

ACADEMIC STUDIES
IN ECONOMIC AND ADMINISTRATIVE
SCIENCES

Editors
Prof. Dr. Hasan Babacan
Assoc. Prof. Dr. Yüksel Akay UNVAN

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web: www.ivpe.me

Tel. +382 41 234 709

e-mail: office@ivpe.me

Ivpe Cetinje, Montenegro

PREFACE

In this book, there are studies of scientists working on in various fields of Economics and Administrative Sciences. These fields are listed under the titles of Accounting, Banking, Communication, Economics, Management and Strategy, Marketing, Management and Organization etc. It is our sincerest wish that these valuable works of our scientists will contribute to the scientific world.

We would like to thank the author and referees for their contributions. It is our sincerest wish that these valuable works of our scientists will contribute to the scientific world.

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Prof. Dr. Hasan TÜREDİ, İstanbul Commerce University

Prof. Dr. Redzep SKRIJELJ, novi Pazar State University

Assoc. Prof. Dr. Berrin KALSIN, Istanbul Medipol University

Assoc. Prof. Dr. Deniz AYTAÇ, Hitit University

Assoc. Prof. Dr. Oqtay QULIYEV, Azerbaijan State Economical University

Assoc. Prof. Dr. Süreyya KARSU, Bolu Abant İzzet Baysal University

Assoc. Prof. Dr. Yüksel Akay UNVAN, Ankara Yıldırım Beyazıt University

Asst. Prof. Dr. Hilmi ALADAĞ, Osmaniye Korkut Ata University

Asst. Prof. Dr. Oya ERU, Bolu Abant İzzet Baysal University

Dr. Aynur YUMURTACI, Istanbul University

Dr. Samet Çalışkan, Muş Alparslan University

CHAPTER – I

KEY AUDIT ISSUES AS AN ELEMENT OF THE INDEPENDENT AUDIT REPORTS AND A STUDY WITHIN THE SCOPE OF THE INTERNATIONAL STANDARD ON AUDITING (ISA) 701

Duygu CELAYİR*

Today's changing business environment, complexity of financial transactions and the accompanying failures in accounting/auditing processes have created a requirement to emphasize on high quality and reliable financial reporting. Reliability of financial statements has been questioned, especially after the Enron scandal in the USA and the subsequent WorldCom, Kmart, Tyco and Parmalat scandals. In the meanwhile, as the result of these cases and the emerged situation, users of information have started to request more information on the processes supporting the quality of financial reporting. This has led to the concept of transparent audit reports. As the result of a number of developments, a regulation process has been initiated globally, which has included the review of capital markets regulations, and accounting and auditing standards. Following the enactment of Sarbanes-Oxley Act (SOX) in the USA, other countries also have enacted similar regulations. Some of the objectives of this era have been to reinstate the trust in independent audit, to increase transparency of auditing activities, and to increase the capability of audit reports to meet the requirements. To reach these objectives, international auditing standards have started to be reviewed, and additional standards have been brought forward. As the result of the activities carried out to meet the requests of users of financial statements, updated auditing standards were put into force by IAASB, to be applicable as of 2016. One of the major novelties in developing the audit reports has been the International Standard on Auditing (ISA) 701, "Communicating **Key Audit Matters** in the Independent **Auditor's Report**". The standard was launched with the purpose of increasing the communicative value of the audit reports, and providing more information to the users on the audit process by way of making the reports more transparent. This study examines what the key audit issues are, how these will be specified by the auditors, and how these will be included in the audit reports, within the scope of ISA 701. Moreover, the study evaluates the impact of key audit issues on increasing transparency, also within the scope of the standard.

INTRODUCTION:

Corporate scandals of the last 20 years such as Enron, Worldcom, Xerox and Parmalat have caused the reliability of financial reporting to be questioned. Fraudulent financial reports have created a requirement to

* (Asst. Prof.); Istanbul Commerce University, Istanbul-Turkey, dcelayir@ticaret.edu.tr

emphasize on high quality and effective independent audit. The purpose of an independent audit is, to ensure that an independent auditor provides an opinion on whether the financial statements provide a fair and accurate representation of a firm's financial position and the results of its activities with respect to all significant matters, and within the applicable financial reporting framework (Ainapure, 2009). In this context, independent audit plays an important role by ensuring the reliability of financial statements, and by increasing the effectiveness and efficiency of economic relationships, capital markets and business activities. The fundamental thought behind the independent audit approach is to increase and fortify the perceptions of users that are external to the firm, on the reliability of financial statements (Schuetze, 1994).

Although independent audit assumes the responsibility of an important function, corporate scandals happening have shown that the regulations have not been sufficient, with respect to both independent audit and to financial reporting. In this environment, users of information have demanded the regulations that would increase the transparency of audit, and that the scope of the auditor's reports to be expanded. As the result of these demands, a number of significant changes have occurred in the auditor reporting model in the recent years. One of these changes is, the auditor including the key audit matters in the audit report, these matters being the ones that have been considered to be the most significant during the audit (Gold & Heilmann, 2019). Key audit matters are the most significant matters for the audit of the current financial statements, based on the auditor's professional judgment. These matters are considered as a whole during the audit that is being performed on the financial statements, and when providing the opinion on these financial statements (McGeachy & Arnold, 2017). *In other words*, key audit matters are the most significant risks that are discovered during the audit of financial statements. They have a great impact during any audit activity, with respect to the general strategy and to the allocation of resources. Key audit matters are included to their reports by the auditors.

Reporting of key audit matters paves the way for more transparent and more meaningful audits, and brings many benefits to the users (Accountancy Europe, 2019). The purpose of including the key audit matters in the auditor's report is to increase the transparency and knowledge level of the auditor's report. Fundamental changes in audit reporting aim to decrease the gap/difference of information. The International Auditing and Assurance Standards Board (IAASB) defines this gap as the gap between the desire of the user of information, explanations of the firm, and the benefit provided to the user by the auditor's report (Segal, 2017).

1. THE NEED TO ENHANCE THE AUDIT REPORT

Audit report is the final output of the audit process. It is where the auditors express their opinion. In financial audit, audit report is on whether the financial statements prepared by the management conform as a whole to the applicable financial reporting framework (ISA, 700). Users of information have always seen the audit report as an important source of information. According to Gomez and Guillamon (2003), audit reports “add value” to the financial information prepared by the management. However, audit reports have been criticized lately for the content of the information presented, and the method of presentation.

From the perspective of users of information, audit reports are seen as an element providing assurance on the management’s representation, although they are not definitive. From the perspective of the auditor, audit reports are an important tool for communicating with the firm’s stakeholders (Goicoechea, et. al, 2019). However, audit standards present the minimum of the information and format that have to exist in the audit reports, instead of the extent of these. Additionally, the audit report is an important tool for communicating with the audited firm. Instead of reporting directly to the management, the communication is run through the audit board, which is an independent monitoring unit within the firm. According to ISA 260 (“Communication with Those Charged with Governance”), auditors should inform the significant matters related to the firm’s management to the audit board (if there is any), and to the board of directors. In this aspect, there is a two-way communication for the auditor.

