respond more to the US dollar exchange rate in the short run.

Göçer & Bulut (2015), tested the effect of oil prices on the Russian economy with multiple structural break cointegration and symmetric causality tests in 1992Q1-2014Q3 period. They determined that there was a causality relationship from the causality relationships between the series and oil prices to exports, foreign trade balance and national income, and

they concluded that the effects of real effective exchange rate on exports and foreign trade balance were less than expected.

Adıgüzel, Kayhan & Bayat (2016), examined the relationship between oil prices and exchange rates in Turkey for the period 2009M01-2015M12 with an asymmetric causality test. As a result, they determined that there is a causality relationship from oil prices to the exchange rate.

Yılmaz & Altay (2016), used ARDL cointegration approach in their study to investigate Turkey's 1985M01-2015M11 data and how the exchange rate is affected by crude oil prices. They concluded that crude oil prices and exchange rates move together in the long run.

Hamza & Elijah (2018), used 2008:M01-2017:M12 data in their study to investigate the relationship between oil prices and exchange rates in Nigeria. By applying the autoregressive distributed lags (NARDL) model, an asymmetrical relationship was found in the long run that there was a decrease in the exchange rate when oil prices increased. They made policy recommendations to preserve the value of the Nigerian currency.

In their study, Singhal, Choudhary & Biswal (2019), examined the relationship between international gold prices, international oil prices, stock market index and exchange rate in Mexico. For this purpose, they used daily data for the 2006:01-2018:04 period and applied cointegration approach with ARDL Bounds test. As a result, a positive relationship was found between gold prices and stock prices, and a negative relationship was found between gold prices and oil prices.

In their study, Ayhan & Abdullazade (2021), examined the effect of Turkey's daily gold prices, oil prices and the number of Covid-19 cases on the exchange rate for the 11.03.2020-06.11.2020 period by using the Autoregressive Distributed Delays (ARDL) method. They concluded that oil prices affect the exchange rate statistically significantly and negatively in the long run, and an increase of 1% in oil prices causes a 0.18% decrease in the exchange rate.

4. ANALYSIS

4.1. Model, Data and Method

In this part of the study, the long-term relationship between oil prices and inflation and exchange rate is analyzed by ARDL method, considering the 2005:1-2022:1 monthly period for Turkey. The relevant function relationship is as follows:

$$Pe_t = \beta_0 + \beta_1 Ku_t + \beta_2 Enf_t + u_t \quad (1)$$

Here, Pe is the European Brent oil spot FOB price (in dollars per barrel), Enf is inflation rate (annual percentage change), Ku is exchange rate, t is the monthly time dimension for Turkey as 2005:1-2022:1, and u is the error term. Time series data for all variables in the model were obtained from the Central Bank of the Republic of Turkey EVDS database.

Unit root analysis of the variables was done with the ADF (Augmented Dickey-Fuller) test. For the short- and long-term estimation method, unlike the Engle-Granger (1987) or Johansen (1991) methods, ARDL method was used since variables are allowed to be integrated $I(0)$ or $I(1)$ at different levels in the autoregressive distributed model (Autoregressive Distributed Lag-ARDL).

In the ARDL approach developed by Pesaran & Shin (1998); and Pesaran, Shin & Smith (2001), after the integrated levels of the variables in the model are determined as $I(0)$ and $I(1)$, the lag lengths of the data belonging to the variables in the model are determined by appropriate lag criteria, and the ARDL model is estimated. After deciding the existence of a cointegration relationship with the F-test, the long and short term relationships between the variables are estimated and examined.

When the optimum lag length is p for the dependent variable, and q_1 and q_2 for the independent variables respectively, the general form of the ARDL (p, q_1, q_2) model to be estimated in our study is given below:

$$Pe_t = \alpha_0 + \sum_{i=1}^p \alpha_i Pe_{t-i} + \sum_{i=1}^{q_1} \beta_i Ku_{t-i} + \sum_{i=1}^{q_2} \delta_i Enf_{t-i} + \varepsilon_t \quad (2)$$

4.2. Empirical Findings

Descriptive statistics of the variables in the inflation model are given in Table 1.

Table 1: Descriptive Statistics of the Variables in the Model

	PE	KU	ENF
Average	74.29	3.10	10.40
Median	68.18	1.93	9.15
Maximum	138.40	13.55	48.69
Minimum	14.85	1.18	3.99
Std. Dev.	25.21	2.36	5.04
Skewness	0.39	1.77	3.40
Kurtosis	2.26	6.19	21.46
Observation	205	205	205

Considering the basic statistics in Table 1, the average of oil prices is approximately 75 dollars, and the maximum and minimum values are 138.40 and 14.85, respectively. The average of the exchange rate is 3.10, and the maximum and minimum values are 13.55 and 1.18. The average

of the inflation rate is 10.40, the maximum and minimum values are 48.69 and 3.99. The number of observations for the 2005:1-2022:1 monthly period is 205.

ADF (Augmented Dickey-Fuller) method was used to examine the stationarity of the variables.

Table 2: ADF Unit Root Test Result of Variables

Test	Deterministic Component	PE	KU	ENF
ADF	Intercept	I(0)	I(1)	I(1)

When the ADF unit root test results in Table 2 are examined, oil prices are stationary at I(0) level, and exchange rate and inflation variables are stationary at I(1) level.

After determining the different integrated degrees between the variables at the I(0) and I(1) levels, the ARDL estimation results are given in Table 3.

Table 3. ARDL Bounds Test Results

Functional Model	ARDL Model	k	F Statistics
$Pe_t = f(Ku_t, Enf_t)$	ARDL(2,1,0)	2	3.82*
Critical Values			
	10%	5%	1%
Lower Bound	3.26	3.94	5.4
Upper Bound	4.24	5.04	6.78

Note: * denotes statistical significance at the 10% level. k in the table gives the lag length. The determined lag length was calculated by considering the Schwarz Information Criteria (SIC). $F=0.17$ (prob.=0.84) of the Breusch-Godfrey Serial Correlation LM Test, and $F=1.37$ (prob.=0.23) of the Breusch-Pagan-Godfrey Variance Test. Thus, we can say that there is no problem of varying variance and autocorrelation in our model. Since Ramsey Reset test F statistic=1.61 (prob.=0.20), there is no specification error in the model. According to the CUSUM test result, the long-term coefficients are stable.

According to the ARDL bounds test results in Table 3, there is a long-term cointegration relationship between the variables. Since the calculated F statistic is larger than the lower bound critical values, the null hypothesis stating that there is no long-term relationship between the variables is rejected and the alternative hypothesis is accepted. As a result, there is a long-term relationship between oil prices and exchange rate and inflation variables. The graph of the CUSUM test result, which shows that the long-term coefficients are stable, is as follows.

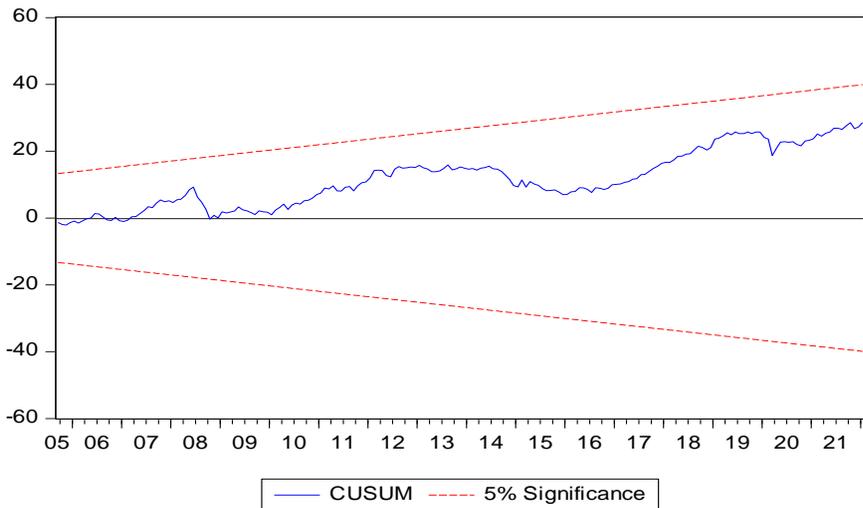


Figure 3: CUSUM Graph Showing Stability of Coefficients

The long-term coefficient results for the ARDL(2,1,0) model are given in Table 4.

Table 4: Long-Run Coefficient Estimates

Variable	Coefficient	Std. Error	t-Statistics	Olas.
C	6.72***	2.13	3.15	0.00
PE(-1)	-0.06***	0.02	-3.01	0.00
ENF(-1)	-0.17	0.18	-0.90	0.37
KU	-0.07	0.37	-0.19	0.85
D(PE(-1))	0.29***	0.07	4.30	0.00
D(ENF)	0.88***	0.31	2.85	0.00

Note: ***, ** and * denote statistical significance at the 10%, 5% and 1% levels, respectively.

When the results in Table 4 are examined, an increase that may occur in the one-term lagged value of oil prices for the long term will reduce oil prices by 6%, an increase that may occur in the one-period lagged value of inflation will reduce oil prices by 17%, and an increase that may occur in the exchange rate will decrease oil prices by 7%.

The ARDL Error Correction Model was estimated for the estimation of the short-term relationships between the variables in the oil price model and the short-term estimation results are given in Table 5.

Table 5: The ARDL Error Correction Model Results

The ARDL Error Correction Model				
Variable	Coefficient	Std. Error	t-Statistics	Olas.
C	6.71***	2.02	3.31	0.00
D(PE(-1))	0.28***	0.06	4.36	0.00
D(ENF)	0.88***	0.28	3.15	0.00
CointEq(-1)	-0.06**	0.02	-3.40	0.00
Corrected R ² =0.14				
Boundary Test Critical Values for the t Statistic of the Error Correction Coefficient				
t Statistic=-3.40	%10	%5	%2.5	%1
Lower Bound	-2.57	-2.86	-3.13	-3.43
Upper Bound	-3.21	-3.53	-3.80	-4.10

Note:***, **denote statistical significance at the 10% and 5% level, respectively.

When the results in Table 5 are examined, an increase in inflation in the short term for the oil price model will increase oil prices by 88%, and an increase in oil prices in the previous period will increase oil prices by 28%. The error correction coefficient is negative and statistically significant. It can be said that the deviation from a short-term balance will improve after 16.5 months and reach the long-term balance.

5. EVALUATION AND CONCLUSION

Concrete targets are determined for combating climate change within the framework of sustainable economic development. In this context, the importance given to renewable energy sources to reduce greenhouse gases, green investments in clean energy and efforts to increase energy efficiency continue. Turkey ratified the Paris climate agreement on 7 October 2021 to reduce greenhouse gas emissions and stop global warming. To reach the goal of the agreement, it is planned to reduce other fossil fuels, especially oil, and to switch to the use of renewable energy. As the studies continue in line with the targets, the use of petroleum, which is the most consumed non-renewable energy source in the world, continues. Petrol is the raw material of many industries. For this reason, when oil prices increase, the costs of the products produced by many sectors increase, and the increasing costs increase the general level of prices.

Crises and fluctuations in the economy affect oil prices. Oil prices also affect macroeconomic factors. The relationship between inflation and exchange rate and oil prices is one of the most striking factors.

It is seen in the literature that different results can be obtained from the studies on the same countries. The reason for this is that the data used in the study (the period examined) and the methods used in the study are different. In our study, the relationship between oil prices, inflation and exchange rate was examined since 2005 by using the most up-to-date data. It is aimed that the results will contribute to the literature.

Turkey's 2005:1-2022:1 period oil prices, inflation and exchange rate data are used. ARDL method was applied to analyze the relationship between them. According to the ARDL bounds test results, there is a long-term cointegration relationship between the variables. There is a long-run relationship between oil prices and exchange rate and inflation variables. The error correction coefficient is negative and statistically significant. It can be said that the deviation from a short-term equilibrium will improve after a certain period of time and reach a long-term equilibrium.

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CHAPTER IV

SOCIO-DEMOGRAPHIC CHARACTERISTICS AND RISK OF AUTOMATION IN TURKISH LABOR MARKET

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1. Introduction

Labor markets are being disrupted by digital and automation technologies and this raises fears regarding technological unemployment. The question of whether automation, artificial intelligence and robotization will replace current labor has been the interest of recent academic research. Despite being very broad, the studies on automation risk can be categorized as pointing out negative and positive labor market outcomes of the technical progress. The major studies pointing out the negative labor market impacts of technological progress and automation can be listed as Frey and Osborne (2013), Ford (2015), Acemoglu and Restrepo (2018) and Acemoglu and Restrepo (2020); whereas the major studies pointing out the positive labor market impacts of technological progress and automation are Vivarelli (2014), Autor (2015) and Bessen (2016). For example, Frey and Osborne (2013) categorize 702 occupations based on their automation risk and conclude that 47% of US workers will be affected by automation during the next two decades. Ford (2015) claims that global employment and the nature of work will be dramatically and fundamentally damaged as technology advances. Acemoglu and Restrepo (2018) argue that the possibility of significant numbers of displaced people being unable to find new positions exists, even if this has been rare in the past. On the other hand, advocates of the positive effects of technological growth frequently point out that embedded technical change is usually linked to net employment and a labor market balance. Vivarelli (2014) emphasizes that the microeconomic literature tends to support the existence of a positive relationship between innovation and employment, particularly when R&D or product innovation are used as proxies for innovative activity, and especially when high-technology sectors are the focus of the analyses. Autor (2015) points out that human judgment, adaptability, and intuition are the characteristics of tasks that are difficult to automate and computers are poor substitutes for these tasks. Bessen (2016) argues that scenarios in which automation totally replaces human labor are uncommon, and that automation's main impact is related with technology augmenting human labor.

Although there is a growing literature on the labor market impacts of automation, the studies on the determinants of automation risk and its connection with socio-demographic characteristics are limited. Pouliakas (2018), Frenette and Frank (2020) and Banno et al. (2022) are some prominent examples. This study investigates the relationship between socio-demographic characteristics of workers and the risk of automation of the jobs they are employed in using the most recent cross section Turkish Health Survey for 2019. It contributes to the limited literature on the determinants of risk of automation and to my knowledge there is no prior study conducted for Turkey.

According to Nedelkoska and Quintini (2018) the mean automatability in Turkey is found to be 0.52 with a standard deviation of 0.18 (p. 46). The results of OECD (2020) indicate that all regions in Turkey have a lower proportion of occupations that could be automated than the OECD median region. On the other hand, disparities across regions are relatively large, ranging from 14% in Eastern Anatolia to 30% in Istanbul. The findings of this study confirm the variation of automation risk across regions of Turkey.

The rest of the study is organized as follows: Section 2 briefly explains the dataset used in the analysis along with the details of empirical specification. Section 3 presents the results covering both descriptive analysis and econometric modelling. Section 4 discusses the results and concludes.

2. Data and empirical specification

A micro level data capturing socio-demographic characteristics along with a detailed occupation is required in order to evaluate the socio-demographic determinants of risk of automation of an occupation an individual is employed in. The most suitable dataset for this purpose is the Turkish Health Survey as it comprises 4-digit occupations according to the International Standard Classification of Occupations 2008 (ISCO-08) classification system. The Turkish Health Survey is prepared and conducted by the Turkish Statistical Institute (TURKSTAT) and is available for the years 2008, 2010, 2012 and 2019 and this study uses the most recent cross section of the Turkish Health Survey for 2019.

The most important step in the analysis is to determine the automatability risk of the occupations. For this purpose, this study adopts the probability of computerization calculated by Frey and Osborne (2013)¹. The occupations reported in Frey and Osborne (2013) are classified by the Standard Occupational Classification System (SOC), whereas the

¹ The probability of computerization calculated by Frey and Osborne (2013) is sometimes referred as FO automatability.

occupations in the Turkish Health Survey are classified by the ISCO-08 system. A crosswalk between SOC and ISCO-08 classifications published by the Bureau of Labor Statistics is employed to merge the probability of computerization from Frey and Osborne (2013) to 2019 Turkish Health Survey. For the occupations with multiple matches, the average probability of computerization is calculated and assigned.

The sample of the study consists of wage earners² aged between 15 and 64 years old and employed in a non-agriculture sector. The socio-demographic characteristics included in the study are age, gender, education level, marital status, permanency of job and workplace status. The analysis of the study consists of two parts. The first part presents various descriptive statistics and graphs to take a glance at the relationship between risk of automation and socio-demographic characteristics. The second part of the analysis puts forward the results from the estimation of a multinomial logit specification.

Multinomial logistic regression is a methodology that extends logistic regression to dependent variables with more than two distinct discrete outcomes. The model can be written as:

$$\ln \Omega_{m|b}(x) = \ln \frac{\Pr(y = m|x)}{\Pr(y = b|x)} = x\beta_{m|b} \quad \text{for } m = 1 \text{ to } J$$

where b is the base category, sometimes referred to as comparison group (Long and Freese, 2001, p. 175). The predicted probabilities can be computed by solving the J equations such that:

$$\Pr(y = m|x) = \frac{\exp(x\beta_{m|b})}{\sum_{j=1}^J \exp(x\beta_{j|b})}$$

The estimated parameters from this specification are called as log odds ratios and they provide information on the direction of the relationship between the selected covariate and the relevant outcome of the dependent variable compared with the base outcome. Since the coefficients from multinomial logit are relative to the base outcome, they might be difficult to interpret. Another technique to assess the impact of covariates is to look at the marginal effect of changing their values on the likelihood of

² Automatability distribution by employment status is presented in Figure A1 in the Appendix.

observing a particular outcome. Thus, the marginal effects are estimated and reported in this study to assess the impact of socio-demographic characteristics on the probability of working at jobs at higher risk of being automated.

The covariates included in the multinomial logit specification are age, gender, education level, marital status, job permanency and workplace status. Age is a categorical variable with five categories, gender is a binary variable, education level is a categorical variable with five categories, marital status is a binary variable with categories specified as married and other, job permanency is a binary variable and workplace status is a binary variable with the categories full-time and part-time job. The dependent variable is the probability of risk of automation with three categories: Low, medium and high.

3. Results

This section starts with presenting the results of the descriptive part followed with the estimation results of the multinomial logit analysis. Table 1 presents the composition of the sample by the degree of automation risk. Occupations with an automation risk lower than 30%, between 30% and 70% and greater than or equal to 70% are categorized in the low-risk, medium-risk and high-risk group, respectively. When the distribution of age among two groups are examined, it is observed that workers aged between 25-34 and 35-44 years old constitute the largest fraction. The distribution of age in both groups are very similar to each other except for the fact that the share of workers aged between 15-24 years old is slightly higher in the high-risk group. The share of male workers is higher than the share of female workers in both groups. Male constitutes 67% of the low-risk group and this share increases to 71% in the high-risk group. This finding is in accordance with males' employment rates being greater than females' employment rate. The distribution of workers by education level reveals an important point. The share of workers with a high school degree jumps to 29% from 17% in the high-risk group, whereas the share of workers with a tertiary degree shrinks to 23% from 45% in the high-risk group. This result can be evaluated as an evidence for the argument that the probability of losing job due to the risk of automation is higher for low-educated workers. The composition by marital status, permanency of job and workplace status does not differentiate much across the groups. Approximately 70% of the sample consists of married workers. Finally, 93% of the workers have permanent jobs and 95% of the workers work in a full-time job in both risk groups.

Table 1: Composition of the sample by degree of automation risk

	Low risk	Medium risk	High risk
Age category			
15-24	8.61	9.58	14.63
25-34	30.3	25.38	29.58
35-44	34.31	34.78	31.54
45-54	20.87	23.31	19.96
55-64	5.92	6.96	4.29
Gender			
Male	66.74	70.01	71.66
Female	33.26	29.99	28.34
Education level			
No school	1.18	2.26	1.6
Primary school	20.18	33.42	25.39
Secondary school	14.44	21.41	19.8
High school	17.72	20.60	29.27
Tertiary education	45.56	20.60	23.42
Marital status			
Married	73.8	75.3	70.32
Other	26.2	24.7	29.68
Job permanency			
Permanent	93.17	89.61	92.3
Temporary	6.83	10.39	7.7
Workplace status			
Full-time	96.26	94.76	97.36
Part-time	3.74	5.24	2.64

Figure 1 presents the partial correlations between automatability and age along with the upper and lower bounds of 95% confidence level. The results indicate that the relationship between age and risk of automation is negative for the workers aged between 15 and 24 years old. For the remaining age categories, the correlation coefficient implies a positive relationship; however, it is very low. The magnitude of the relationship between age and automatability is the highest for the lowest ages.

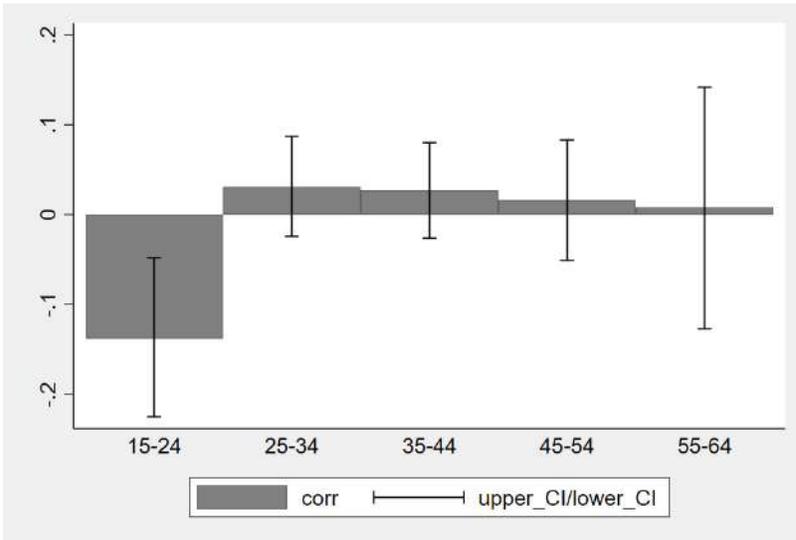


Figure 1: Partial correlations between automatability and age
Source: Author’s own calculations

Figure 2 and Figure 3 show the distribution of automation risk by gender and education level, respectively. There is no indication that the risk of automation differs much by gender: Both the mean and the range of automation risk is very close for male and female. The most striking difference appears in the first quantiles of the distribution. The first quantiles of the risk of automation are 0.4 and 0.1 for males and females, respectively. The distribution of automatability by education level displays significant differences. The mean automation risk is the highest for workers who have not completed school and is the lowest for workers with a tertiary degree. The mean automation risk is very similar for workers who are graduates of primary, secondary and high schools. It can be claimed that a higher level of education reduces the risk of automation. Similar to the gender, first and third quantiles by different education levels are different from each other. The lower the education level, the higher the first quantile of the automation risk.

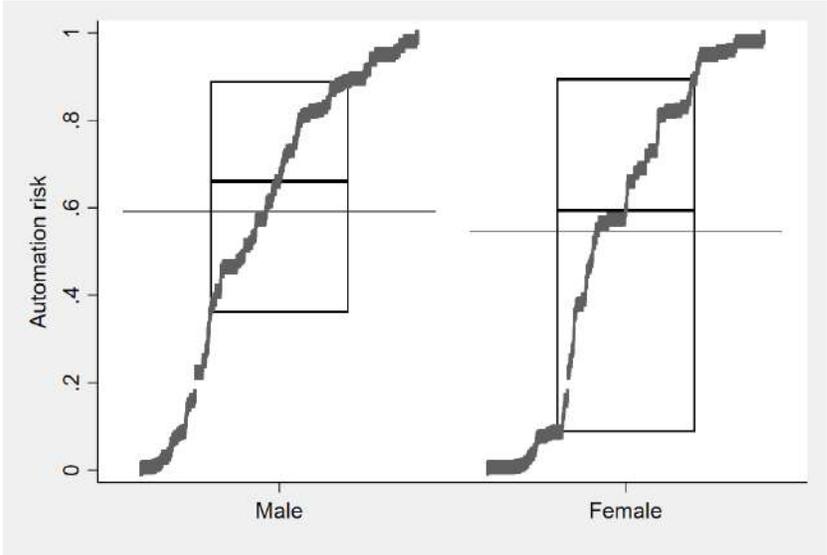


Figure 2: Distribution of automation risk by gender
Source: Author's own calculations

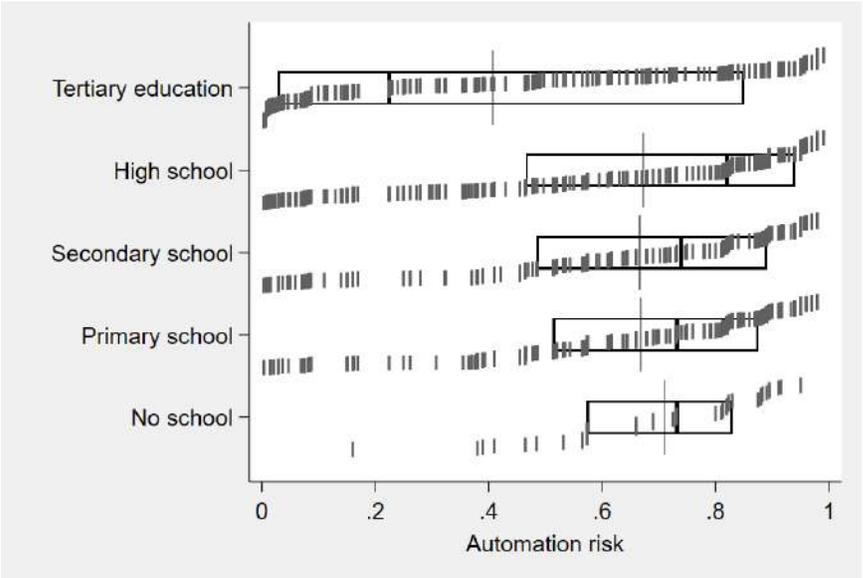


Figure 3: Distribution of automation risk by education level
Source: Author's own calculations

Figure 4 and Figure 5 display the mean probability of automation risk by two-digit occupations and industries, respectively. It is possible to claim that automation risk varies remarkably across occupations. Teaching professionals, health professionals and chief executives, senior officials and legislators are the occupations with the lowest risk of automation with a mean automation risk between 0.03 and 0.06. The occupations with the highest risk of automation are; general and keyboard clerks, numerical and material recording clerks, and other clerical support workers with a mean automation risk around 0.9. The occupations that are located around a mean automation risk level of 0.5 are legal, social and cultural professionals, health associate professionals and, science and engineering professionals. Turning to the mean probability of automation risk by two-digit industry, it is observed that mean automation probability is higher than 0.4 for all industries except education. The industries with the highest risk of automation are financial and insurance activities, mining and quarrying, and construction.

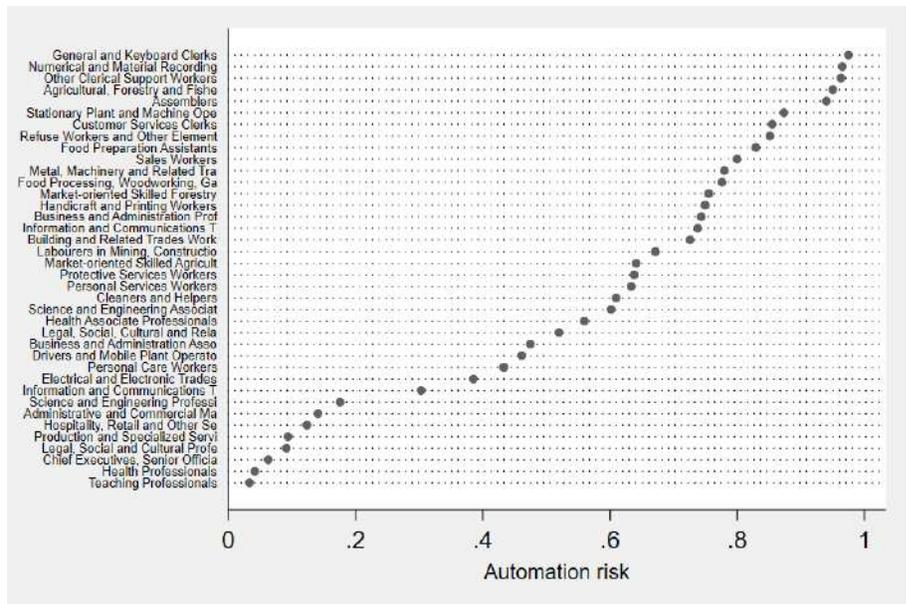


Figure 4: Mean probability of automation risk by two-digit occupation
Source: Author's own calculations

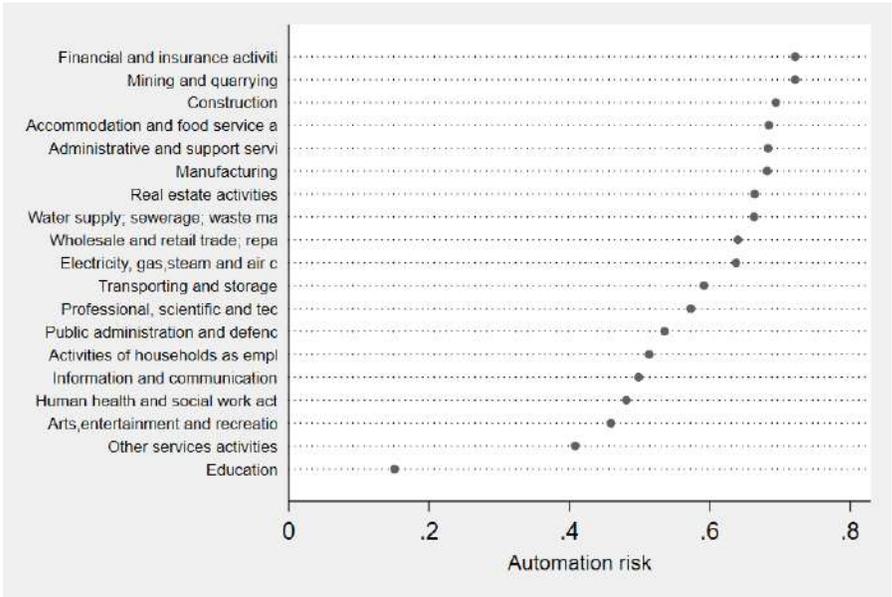


Figure 5: Mean probability of automation risk by two-digit industry
Source: Author’s own calculations

Figure 6 displays the distribution of automation risk by regions at NUTS-1 level. The regions are sorted in a descending order by median automation risk. One of the most striking findings from this figure is that West Anatolia exhibits very high automation risk as the risk level lies between 0.45 and 1. This finding indicates that most of the occupations located in West Anatolia face high probabilities of being automated. The median automation risk is highest in Northeast Anatolia and East Marmara and is lowest in the Aegean region. The first and third quantile risk values differ across regions and automation risk seems to have a non-normal distribution in most of the regions.

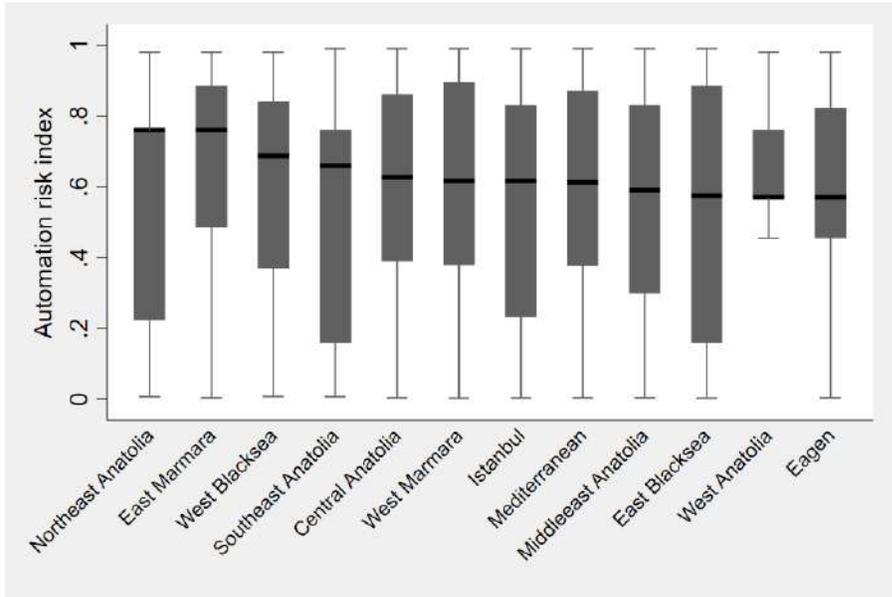


Figure 6: Distribution of automation risk by regions

Source: Author's own calculations

Table 2 presents the marginal effects from the multinomial logit estimation. The effect of age is positive for the low-risk and medium-risk groups; however, it is negative for the high-risk group. This indicates that getting older increases the average probability of working at occupations with low and medium-risk of automation, whereas it decreases the average probability of working at occupations with high-risk of automation. As an instance, workers aged between 55 and 64 have 10% higher probability of working at occupations with low-risk of automation compared to workers aged between 15 and 24. On the other hand, workers aged between 55 and 64 have 19% lower probability of working at occupations with high-risk of automation compared to workers aged between 15 and 24. The effect of gender is significant and negative in the low-risk and high-risk groups; however, the effect is insignificant in the medium-risk group. Being female decreases the average probability of working at occupations with high-risk of automation by approximately 2%. The effect of education level differs across risk groups. Higher education level increases the average probability of working at occupations with low and high-risk of automation. On the other hand, the effect of higher education level is negative in the medium-risk group. The effect of marital status and permanency of job is insignificant in all risk groups. The effect of workplace status is significant only in the medium-risk group. Working in part-time job compared with a full-time job increases the average

probability of working at occupations with medium-risk of automation by approximately 11%.