Stakeholders of the firm, major ones being the investors, want to see more information in the audit report. However, auditors are restricted with concerns of confidentiality, and at the same time, they are restricted with threats of litigation, based on what they say, and how they say these (Gray & Manson, 2000). Under this context, expectations from the auditor’s reports have been emphasizing on the content of information, and the manner of the reports’ presentation. Auditor’s report is the main tool for communication between the auditors and the users of financial statements (PCAOB, 2017). However, because the conventional reporting model is highly standardized, it cannot meet the expectations of useful information and transparency (Asare & Wright, 2012; IAASB, 2011). Especially after the corporate scandals which have occurred in the beginning of the 2000s and right after the financial crisis of 2008, regulators, standard setters and investors have started to question the informative value of the auditor’s report. Likewise, academic studies published during the last ten years have emphasized on the need for a change in the reports, with an approach so as to encourage the reforms on audit reports (Carcello, 2012; Turner et al. 2010). Mock et al. (2013)

concluded that, the firm's stakeholders ask for more information on the audit process, the auditor, and financial statements. Vanstraelen et al. (2012) have come to the result as such that, users of information are interested in additional explanations on audit findings, such as the significant areas of risk. Therefore, the concept of improving the auditor's report has become more important, both with regards to the community perceived value of the audit activity, and to maintain the validity of the audit profession.

In general, studies that have been published to date indicate the existence of a gap/difference between the expectations of the users of information from the financial statements and the audit performed, and the information included in a firm's audited financial statements and the audit report. Standard setters and various researchers call this concept the "information gap" (IAASB, 2012; Gold & Heilmann, 2019; Mock, et al. 2013). Information difference/gap is closely related with the expectation gap, which is an old concept that is used for the difference of the expectations of users of information from an audit, with the actual audit. Ongoing discussions paved the way for many global initiatives and regulations with the purpose to increase the communicative value of the auditor's report.

The International Auditing and Assurance Standards Board (IAASB), the European Commission (EC), Public Company Accounting Oversight Board (PCAOB) and the Financial Reporting Council (FRC) of the United Kingdom have executed many projects to develop the auditor's report. The most significant one among these steps has been the revisions in auditing standards, and the new auditing standards brought by the IAASB.

2. "KEY AUDIT MATTERS" AND RULES ISSUED/ISA 701

Following the increasing requirements of the users of information, in May 2011, IAASB published the discussion report called "Enhancing the Value of Auditor Reporting: Exploring Options for Change" with the purpose to explore the options to improve the auditor's report and to find a solution to the expectation and information gap, and initiated a project to make the necessary changes in the standards (IAASB, 2011). The invitation of the IAASB and the proposed changes were highly praised by various stakeholders (Prasad & Chand 2017). In July 2013, these initiatives were followed by the draft report called "Reporting Related to Audited Financial Statements: Proposed International Auditing Standards (ISAs). IAASB concluded this project in January 2015, by publishing the final version of the new and revised auditing standards, including the requirement to disclose the key audit matters in the auditor's report

(IAASB, 2015). Major changes made in the audit report with the new set of rules issued by the IAASB are: Inclusion of the key audit matters in the auditor's report, change in the order of information presented in the auditor's report, explanations related to the firm's ability to continue as going concern being included within the sections explaining the auditor's and management's responsibilities, and inclusion of further explanations on the auditor's independence and the auditor's compliance with ethical rules. With ISA 700, the standard on "Forming an Opinion and Reporting on Financial Statements", significant changes were brought to the audit report where the auditor provides their opinion, with respect to form and content. Additionally, standards such as ISA 260, ISA 570, ISA 705, ISA 706 and ISA 720 were revised. Another significant change has been ISA 701, the standard on "Communicating Key Audit Matters (KAM) in the Independent Auditor's Report" (Türel & Türel, 2016).

Reporting key audit matters has been one of the most significant changes of the recent years in auditor reporting. The thought that the audit reports should present detailed information to the users of financial statements on the execution of the auditing activity, has led to the concept of key audit matters (Gold & Heilmann, 2019). This means that the auditors will include the matters that they see as being most significant (key audit matters), and the methods they have applied in the audit of these matters, in the auditor's report. With this purpose, IAASB issued ISA 701, the standard on "Communicating Key Audit Matters in the Independent Auditor's Report". ISA 701 was issued by the International Auditing and Assurance Standards Board (IAASB) in January 2015, to be applicable for the audit of the financial statements pertaining to the accounting periods ending on December 15th, 2016 or later. The main goal of ISA 701 has been to increase the value of and the interest in the auditor's report, and to increase transparency. The standard defines the most significant matters based on the professional judgment of the auditor (ISA 701, par 2-3).

Reporting of key audit matters will; help the users of financial statements to understand the firm and the significant parts of the financial statements, and thus enable the users to communicate with the management and senior management of the firm in a more transparent and effective way. This standard will also help to clarify which matters the auditor will communicate in the report, and the auditor's decision on the form and content of this communication. Consequently, updated reporting standards will enable to decrease the disappointment associated with both expectations and communications that are arising out of the auditor's performance (Nwaobia et. al, 2016). It may also be worth noting here that, changes made in the audit report standard did not change the form, scope and content of the audit, but they expanded these elements.

3. DETERMINING KEY AUDIT MATTERS

ISA 701 defines key audit matters as, “those matters that, in the auditor’s professional judgment, were of most significance in the audit of the financial statements of the current period” (IAASB, 2015). It is also stated in the standard that, key audit matters are selected from matters communicated with those charged with governance. When explaining “those matters that required significant auditor attention in performing the audit”, the standard states the significant risk areas, as well as the areas where professional judgment should be exercised (IAASB, 2015; Simpson & Weiner, 1989). When determining the key audit matters, the auditor should first examine the matters that are communicated with those charged with governance. The auditor should prioritize these according to their significance, and should consider the risk areas, and levels of risks (McGeachy & Arnold, 2017; ISA 701, par.9). The auditor shall evaluate the management’s opinion, accounting estimates and transactions and operations pertaining to the current accounting period. Then, also considering the users of information, should determine the matters that require special attention during the course of the audit. Out of these matters, the most significant ones based on the professional judgment of the auditor shall be the key audit matters stated in the audit report.

Therefore, before determining the key audit matters, the auditor first should determine the matters that will be emphasized during the audit, out of the matters communicated with those charged with governance (KPMG, 2019). When determining these matters, the auditor should always consider the following (IAASB, 2015)

- Areas of higher assessed risk of material misstatement or areas of higher significant risk,
- Significant auditor judgments relating to areas in the financial statements that involved significant management judgment, including accounting estimates that have been identified as having high estimation uncertainty,
- The effect on the audit of significant events or transactions that occurred during the period.

Determining key audit matters is presented as a framework in Image 1.

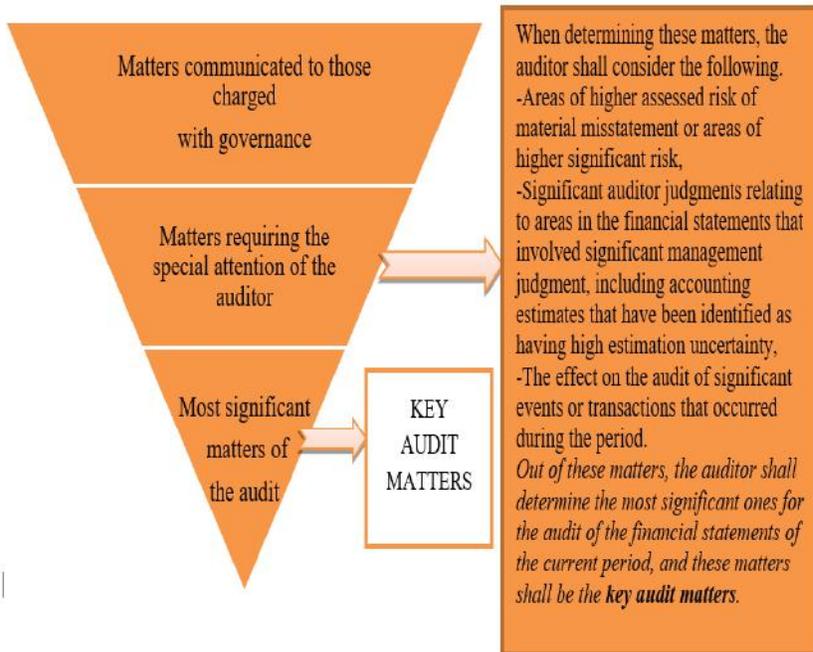


Image 1. The framework for determining key audit matters (IAASB, 2016)

To help the auditors to determine the key audit matters, ISA 701 offers a “decision making framework based on judgment”. Therefore, the standard covers the auditor’s decision of communicating in the audit report, the form and content of this communication and finally the key audit matters, with the purpose to ensure more transparency. This “judgment based decision making framework” can be indicated in three stages (IAASB, 2015).