Table 2: Multinomial estimation results (marginal effects)

	Low risk	Medium risk	High risk
Age category (base: 15-24)			
25-34	.030	.041	-.071***
35-44	.063***	.062***	-.125***
45-54	.087***	.048*	-.136***
55-64	.101***	.086***	-.187***
Gender (base: male)			
Female	-.00005	.015	-.015
Education level (base: no school)			
Primary school	.037	-.216***	.179**
Secondary school	.089***	-.238***	.149***
High school	.139***	-.349***	.209***
Tertiary education	.504***	-.435***	-.068***
Marital status (base: other)			
Married	-.045	.014	.031
Job permanency (base: permanent)			
Temporary	-.029	.014	.014
Workplace status (base: full-time)			
Part-time	.012	.106***	-.119

4. Conclusion

Using the most recent cross section 2019 Turkish Health Survey, this study explores the relationship between workers' socio-demographic characteristics and the risk of job automation. The findings indicate that older workers face with a higher likelihood of working in occupations with low and medium automation risks, while face with a lower likelihood of working in occupations with high automation risks. The impact of education level varies depending on the risk group. Higher education increases the average likelihood of working in occupations with low and high automation risks. In the medium-risk category, however, a greater education degree has a detrimental influence. In all risk groups, the impact of marital status and job permanency is insignificant. Only in the medium-risk group does workplace status has a significant positive effect.

An agenda for future research includes using different micro-level data that enables to include more covariates, considering health-related factors³ as determinants of probability of working at occupations with high-risk of automation, carrying out a study at regional level⁴, analyzing the effects of COVID-19 pandemic on the probability of risk of automation. A more careful analysis would help to identify the vulnerable workers employed in occupations with high-risk of automation and policy recommendations to keep these workers from routine jobs would be more valid.

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³ Koçak and Kavi (2011), Düzgün Öncel and Karaoğlu (2020), Turgil (2021) mention the importance of labor market outcomes of health-related factors.

⁴ The findings of Sönmez and Özerkek (2018), Öztürk (2018), Kent and Donduran (2020) emphasize significant differences across regions.

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Appendix

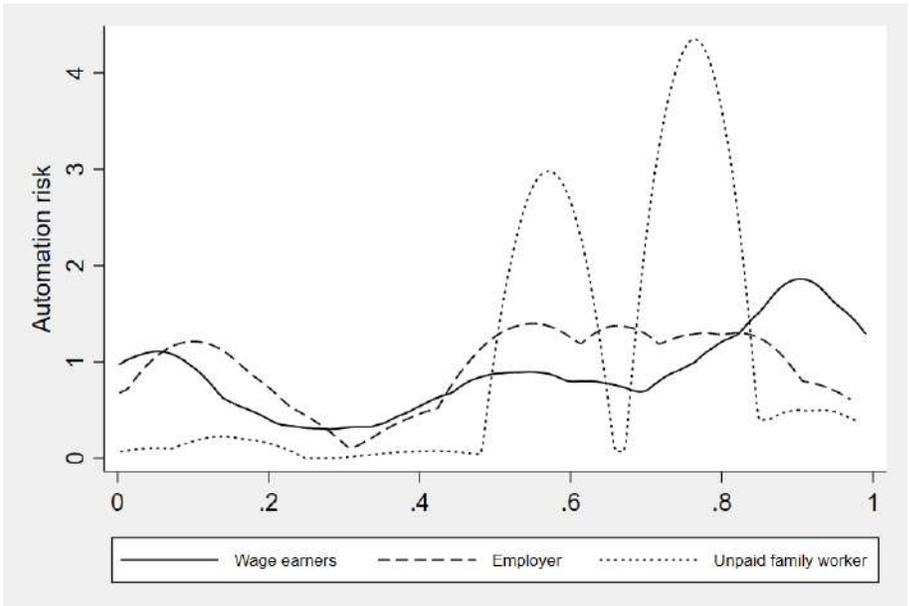


Figure A1: Automatability distribution by employment status

Source: Author's own calculations

CHAPTER V

DESCRIPTIVE ANALYSIS OF UNEMPLOYMENT AND MENTAL HEALTH OUTCOMES IN TURKEY

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Introduction

Unemployment is one of the most essential causes of economic and social insecurity. Loss of employment is connected to loss of monetary gains as well as loss of social status and identity (Salm, 2009). Moreover, it is well established that unemployed people tend to be less healthy than employed workers (Browning et al., 2006). Various studies report a robust negative relation between self-reported health and being unemployed, making the relationship between unemployment and health status one of the biggest concerns of the public policies (Briody et al.,2020; Cai, 2010; Chirikos, 1993; Pharr et al.,2012; Reine et al.,2013; Salm,2009; Schmitz, 2011). Furthermore, an important question in public health policy is the extent to which mental health is linked to unemployment. Unemployment can be related with poor mental health as a consequence of the absence of both monetary and non-monetary benefits granted by employment. Unemployed individuals tend to have poorer mental health such as depression, anxiety and stress, as well as greater levels of mental health hospital admissions and chronic diseases (Pharr et al., 2012). In this sense, an extensive literature investigates how unemployment is connected to poor mental health and mental health disorders (Artazcoz, 2004; Batic-Mujanovic et al., 2017; Beckhans and Hemmingsson,2011; Björklund, 1985; Browning et al., 2006; Cygan-Rehm et al., 2017; Drydakis, 2015; Farre et al.,2018; Holland, 2012; Marcus, 2013; Pharr et al., 2013; Strandh et al., 2014; Thern et al.,2017).

Results of the literature on the relation between unemployment and mental health are diversified. Björklund (1985) uses panel data for Sweden to show that the unemployed individuals have poorer mental health than the employed workers. According to his results, both the occurrence and the duration of unemployment affects mental health. In another detailed study for Sweden, Beckhans and Hemmingsson (2011) examine the relationship between duration of unemployment and mental disorder. Their results show a significant influence of unemployment on mental health that varies between different age, sex, family situation and socioeconomic

groups (Beckhans and Hemmingsson, 2011). For instance, effect of unemployment is more powerful for men who are working overtime, self-employed and who have lower occupational class or lower previous wage (Beckhans and Hemmingsson, 2011). Artazcoz et al. (2004) makes a similar analysis for Spain. They restrict their sample to cover employed and unemployed individuals between 25 and 65 years of age. According to their results unemployment negatively impacts mental health and effects of unemployment on mental health are not uniformly disseminated across different gender, family role, and social class categories (Artazcoz et al., 2004). Pharr et al., (2013) examine the effect of employment status and employment duration on perceived mental health by using data from the United States (US). Their results compare respondents who are unemployed more than a year to those are employed and those were voluntarily out of labor force. Unemployed respondents have significantly poorer self-reported mental health and mental health status of individuals who are voluntarily out of labor force are not significantly different from employed ones (Pharr et al., 2013). By using six annual waves of the Longitudinal Labor Market Study between the years 2008 and 2013 for Greece, Drydakis (2015) finds statistically significant negative impact from unemployment on self-reported mental health. Further, according to his results women are more negatively impacted by unemployment in relation to their mental health statuses than are men (Drydakis, 2015). In a comparative study, Cygan-Rehm et al. (2017) analyze how unemployment affects mental health in Australia, Germany, United Kingdom and United States. Their results present significant negative impact on mental health in all countries. In a recent study Briody et al. (2017) examines the correlation between unemployment and mental health of Irish mothers between the years 2001 and 2011. Their estimation results show significant negative effect of unemployment on the probability of poor mental health.

As the literature above suggests unemployment is important both in terms of economic activity and creates lower level of mental well-being. Unemployment rate in Turkey (13.67 percent in 2019) is higher than OECD average (5.2 percent in 2019) making unemployment one of the most important public concerns. In this sense an extensive literature investigates the economic and social consequences of employment and unemployment in Turkey (Alp et al.,2015; Dayıođlu and Kırdar, 2010; Eriř-Dereli, 2021; Karaođlan and Okten, 2022; Ozerkek and Sonmez, 2021; Tansel and Tařçı, 2005; Tunalı et al., 2021). On the other hand, studies regarding the association between unemployment and mental health in Turkey are very limited. Kōse (2020) puts forward empirical evidence on the interactions between gender, income and mental health status by using Turkish Health Survey 2016. Results present endogenous and positive association between household income and mental health. Further, Turkish females report worse mental health status than Turkish

males (Köse, 2020). In a regional study, Picakciefte et al. (2016) explore relationship between the duration of unemployment and the incidence of depression among citizens in the southwest region of Turkey by applying a questionnaire. The findings show that long-term unemployed individuals had more experience of depression with respect to short-term unemployed counterparts (Picakciefte et al.,2016).

In the light of the discussion above, the aim of this study is to disentangle the association between unemployment and mental health of men and women in Turkey. I use data from Turkish Health Surveys for the years 2014 and 2019. I use demographic and socioeconomic indicators, household structure and health-behavior related factors as control variables. Identifying the link between unemployment and mental health would bring important implications in terms of labor and health policy designs. However, revealing the causal effect of unemployment on mental health is challenging. Although literature suggests that unemployed are in worse mental health than their employed counterparts, this negative association might be driven by reverse causality. To put differently, it could be that less healthy people are more likely to become unemployed or that, having become unemployed, they have longer durations of unemployment (Browning et al.,2006). Related literature uses instrumental variables (IV) or panel data to solve the problem of reverse causality (Cai, 2010; Cygan-Rehm et al., 2017; Drydak, 2015; Marcus, 2013; Schmitz, 2011). The most common IV is unemployment due to plant closure. However, a proper IV and panel data is not available for Turkey due to data limitations. In this sense the findings of this study can be interpreted only as associations, not causations. In order to avoid reverse causality, at least to some extent, I exclude individuals reporting a limiting long-standing illness in the last 12 months and those who are not actively looking for work by following Artazcoz et al. (2004). In other words, the sample is restricted to unemployed and employed respondents. Furthermore, I examine the relation between unemployment and mental health for men and women separately to reveal different dynamics for genders. The findings show a negative relation between unemployment and mental health in line with the literature discussed above. According to estimation results the probability of poor mental health increases with unemployment and the relationship is stronger for women.

The outline of the study is as follows: next section describes the data and the methodology. Third section presents the results and fourth section concludes.

1. Data and Methodology

This study uses data from Turkish Health Survey (THS) for the years 2014 and 2019 prepared by Turkish Statistical Institute (TURKSTAT). These surveys are nationally representative random samples and contain individual level questions on physical and mental health, chronic diseases, employment status as well as socioeconomic components such as educational attainment and household income. The THS is a cross sectional survey that exists for the years 2008, 2010, 2012, 2014, 2016 and 2019. Unfortunately, the information in one wave may not entirely comparable across different years of the survey. Most of the analysis conducted here thus focus on the comparison between the year 2014 and 2019 that asked almost identical questions. There are 26075 individuals (12276 of them are men, 13799 of them are women) in 2014 and 23199 individuals (10947 of them are men, 12252 of them are women) in 2019. For the purpose of the study, I use subsample of individuals aged between 15 and 64 who are only employed and unemployed. By following Altatcoz et al. (2004) and Reine et al. (2013) I exclude individuals reporting a limiting long-standing illness in the last 12 months in order to avoid reverse causality to some extent. Thus, the sample analyzed here has 4836 men and 3122 women in 2014 and 3736 men and 1643 women in 2019 which is shown in Table 1.

Table 1: Summary of Survey Years and Sample Sizes

year	2014	2019
<i>Men (n)</i>	4836	3736
<i>Women (n)</i>	3122	1643

Source. TURKSTAT Health Survey 2014 and 2019.

The outcome variable is mental health status. I use two different mental health indicators. The first one is a subjective mental health measure that takes the value of 1 if the individual reports depression in last 12 months and 0 otherwise. The second indicator measures the frequency of depression in last 2 weeks which has four categories (*i: no depression in last two weeks, ii: depressed some days in last two weeks, iii: depressed more than a week in last two weeks, iv: depressed almost every day*). In order to comprehend how mental health is linked to unemployment I use employment status as the treatment in the analysis. Employment status is a binary variable takes the value of 1 if the respondent is unemployed and takes the value of 0 if he or she is employed.

Control variables are age, marital status, education level, household structure and health-behavior related factors. Age is a continuous variable. Marital status has three categories; *i. single, ii. married, iii. separated*. Education level is a categorical variable with five categories; *i. no degree, ii. primary school, iii. secondary school, iv. high school, v. university or*

higher. In order to cover the household structure, I use existence of children under 15 in the household which is a binary variable taking the value of 1 if there are children under 15 in the household and 0 otherwise. Additionally, I use household income quintiles in order to describe the type of household. Health-behavior related factors include whether the individual smokes or not and whether the individual is physically active during daily activities, both of which are binary variables.

In the light of the discussion above, the empirical specification in order to present the association between mental health status and unemployment is as the following:

$$(1) M_{i,t} = F(U_{i,t}\beta_1 + X_{i,t}\beta_2 + HH_{i,t}\beta_3 + HB_{i,t}\beta_4 + \varepsilon_{i,t})$$

where $M_{i,t}$ represent mental health status of the individual, $U_{i,t}$ is the employment status, $X_{i,t}$ covers demographic and socio-economic indicators such as age, marital status and education level. $HH_{i,t}$ and $HB_{i,t}$ shows household structure and health-behavior related factors respectively. Equation [1] is estimated by using probit methodology. In this sense $F(\cdot)$ represent standard normal distribution. Further, I calculate the marginal effects by using the following equation in which θ is the pdf of standard normal distribution function:

$$(2) \frac{\partial M_{i,t}}{\partial X_{k,t}} = \frac{\partial \varphi(U_{i,t}\beta_1 + X_{i,t}\beta_2 + HH_{i,t}\beta_3 + HB_{i,t}\beta_4 + \varepsilon_{i,t})}{\partial X_{k,t}} = \theta(X_{i,t}\beta) \beta_k$$

2. Results

Table 2 shows descriptive statistics on the distribution of mental health indicators and control variables among employed and unemployed individuals by gender. First striking observation is the significantly higher proportion of poor mental health among unemployed individuals. The results show bigger share of poor mental health (both in terms of depression and frequency of depression) among unemployed women compared with employed women and unemployed men. For instance, 22.18 percent of unemployed women report experiencing depression in last 12 months, whereas this ratio is 12.57 percent for employed women and 9.01 percent for unemployed men.

Table 2: Distribution of mental health indicators and control variables among employed and unemployed individuals by gender (%)

	Men		Women	
	<i>employed</i>	<i>unemployed</i>	<i>employed</i>	<i>unemployed</i>
Dependent variables				
depression (yes)	4.43	9.01	12.57	22.18
frequency of depression				
<i>never</i>	65.14	49.07	55.02	44.68
<i>some days</i>	31.05	41.51	39.50	42.81
<i>more than a week</i>	13.43	3.58	2.00	3.43
<i>almost every day</i>	2.45	5.83	3.46	9.06
Control variables				
age group				
15-24	12.15	24.53	9.98	32.18
25-34	29.86	35.80	31.96	43.75
35-44	26.40	24.53	28.99	17.50
45-54	19.39	12.33	18.38	5.93
55-64	12.18	2.78	10.66	0.62
marital status				
<i>single</i>	11.32	35.14	10.14	42.50
<i>married</i>	85.67	61.40	79.52	43.43
<i>separated</i>	3.00	3.44	10.32	14.06
education				
<i>no degree</i>	36.73	26.20	47.25	12.55
<i>primary</i>	18.34	25.34	15.29	15.06
<i>secondary</i>	9.96	13.44	3.79	7.94
<i>high school</i>	18.65	15.00	13.97	25.10
<i>university or higher</i>	16.29	20.00	19.67	39.33
household structure				
<i>children under 15</i>	55.96	51.19	53.00	37.18
<i>hh income quintile 1</i>	20.70	60.49	23.44	38.15
<i>hh income quintile 2</i>	19.66	16.96	18.48	19.07
<i>hh income quintile 3</i>	18.99	9.15	15.77	13.81
<i>hh income quintile 4</i>	20.78	9.15	18.77	15.78
<i>hh income quintile 5</i>	19.85	4.24	23.51	13.15
health-behavior related factors				
<i>smoking</i>	47.58	55.57	22.11	30.00
<i>inactive</i>	34.75	46.28	40.62	52.50

Source: TURKSTAT Health Survey 2014 and 2019 and author's calculations. Sample weights applied.

The results regarding frequency of depression in last two weeks are similar. 9.06 percent of unemployed women report depression almost every day in last 2 weeks, while the same ratio is 3.46 and 5.83 for employed women and unemployed men respectively. When I consider the control variables, I observe that unemployment is more prevalent for middle aged individuals and individuals who have university or higher education. Majority of unemployed men and women are in first income quintile where the proportion is significantly higher for unemployed men.