1. Matters communicated to those charged with governance Key audit matters are selected from among the matters that the auditor has communicated during the audit to those charged with governance. According to the standard ISA 260 “Communication with Those Charged with Governance”, the auditor should report the significant findings of the audit to the senior management. According to the revised standard of ISA 260, the auditor informs the planned audit scope including the specified high risks, to those charged with governance.

2. The following are the signs that the auditor should consider for a matter to require special attention during the audit:

- The matter caused difficulties to the auditor in collecting the adequate and sufficient proof of audit,
- The matter caused difficulties to the auditor in forming an opinion,
- The matter is related with the complexity in the financial statements, and with significant areas of managerial decisions.
- When the auditor is selecting the matters requiring special attention out of the matters communicated to those charged with governance, the auditor is asked to consider the following (ISA 701:5; Akullo, 2019),
 - Areas of higher assessed risk of material misstatement, or significant risks identified in accordance with ISA 315,
 - Significant auditor judgments relating to areas in the financial statements that involved significant management judgment, including accounting estimates that have been identified as having high estimation uncertainty,
 - The effect on the audit of significant events or transactions that occurred during the period

The auditor shall determine which of the matters determined in accordance with the above were of most significance in the audit of the financial statements of the current period and therefore are the key audit matters.

3. The last stage in determining key audit matters is, selecting the most significant matters for the audit process, out of the matters of the current period (2.). This is a matter of professional judgment, and can be affected by the magnitude and complexity of the firm, the nature of the business and its environment and the requirements and conditions of the audit contract. In other words, firm specific and audit specific factors affect the auditor's decision.

Other considerations that may be relevant to determining the relative significance of a matter communicated with those charged with governance and whether such a matter is a key audit matter include (AICPA, 2019; Akullo, 2019):

- The nature and scope of the communication with those charged with governance;
- The importance of the matter to intended users' understanding of the financial statements as a whole, in particular, its materiality to the financial statements,
- The nature of the underlying accounting policy relating to the matter or the complexity or subjectivity involved in management's

selection of an appropriate policy compared to other entities within its industry,

- The nature and materiality, quantitatively or qualitatively, of corrected and accumulated uncorrected misstatements due to fraud or error related to the matter, if any,
- The nature and extent of audit effort needed to address the matter;
- The nature and severity of the difficulties faced during the application of auditing procedures,
- The nature and severity of any control deficiencies identified relevant to the matter.

4. Communicating Key Audit Matters

The new (enhanced) format of the auditor's report presents more detailed information on the auditors' risk assessment, and the selection of the audit approach for mitigating specified audit risks. With the communication of key audit matters, audit reports inform the users on; what the auditors did to ensure the fair and accurate presentation of audited financial statements, what were the most difficult areas of the audit, and how the auditors collected the necessary proof for audit (Botez 2017). Reporting the key audit matters in the auditor's report is within the framework of the opinion provided for financial statements.

The audit report should state that; key audit matters are those matters that, in the auditor's professional judgment, were of most significance in the audit of the financial statements, and that the auditor does not provide a separate opinion on these matters, other than the opinion provided (ISA 701, 2017:11). The description of each key audit matter in the Key Audit Matters section of the auditor's report shall include a reference to the related disclosure(s), if any, in the financial statements. Accordingly, when key audit matters are being reported, the following should be included (Akullo, 2019; ISA 701; Sayar & Ergüden, 2016);

- The relevant disclosures should be referred to.
- An explanation should be provided so as to why the matter has been selected as a key audit matter.
- Related audit procedures, and how the matter was addressed in the audit should be explained.

The new audit reports include the following as their contents; general assembly, opinion, grounds for opinion, significant uncertainties about the firm's ability to continue as going concern (if any), key audit matters, other information, the management's responsibility for financial statements, independent auditor's responsibility, report on other

obligations arising out of the regulations, the address of the auditor and date and signature. There have also been additions to be inserted in the texts explaining the management's and the auditor's responsibilities. The most important change in the audit reports has been the emphasis placed on significant uncertainties about the firm's ability to continue as going concern (if any), and presentation of key audit matters under a separate heading. As the result of the changes, audit reports have expanded in terms of content, and especially with the inclusion of key audit matters, they have transformed into large-size audit reports (Çağiran & Varıcı, 2019).

ISA 701 requires that a brief explanation is provided on the key audit matters by referring to the related sections of financial statements, which would increase the benefits of the audit report. While key audit matters aim to increase the transparency of financial statements and audit processes, they also document that the processes are run appropriately. The auditor reports the key audit matters by presenting them as subsections under the main heading of "Key Audit Matters". In the auditor's report, key audit matters should be presented after the section of "Basis for the Opinion", under the heading of "Key Audit Matters" (Honkomaki & Ojala, 2019). It should be simply and clearly explained in the audit report; why the determined key audit matters were selected as key audit matters by referring to the disclosures in financial statements if any, and how these were addressed during the audit. Another important issue is, key audit matters and the related explanations should not include confidential information, and they should not qualify as commercial secrets (ISA 701).

There is not a restriction on determining key audit matters, their number, and the order of their presentation. Therefore, key audit matters vary according to the auditor's professional judgment, experience, expertise, and the size and the significance of the firm and its transactions (ACCA, 2018). The auditor explains the key audit matters in a separate section in the report. In this section, the auditor should state that key audit matters were the most significant matters during the audit, that these matters were addressed in forming the auditor's opinion thereon, and that the auditor does not provide a separate opinion on these matters. Based on the professional judgment of the auditor, key audit matters are the most significant matters in the audit of the financial statements of the current period. These matters are considered as a whole during the audit that is being performed on the financial statements, and when providing the opinion on these financial statements. If the auditor provides a qualified or adverse opinion, or when the auditor detects material uncertainties related to the entity's ability to continue as a going concern; the matters giving rise to the aforementioned are by their nature, key audit matters. However, in such circumstances, these matters shall not be described in the Key Audit Matters section of the auditor's report. The auditor will report the related

matter in line with the applicable auditing standards (ISA 701, ISA 705, ISA 570).

The significant areas presented with key audit matters should qualify as a strong warning for users of information. The benefits expected from the inclusion of key audit matters to the audit report are as follows (ISA 701: 4).

- The objective of reporting key audit matters will provide more transparency to the audit performed, and increase the explaining power and communicative value of the auditor's report.

- Reporting key audit matters will provide additional information to the users of financial statements, for a better understanding of the most significant matters based on the auditor's professional judgment.

- Reporting key audit matters will guide and help the users of information for a better understanding of the areas where the firm and its management make important judgments.