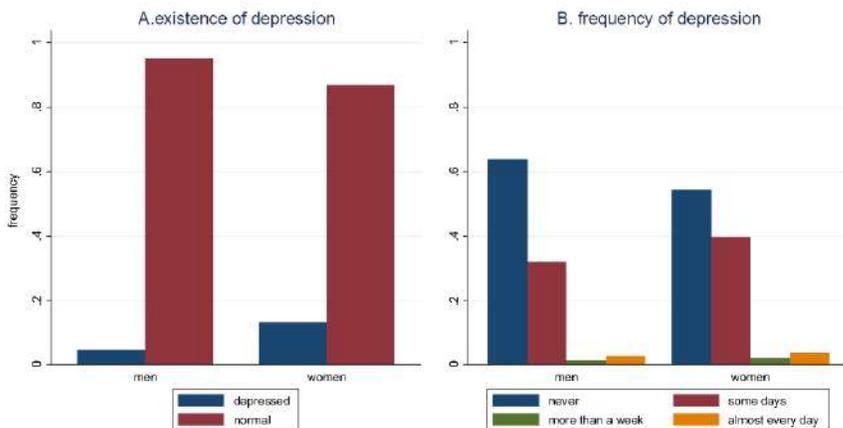


Figure1: Mental Health Status by Gender

Source: TURKSTAT Health Survey 2014 and 2019 and author’s calculations. Sample weights applied.

Figure 1 displays the distribution of mental health status by gender. Column A shows the distribution according to existence of depression in last 12 months and column B shows the frequency of depression in last 2 weeks. Results in both columns present that proportion of worse mental health is higher for women. Moreover figure 2 shows distribution of mental health according to employment status by gender. Column A presents the distribution for men and B for women. Similar to Figure 1, prevalence of poor mental health is higher for both employed and unemployed women. For instance, both the existence and frequency of depression is greater for unemployed women than unemployed men.

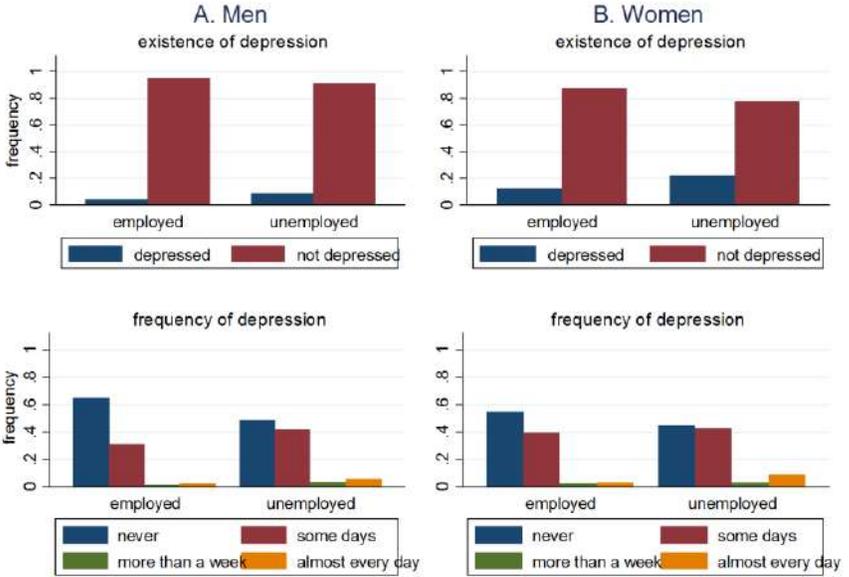


Figure 2: Mental Health Status According to Employment

Source: TURKSTAT Health Survey 2014 and 2019 and author's calculations. Sample weights applied.

Table 3 shows marginal effects from probit estimation results for men and women separately. First two columns present the results for the first specification in which dependent variable is reporting depression in last 12 months. In other words, dependent variable is a binary variable taking the value of 1 if respondent reports depression. Third and fourth columns display the results for the second specification in which dependent variable is the frequency of depression. I use a binary dependent variable in the second specification as well. Dependent variable takes the value of 1 if the individuals report depression some days, more than a week and almost every day in last two weeks and 0 otherwise. The treatment is unemployment which is a binary variable taking the value of 1 if the individual is unemployed and takes the value of 0 if employed. Control variables are age, marital status, education, household structure and health-behavior related factors. Age is a continuous variable. The reference categories for marital status and education are being single and having no degree respectively. The reference category for household income is the income in the first quintile. Existence of children under 15, smoking and activity are binary variables.

Table 3: Probit Estimation Results (Marginal Effects)

	Dependent variable: existence of depression		Dependent variable: frequency of depression	
	men (1)	women (2)	men (3)	women (4)
employment status				
unemployed	0.030** (0.012)	0.15*** (0.06)	0.075*** (0.022)	0.128*** (0.033)
age	0.005* (0.003)	0.0002 (0.008)	0.011 (0.007)	0.0007 (0.001)
age square	-0.0001** (0.00001)	-0.0001 (0.0009)	-0.0001 (0.0001)	-0.0001 (0.0001)
marital Status				
married	0.005 (0.016)	0.012 (0.037)	0.061 (0.039)	0.097** (0.054)
separated	0.110*** (0.039)	0.089 (0.048)	0.182*** (0.063)	0.159*** (0.065)
education				
primary	0.001 (0.020)	-0.139*** (0.0380)	0.046 (0.047)	-0.040 (0.160)
secondary	-0.025 (0.017)	0.008 (0.164)	-0.004 (0.055)	-0.342*** (0.154)
high school	0.013 (0.014)	-0.051** (0.026)	-0.031 (0.030)	-0.050 (0.008)
university or higher	0.034 (0.033)	0.002 (0.116)	-0.002 (0.055)	0.008 (0.148)
household structure				
children under 15	-0.009 (0.009)	-0.028 (0.022)	0.043*** (0.020)	-0.023 (0.031)
hh income quintile 2	-0.010 (0.011)	-0.001 (0.027)	-0.016 (0.024)	-0.044 (0.036)
hh income quintile 3	-0.017 (0.012)	-0.029 (0.028)	-0.056 (0.025)	-0.112*** (0.038)
hh income quintile 4	-0.006 (0.012)	-0.061*** (0.026)	-0.039 (0.026)	-0.145*** (0.038)
hh income quintile 5	-0.007 (0.013)	0.062*** (0.027)	-0.097 (0.028)	-0.199*** (0.040)
health-behavior related factors				
smoking	0.007 (0.007)	0.137 (0.020)	0.050*** (0.016)	0.146*** (0.031)
inactive	0.005 (0.003)	0.008 (0.018)	0.053*** (0.018)	0.028 (0.026)

Source: TURKSTAT Health Survey 2014 and 2019 and author's calculations. *p < 0.10, **p < 0.05, ***p < 0.01. Standard errors in parentheses. Sample weights applied.

According to estimation results unemployment is significant in all specifications both for men and women. In the first specification the probability of poor mental health increases by 3 percent for men and 15 percent for women with unemployment. According to the results in second specification, probability of poor mental health rises by about 7.5 percent

and 13 percent with unemployment for men and women respectively. Age is only significant for men in the first specification. Additionally, education is only significant for women for some categories. For example, probability of being in poor mental health decreases with high school education for women in the first specification. Existence of children under 15 is only significant for men in the second specification and insignificant for women in both specifications indicating no meaningful relationship between mental health and children in the household for women. Moreover, household income is significantly related with mental health for women and the results are insignificant for men in all specifications. To put differently, being in the higher household income quintiles decreases the probability of poor mental health for women. Lastly the association between mental health and health-behavior related factors are only significant in the second specification for both genders. Smoking increases the probability of poor mental health by 5 and 14.6 percent for men and women respectively. Further, being inactive increases the probability of poor mental health for men by 5 percent and the relationship is insignificant for women.

3. Conclusion

Unemployment rate in Turkey is higher than the OECD and EU average. This high rate brings the public policy debates both in terms of economic, social and health activities. Literature shows that unemployed individuals tend to be less healthy than their employed counterparts. Moreover, another important question in public health policy is the extent to how mental health is related to unemployment. This study shows the association between unemployment and mental health for Turkish men and women by using Turkish Health Survey for the years 2014 and 2019. The sample in the analysis includes only employed and unemployed individuals and excludes respondents reporting a limiting long-standing illness in the last 12 months. I use two indicators for mental health status. First one is a subjective mental health measure that takes the value of 1 if the individual reports depression in last 12 months and 0 otherwise. The second indicator measures the frequency of depression in last 2 weeks which originally has four categories (*i: no depression in last two weeks, ii: depressed some days in last two weeks, iii: depressed more than a week in last two weeks, iv: depressed almost every day*). In the probit estimation second mental health indicator takes the value of 0 if the individual reports no depression and 1 otherwise. I apply unemployment status as the treatment and demographic and socioeconomic indicators (age, marital status, education), household structure (existence of children under 15 in the household and household income) and health-behavior relating factors (smoking and being physically active) as control variables. Descriptive results show that both unemployed men and women are in worse mental health. Marginal effects

form probit estimation show being unemployed increases the probability of being in worse mental health both for men and women. However, the association between unemployment and mental health is stronger for women. Furthermore, control variables are mostly significant for women as well. For instance, education and household income level are significantly related to mental health of women in both estimation specifications.

This study has some limitations. First, the relationship between mental health and unemployment can be driven by reverse causality. For instance, a health shock can both deteriorate mental health and leads unemployment. Literature uses panel data or instrumental variables models to overcome the problem of reverse causality. Unfortunately, due to data limitations it is not possible to control for reverse causality in this study. Second, I cannot observe latest employment histories of unemployed individuals. Latest employment information such as occupation and sector could also be important in terms of direction of the relationship for the unemployed.

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CHAPTER VI

MODERATED MEDIATION EFFECT ROLE OF WORKING CONDITIONS ON THE RELATIONSHIP BETWEEN FAMILY MOTIVATION, INTRINSIC MOTIVATION, ENERGY, JOB PERFORMANCE AND INTENTION TO LEAVE¹

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1. Introduction

In addition to the moderating effect of working conditions on the effect of energy on job performance and intention to leave, such an effect may also have a similar effect on the direction and magnitude of the indirect relationship defined through energy, between family motivation and intrinsic motivation, and job performance and intention to leave will be.

In this study, this holistic relationship is theoretically explained that working conditions will regulate the indirect effect of family motivation on work performance that will occur through energy, and that working conditions will regulate the indirect effect of family motivation on turnover intention that will occur through energy. In this study, it is also theoretically explained this holistic relationship that working conditions will regulate the indirect effect of intrinsic motivation on job performance that will occur through energy, and that working conditions will regulate the indirect effect of intrinsic motivation on turnover intention through energy.

2. Moderated Mediation Effect Role of Working Conditions on the Relationship between Family Motivation, Energy, Job Performance and Intention to Leave

When we look at this holistic relationship, which states that working conditions will regulate the indirect effect of family motivation on work performance that will occur through energy, and that working conditions will regulate the indirect effect of family motivation on the intention to leave work that will occur through energy, from a theoretical framework;

¹ This study was adapted from the unpublished doctoral dissertation written under the supervision of Prof. Dr. M. Ferhat Özbek in the Department of Business Administration, Institute of Social Sciences, Gümüşhane University. Prof. Dr. M. Ferhat ÖZBEK, who was a consultant in the thesis study, waived his right of authorship.

According to the self-determination theory (Gagne & Deci, 2005), family motivation involves defining the job based on a core value or integrating it into a whole value system. When employees experience strong family motivation, it helps them find work enjoyable and meaningful. Therefore, family motivation is an important source of energy (Menges et al., 2017: 698).

When family motivation is strong, employees become excited about work and are less likely to experience stress, which enables them to work harder, longer, and smarter, improving performance and reducing their intention to leave (Grant, 2008). In this sense, starting from the perspective of Vroom (1964)'s expectancy theory, as explained in detail before; According to the expectancy theory, individuals will show a high level of effort if they believe that it will result in a positive performance evaluation (Robbins & Judge, 2017: 226-228). The essence of the theory is based on the idea that an individual will be motivated if he believes that his behavior will return him as a reward or as a desired outcome (Keser & Güler, 2016: 203-204).

From the perspective of the action identification theory, known as "action identification theory" in the foreign literature, this holistic relationship that working conditions will regulate the indirect effect of family motivation on work performance that will occur through energy and the indirect effect of family motivation on the intention to leave work that will occur through energy; According to the action description theory (Vallacher & Wegner, 1987, 1989) it implies that people will always be sensitive to the larger meanings, effects, and consequences of what they do. In this sense, family motivation can transform a task from indifference to effort, since motivation to support one's/employee's family provides an important reason for effort, regardless of whether employees enjoy their work or not (Menges et al, 2017: 699).

In summary, as explained above, when family motivation is strong, employees will increase the value of their work by linking their work to the value that is most important to them, supporting and benefiting their families. As a result, the job performance of the employees will increase and their intention to leave will decrease. For this reason, it is expected that employees will show higher performance and lower turnover intention in work environments where employees with high family motivation are present.

Family motivation can transform a task from indifference to effort, as the employee's motivation to support, benefit and contribute to their family provides an important reason for effort, regardless of whether employees enjoy their work or not. It can be said that bad conditions can make the employee ambitious and feed the idea of creating good working conditions

in the future. On the other hand, employees may indicate that struggling under bad conditions is necessary for the future of the employee's family and the expectation that much better conditions will prevail in the future.

It can be said that employees who care about providing for their families and want to contribute to their families in bad working conditions will feel energetic, mentally renewed and willing to complete their tasks on time, reach their business goals, and exceed the standards in the quality of service they provide.

Similarly, it can be said that in bad working conditions, employees who care about providing for their families and want to help their families feel energetic, mentally renewed and willing to leave their jobs and not to think about leaving the job as much as possible. For this reason, it is thought that family motivation will play a compensatory role in order to increase job performance and reduce intention to leave, even under bad working conditions.

In this context, it can be said that in bad working conditions, the positive effect of energy on work performance will be high, and such an effect will increase the power of the conditional indirect effect of energy between family motivation and work performance. In addition, it can be said that in bad working conditions, the positive effect of energy on the intention to leave the job will be high, and such an effect will increase the power of the conditional indirect effect on energy between family motivation and intention to leave.

3. Moderated Mediation Effect Role of Working Conditions on the Relationship between Intrinsic Motivation, Energy, Job Performance and Intention to Leave

In addition to the development-oriented explanations, which predict that working conditions have a regulatory effect on the effect of energy on work performance, as explained before, and that working conditions have a regulatory effect on the effect of energy on the intention to leave; Such an effect that may arise will also have a similar effect on the direction and magnitude of the indirect relationship defined through energy, between intrinsic motivation and job performance and intrinsic motivation and intention to leave.

When we look at this holistic relationship, which states that working conditions will regulate the indirect effect of intrinsic motivation on job performance that will occur through energy, and that working conditions will regulate the indirect effect of intrinsic motivation on turnover intention that will occur through energy, from a theoretical framework; this conditional indirect effect has been examined from the point of view of self-determination theory.

According to self-determination theory, when intrinsic motivation is high, employees do not need to practice self-control to “force” themselves to work; they naturally turn to work (Grant, 2008). Because work is more enjoyable than a deterrent, employees are more likely to concentrate on work, exert significant effort, and persist in the face of obstacles (Mitchell & Daniels, 2003).

In the absence of intrinsic motivation, the quality and quantity of performance tends to suffer. Numerous studies (e.g., Grant, 2008; Piccolo & Colquitt, 2006; Rich et al., 2010) have revealed that an emphasis on intrinsic goals over extrinsic goals is associated with greater health, well-being, and positive performance (Vansteenkiste et al., 2004).

According to the self-determination theory, factors that support basic psychological needs and facilitate autonomous motivation from the work environment will contribute to positive work-related results (Deci & Ryan, 2014: 26). Self-determination theory proposes that meeting these basic psychological needs of individuals is necessary for individual performance. It is assumed that meeting these needs will positively affect the well-being of the employees, on the contrary, not meeting the needs will negatively affect the well-being of the employees (Deci & Ryan, 2000b).

It is expected that the relationship between energy and work performance is stronger in work environments where these needs are met (Gagne & Deci, 2005: 337). On the contrary, working conditions that do not encourage the satisfaction of the three basic psychological needs will reduce the intrinsic motivation of the employees and will not encourage the internalization of extrinsic motivation, which in turn indicates effective performance, especially in tasks that require creativity, cognitive flexibility and conceptual understanding; It is possible to say that job dissatisfaction, negative attitudes about work and organizational citizenship behaviors will cause a negative psychological state and intention to leave the job in terms of psychological adjustment and well-being.

According to the self-determination theory, it has been found that social contexts that support employees' autonomy, competence, and feelings of concern lead to the adoption of a more self-determined motivation at work, and this motivation reduces employees' turnover intentions later on (Otis & Pelletier, 2005; Richer et al., 2002).). Although there are many factors affecting the intention to leave, in studies on intention to leave; For example, Gagne et al. (2003) found that autonomy support was associated with stronger involvement and less turnover intention in the volunteer setting. Similarly, Schultz et al. (2015) found that employees who are more aware of coping with adverse conditions in the workplace are less likely to be disappointed even in unsupportive management environments, resulting

in greater employee compliance (i.e. less burnout, less turnover intention).

In this study, assumptions have been developed about the conditions under which self-determination theory can work more effectively. In this context, it is assumed that the intrinsic motivation → energy → quitting relationship and intrinsic motivation → energy → performance relationship determined according to the self-determination theory will be stronger under bad working conditions. Thus, the boundary conditions of the self-determination theory were tried to be determined. In this context, it can be said that in bad working conditions, when internal motivation comes into play as a complement, people will always be sensitive to the greater meanings, effects and results of the work they do, and the situation will increase their job performance and reduce their intention to leave.

In this context, if employees have high energy in bad working conditions, they can perform more and their intention to leave their job is less. Because they want to show that they are successful under difficult conditions. For this reason, it is thought that intrinsic motivation will play a regulatory role in order to increase job performance under bad working conditions and to reduce turnover intention. As a result, the job performance of the employees will increase and their intention to leave will decrease. For this reason, it is expected that employees with high intrinsic motivation will have higher performance and lower turnover intention in work environments.

Because work is more enjoyable than a deterrent in terms of intrinsic motivation, employees are more likely to concentrate on work, put in significant effort, persist in the face of obstacles, and struggle in poor working conditions. On the other hand, it can be said that bad conditions can make the employee ambitious and feed the idea of creating good conditions in the future. On the other hand, employees may indicate that it is necessary for the future of the employee to struggle under bad conditions and the expectation that much better conditions can be achieved in the future. On the other hand, if the working conditions in a workplace are far from ideal; It can be interpreted that an employee with a higher intrinsic motivation will have a higher job performance and a lower intention to leave, based on the employee's energy. Let us explain this situation with an example. It can be said that employees who enjoy their job, find their job attractive, and find their job interesting under bad working conditions, will feel energetic, mentally renewed and willing to complete their tasks on time, reach their business goals, and exceed the standards in the quality of service they provide.

Similarly, it can be said that employees who enjoy their job, find their job attractive, and find their job interesting under bad working conditions

are reluctant to quit their job and will not consider leaving their job as much as possible. For this reason, it is thought that intrinsic motivation will play a regulatory role in order to increase job performance and reduce intention to leave, even under bad working conditions. In addition, it can be said that in bad working conditions, the positive effect of energy on turnover intention will be high, and such an effect will increase the power of the conditional indirect effect of energy between intrinsic motivation and intention to leave.

4. Conclusion

In this study, this holistic relationship is theoretically explained that working conditions will regulate the indirect effect of family motivation on work performance that will occur through energy, and that working conditions will regulate the indirect effect of family motivation on turnover intention that will occur through energy. In this study, it is also theoretically explained this holistic relationship that working conditions will regulate the indirect effect of intrinsic motivation on job performance that will occur through energy, and that working conditions will regulate the indirect effect of intrinsic motivation on turnover intention through energy.

Based on the studies, it can be said that in bad working conditions, employees who care about providing for their family and who want to help their family will feel energetic, mentally renewed and willing to leave their job, and not to think about leaving the job as much as possible. For this reason, it is thought that family motivation will play a compensatory role in order to increase job performance and reduce intention to leave, even under bad working conditions. In this context, it can be said that in bad working conditions, the positive effect of energy on work performance will be high, and such an effect will increase the power of the conditional indirect effect of energy between family motivation and work performance. In addition, it can be said that in bad working conditions, the positive effect of energy on the intention to leave the job will be high, and such an effect will increase the power of the conditional indirect effect on energy between family motivation and intention to leave.

Because work is more enjoyable than a deterrent in terms of intrinsic motivation, employees are more likely to concentrate on work, put in significant effort, persist in the face of obstacles, and struggle in poor working conditions. On the other hand, it can be said that bad conditions can make the employee ambitious and feed the idea of creating good conditions in the future. On the other hand, employees may indicate that it is necessary for the future of the employee to struggle under bad conditions and the expectation that much better conditions can be achieved in the future. On the other hand, if the working conditions in a workplace are far

from ideal; It can be interpreted that an employee with a higher intrinsic motivation will have a higher job performance and a lower intention to leave, based on the employee's energy. Let us explain this situation with an example. It can be said that employees who enjoy their job, find their job attractive, and find their job interesting under bad working conditions, will feel energetic, mentally renewed and willing to complete their tasks on time, reach their business goals, and exceed the standards in the quality of service they provide.

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CHAPTER VII

DOES HUMAN ENERGY HAVE A MEDIATING ROLE IN THE RELATIONSHIP OF INTRINSIC MOTIVATION WITH JOB PERFORMANCE AND INTENTION TO LEAVE?¹

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1. Introduction

Self-determination theory focuses on the extent to which needs are psychologically met rather than the strength of the three basic needs as the primary predictor of outcomes. Focusing on satisfaction versus inhibition of basic needs in the workplace gives important information about how workplaces will be structured, so that people are more satisfied with basic needs and as a result, they show more well-being and effective performance (Deci & Ryan, 2014: 16).

In studies showing the relationship between intrinsic motivation and employee energy (Nix et al., 1999; Saavedra & Kwun, 2000; Sheldon & Kasser, 1995), it has been found that intrinsic motivation gives energy. However, when the studies on the energy-job performance-intention to leave relationship are examined, it is seen that there is not enough literature on the fact that energy is directly related to job performance. To the best of our knowledge, only Menges et al. (2017) determined the positive effect of energy on work performance on employees in Mexico. However, studies on organizational burnout and commitment have concluded that when employees lack emotional energy, their performance decreases (Rich et al., 2010; Taris, 2006; Leiter & Maslach, 2005; Kahn, 1990).

When the literature is examined, it is seen that studies examining the intermediary relationship of energy in the relations of intrinsic motivation with job performance and intention to leave are not sufficient. Therefore, the study focused on the intermediary relationship of energy in the relationship of intrinsic motivation with job performance and intention to leave.

¹ This study was adapted from the unpublished doctoral dissertation written under the supervision of Prof. Dr. M. Ferhat Özbek in the Department of Business Administration, Institute of Social Sciences, Gümüşhane University. Prof. Dr. M. Ferhat ÖZBEK, who was a consultant in the thesis study, waived his right of authorship.

2. The Mediator Role of Energy in the Relationship between Intrinsic Motivation and Job Performance

The basic psychological needs of self-determination theory represent energy resources that are indispensable for high-quality motivation and optimal functioning (Fernet & Austin, 2014:234). The three basic needs of self-determination theory, autonomy, competence, and relatedness, are not only for motivation, but also for the satisfaction of needs, which are strongly related to vitality, and the inhibition of these needs can lead to motivational exhaustion (Ryan & Deci, 2008: 702-704). As explained in detail, starting from the theoretical explanations; Disruption of any of these three basic needs in a workplace can harm employee motivation, vitality, energy and vitality. On the contrary, self-determination theory primarily focuses on the extent to which these basic needs are met or hindered in a workplace (Ryan & Deci, 2020:1). In studies showing the relationship between intrinsic motivation and employee energy (Nix et al., 1999; Saavedra & Kwun, 2000; Sheldon & Kasser, 1995), it has been found that intrinsic motivation gives energy.

Energy is according to self-determination theory; personal vitality, a feeling of enthusiasm, vitality or positive energy (Ryan & Frederick, 1997). Vitality, energy and vitality are placed on top of the self-determination theory developed by Ryan and Deci (2000). Self-determination theory focuses on the extent to which needs are psychologically met rather than the strength of the three basic needs as the primary predictor of outcomes. Focusing on satisfaction versus inhibition of basic needs in the workplace gives important information about how workplaces will be structured, so that people are more satisfied with basic needs and as a result, they show more well-being and effective performance (Deci & Ryan, 2014: 16). When the studies on the energy-work performance relationship are examined, it is seen that there is not enough literature on the fact that energy is directly related to work performance. To the best of our knowledge, only Menges et al. (2017) determined the positive effect of energy on work performance on employees in Mexico. However, studies on organizational burnout and commitment have concluded that when employees lack emotional energy, their performance decreases (Rich et al., 2010; Taris, 2006; Leiter & Maslach, 2005; Kahn, 1990).

A hypothesis has been developed below that energy may be a mediator in the relationship between intrinsic motivation and job performance. Intrinsic motivation are the expressions that the person enjoys doing the job, finds the job attractive, and finds the job interesting. Do these statements positively affect the energy that the person feels in his current job? This situation can be better understood with an example. This meaningful feeling can energize the employee if he or she enjoys the job,

finds it attractive or interesting. This will make the person feel mentally renewed, make him/her feel enthusiastic while working and make him/her feel energetic in his/her work. Therefore, as a result of the basic arguments of the self-determination theory, the explanations made and the preliminary studies in the literature; It is predicted that intrinsic motivation will provide a sense of meaning that increases energy as the basic psychological processes that will operate. In short, as the intrinsic motivation increases, the energy of the employee will increase.

An employee with increased energy is expected to increase his job performance. It is possible to express this situation as follows: Feeling energetic at the workplace where one works, feeling mentally renewed are expressions related to energy. Do these statements positively affect the person's performance in their current job? This situation can be better understood with an example. For example, if the person is willing to do his/her job in the best way and feels satisfied with his/her job, this situation will enable the person to complete his/her duties in the workplace on time, to reach his/her business goals, to exceed the standards in the service quality offered, and to be the fastest when a problem arises in the workplace. will enable them to come up with a solution. To put it briefly, as the energy of the employee in the workplace increases, the job performance will also increase. The common result emerging from these theoretical explanations and studies shows that there is a positive relationship between energy and job performance, which represents well-being. Therefore, it can be claimed that energy has a mediating role in the relationship between intrinsic motivation and job performance. In other words, intrinsic motivation increases the performance of employees by increasing their energy at work.

3. The Mediator Role of Energy in the Relationship between Intrinsic Motivation and Intention to Leave

According to the self-determination theory; When any of these three basic psychological needs are not met or neglected in a certain area or in general, whether it is a class, a workplace or a team, the individual shows motivational, cognitive, emotional and psychological negativities. For example, it has been theorized that the individual may experience identifiable motivational, cognitive, emotional and psychological collapses such as less vitality, more burnout, and decreased well-being and loss (Ryan & Deci, 2017: 86). The inhibition of any of these three basic needs for autonomy, competence, and relatedness harms motivation, vitality, energy, and vitality (Ryan & Deci, 2020:1). According to the self-determination theory, intrinsic motivation is the energy source that is central to the active nature of the organism. Intrinsic motivation emphasizes important points that not all behaviors are impulse-based or a function of external controls (Deci and Ryan, 1985: 12). In studies showing

the relationship between intrinsic motivation and employee energy (Nix et al., 1999; Saavedra & Kwun, 2000; Sheldon & Kasser, 1995), it has been found that intrinsic motivation gives energy.

It has also been explained that ICT is used to investigate employee turnover intentions. More specifically, researchers (Otis & Pelletier, 2005; Richer et al., 2002) tested the assumptions of self-determination theory that “social contexts influence motivational patterns and motivational patterns subsequently influence individual outcomes”. As predicted, it has been found that social contexts that support employees' sense of autonomy, competence, and relatedness lead to the adoption of a more self-determined motivation at work, which then reduces employee turnover intentions (Otis & Pelletier, 2005; Richer et al., 2002). As explained in detail, which predicts that the above-mentioned energy will have an impact on the employee's intention to leave the job; The common result from studies investigating this relationship shows that there is a negative relationship between energy and intention to leave. In the light of the basic assumptions of the self-determination theory, preliminary studies and other views, it can be said that there is a significant and negative relationship between energy and intention to leave.

A hypothesis has been developed below that energy may be a mediator in the relationship between intrinsic motivation and intention to leave. Intrinsic motivation are the expressions that the person enjoys doing the job, finds the job attractive, and finds the job interesting. Do these statements positively affect the energy that the person feels in his current job? This situation can be better understood with an example. This meaningful feeling can energize the employee if he or she enjoys the job, finds it attractive or interesting. This will make the person feel mentally renewed, make him/her feel enthusiastic while working and make him/her feel energetic in his/her work. Therefore, as a result of the basic arguments of the self-determination theory, the explanations made and the preliminary studies in the literature; It is predicted that intrinsic motivation will provide a sense of meaning that increases energy as the basic psychological processes that will operate. In short, as the intrinsic motivation increases, the energy of the employee will increase. An employee with increased energy is expected to decrease his intention to leave the job. It is possible to express this situation as follows: Feeling energetic at the workplace where one works, feeling mentally renewed are expressions related to energy.

How do these statements affect a person's intention to leave their current job? For example, if the person is willing to do his/her job in the best way and feels satisfied with his/her job, this will prevent the person from thinking about quitting the job, and will make him/her reluctant to leave the job and not to think about leaving the job as much as possible. To explain with another example; On the contrary, employees who do not feel

energetic and do not feel mentally renewed may want to quit their job to get rid of this situation. For this reason, employees who do not experience a sense of positive energy in their work may have the intention to leave their workplace after a certain period of time. In addition, employees who do not feel willing to work in their jobs and who do not feel satisfied may be expected to be willing to leave their jobs. These individuals have lost the enthusiasm and enthusiasm in their work, they no longer love their job, they see their job as a means of earning their living. Therefore, these individuals may be inclined to quit their job because they think that it will make more sense to find a job that will add energy and enthusiasm, make them feel mentally refreshed, willing to work, not boring and they will love. To put it briefly, as the employee's energy in the workplace increases, the intention to leave the job will decrease. The common result emerging from these theoretical explanations and studies shows that there is a negative relationship between energy and intention to leave. Therefore, it can be claimed that energy has a mediating role in the relationship between intrinsic motivation and turnover intention. In other words, intrinsic motivation increases the energy of employees at work and decreases their intention to leave.

4. Conclusion

When the literature is examined, it is seen that studies examining the intermediary relationship of energy in the relations of intrinsic motivation with job performance and intention to leave are not sufficient. Therefore, the study focused on the intermediary relationship of energy in the relationship of intrinsic motivation with job performance and intention to leave.

In the study, a hypothesis was developed that energy may be a mediator in the relationship between intrinsic motivation and job performance. Intrinsic motivation are the expressions that the person enjoys doing the job, finds the job attractive, and finds the job interesting. Do these statements positively affect the energy that the person feels in his current job? This situation can be better understood with an example. This meaningful feeling can energize the employee if he or she enjoys the job, finds it attractive or interesting. This will make the person feel mentally renewed, make him/her feel enthusiastic while working and make him/her feel energetic in his/her work. Therefore, as a result of the basic arguments of the self-determination theory, the explanations made and the preliminary studies in the literature; It is predicted that intrinsic motivation will provide a sense of meaning that increases energy as the basic psychological processes that will operate. In short, as the intrinsic motivation increases, the energy of the employee will increase. An employee with increased energy is expected to increase his job performance. It is possible to express this situation as follows: Feeling energetic at the workplace where one works, feeling mentally renewed are

expressions related to energy. Do these statements positively affect the person's performance in their current job? This situation can be better understood with an example. For example, if the person is willing to do his/her job in the best way and feels satisfied with his/her job, this situation will enable the person to complete his/her duties in the workplace on time, to reach his/her business goals, to exceed the standards in the service quality offered, and to be the fastest when a problem arises in the workplace. will enable them to come up with a solution. Therefore, it can be claimed that energy has a mediating role in the relationship between intrinsic motivation and job performance.

In the study, a hypothesis was developed that energy might be a mediator in the relationship between intrinsic motivation and turnover intention. Intrinsic motivation are the expressions that the person enjoys doing the job, finds the job attractive, and finds the job interesting. Do these statements positively affect the energy that the person feels in his current job? This situation can be better understood with an example. This meaningful feeling can energize the employee if he or she enjoys the job, finds it attractive or interesting. This will make the person feel mentally renewed, make him/her feel enthusiastic while working and make him/her feel energetic in his/her work. Therefore, as a result of the basic arguments of the self-determination theory, the explanations made and the preliminary studies in the literature; It is predicted that intrinsic motivation will provide a sense of meaning that increases energy as the basic psychological processes that will operate. In short, as the intrinsic motivation increases, the energy of the employee will increase. An employee with increased energy is expected to decrease his intention to leave the job. It is possible to express this situation as follows: Feeling energetic at the workplace where one works, feeling mentally renewed are expressions related to energy. How do these statements affect a person's intention to leave their current job? For example, if the person is willing to do his/her job in the best way and feels satisfied with his/her job, this will prevent the person from thinking about quitting the job, and will make him/her reluctant to leave the job and not to think about leaving the job as much as possible. The common result emerging from these theoretical explanations and studies shows that there is a negative relationship between energy and intention to leave. Therefore, it can be claimed that energy has a mediating role in the relationship between intrinsic motivation and turnover intention.