- Reporting key audit matters in the audit report will facilitate a more advanced relationship between the users of information, the firm and those charged with governance, about certain issues related to the audited financial statements and the audit performed.

CONCLUSION

Quality of audit is crucial for the economy. Quality of audit is the fundamental pillar of the auditing market and the audit thereof, and where the users of information do not trust the opinion/assurance provided, audit has no value (Cordos & Fulop, 2015). In the end, the opinion provided, and the mechanisms used by the auditor to reach the opinion are significant, and "key" (Segal, 2017).

There have been discussions in the recent years on increasing the quality of audit, and especially on changing the audit report. The first emerging thought has been the need to improve communication related to the auditing activity, on the grounds that the independent audit did not include the required information. As the result of these efforts, some standards were revised, and significant changes were made in the new audit report. With the project of the renewed audit report that aimed to meet the requests of the users of financial statements, new and revised International Auditing Standards (IAS) were issued by IAASB, to be applicable as of the accounting period of 2016.

One of the major ones of these changes was "ISA 701 Communicating Key Audit Matters" (Doğan, 2017). As the users of information have requested to see more information in the audit reports

about the audit process, the concept of key audit matters became visible. The concept of key audit matters points out to the areas of audit which are the most significant, and where the auditor spends more time and works more than the other matters. (ACCA, 2018).

According to ISA 701, the main objective of the auditor communicating the key audit matters is, to inform the current situation and conditions to both the firm and to the auditing activity, and to provide appropriate, sufficient and explanatory information to meet the requirements of the users of information. At the same time, communicating key audit matters helps the users of information to better understand the firm and the significant areas of the audited financial statements which involve the management's judgments. With this standard and the renewed form of the audit report, the objective has been to emphasize the most significant matters from the "perspective of the auditor". Expectations from the new auditor's reports have been as follows (IAASB, 2015):

- i. To provide improved communicative value to the users,
- ii. To build a stronger interaction between the users, auditors and those charged with governance,
- iii. Increased professional skepticism in areas of key audit matters,
- iv. Increased audit quality and the quality perception in the users.

In summary, within the framework of the changes made with ISA 701, auditor's reports have been enhanced, the responsibilities of the auditor and the key audit matters were defined, and thus the reports became more beneficial. The capability of the standard for meeting the expectations depends on the appropriate practice, and a better understanding of the concepts such as significance and professional judgment.

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CHAPTER – II

THE RELATIONSHIP BETWEEN SEA TRANSPORTATION, TRADE OPENNESS AND CURRENT ACCOUNT BALANCE: THE CASE OF MOROCCO AND TUNISIA

Salih KALAYCI*

INTRODUCTION

Sea transportation has a crucial significance for international trade activities and expansion of globalization. In this context, global maritime trade has enlarged approximately by 3.1% yearly since 1970 and nearly 80% by capacity and 70% by volume of global trade are performed through sea in 2011. According to UN Conference on Trade and Development, dry cargo including main bulks and other dry cargoes loaded capacity has been rising rapidly. In addition, the share of dry cargo loaded was 69% at 2012 among aggregate product loaded (UNCTAD, 2013).

Majority of research articles demonstrate that the trade restrictions will cause decreasing number of services, the quantity of the harbor of destination and departure, multiplication of unprofitable itineraries and higher ticket fees. Afterwards, in order to compensate the loss of operations, it transferred from ship owners to the state as ‘social services’, and a huge increase of state subsidies for these gainless destinations (Goulielmos and Sitzimis, 2014).

The major significant research question is how trade openness and economic development influence the maritime logistics market which is demonstrated by statistical models. Maritime logistics and its services are so vital in terms of efficient local and global trade of products and services. Moreover, there is no doubt that companies should concentrate more on R&D investment in order to perform effective transportation activities. It is seen that in parallel with this issue Logistics Performance Index (LPI) developed at the World Bank to reveal how can provide a better logistics performance which is majorly associated with commercial success of countries, ability to attract more FDI, trade expansion, and economic development. To sum up, the advantages of well-planned logistic activities provides sustaining the cost competitiveness of companies, attracting FDI in order to increase production capacity, allocation of facilities, thereby boosting the employment rate, and reducing the cost of export, import, and inflation as well. Liberalizing logistics services industry, for instance, can encourage domestic service suppliers to enhance quality. This is especially significant in markets such as trucking and customs brokerage that are assumed necessary to efficient service delivery by domestic and international carriers (Llanto and Navarro, 2012).

Fink, Mattoo and Neagu (2002) express that trade openness would ensure to an average lowering in terms of maritime transportation cost by \$850 million and price around % 9 in USA. Besides, the breakup of private carrier agreements would cause prices to decrease around 25% and extra cost savings of up to 2 billion dollars on commodity carried to the United States alone. Therefore, the indirect advantages from lowering the barriers to trade are likely to be indispensable as well.

On the other hand, Brooks (2009) states that the industries for one of the most globalization of the maritime transport display the government arrangement from closed protectionism to trade openness. Actually, in order to move the industry to a better place, the trade barriers should be eliminated by government which is indispensable to increase the capacity of trade within borders and maritime transport volume. Brooks (2009) also specifies that the more protected sectors of the industry in terms of trade barriers decrease the capacity of liner shipping, local shipping and auxiliary services. He also mentions the consequences of liberalization in terms of sea transportation through presenting a quantity of research regarding the OECD countries and China by providing positive comments.

The fast development of international trade activities have led to an even faster growth in sea transportation. This process provides high challenge, competition and contributed to domestic markets for growth of trade. Considering the developed industries of US, Europe and Japan, the average proportion of the total GDP triggered by exports was around 18 % as at 1996. Within that developed economies, the proportion for USA was 11 % and that for the EU countries was 28 %. Considering the developing economies as a whole, exports represented about 35 % of GDP with Latin America 27 % Africa 29 %, and Asia 37 %. It is important that 80 % of world trade volume is carried by maritime transport (Sien and Akpan, 1999).

This manuscript begins with a background of information regarding maritime transport and is followed by an exploration on the challenges and issues associated with liberalization of the maritime trade sector. Part 2 finalizes the summary of literature review about the relationship between sea transportation, trade openness and current account balance for Morocco and Tunisia from 1980 to 2013 in terms of liberalization and generates a summary table including empirical results of researchers. Recommendations and suggestions are provided to strengthen the argument by implementing FMOLS, DOLS, and CCR Analysis in the methodology and conclusion parts.

LITERATURE REVIEW

From the maritime shipping companies' response, significant information collected from the empirical working papers demonstrate that firstly, joining the World Trade Organization will influence the local operator's output in terms of productivity; however, it is not easy to realize the effect in a short-run; secondly, joining the World Trade Organization will contribute the domestic operators enhance their services in transboundary territories, but they have not combatively taken actions to see the opportunities; thirdly, struggle with the government's trade openness policy and rising competitiveness among local shipping operators will take the following actions concluding 'to actively move into external industries (beyond the boundaries)', 'to collaborate with other firms to raise income and 'to restructure firm's organization to decrease costs and enlarge services' (Chiu, 2007).

Malaysian sea transport market is so liberalized with 80 % of Malaysian products and cargoes being shipped to Malaysia through foreign maritime activities. Further steps are being taken to liberalization of markets through openness of trade and services in Association of Southeast Asian Nations (ASEAN) agenda. Sea transportation markets are examined in Malaysia and discussed how the openness of the sea transportation. ASEAN economic integration, effects on the conduct, structure and performance of its sea transport market. The advantages of local liberalization of trade should be equilibrated with appropriate policies to provide security of benefits of all parties: local and foreign operators. To sum up, unregulated liberalization will be detrimental to both community and course of the economy (Kepli, 2016).