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CHAPTER VIII

A REVIEW ON CONSUMER-BRAND IDENTIFICATION

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1. Introduction

Understanding and predicting the consumers' attitudes and actions towards brands/products are essential because brands are a vital element that gives confidence to consumers. Consumer-brand identification is also a structure derived from the concept of belonging, which does not require consumers to have a real membership (Lam et al., 2012: 307). Because, as a result of the severe economic crises that occurred throughout the world and the discrediting of the promotional activities in the traditional media, consumer-brand identification has become more critical than ever in terms of brand management and allows a long-term relationship between the business and the consumer/customer (Tuškej et al., 2013: 53). In addition, the weakening of the link between customer satisfaction and profitability in sectors where there is high competition has caused customers to feel more price-sensitive, and this situation has brought to the fore the belonging to the brand or business due to the inability to retain customers (Haumann et al., 2014: 78). According to the results of a longitudinal study investigating which of the constructs of customer satisfaction and customer-business identification have a stronger effect, customer-business identification has a more permanent positive effect than customer satisfaction, and the impact of customer satisfaction decreases over time (Haumann et al., 2014: 78). Consumer-brand identification is also essential in terms of high customer satisfaction levels where it is not easy to consistently exceed customer expectations and differentiation from competitors on the basis of customer satisfaction (Popp ve Woratschek, 2017b: 46). In addition, customer-business identification created a more effective immunity against competitive actions than customer satisfaction (Haumann et al., 2014: 78).

Kuenzel and Halliday (2008: 299) say that brands will be designed around the need for belonging in the future, and Stokburger-Sauer (2011: 1283) says that a strong identification with the brand means a long-term

¹ This book chapter was produced from Naci BÜYÜKDAĞ's doctoral dissertation.

and great income for businesses. As a result, considering that consumers do not buy a brand just because it is good (in functional terms), it is vital to understand consumer-brand identification in the relationship of a brand that adds value to consumers' lives and explains their selves (So et al., 2017: 641). Because a high level of consumer-brand identification significantly affects structures such as marketing success, satisfaction, loyalty, repurchase intention, and willingness to pay more (Popp ve Woratschek, 2017a: 251). As a result, consumer-brand identification is a critical issue in consumer behaviour, and research on this subject will benefit practitioners.

2. Literature Background

2.1. What is the Consumer-brand Identification

Consumer-brand identification is an essential issue in the marketing discipline and has been defined by various researchers. In Table 1, the relevant researchers and their definitions are stated.

Table 1: The Definition of the Consumer-brand Identification

Author	Definition
Bhattacharya and Sen (2003: 76)	The primary psychological substrate for the kind of deep, committed, and meaningful relationships that marketers are increasingly seeking to build with their customers
Bagozzi and Dholakia (2006: 49)	Brand identification is the extent to which the consumer sees his or her own self-image as overlapping with the brand's image.
Stokburger-Sauer, Ratneshwar, and Sen (2012)	Brand identification defined as a consumer's perceived state of oneness with a brand, is a valid and potent expression of our quest for identity fulfilling meaning in the marketplace of brands.
Lam et al. (2013: 236)	CBI defined as a consumer's psychological state consisting of three elements: perceiving, feeling, and valuing his or her belongingness with a brand.
Stephenson and Yerger (2014: 244)	Identification is defined as the defining of the self in terms of an association with an organization or brand
Haumann et al. (2014: 81)	Customer-company identification defined as a customer's perception of oneness with or belongingness to an organization, where the

	individual defines him or herself in terms of the organization(s)
Elbedweihy et al. (2016: 2901)	CBI defined as the perceived overlap between one's own self-concept and the brand's identity.
Davvetas and Diamantopoulos (2017: 219)	CBI defined as the extent to which the consumer cognitively perceives a connection between his/her own identity and the brand's identity

2.1.1. Consumer-brand Identification vs. Customer-brand Identification

Customer identification reinforces the connection between customers and the company's image, brand, employees and even other customer groups and therefore has an essential place in the customer-business relationship (Brashear-Alejandro et al., 2016: 1190). In addition, identification based on the customer-business relationship is not a structure enforced unilaterally by companies, but rather a structure demanded to ensure that the needs of consumers to express themselves are fulfilled (Bhattacharya ve Sen, 2003: 77).

Brands are also important tools that can enable businesses to establish a long-term relationship with their consumers/customers. Therefore, consumer-business identification can be used to help explain the factors and motivations that lead consumers to businesses (Martínez ve Del Bosque, 2013: 91). Consumer-business identification can be expressed as a psychological process that can shape the strength of the long-term relationship between the brand and consumer, and it is creating psychologically connected consumers to the business via loyalty (Martínez ve Del Bosque, 2013: 91; Tuškej ve Podnar, 2018: 451).

There are differences between customer-business identification and consumer-brand identification due to the customer and consumer definitions. Although all identification approaches are close to each other, the concept of customer-brand identification can be used to examine the sense of belonging of potential customers. In contrast, consumer-brand identification is used to measure the sense of belonging of individuals who use the product themselves. In addition, customer-business identification is symbolically separated from the concept of consumer-brand identification. For example, a brand's identity (Marlboro cigarettes) is perceived as separate from the company's identity that produced it (Philip Morris). (Bhattacharya ve Sen, 2003: 77).

2.2. Sociological vs Psychological Approach in consumer-brand identification

Interpretative/sociological and psychological approaches are used to explain consumers' identification with the brand (Tuškej et al., 2013: 54). According to researchers, consumer goods are essential in creating consumer identity and providing communication (Tuškej et al., 2013: 54). Therefore, Tuškej et al. (2013: 54) said that consumer behaviour is explained as an important part of self-construction in the sociological approach. Furthermore, brands or possessions also help consumers highlight their uniqueness and express their identity and memories. (Tuškej et al., 2013: 54).

In the psychological approach, the definitions of consumer-brand identification are mainly derived from social identity theory in social psychology, and in this approach, identification has two different meanings as personal and social identification functions (cited by Tuškej et al., 2013: 54). Tuškej et al. (2013: 54) say that while personal identification considers individuals' feelings regarding a particular brand, social identification considers the brand's ability to act as a communication tool that allows them to integrate with or separate from other groups. However, Davvetas and Diamantopoulos (2017: 219) also say that not every brand can achieve a strong identification with its consumers; brands that have core values compatible with the consumers' self can identify with consumers.

2.3. Consumer-Brand Identification and Self

Individuals tend towards the objects they can express themselves and desire to possess these objects. However, the desire to own these objects or consumption behaviour is significantly affected by the functional tendency and the symbols encountered to identify with the products in the market (Sirgy, 1982: 289). According to the brand literature, brands offer self-definitional benefits beyond functional benefits (Lam et al., 2010: 129). Therefore, consumers want to use brands that can expand or satisfy their self. Brand identification also occurs when consumers evaluate the brand as an interest between their personality and their selves (Palmer et al., 2013). This interest may arise from the harmony between the value offered by the brand, and the value consumers want to receive. Because brands express a lifestyle, including consumers' shared and consumption values (Nam et al., 2011: 1016). As a result, brands can be preferred when they have an image that expresses the needs, values and lifestyles of individuals who buy.

Since the need for identification is motivated by one or more needs that express the self, brand identification is highly correlated with the similarity between the brand perceived by individuals and their selves, the unique or distinctive features of the brand, and being a prestigious brand

(Stokburger-Sauer et al., 2012: 408). In other words, consumers perceive their selves as unique and prestigious and prefer and adopt brands that they believe can maintain this perception. In the traditional sense, identification, which is an identity-based bond between the individual and the object, expresses the establishment of an individual relationship with a group of people or other people, whereas today, consumption objects represent symbols that have various personal and symbolic meanings to expand the human self and satisfy the individual's need to define themselves (Tuškej and Podnar, 2018: 453).

Ordinary products used in daily life can be used to express consumers' selves. For example, clothes worn at work, TV channels and programs watched, books read, breakfast method and many other things give clues to other people about consumers' selves. In other words, the products, objects or brands consumed to carry out daily activities reflect who the individual is and contribute to her identity (Kleine et al., 1993: 210). In addition, consumer statements such as “BMW is just my style of the car” or “He/She looks great in Donna Karan (DKYN) clothes” actually express the belief that individuals are comfortable in products that are most compatible with their selves and personalities (Kleine et al., 1993: 209). Thus, consumers have a more positive belief towards the products or brands that they are in harmony with their selves and personalities.

2.4. Consumer-Brand Identification and Behaviour

According to Reed et al. (2012: 310), understanding a person, believing something and doing something are primary human motives, and if a consumer perceives himself as an "Athlete", then he is likely to behave like an athlete. In this case, consumers have motives such as paying attention to products and preferring brands that express their identity, giving positive reactions to advertisements played by an individual they desire to be and choosing media channels suitable for their identity (Reed et al., 2012: 310). For example, a long-term brand relationship is likely to develop when consumers believe that the brand they use increases their self-esteem and social status and reflects their personality (Wang, 2002: 63). In addition, when there is harmony between the brand and the self, individuals have a higher tendency to use the product (Stephenson ve Yerger, 2014: 246). However, it is also important to correctly define the structures that ensure harmony between brands and consumers.

According to the consumption culture theory, Brands which are the motivators of consumers' efforts to create, verify and integrate with identity, and serve consumers as relational assets rather than just tangible assets, are seen as symbols conveying consumers' selves and self-images (Davvetas ve Diamantopoulos, 2017: 218). For example, when consumers feel a high degree of identification with the brand, they think that the image

of the brand is compatible with their selves, and therefore, when someone praises the brand with which they are in harmony, consumers see it as a personal compliment and feel that the brand reflects their personality or characteristics (Hwang ve Han, 2014: 248).

Consumers use the identities of businesses or brands to define their social identities (cited by Kang et al., 2015: 465). So, for example, if a person who buys a brand that is identified with social responsibility projects sees himself as a socially responsible person and fulfils his need for self, and consumers who identify strongly with Apple use Apple to define their own selves, as people desire to maintain their positive sense of self; therefore, it can be said that they desire to identify with companies or brands (Kang et al., 2015: 465-466). In addition, the Social Identity Theory states that brand identification plays a vital role in the process of developing brand loyalty (Palmer et al., 2016: 3034).

2.5. Consumer-Brand Identification and Marketing

Consumer-brand identification is one of the important topics researched by marketing researchers in recent years, and therefore, many studies indicate that the positive effect of high-level identification has a significant impact on marketing success, satisfaction, loyalty, repurchase intention, and willingness to pay more (Popp ve Woratschek, 2017a: 250). Investigating consumers' relationships with businesses or brands is also an important theme in terms of marketing research (Lam et al., 2013: 234). According to the marketing literature, the brand has a role in shaping consumers' identities, and consumer behaviour is mainly identity-oriented as consumers choose brands that match their ideal selves (Bartsch et al., 2016: 3629). Therefore, according to Bartsch et al. (2016: 3629), global brands are a potential tool that plays an important role in the consumer's identification with the brand. However, there is a highly competitive environment where global brands are involved. In sectors with high competition, the link between customer satisfaction and profitability weakens, and customers feel more price sensitive (Haumann et al., 2014: 78). However, since customer-business identification gives a sense of psychological belonging and sameness to organizations and positively affects consumers' internal and external outputs, it can ensure customer retention (Haumann et al., 2014: 79). As a result, the possibility of substituting the service offered by the rival businesses will disappear through the company's satisfaction with which the consumers feel identified.

Many researchers agree on using utilitarian and symbolic values together in the consumer-brand relationship. Here, as symbolic variables, self-brand fit and perceived value as instrumental variables can be given examples (Lam et al., 2012: 307). However, according to the social identity

theory, the consumer-brand relationship focuses on the identification effect, especially in terms of consumer behaviour (word of mouth communication and repurchasing), and the interaction of symbolic and instrumental variables with each other is neglected in the estimation of consumer behaviour (Lam et al., 2012: 307). Also, although self-brand congruity is one of the necessary antecedent variables of consumer-brand identification, it is not sufficient, and instrumental variables also play an important role in identification (Lam et al., 2012: 309).

Since consumer-brand identification provides a positive inclination towards the brand, emotional or hedonistic benefits come to the fore rather than functional benefits (Palmer et al., 2016: 3035). Accordingly, consumer-brand identification is affected by cognitive and emotional-based factors, but there is debate about which factors are more effective. Stokburger-Sauer et al. (2012) state that emotional factors are more effective, while Bhattacharya and Sen (2003) state that cognitive factors are more effective (Torres et al., 2017: 52).

Consumer-brand identification is considered an essential factor for marketing success, and marketers must create a high level of brand identification for consumers, as this structure effectively creates and maintains sustainable long-term consumer behaviour (Popp ve Woratschek, 2017a: 250). Because brands, which are carriers of symbolic meanings, can help consumers achieve their basic identity goals and what they want to do (Stokburger-Sauer et al., 2012: 407). Because brands facilitate the creation and expression of social identity, and consumers identify with brands they perceive to be in harmony with their selves, they satisfy consumers' need for self-affirmation, which makes their attitudes and behaviours towards brands positive (Torres et al., 2017: 53). In addition, consumers' brand identification has a significant effect on consumer purchasing decisions, brand preferences, customer loyalty, brand loyalty and psychological feel of the brand community, customer satisfaction, high repeat purchase behaviour, positive word of mouth, and consumers' willingness to pay more (Tuškej et al., 2013: 53).

3. Theories Used to Explain Consumer-Brand Identification

3.1. Social Identity Theory

Social Identity Theory states that people form a unique personal identity and develop a social identity based on the groups to which they belong (cited by Bao et al., 2017: 82). Social Identity Theory assumes that people go beyond their identities to adequately express their sense of self and develop their social identity (Bhattacharya ve Sen, 2003: 77). However, Social Identity Theory says that consumers tend to categorize themselves according to other social categories such as religion, political, gender,

ethnicity, sports teams, occupation, nationality, etc. (Stokburger-Sauer, 2011: 1284; Bao et al., 2017: 82; Bhattacharya ve Sen, 2003: 77).

Social Identity Theory states that individuals in the same group exhibit similar behaviours within the group and different behaviours outside the group (Jiang et al., 2016: 755). Also, suppose a specific social identity is very striking or eye-catching. In that case, individuals try to align with the group's beliefs and values, and as a result, group members' motivations are reinforced (cited by Jiang et al., 2016: 755).

Social Identity Theory is a critical element in establishing theoretical identification for marketing literature and organizational studies (Elbedweihy et al., 2016: 2902). In addition, brand identification is also a variable supported by Social Identity Theory. Consumer-brand identification takes its conceptual roots from the self-concept within personal identity, which includes unique characteristics such as talent and interest, and from the concept of social identity, which contains essential group classifications (So et al., 2017: 641).

Social Identity Theory states that consumer behaviour occurs naturally and therefore focuses on three ideas that support daily life: 1) most individuals are in eating, sleeping, resting and working, 2) ownership is required to do something, and 3) the nature of the actions taken to be social (behaviours are affected by the physical or symbolic presence of others) (Kleine et al., 1993: 211).

According to the Social Identity Theory, people assume that their social identity, which is a part of their self-concept, is based on being a member of a particular social group and the meanings they attribute to this membership, and according to this theory, people often act not as individuals but as members of a specific social class (Demirtaş, 2003: 129). Regarding membership in these social classes, whether this membership is official or not is not essential for acting in harmony with the social class (Lam et al., 2012: 307). Also, Social Identity Theory is useful for understanding consumer behaviour because even though consumers see themselves as part of a social group, they do not need to act with the group (Kuenzel ve Halliday, 2008: 294). Instead, social Identity Theory argues that identification develops from consumers' desire to feel better (Wolter ve Cronin, 2017: 172).

According to Social Identity Theory, two or more people who are separated from other members of society and share similar characteristics feel an emotional attachment to each other and have a high level of identification (Hwang ve Han, 2014: 248). In other words, identification occurs when individuals integrate their selves with other people (cited by Hwang ve Han, 2014: 248).

3.2. Self-Categorisation Theory

Self-categorisation Theory says that people can categorize themselves and others in many dimensions (Demirtaş, 2003: 131). In Self-categorisation Theory, individuals can overgeneralize themselves and other people because individuals feel an intense attachment to formations that develop their social identity around a social group (Demirtaş, 2003: 132). For example, according to Demirtaş (2003: 132), those who drive for the first time may exhibit the same characteristics as those who drive the car they feel a sense of belonging to. As another example, individuals using a motor can be given. Motorists can use similar brands or products and act close to each other as a lifestyle. As a result, identification with a particular brand reduces social uncertainty as it brings consumers closer together and makes their lifestyles similar (Wolter ve Cronin, 2017: 173).

3.3. Extended Self Theory

Objects owned by individuals have an essential place in their selves and lifestyles. Belk (1988: 139), the owner of the Extended Self Theory, states that what individuals have is important in human life with the expression "our possessions as parts of ourselves, and we are what we have". In other words, what we have is a part of ourselves. In addition, the Extended Self Theory is a richer structure that can be used to explain the brand and self-relationship that was formulated earlier and focuses on consumer behaviour rather than purchasing behaviour (Belk, 1988: 139). The individual self is not only the individual's body and physical strength; but on the contrary, it is the whole of the objects that evoke the individual, such as his clothes and his house, his wife and children, his ancestors and friends, his reputation and works, his lands, and yacht and bank-account (Belk, 1988: 139).

All objects used to express and further expand individuals' selves are important in understanding the behaviour of consumers. Therefore, Belk (1988: 139) says that the most basic and powerful truth of consumer behaviour can be explained by the phrase "we are what we have". Understanding the extended self can help learn how to contribute to consumer behaviour (Belk, 1988: 139).

Objects in various categories (such as body parts, mental processes, personal characteristics, possessions, abstract ideas, other people, and physical environment) are potential parts of an individual's extended self (Belk, 1988: 141). For example, someone who wants to get a tan at the seaside uses the phrase "I have a tanned skin, or my body is tanned" instead of saying "I have a tanned body", while a tired individual uses the phrase "I am tired" instead of saying "my body is tired" and expands his/her self with what he/she has (Belk, 1988: 141-142). In addition, owned objects can symbolically expand the self; for example, a uniform or a trophy allows

the individual to be convinced that he or she is different from other people (Belk, 1988: 145). Therefore, according to Belk (1988: 145), objects or situations what we have, what we can do or what we want to be contribute to our abilities.

4. Conclusion

Consumer-brand identification is an essential element that can be used to understand consumers. In addition, achieving a high consumer-brand identification will provide significant gains for businesses or brands through high profitability and lower costs. Therefore, it is recommended to reach a high level of consumer-brand identification for the long-term consumer-brand relationship. However, Social Identity Theory, Self-Categorisation Theory and Extended Self Theory are theories that should be used in terms of the theoretical foundations of consumer-brand identification.

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CHAPTER IX
ALFRED MARSHALL'S (1842-1924) OPINION SUGGESTIONS
AND COMMENTS ON IMPORT TAXES, EXPORT TAXES,
DAMPING, EXPORT INCENTIVES, AND INTERNATIONAL
COMPETITION

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1. Introduction

Adam Smith was a pioneer of the Industrial Revolution, giving Britain a century of preeminence (1770-1870). During the next half-century (1870-1920), when Marshall's work was done, Britain had progressed absolutely, progressed less fast than Germany but was passed by the United States. Like Adam Smith, Marshall also was international range, but very national in feeling. He displayed their worldwide side by praising British trade policy as a model for the World (Fay, 1926, p. 82).

State intervention in the economy has been one of the most controversial issues throughout economic history. Beyond the idea of whether there is an intervention or not, the form, scope, anticipated results, and means of intervention have also been discussed. Factors such as the general economic conjuncture and the ways of thinking advocated have affected the view of state intervention.

Classical economists have generally argued that state intervention disrupts the functioning of the market, so personal initiatives can only maximize social welfare, and they mostly stay away from state intervention¹. Between 1870 and 1930, the scope of state intervention expanded a little more in neoclassical, one of the broad economic understanding. Contrary to the classics, there is a positive perspective on the idea of directing the economy with public expenditures and taxes (Wolf & Resnic, 1987, p. 28-29).

In the first part of the study, neoclassical economist Alfred Marshall's (1842-1924) thoughts on taxes, education, and skilled labor on productivity

¹However, some classical economists have been interested in these issues since they affect all capitalist economies, such as inflation, depression, and growth (Wolf & Resnic, 1987, p. 28).

and the impact of industrial zones on international competition are discussed. In the second part, it is discussed in his views on import taxes, export taxes, dumping, and export incentives. This study aims to draw attention to Marshall's thoughts on export and import taxes, increasing the international competitiveness of industrial zones, and the relations between educated labor and productivity, which are still largely valid today.

2. The external economy and the productivity relationship of education and taxes

The intervention of the public in the functioning of the business world occurs in several ways. One of them is the allocation of resources to a particular area. The public authority does this with motives other than commercial considerations. This situation is often not suitable for the working industry (Backhouse, 1999, p. 335). With the intervention of the state economies, competition can be significantly reduced, trade can be restricted, or monopoly can be created for any segment of the society (Backhouse, 1999, p. 337). On the other hand, according to Marshall, taxes, especially taxes on imports and exports, significantly impact consumer incomes. In addition, the state's intervention in the economy also affects the country's international competitiveness.

2.1. Taxes monopoly and elasticity of goods

Taxes on consumer goods that the low-income group necessarily consumes reduce their income in two ways. First, the proportion of consumer goods in their total income is high. Second, most of the taxes are specific, not *advolverem*. These taxes cause the poor to have a heavier tax burden than better people (Marshall, 1997b, p. 409). Therefore, a pound gives the typical person more satisfaction than the ordinary rich. This issue can be better understood if we consider champagne or pineapple instead of a need for each class, such as tea and salt. People in the previous generation, and even some economists, are criticized by Marshall for not considering this aspect, especially regarding taxes (Marshall, 1964, p. 108). Therefore, he argues that taxes should be progressive (Marshall, 1873) (Reisman, 2003, p. 63).

Marshall thinks that a tax reduction and some privileges provided to companies for production increase affect their production and profit. If demand is highly elastic in any market in a country, small increases in regular supply, such as a new invention, use of the new machine, a take-off, or a grant bounty, can cause a decrease in prices (Marshall, 1964, p. 386). On the other hand, tax and levy (tax-like) on a fixed-income good have a less negative impact on consumers than a tax on a decreasing-income good. The reason is the decrease in demand and the consequent reduction in production. If the producers go to a price increase more than the tax increase, the rise in prices would be more than the income for the

state treasury. Additionally, a bounty in taxes causes a significant decrease in the price of a good, so consumption would increase. Thus, the total benefit of the customer is more than the government's income deprived of due to the discount made. If a good is subject to diminishing returns, a tax on that good may raise its price, decreasing consumption. Thus, the consumer may pay a lower price than the tax increase. The result could increase the supply price by less than the total tax amount. In this case, gross receipts from taxes would be less than the consumer's loss. Due to tax, if the decrease in demand is severe, the tax loss of the state would be more significant (Marshall, 1964, p. 388-389). According to Marshall, usually, an ad valorem tax on economic or non-economic material, or a tax on the same amount of expenditure, is the best tax at first glance. Because such a tax does not cause a change in the natural direction of people's expenditures, however, he thinks that this view is not valid for that period. It is neglected that the direct economic impact of taxes and reductions for a long time. First, a tax on expenditures often has a more devastating effect on the consumer's disposable income than a tax on a particular good because it occupies a small place in economic production. Secondly, the tax imposed on a product subject to the law of diminishing returns is more advantageous for the society than the bounty given to a product with increasing returns (Marshall, 1964, p. 394).

Marshall stated that a tax imposed on the output of a monopoly firm might reduce production and cause an increase in prices. In this case, although the tax revenue increases very little, the monopoly would gain much more due to reduced production. In this case, the decrease in production may be considerable, and prices probably rise (Marshall, 1964, p. 399). So, tax collection and bounty are morally and economically significant because of their indirect effects on production. For this reason, Marshall thinks that the implementation of financial policies requires great attention (Marshall, 1964, p. 389). In addition, Marshall also believes that the state, by using statistical methods, should monitor the effects of the tax and interpret the results on supply and demand (Marshall, 1964, p. 394).

2.2. Education and the productivity effect of education

According to Marshall, rents, earnings of professionals, and those who sell their labor are essential sources of national savings in England. The middle class, especially the professional segment, was constantly deprived of providing education for their children. Therefore, most working-class wages invested in their children's health and physical stamina. However, ancient economists gave little consideration to human influence on productivity as other factors of production. They were opposed to the practice of giving more to the poorer in the distribution of wealth, other things being equal, to increase wealth. Education has an affects the increase of wages quite positively. So, it seems like a need for the state to

generously offer the poor working class the opportunity of education that they cannot obtain by themselves (Marshall, 1964, p. 597). On the other hand, primary education and essential research investment require considerable public resources (Marshall, *Industry and Trade*, 1919) (Bellandi, 2003, p. 248). Again, private and public funds invested in education provide a much more significant efficiency effect than other fields (Marshall, *Co-operation*, 1889) (Reisman, 2003, p. 64).

In Marshall's opinion, one-sixth of the workforce in this period was highly skilled in Britain. The education of people was not known as a national policy because it was not sufficiently aware of its impact on the national economy (Marshall, 1964, p. 595). According to the great law of distribution, the more valuable and rarer a factor of production is, the higher the payment would be. If two skilled workers are working in a machine, but five unskilled workers can produce the same output, two skilled workers should be evaluated as equal to five unskilled workers (Marshall, 1997a, p. 172). Therefore, a well-fed and well-trained workforce is the best investment for a nation in the long run. But the British working class was not well fed and rarely educated (Marshall, 1997a, p.177). When the share of labor in the production of raw materials decreases slightly, the labor force's productivity increases; as a result, the net return ultimately reduces the need for both labor and capital. Thus, exceptional talent means more wages (Marshall, 1997a, p.175). Skilled labor is indeed better payment than ever before. But while the earlier stages of machine production tended to raise the wages of skilled labor even faster than those of unskilled; the later stages have tended to decline, relatively at least, the demand for highly developed manual skill, which requires special training from very early ages. But a few managing British or Americans can now quickly establish manufacturers in any part of the world and educate nations to become sufficient quality workers (Marshall, 1919, p.116). Thus, Marshall thinks that parents make the most outstanding contribution to the development and upbringing of people, whom he considers as human capital, through education. Progress is not achieved by simply increasing wealth. While it is essential to increase production, it is also crucial in physical, mental, and moral development. For this reason, Marshall emphasizes development rather than growth. While growth is a numerical increase in wealth, development refers to economic growth and mental and moral development (Ersoy, 2008, p. 521). Therefore, he advocates that the first level of general and technical education should be given to every child. In a sense, he argues that education should be given vigorously against laziness and that one should be compassionate and sensitive to lousy luck (Marshall, 1997a, p. 175). Also, education should be given both on the job (workshop) and theoretical level (Marshall, 1997a, p. 193).

2.3. State Intervention in prices

Public intervention in an industry occurs either through the government's direct price intervention or direct production involvement. As long as this intervention continues, there may be an incorrect distribution of resources because companies' resources are obtaining these privileges and the administration's implementation of these decisions (Backhouse 1997, p. 332). Also, with some patriotic sentiment, government price controls would probably have a slight positive effect on the distribution of national income during wartime; therefore, it would be a great mistake to implement this on a generally permanent basis. However, with the policies aimed at price controls, the possibility of making abnormal profits for a particular social production group with the power given by the market conditions would be prevented (Backhouse 1997, p. 241). Another form of intervention is to subsidize consumer goods. However, there is no gain for the consumer here because tax avoidance seems impossible with a few exceptions such as tea, coffee, and tobacco (except for smuggling). Furthermore, it is possible to produce some products in England's suitable climate; thus, the state saves the money (Marshall, 1997b, p.389).

2.4. Market, external Economy, industry, and division of labor in Marshall

According to Clark (1891), society can only rely on the guidance of contractors and entrepreneurs, as Marshall emphasized. They invest capital in places with good returns, where there is workforce opportunity, and where they can enrich and expand their operations. According to Marshall, people and industrial organizations are the subjects of supply and demand (Clark, 1891, p. 150). Marshall expresses the concept of the industry as a division of labor, development of the specialized workforce, knowledge about machinery. On the other hand, integration is a close tie between industrial organizations such as commercial credit security, maritime, air, rail, and communication tools such as transport, post, and telegraph (Neil, 2003, p. 161).

Thus, he was more influential than the other economists of his time in making severe advances in commercial partnerships, especially in the management of production-oriented organizations (Laurence, 2003, p. 73). Marshall's view of the external economy is as industrial zones. However, Marshall does not have any clear definition of industrial sectors, and what he means is deduced by interpretation (Bacattini, 2003, p. 22).

Pigou severely defenced Marshall's long-run equilibrium view in 1928. In *Principles of Economics*, Marshall proposes to combat, especially oligopoly, cartel, and contracted oligopoly, which makes it difficult to enter the market. Although no theory has developed a sustainable balance

regarding oligopoly, it also points out that equilibrium can occur (Whitaker, 2003, p. 147). On the other hand, Marshall stated that companies could reduce their costs with new machinery, labor, and selling more at a lower price. Thus, he thinks that companies can increase their profits. Marshall states that it might force new entrepreneurs to follow the same policies when competition increases sales and profits at low prices. Therefore, a new balance is possible as new firms enter the industry. He argues that this means replacing small businesses with large ones in the industry (Groenewegen, 2003, p.124). So, proper industrial institutionalization must consist of small clustered working groups and wholesale companies. After the small industrial groups get centralization procession more rapidly, they can continue their lives more easily among the big ones (Clark, 1891, p. 131).

In his work *Industry and Trade* (1919), Marshall clarified some detail relating to cooperatives' work and its benefits for the industry. He thinks that an increase in the production scale of each manufacturing (increasing return) industry opens out. It always gives many opportunities for a gradual rise of the internal economies to be derived from successful coordination of wider varieties of specialized ability, skill, plant, and standardization of products. It is beneficial for the industry to deal in the most profitable markets, increase the scale of its production as a whole, or even supply its needs. There is tends to open to each business in the industry, whether large or small, access to the improved plant, improved methods, and a variety of other external economies. So, it may state that almost every branch of industry in a western country depends directly or indirectly on hundreds, if not thousands, of other components, at home or abroad, for various parts of its plant and material (Marshall, 1919, p. 379). Some good work has been done, and more might be done by associations aiming at the joint performance of particular tasks with great benefit. Some of this cooperative work has long been done by several Institutes of Engineers and others professionally (Marshall, 1919, p. 123). In addition, manufacturers may be exposed to higher marketing costs if they send constant streams of the expensively equipped traveling salesman to dealers of various sorts. Moreover, these companies incur much higher costs if they advertise extensively, aiming the general public may demand goods bearing their name or trade-mark from the dealers (Marshall, 1919, p. 127).

Marshall also mentions industrial zones in *Principles of Economics* published in 1922. In addition to the emergence, characteristics, and development of industrial regions, he also dealt with the specialization and concentration of industries in certain areas (Çetin, 2006, p. 77). He examined those significant external economies which can often be secured by the concentration businesses of a similar character in particular localities. He also emphasizes, as is commonly said, by the localization of

industry, for present interests, the focal point in Marshall's discussion is not the underlying technological and organizational sources of increasing returns to scale that are internal to establishments. Companies, or even industries, but rather his recognition of the disadvantageous terms on which small and spatially isolated firms are obliged to compete for workers, and the corresponding labor market benefits to be derived by employers from the agglomeration of business at any particular locale (Paul & Rosenbloom, 1990, p. 351).

The British cotton industry trusts almost exclusively to an automatic organization; thus, it has surpassed its rivals in size and efficiency. Because these manufacturers are trying to produce better goods, employing the most skilled and highest-paid labor is unrivaled. This industry has the high automatic organization in great measure as the cotton industries because their plants made products in their districts, with continuous intercommunication of ideas between machine makers and machine users. (Marshall, 1919, p. 382). Meanwhile, the British Pottery Association was a well-organized institution, and some of its purposes were:

“to deal with the quality, supply, purchase, and control of raw materials and stores, where desirable, in the interests of the members; to deal with all questions relative to cost and conditions of transport; to consider means of facilitating the extension of export trade; to bring about closer cooperation with the technical arts, and designs sections of the pottery schools; to promote general propaganda, and to undertake advertising in connexion with the industry; to consider the best means of encouraging and utilizing improvements, inventions, and patents for the general good and advancement of the industry; to deal with all matters connected with more economical production, including cost; to watch national and local legislation affecting the industry. Experts are to be appointed, and assistance is given to members in overcoming the technical difficulties which constantly arise in so complex an industry. The Federation has the power to purchase, work, and exploit any patents, secret processes, or other improvements in the general interests of the members.” (Marshall, 1919, p. 383).

Also, its primary goal is to prevent the sale of certain classes of goods at unsatisfactory prices. In addition, it works not to increase national wealth but mainly to gain benefits for its members. He thought that in the coming years, such Associations would likely develop versatile constructive functions relating to some techniques, mainly in connection with the applications of the scientific method and broad problems such as standardization and cost. When the government assists this kind of private corporation in acquiring special knowledge with a high pecuniary value, in that case, some guarantees must be made for all who desire it so that this knowledge is accessible reasonably (Marshall, 1919, p. 383).

Also, Marshall believed that state intervention is necessary for social purposes and realized that each firm's different transportation costs prevent the formation of a single price for the goods. So, one of the conditions required for perfect competition does not occur. More clearly, it brings an additional cost in exchanging goods, preventing instantaneous change (Groenewegen, 2003, p.122). The Report of the Committee on Trusts recommends that means be provided to investigate businesses or combinations of companies, also suggests that for their purpose or affect the regulation of the prices or output of commodities or services, produced or rendered in the United Kingdom, or imported into the United Kingdom, or the delimitation of markets in respect thereof, or the regulation of transport rates and services, in so far as they tend to create monopolies or the restraint (Marshall, 1919, p. 400).

3. General view of foreign trade of England

The extent to which the UK's production market can expand depends on its growth in foreign markets. Adam Smith mentioned one of the chief advantages of foreign trade using it the narrowness of the home market does not hinder the division of labor in any particular branch of art or manufacture from being carried to adequate protection (Marshall, 1935, p. 13). In his time, Britain imported some fine manufactures from the West; and exported some fine and some coarse manufactures to the east Countries. Russia also exported manufactures to its Asiatic neighbor countries while still largely dependent on the West regarding fine manufacturers it needs (Marshall, 1923, p. 105).