Shi and Li (2017) reveal that increasing number of articles in academic literature might be ascribable to the fact that sea transportation has characteristically been described as the fundamental of international trade, a key engine in order to perform economic development, and a significant factor of an economic system.

The recommendation for the growth of sea transportation policy needs that all parties pay obeisance to the ASEAN economies and People's Republic of China. For this reason, sea transportation policy requires to fit for the domestic trade growth. Furthermore, sea transportation cooperation between ASEAN economies and People's Republic of China, the both parties have conferred regarding the bilateral agreement in terms of the situation of international trade. In order to establish proper sea transport policy, fair competition, transparency principle, non-discriminatory access to cargoes, and further liberalization of specific commitment are so significant factors that should be taken into consideration. These factors intend to develop a series of common sea transport principles to demand

member states to consider by the arrangement, and then remove the barriers. The regulation mechanism will contribute the integration of sea logistic services between ACFTA (China Free Trade Area) members. ACFTA ensures a platform for economies to interconnect with themselves on this market as well. After more than two decades of growth, the friendship, mutual reliance and respect among China and ASEAN countries have been continuously intensified around the Asian continent. In this framework, the content of the ACFTA "framework agreement", progressive trade openness in services includes an extensive range of markets that is a significant aim of ACFTA. On the other hand, there is a high competition for trade services among ASEAN countries and China, in terms of trade barriers in services which is bound to influence the ACFTA trade openness process (Lu, 2019).

Table 1. Summary of Literature Review Regarding Maritime Transportation In terms of Liberalization and Empirical Results of Researchers

Authors	Years (Data Interval)	Applied Methods and Regions	Conclusion
Taghvae, Omarae and Taghvae (2016)	1978-2012	OLS, GMM an Granger Causality Test. Region/Country: Iran	The relationship among sea transport and economic growth is positive in Iran both in short-term and long-term. sea transportand trade liberalization increase the economic growth. It can be concluded that the environmental pollution ensures a flimsy pretext to impose a limit on the sea transport or economic development. Besides, policy-makers are advised to enhance the environmentally polluting infrastructure of the sea transport rather than limiting the development of this market. Therefore, those policies with long-term perspective are more effective than the short-term because of the higher long-term elasticities in both the economic growth and environmental pollution.

Basak and Nebol (2016)	2008	<p>The purpose of their work is to demonstrate shipping market factors and their latest status in worldwide trade by using descriptive methodology that is also included in qualitative techniques. Paper have a diverse background within an itinerary of 4 family-based ship owners, 1 pure ship-owner which has not family-based relation and 3 professional technical commercial managements without ownership of the vessels. 127 countries are determined for work</p>	<p>Basak and Nebol (2016) state that competition in sea transportation cannot be only described through demand and supply of shipping sector, Especially, the diverse fleets of different ship owners will become so significant as the technologic developments rise. Considering the volatility of current shipping industry will ensure a new perspective to ship owners, managers and operators so that they can survive by changing the traditional mentality to trade benefit conjecture. National fleet capacity, Liner Shipping Connectivity Index, Economic Openness Index (EOI) are selected as variables.</p>
Cong, Lee and Long, (2016)	1980-2014	<p>ADF, PP, Granger causality test, co-integration and vector error correction analysis are implemented for Singapore.</p>	<p>It is founded that in one country, the more percentages of interest rates of bank loans, supplied credit to private sectors, and even though the tax tariffs are gradually cut off or decreased, the more individual and corporate businesses are rised sharply. In addition, how the interactively causal linkage of those different and separate variables are connected into one uniqueness, and affected each others are still be wondered. It could be seen how the strong policies of Singapore's financial elements are, on boosting the sea transportation and offshore fields which have been proved when all the joined variables in one synchronicity is applied.</p>

Methodology and Data Analysis

The main subject of this manuscript is the empirical relationship between sea transportation, trade openness and current account balance. In order to find out the long-run relationship among variables, FMOLS, DOLS and CCR model is used from the period 1980 to 2013 for Northern African Countries including Morocco and Tunisia. The data is derived from UNCTAD's (2019) and Worldbank's (2019) official website as annual structure.

Table 2. PP Unit Root Test of Morocco (1980 – 2013).

Variables	Phillips Pearson (PP)	
	<u>I(0)</u>	<u>I(1)</u>
CAB	-0.333 [0.909]	-4.916* [0.000]
Sea_trns	0.142 [0.964]	-5.442* [0.000]
Trade_opns	-1.020 [0.734]	-7.265* [0.000]

Table 3. PP Unit Root Test of Tunisia (1980 – 2013).

Variables	Phillips Pearson (PP)	
	<u>I(0)</u>	<u>I(1)</u>
CAB	0.885 [0.994]	-5.086* [0.000]
Sea_trns	-1.753 [0.395]	-5.765* [0.000]
Trade_opns	-1.674 [0.434]	-5.976* [0.000]

In order to perform the FMOLS, DOLS and CCR model, the series should be stationary. For this reason, Phillips Pearson (PP) test is implemented. According to results of PP test, all series including sea transportation, trade openness and current account balance are not stationary at I(0). The major problem is p-values of all series are not less than 0.05 and t-statistics score is less than 1 %, 5 % and 10 % level by considering absolute value of number (See Table 2). After taking first difference of all series, Phillips Pearson (PP) test is performed once again in order to determine the stationarity structure of variables. According to results of PP test, all series become stationary (See Table 3). Thus, FMOLS, DOLS and CCR models can be performed to find out the long-run relationship between sea transportation, trade openness and current account balance.

The econometrical methods are used frequently in the analysis of short and long term relationships between macroeconomic variables and depending on this issue, Pesaran, Shin and Smith (2001) developed by ARDL model. The ARDL method can yield proper results without causing loss of information in the sample even if the series used are stationary at

the level or difference. It can also provide reliable estimates in the case of a small sample. On the other hand, the traditional co-integration methods used to reveal long-term relationships between variables, FMOLS developed by Hansen and Phillips (1990) due to the inherent problem arising in the estimation process and the obtained long-term coefficients cannot be interpreted, and left to the DOLS methods which developed by Stock and Watson (1993).

FMOLS, CCR and DOLS co-integration methods are based on the condition that the series used, just like traditional co-integration methods, are stationary in the difference. However, having the possibility to interpret the obtained coefficients offers an important advantage.

Table 4. FMOLS, DOLS, and CCR Analysis for Morocco (1980 – 2013).

Variables	Dependent variable: Sea Transportation					
	Fully modified least square (FMOLS)		Dynamic least square (DOLS)		Canonical co-integrating regression	
	<u>T-</u> <u>statistics</u>	<u>P-</u> <u>value</u>	<u>T-</u> <u>statistics</u>	<u>P-value</u>	<u>T-</u> <u>statistics</u>	<u>P-</u> <u>value</u>
CAB	2.756*	0.0100	1.927*	0.0676	2.055*	0.0489
Trade_opns	-0.487*	0.7487	1.546*	0.1369	0.034*	0.9730
C	-1.395*	0.1736	-1.690*	0.1057	-1.390*	0.1748

Table 5. FMOLS, DOLS, and CCR Analysis for Tunisia (1980 – 2013).

Variables	Dependent variable: Sea Transportation					
	Fully modified least square (FMOLS)		Dynamic least square (DOLS)		Canonical co-integrating regression	
	<u>T-</u> <u>statistics</u>	<u>P-</u> <u>value</u>	<u>T-</u> <u>statistics</u>	<u>P-value</u>	<u>T-</u> <u>statistics</u>	<u>P-</u> <u>value</u>
CAB	-2.156*	0.0394	-2.419*	0.0247	-1.754*	0.0898
Trade_opns	-1.776*	0.0861	-2.466*	0.0223	-1.296*	0.2049
C	0.038*	0.9699	-0.287*	0.7764	0.008*	0.9935

The major research question of this work is determining the effects of trade openness and current account balance on sea transportation and their long-run relationship in Morocco and Tunisia from 1980 to 2013. According to empirical results of FMOLS, DOLS and CCR model there is a stable long-run relationship between variables and current account balance influences sea transportation which indicates that increasing current account surplus is so vital issue in terms of maritime transport (See Table 4 and 5).

The results of FMOLS, DOLS, and CCR Analysis demonstrate that the current account balance influences sea transportation from 1980 to 2013 for Morocco and Tunisia (see Table 4. and Table 5.)

CONCLUSION

Sea transport industry has become more competitive nowadays. Sailors and ship-owners will encounter more strict rules which will influence in terms of competitiveness in the sector as long as the technological progresses rise as well. For this reason, essential investment should be performed to provide these requirements, and that might be a challenge on maritime firm's revenue mobilization for the next periods. Besides, the environmental factors may slightly influence the cost of older ship due to new technological development which requires investing in renovation works. New entrepreneurs should be very aware about market conditions in order to survive. Considering the new development of maritime transport and its market conditions in terms of management aspect, combining the technical and commercial management features will ensure the companies to be strong competitors. Thus, strong market structure will increase trade volume. When the subject is examined in the context of macro-view, governments should give more incentives to maritime companies in order to increase trade capacity. The empirical findings of both Morocco and Tunisia demonstrate that the current account balance influences sea transportation from 1980 to 2013 for Morocco and Tunisia. Therefore, government should also reduce the tax rate for all common carriers because, strong competitive market for maritime transport increases foreign trade capacity, considering the empirical nexus between maritime transport and the current account balance for Morocco and Tunisia.

The world market is getting closer to regulatory harmony via increased trade openness, investment rates through extensive utilization of liberalization and tonnage tax fiscal policies, In fact, regulatory disharmony is the current state of perform in lots of domestic sea transportation sector. Moreover, the key to comprehend the effects of regulatory harmony is to filtrate the distorting components. Separating these elements into two sorts is a so necessary because, there are those

arrangements that deny market access, afterwards, there are those that trigger its growth or contribute domestic market.

Considering the policy implication in terms of trade openness, favorable market growth provides a powerful contribution to economic integration among ASEAN countries. Furthermore, supposing that the generativity and efficiency developments in freight services and sea transportation are carried over to users in the form of better services, the talent to determine the suppliers, the positive response by the market consumers would have positive user welfare impact. It is commonly known that trade liberalization has risen over the last thirty years. The main question is the same trend noticeable for transport costs? Hummels and Ishii (2001) express that the most significant criticism is actually as long as trade liberalization has increased, transportation costs have increased significantly. Accordingly, although trade has developed over the last 30 years through maritime sector, transportation costs have increased considerably.

Majority of maritime countries can insist unilateral regimes in the market. Whether these crucial developments will contribute the cause of the International Maritime Centre (IMC) for a truly liberalized market is difficult to say. Thus, what should be the position of Morocco and Tunisia in the next negotiations? It is so significant to assist the efforts at liberalization for Morocco and Tunisia, as there are a many benefits to be derived from it. Therefore, Morocco and Tunisia that still have legislation that constricts the supply of sea transportation should take steps to ensure a legal framework through more liberal policies for the provision of sea transportation services and abolish such legislation.

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CHAPTER – III

INNOVATION PSYCHOLOGY IN ORGANIZATIONAL MANAGEMENT

Fahri ÖZSUNGUR*

INTRODUCTION

Psychology is the reflection of events that develop in the depths of the human mind to the external environment and is an important factor in the emergence of human behavior (Lind, 2019; Bannister, & Fransella, 2019). Experiences about the life revealed by existence are coded in the human mind and create a complex process (Adler, 2019). This process occurs in the general sense, environment → human → environment (Barbu, 2020). Information from the environment is transformed into behavior through a cognitive filter (Berry & Dasen, 2019). Thus, the effects obtained from the external environment result in reactive behavior (Hearst, 2020).

Effects are the cases that direct human psychology (Finkel & Baumeister, 2019). Multifactorial factors such as family, climate, politics, geography, culture, and human are effective in human psychology (Grof, 2019). These effects focus on four main results: negative, neutral, creative and positive (Hearnshaw, 2020). The effects of factors on people vary from individual to individual (Oaksford & Chater, 2020). The reason for this is that the perception of each person is different. Perception is the state of interpretation that occurs in the individual about the effect level, severity, condition of the factors affecting the individual (Hong, Levy, & Chiu, 2019; Witowska, & Zajenkowski, 2019). The direction of perception also determines the direction of the reaction. Therefore, the process proceeds as a factor → effect → perception → reaction (Klusmann et al., 2019; Wyer, 2019; Zmigrod et al., 2019).

Human psychology differs according to social and personal characteristics. The social and cultural characteristics that the individual lives in have important psychological effects. Religious phenomena, race, social events, oppression, and discrimination can be given as examples of social effects. On the other hand, the individual's characteristics such as introversion, anxiety, joyfulness, and nervousness can also lead to different behavioral patterns in the context of psychological results. Both factors affect the mood of the individual and cause the behaviors s/he will reveal in the face of events.

* Dr., Adana Alparslan Türkeş Bilim ve Teknoloji Üniversitesi.

The shaping of behaviors depends on the severity of the impact of external factors. The severity of the impact affects the decisions of the individual by giving psychological momentum. The decision is an evaluation process that occurs in the cognitive process. The behavior pattern that the individual should reveal under the influence of external factors affects social formations. The effects of psychology on behavior affect other individuals and organizations that the individual, a social entity, interacts with.

Behavior is an important outcome of interaction. This output may be positive or negative depending on the perception and expected benefits of the individual and social formations on which the impact occurs. Negative outputs negatively affect individuals or organizations that perceive behavior based on benefit/loss, cost/benefit comparison. Positive outcomes, on the other hand, contribute to increasing the expected benefits for the organization and the individual. Positivity can be perceptual or related to the benefit obtained. Behaviors that will contribute to the total benefit, such as innovation, are examples of the positive effects of psychology.

Innovation is the emergence of innovative ideas that will make a difference in experience and knowledge about services and products in the cognitive process. These ideas are under the influence of psychology both during the formation of the idea and in practice. Innovation has important effects on the management of the organization. Process management in human resource management, product and service innovation, determining the management strategy are significantly affected by the positive and negative outputs of innovative behaviors. Therefore, the relationship of innovation with psychology is an issue that needs to be investigated in the context of organizational management. In the literature, organizational management has been examined as of psychology in terms of social cognitive theory (Wood & Bandura, 1989), organizational psychology (Spector, 2006; Hahn & Kelly, 2019), organizational change (Oreg, Michel, & By, 2013), organizational behavior (Gelfand et al., 2017), organizational climate (Schneider et al., 2017), leadership (Yavuz, 2020), corporate social responsibility (Glavas, 2016).