On the other hand, a larger country with ample natural resources and straightforward manners resembles a self-sufficient family, such as Russia China. Because their real income consistently of their products; and it is not very significantly affected by the terms on which their exports a small part of them in exchange for foreign goods (Marshall, 1923, p. 109). For Marshall, a tremendous national trade has always been evidence of high industrial energy. It is true that efficiently worked rich mines, or excellent soil and climate, have sometimes yielded a large per capita foreign trade for a small population. Nevertheless, these countries have never produced a considerable aggregate trade (Marshall, 1923, p. 111).

Britain was once the chief exporter of wool: it later used it for all its wool products, and from the 1900s, a significant part of its exports consisted of imported woolen goods. In other words, the value of that wool in foreign trade seems to increase doubled. According to Marshall, in the development of a new country, its imports gradually exceed its exports; because it does not pay all at once for capital allocated to railways and other infrastructure works. After a time, this kind of country may become rich enough to provide the money needed for most of its enterprises. Later

on, paying interest on capital borrowed in its early phase would increase exports relative to imports (Marshall, 1923, p. 112). At that time, almost all cotton yarn exports of Britain and goods to the Continent were of outstanding quality. One reason for this was that the lower quality goods produced in this country confronted severe competition in many markets. Also, these products were excluded with heavy duties in other countries, while its more delicate products, having something of a monopoly value, had forced their way over tariff walls. Another cause was that the demand for the more elegant and tasteful cotton fabrics had continually increased (Marshall, 1923, p. 122). Thus, England sports of woolen pieces of stuff had never been nearly so large a part of the World's output of similar goods as its exports of cotton products. Britain had, however, long led the fashions for the World. Therefore, it was likely that its produces were supreme in production regarding the best clothes for men, though it has somewhat disadvantages regarding the styles and kinds of women's dress. So, the best clothes of Britain were able to leap even over the very high barriers of the American tariff (Marshall, 1923, p. 23). During the years the 1900s, Britain was a net manufacturing exporter country. Because the more significant part of its imports of so-called manufactures was of low quality; but the more substantial amount of its exports, which were similarly classified, were of high quality (Marshall, 1923, p. 129). Meanwhile, the federation of producer businesses was often a monopolistic seller of products. Also, though more rarely, it was a monopolistic buyer regarding materials or plants (Marshall, 1919, p. 392).

3.1.Import taxes

For a long time, monopolies have been very effective in the UK's exports. But, on the other hand, importing foreign goods might be decreased by import duties. Not entirely, but some import duties on some raw materials placed a significant burden on the poor. For this reason, it may impose different taxes on certain ships produced in a particular region, imported from specific routes, or even certain ships. Some of these products may even be partially or entirely exempt from tax (Marshall, 1997b, p. 388). However, this general rule is liable to some exception when a country finds that its import is controlled by a foreign monopolistic giant firm, cartel, or other regulative.

Moreover, the association price changed frequently and arbitrarily, disturbing the even tenor of its industries. A still stronger case is that of import duties designed to diminish the more mischievous forms of dumping foreign goods in home markets that are selling them temporarily at prices much below their cost. Also, with or without the deliberate purpose, this policy causes inconvenience to some of England's industries. Neither experience nor general reasoning affords any reasonable ground for supposing that such special taxes would manage to effect their purpose

well. On the contrary, to be combated, the evils become the less grievous, the more (Marshall, 1923, p. 207).

On the other hand, if it is imposed import tax on some products produced in the country, these sectors may have a significant advantage. An additional employment opportunity may also be possible due to taxation. Thus, it is possible to state that the profits of the firm and the wages of working in the sector might also increase (Marshall, 1997b, p. 389). There are few exceptions to the general rule that a great industrial country can easily adjust their exports to change the volume of imports they desire to obtain from the rest of the World. The World's exports to any particular country can even more easily be adjusted to changes in the customers of that country to accept the terms on which they are willing to trade. Thus, the elasticity of effective international demand depends on the elasticity of wants responsive supply adjustments the demands imports by an energetic industrial country are generally elastic (Marshall, 1923, p. 172). In other words, the taxes imposed on imports have different effects on different segments of society. It has advantages as well as negative aspects. So, it refers to the possible consequences on different social parts. (Marshall, 1997b, p. 389).

Some of the country's industries, being inconveniently pressed by the competition of imported products that rival their own, may claim defense against this pressure by taxes on those products. Such duties are called "protective": they protect the particular domestic industries against the inconvenient competition, vital to the nation. Nevertheless, such competition sometimes affords the only adequate protection that the people generally have against unduly high prices for the products of those industries. Tax on the imports of anything produced at home protects the corresponding home industry unless an equivalent tax on domestic products balances it. If the tax is levied unequally on similar products coming from different sources, it becomes what is commonly called a Preferential tax (Marshall, 1923, p. 210-211). A protective tax helps a young industry develop its latent strength, maybe in the interest of an undeveloped country, even though the tax must inevitably hurt those few of its industries, manufacturing exportation (Marshall, 1923, p. 218). Some of Germany's industries, which manufacture for export, have little occasion to use imported half-manufactures. However, import taxes on the other industries, on what they need. Indeed, such things are not heavily taxed. Still, the trouble of obtaining drawbacks on foreign products, which produced for export, is so great that plans have been developed in Germany and elsewhere for setting up free-trade real surrounding chief ports (Marshall, 1923, p. 223).

3.2. Export incentives and export tax

Under ordinary circumstances, an increase in the exports of any country would eventually cause it to obtain an increase in its imports. However, it would receive them on somewhat less advantageous terms (Marshall, 1935, p. 4). The industries of Britain have a more considerable concern than any other country in external trade: and a particular interest attaches to the work of associations of its producers for organizing the direct sale of their goods through their agents. The result is primarily constructive, though it may develop militant tendencies to compete with rival exporters from other industrial countries. Meanwhile, international competition intensifies in backward countries and has always been active. Therefore, the traders must be increasingly alert to meet rivals who bring to bear in the competition a more thoroughly organized energy and a most significant capitalistic force than were often encountered in earlier times. He must even be on his guard against oblique strategy (Marshall, 1919, p. 387-388).

Accordingly, the suggestions of American Federal Trade Commission cooperation in its export trade is needed to meet the competition organized by the six hundred German cartels, and by associations of manufacturers in various British industries designed to hand specific business in specific vital markets and carry on an aggressive campaign for its extension. It is against such organizations as these, uniting powerful groups of foreign concerns, backed by great banks and aided by railway and ship lines, and assisted by foreign Governments. So, hundreds of comparatively small manufacturers and producers must complete competition requirements if they engage in export trade (Marshall, 1919, p. 388).

It urges that the tasks required in the export trade are often too heavy to be borne by the individual; so, merchants may lack the technical knowledge and particular interest needed to make the most of goods outside the ordinary course of trade. Cooperative organizations can afford to advertise, study foreign demands and customs, make demonstrations, collect credit information, and extend credit (Marshall, 1919, p. 388). Thus, an agent appointed to control the export trade in a large market has exceptional advantages. He can have a thorough technical knowledge of the handles and the requirements and tastes of local traders and consumers. He can recommend that certain goods be temporarily offered at prices that do little more than cover costs. On the ground that, though they have not yet attracted the attention of its domestic market, they are likely to obtain a strong position there when their use has become familiar, and so on. Trade commissioners help to foster trade between Britain and its overseas kindred, each of whom has the duty of keeping British producers and exporters in touch with the conditions of that part of the Empire, to which they are assigned. This critical work has a broader but perhaps less

penetrating and thorough influence than the intensive methods we have considered (Marshall, 1919, p. 389).

If any country applies duties on its exports, it may cause diminish its total exports, but those of other exporters countries can increase (Marshall, 1935, p. 5). However, almost all taxes, especially on commodities, and most notably "differential" taxes on goods crossing borders, harm payers and non-payers. Therefore, they divert direct consumption from how human endeavors can most easily satisfy their wants. Thus, they naturally turn to other less advantageous products but favorable to tax avoidance. Again, a detailed study shows that due to the waste and friction, indirect consumer losses caused by differential duties on the frontier were always more significant than they appear. It was mainly the case for the densely-peopled countries with limited natural resources and must trust principally to a highly efficient organization of its industry and trade. People may indeed imagine a small country whose sole exports make up rare minerals that other countries were ready to buy from this country at almost any cost. Therefore, this small country might restrict its outputs or put a high tax on its exports or imports. All three policies would cause the same results in the long run. So, in any case, this country would enrich itself at the expense of its neighbors by refusing free trade. In such a situation, the countries usually follow almost the same policy in practice general tax either on a country's imports or on its exports would merely make other countries take out their purchases from it. If those goods are essential, they could supply themselves with other goods from other countries (Marshall, 1901, p. 266).

According to Marshall, there are thus three classes of frontier taxes that may be economically defensible. The first one relates non-differential import duties on comforts and luxuries, such as those in England on tobacco and spirits, and, in case of need, tea and sugar. Second, come protective import duties on things for the production of which a country has excellent latent facilities that are just ripe for development. The third are special export duties on commodities foreigners cannot easily dispense; such seems to be the case with Britain's best steam coal and, perhaps, its best gas coal. On the other hand, according to Marshall, coal in England is a chief foundation of the country's industrial wellbeing. The government is wasting its children's inheritance. So there is much to be said for taking the toll from coal in Order' to lessen its National Debt. However, a tax on the export of coal appears to present many technical difficulties and is not worth the disturbance it must cause unless it is permanent. Furthermore, what is more important, it is, to a certain extent, a breach of international comity; at the same time, Britain is mainly in a vulnerable position against some export duties that some other countries might sensibly levy. (Marshall, 1901, p. 266-267).

According to Marshall, a universal tax on all a country's exports had similar results to a universal tariff on their imports. Because the exporter country itself bore the main burden of such taxes, other countries contributed a small share (Marshall, 1901, p. 265). Thus, the elasticity of effective international demand depends on the elasticity of demands, and responsive adjustments of supply adjustments for imports by an energetic industrial country would usually be elastic. Also, the world's demand for goods would generally be elastic (Marshall, 1923, p. 172). For example, a moderate tax, a very flexible interest, was levied by a country on its imports or exports; it would not have a very significant effect on the rate of interchange unless demand of this good were also elastic. However, in that case, the trade of this kind of good would eventually shrink considerably (Marshall, 1923, p. 185). Therefore, it may conclude that no country was likely to throw any considerable part of the burden of its import duties on other countries unless it had at least a partial monopoly or was the only critical consumer of most of the commodities it imports from that country. Nevertheless, international monopoly was an exceptional case (Marshall, 1923:198). Meanwhile, Marshall has often remarked that when any branch of industry is significantly in advance of foreign competitors, it has nearly a full opportunity to organize itself deliberately and ultimately pursue a monopolistic policy as if it were privileged by a protective tariff. For example, this is the case for the case of high-class wallpapers. But the automatic organization was predominated in British textiles, especially in the cotton industry. In that years, because of its magnitude and the extent to which specialization, British textiles industries were probably the most efficient distributing organization in the world (Marshall, 1919, p. 382)

3.3. Dumping policies

Businesses associations in Britain could arrange prices in its cartel's plan, and the cartel's strategy had no very firm cohesion. The association members were likely to agree not to press sales in the home market; when it was so unreceptive, it would not take more of their produce at prices that cover or nearly cover total production costs. With the understanding that those producers, who cannot conveniently hold their hands for a while, shall sell abroad at whatever prices they can get. He can recommend that certain goods be temporarily offered at prices that do little more than cover costs. On the ground that, though they have not yet attracted the attention of its domestic market, they are likely to obtain a strong position there when their use has become familiar. Moreover, artificially cheap imports into Britain turned out to be a result of the tendency of exporting countries to sell abroad at meager prices to maintain very high prices in their home markets. Moreover, decreasing to protect a British industry against artificially cheap imports is to advance the practice of lowering export prices close to their domestic market. In any event, It should be take

preventive measures to prevent harmful underselling. But these measures not be expressed in a way that condemns the occasional trade methods by reputable British firms. This danger as possible, if neglected, the UK's reputation for fair trade may undermine. The Report of the Engineering Committee stressed danger clarified and recommended adopting legislation similar to that of the US. This registration had secured prohibited selling at low prices (prices less than those of other countries or their home countries). In practice, the law may apply only such acts with the intent of destroying or injuring, or preventing the establishment in the industry in the US, or restraining or monopolizing any part of trade or commerce in the US (Marshall, 1919, p. 398).

It stated that cartel policy in general and selling at lower prices abroad could stabilize the sector. Meanwhile, any credit, industry, and trade localized in a particular country can always sell in the domestic market. However, it is almost impossible to save at meager prices. In this case, the increase in sales abroad tends to turn the exchange rate in favor of the troubled country and, at the same time, facilitates the maintenance of a moderate level of employment in England. Almost every recent wave of high or low commercial activity has spread, not very unevenly, to all countries in which businesses association in Britain could arrange prices in it somewhat on the plan of a cartel; the cartel's strategy had no very firm cohesion. Its members were likely to agree not to press sales in the home market; when it was so unreceptive that it would not take more of their produce at prices. That covers or nearly cover total production costs: with the understanding that those producers, who cannot conveniently hold their hands for a while, shall sell abroad at whatever prices they can get. However, there were sometimes comprehensive policies of comprehensive" a considerable part of the output of an industry in foreign markets. However, there were occasionally comprehensive policies of a significant amount in the output of an industry in foreign markets. This policy was widely applied, especially toward countries regarded as protective. England need not be concerned with the claims that it has developed this commercial policy is a necessary part of its aggressive policy that is applied to dump policy to prevent the rise of rival industries in other countries (Marshall, 1919, p. 397).

Marshall associated the competition with increased sales. He thinks competition is the driving force for suppliers and traders who aim to increase profits due to scale-up and specialization. The competition also indicates specialization and concentration (Querry, 2003, p. 196). Marshall thinks that the idea of *laissez-fairez* is not theoretically valid under certain conditions but that it has philosophical significance to be seen as having the maximum social advantage in practice. However, Marshall does not carry this idea until later. Emphasis is placed on Marshall's analysis of

monopoly here, and this idea has increasingly come back, especially in open economies (Keynes, 1924, p. 352). Marshall reveals different obstacles to entrepreneurship in the historical process. He considers the elimination of protectionism necessary and advocates expanding state control, mainly for wealth and income inequality (Groenewegen, 2003, p. 123).

Marshall sometimes advocates a cartel policy that generally sells at lower prices abroad to stabilize the sector. Meanwhile, any company, industry, and trade localized in any particular country also may sell in the domestic market. However, it is almost impossible to save at meager prices. In this case, the increase in sales abroad tends to turn the exchange rate in favor of the troubled country and, at the same time, facilitates the maintenance of a moderate level of employment in England. Moreover, nearly every recent wave of high or low commercial activity has spread, not very unevenly, to all countries in which large-scale capitalistic production has prevailed. When the Steelworks Union, for instance, had a tremendous amount of surplus steel, the domestic market in Britain had not likely to absorb much, even at a meager price. If the policy of selling abroad at much lower prices than at home worked effectively to stabilize industry and trade; thus, the sector would have suffered less from commercial depressions. This policy is related to what Britain has done during the same time under its cartel policy. However, the opposite result had emerged (Marshall, 1919: 398-399).

4. Conclusion

Marshall, a neoclassical economist, significantly advocated state intervention in the economy. In addition to import and export taxes on foreign trade, He discussed dumping and export incentives. In this context, he advocated the application of import duties for the development of certain branches of industry. He also pointed out that in applying both export and import taxes, the government should pay attention to the demand elasticity of the buyer countries in export taxes. If the demand for a product with high flexibility, importer countries may shift their demand to other countries. Even their demand may decrease, or exporter countries may pay some tax due to lowering the price. He also criticized governments and economists like Adam Smith before him, relating misapplication of foreign trade policy instruments such as import taxes and export taxes. He drew attention to the issue of dumping and pointed out that this practice could harm the local industry. So, He suggested a regulation similar to that in the USA for this purpose. However, he also stated that the implemented policies should be carefully applied against possible undesired consequences, apart from the foreseen results.

Meanwhile, Marshall drew attention to certain advantages of industrial zones. Here, because companies gain a competitive advantage, new companies enter production. He also argues that direct marketing of their production abroad means selling the goods at higher prices. In this sense, he states that it is necessary to appoint people to market and promote the country's goods abroad, meaning cost reduction. Therefore, it is especially advantageous for small companies. In addition, Marshall draws attention to the productivity effect of education on production defends that it should be considered a national policy. He also advocates that education should be carried out in both theoretical and on-the-job training.

Even today, the ideas they advocate on tax, foreign trade, and the relationship between education and productivity, protectionism, import and export taxes are still valid to a large extent. In addition, as Fay (1926) emphasized, Marshall is an economist who contributed significantly to the formation of Britain's foreign trade policy and to be an exemplary model for the world.

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