Innovation psychology has not been studied in the literature. Besides, the fact that innovation has important effects in organizational management and that these effects are significantly related to psychology reveals the importance of the issue (Lateef & Omotayo, 2019; Liebowitz, 2019; Donada et al., 2019; Kim, 2019; Abubakar et al., 2019). From this point of view, this study aims to investigate the functions of innovation in organizational management in a psychological context and the conceptual, theoretical and practical foundations of innovation psychology. On the other hand, it is aimed to reveal the process of innovation management,

factors that affect innovation. The study is expected to contribute to the fields of business, management, organizational behavior, and psychology. The audience of the study are academics, employees, and managers operating in the private and public sectors.

ORGANIZATIONAL MANAGEMENT

Organizational management is the process of uniting and managing the efforts of individuals who come together for a specific purpose within the framework of this common purpose (Zehir & Zehir, 2020). Management requires a certain process (Schulman, 2020). This process is revealed as short or long. Short management processes lead to the formation of plans and trigger long management processes to form strategies (Hock-Doepgen et al., 2020). The continuity of the organization, its existence in a competitive environment, its functional efficiency and the provision of positive climate in human relations are possible with management (Ocasio, Rhee, & Milner, 2020). Shaping people's communication and interactions in line with the goals and objectives of the organization depends on the correct and effective management of the administration (Hasan, Islam, & Chowdhury, 2020). Organizational coordination, human relations, communication with external and legal actors, efficient use and distribution of resources, suitability for organizational purpose, sustainability are areas where management is required (Acharya & Biswas, 2020).

One of the most remarkable elements in organizational management is the management of human resources (Galliers, Leidner, & Simeonova, 2020; Armstrong & Taylor, 2020; Sukalova & Ceniga, 2020). It is a social entity that converts human mental functions into physical function. This feature shows that human beings are affected by psychological factors.

Psychology is an important factor that reflects the thoughts shaped by the mental ability of humans by their nature to the external environment and the effects of the external environment are processed in the mental process. This factor constitutes the science of emotion and thought. Thinking, coding, remembering, recalling, imagining, creativity, attitude, acceptance, behavior are examined in this branch of science (Zhang, Tian, & Chen, 2020; Shapira, 2020). Organizational management is closely related to psychology because organizations consist of humans.

ORGANIZATIONAL MANAGEMENT AND PSYCHOLOGY

Organizational management is a set of actions that take place in human saving (Rothaermel, 2016). Psychology is an important factor affecting humans. Therefore, the effects of psychology on management

should be determined (Fogaça et al., 2018). The interaction period of the individual with the environment starting from childhood has different effects on childhood, adolescence, adult and old age stages. Interaction with the mother and father in childhood, the impact of the social environment on the child, the relationship with childhood friends have important effects. Past events such as maltreatment, violence, and accident in childhood are recorded in the individual's memory. Sudden changes in adolescence, psychological effects of physical change, change brought by sexual awareness affect the individual psychologically. Career development, employment, getting a place in the society, mate selection differentiates the psychological effects that occur in the adult period (Wood, 2016). In the aging period, this effect brings a different process. The individual is in a different psychology in every period.

In daily life, individuals experience many events. The events experienced have important effects on the mind of the individual. Individuals make decisions that reveal their behavior in daily life. These decisions occur the result of a certain process (Eva et al., 2018). It is possible that the resulting decisions can be influenced by the experiences in daily life. Whether the events are negative or positive can also have an impact on decision making (Chang, McAleer, & Wong, 2018).

Decisions made within the organization are the product of humans. Therefore, it is significantly affected by psychology (Poorgholami et al., 2016). Organizational decisions are managerial decisions. Actions carried out for the purpose of the organization take place within the executive/administrative process (Fosić, Trusić, & Šebalj, 2017). In line with the mission and vision of the organization, it is possible in this process to achieve goals that are appropriate for the purpose, to enter the market, to seek new markets, and to efficiently use and distribute resources. Organizations need strategic management for gaining competitive advantage, profitability and efficiency, product diversification and service quality in order to be sustainable (Pröllochs & Feuerriegel, 2020). Strategic management is a process regarding organizational vision in which long-term decisions are made (Gupta, 2020). This management approach is significantly affected by human psychology (Met et al., 2020). The impact of culture within the organization on the human, the effects of the human resources policy of the organization on recruitment and existing employees, mobbing, the pressure factor in premium work, time problems in delivery and procurement, pressures in financial difficulties can negatively affect the individual's psychology (Driskill, 2018; Mulder et al., 2017). These factors may negatively affect decisions in strategic management (Davis & Bendickson, 2020).

INNOVATION MANAGEMENT

Innovation is the sum of creative actions that turn an individual's experience into an output that will create added value. Innovation is an important process in revealing creativity. Innovative behaviors of employees in the organization are revealed in the products or services offered (Sun Liu & Ding, 2020). The way the product or service is presented, diversification, creative actions and ideas to be revealed in the processes related to the production, delivery, and aftermath of the product, new lines of business, new businesses and entrepreneurial actions are among these innovative actions (Gloet & Samson, 2020).

The fact that innovation behavior is a product of mental function makes it an action to be managed (Silva et al., 2020). Conflict, empathy, desire for success, self-expression provides a comparison of different information. The level of benefiting from the compared information, creating synergies, and positive differences from the available information are compared by reasoning and research (Tiwari & Buse, 2020; Peterková, Czerná, & Macurová, 2020). The comparison process is the preliminary stage of the management process. For this reason, innovation management starts with the preliminary preparation process. Other processes include start-up, implementation, sustainability, feedback.

Preliminary Process

Innovation management requires a preliminary preparation process to bring innovative ideas to life. In this process, individuals experience a process to reveal their creative thoughts that will activate their innovative actions. This process can be planned or can occur spontaneously. Some researches are carried out to provide services and products offered to customers within the organization, and to reshape the product or reconfigure the service according to the consumer's wishes (Lucia-Palacios, Pérez-López, & Polo-Redondo, 2020). This research takes place through communication with customers, asking the opinions of consumers, and communication with suppliers. Technological advances and new techniques in different fields can be a source of inspiration in the context of innovation. In this process, the employee may want to develop innovative ideas to develop a career within the organization, to receive awards, to be successful, to be appreciated or to realize her/himself.

The emergence of innovative ideas takes place by uniting the experiences with existing information, conducting the necessary research on how to apply new information, whether the idea to be turned into behavior will provide benefits and satisfaction for the organization and the customers (Montani et al., 2020). The preliminary preparation process includes information gathering, judgment, and decision-making which continue until the implementation of innovative ideas. The innovative idea

emerges during this period and the employee decides to do the necessary research on the implementation of the idea.

Start-up Process

The start-up period is short. The implementation of innovative ideas was decided during this period. In line with the decision made, innovative ideas cannot be implemented immediately. Because the implementation of an idea put forward within the organization requires a certain process (Cangialosi, Odoardi, & Battistelli, 2020). Organizational decision-making bodies and managers must approve that this idea is feasible. It may be requested to prepare a project on this subject. Internal organizational rules can prevent the presentation of innovation to the customer. Although most organizations are encouraging in innovation, the actions taken without the knowledge of managers are not considered ethical (Muchiri et al., 2020). For this reason, after the decision is made to implement the idea, internal procedures should be applied for its implementation.

The start-up process is the process of preparing a project and obtaining the necessary permissions for the implementation of innovative ideas. When an employee desires to achieve innovation in service or product without waiting for these processes, face with positive or negative feedback by actors such as consumers, organizations, suppliers, customers, and government (Stoffers, van der Heijden, & Schrijver, 2020). If the feedbacks are negative, innovation does not meet the purpose (Söderlund, 2020). For this reason, it is important to take the start-up process as the basis in the context of innovation feedback and acceptance by the organization. Obtaining legal permissions in the starting new businesses takes place within the start-up period.

Implementation Process

The implementation process is creative actions on the product and service, after the decision (acceptance) to implement innovative ideas. These actions include all actions and processes related to the provision of services and products to customers, start-up new businesses after obtaining the necessary permissions, creative actions in the organizational process of the organization, creating new business fields (Saxena, 2020). Implementation is an important part of intra-organizational process management. Problems arising during implementation, customer expectations and complaints, and feedback on products or services are recorded (Mwakajila, Kessy, & Sanga, 2020). The information obtained is evaluated in the next process (sustainability process).

The implementation process is the process of applying and adapting the creative idea that turns into action to the product and service.

Therefore, the idea must be implementable to the service and product. Implementations that do not provide any benefit for the customer and the organization, do more harm than benefit, harm the total benefit, and are illegal, are terminated in this process.

Sustainability Process

Sustainability is a process that ensures the continuity of the organization, gains a competitive advantage, ensures continuity in the market and prevents decline (Arnold et al., 2020). Organizations cannot survive when they cannot keep up with the innovations, technological and economic developments brought by age. Therefore, sustainable practices and management are important (Repo & Matschoss, 2020). Sustainability, one of the most important stages of innovation management, ensures the continuity of customer satisfaction after the implementation of innovation to the product and service (Bellucci, Bini, & Giunta, 2020). After the product is delivered, the customer is in service expectation for the repair of the product and problems with the product (Grigorescu et al., 2020). On the other hand, the customer enters an expectation for the development of the same service after offering the service. In both cases, performing innovative actions and implementing them to the product and service does not end the relationship with the customer or the organization. Operations regarding the acquisition of future customers contribute to process management within the organization, process improvement, research and development (R&D) and sustainability (Lentz, 2020). Whether these operations will reach the targets in accordance with the adopted purpose is predicted through feedback.

Feedback Process

Feedback is the process of innovation management that initiates a last and ongoing cycle. Feedback is required for innovations after the implementation and sustainability of innovative ideas (Cangialosi, Odoardi, & Battistelli, 2020). The feedbacks of customers and consumers about products and services, information obtained through R&D, market research, research about new technologies and techniques, information obtained through training, experience of employees, suppliers' ideas are factors that influence the feedback process (Montani et al., 2020).

The information obtained in the feedback process lays the basis for the next innovative ideas and actions. Thus, an innovation-based continuous cycle is achieved (Albort-Morant et al., 2020). Feedback provides the opportunity to compare the contribution of current and previous innovations to products, services, customers, organizations, employees, the environment, the state and all other factors (Stoffers, van der Heijden, & Schrijver, 2020). Important information is provided for the

next innovative ideas and actions by recording the information obtained. Thus, the circular process in Figure 1 occurs.

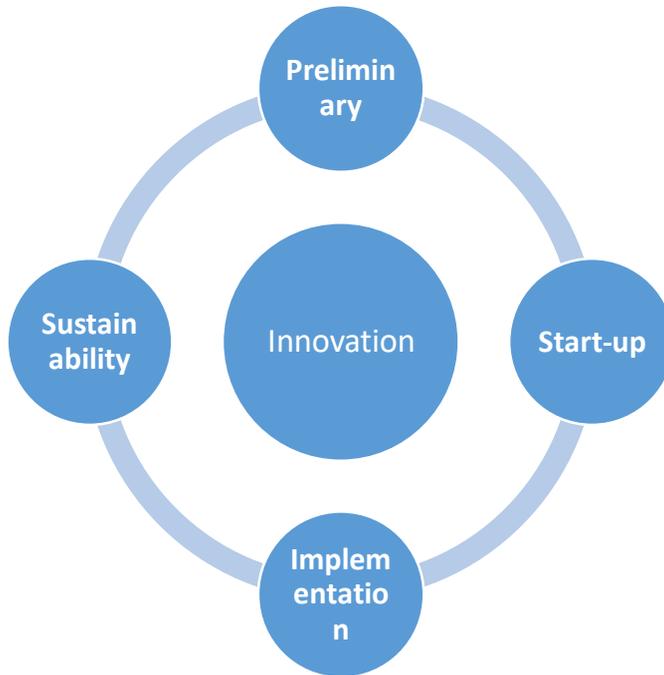


Figure 1. Innovation Management Chart

INNOVATION PSYCHOLOGY

Psychology is the sum of events that occur under the influence of the mental functions of human life (Sheth & Stellner, 1979). Innovation occurs as a result of the interaction of these events. Because psychology is about reasoning, creativity, individual acceptance or rejection, behavioral intentions that emerge in the cognitive process. Innovation is the act of judgment and reasoning of existing knowledge or revealing new knowledge (Johns, 1993). Reflecting and revealing new knowledge requires inspiration. Every event in life can be associated with many related or irrelevant events (Valsiner, 2009). A magnificent floral scent inspires perfume and a sea view inspires flooring. This information is subject to innovative ideas through experience and can be transformed into behavior.

Psychology is a process of reasoning and transformation and is not only affected by the external environment (Schweizer, 2006). Many factors such as people, social phenomena, physical environment, organizational climate, glass ceiling, discrimination, career development, need for

success, pressure, violence is effective in psychology (West, & Farr, 1989). Each factor provides different effects on each individual. Therefore, psychology plays an important role in innovation and managerial processes. These effects can be examined under five main titles as negative, neutral, positive and creative factors.

Negative Factors

Negative effect is the factors that have a contrary to expectations effect on the individual's thoughts and behaviors. Perceiving the effect as negative in the cognitive process occurs as a result of evaluating different factors such as past experiences and the current state of the individual. Before the individual perceives the effects of an event, information and experiences pass a cognitive filter covering a very short time. At this stage, the degree of impact and power also affect the individual's perception. Therefore, perception varies according to each person's personality traits, views and thoughts, beliefs, the environment in which they live and the effects they are exposed to (Pavitt, 2005). Negative effects have more effect on the formation of the idea. Because encouraging actions may be required to form an idea. On the other hand, sometimes oppressive and challenging factors may also lead to a positive idea (Paulus & Nijstad, 2003). Especially in the idea of entrepreneurship, this situation is more common. Financial difficulties in women entrepreneurship, discrimination, desire to participate in life, male pressure can be effective in the emergence of the idea of entrepreneurship (Dryden, 2014). These factors are the driving/push motivation factors in entrepreneurship (Özsungur, 2019). Negative effects can trigger the individual's will to fight or cope with. Especially the emergence of creative ideas is often affected by negative factors (Sarason, 1967).

Neutral Factors

The neutral effect is a factor that does not have any positive or negative effect on the individual and does not affect the individual's decisions. Although the neutral effect does not affect the decisions of the individual, it can make a positive or negative decision about the phenomenon that the individual thinks about. However, often neutral effects lead to an individual's indecision regarding decisions that have not yet been made. Negative effects cause instability in the positive trend of the individual, and positive effects cause instability in the tendency of the individual in a negative direction. Therefore, the level of effects is important in psychology management.

Positive Factors

Positive effects are the factors that affect the transformation of judged/reasoned knowledge into thoughts and in the direction of expected

results in the transformation of ideas into behavior. The effects of the positive factors on behavior is related to the action. The positive effect is significant in both the emergence of the idea and the implementation of the idea (Pianta, 2003). However, these effects do not always result in positive behavior. Positive effects have the greatest impact on the transformation of creative ideas into action. Once ideas have emerged, the process of transforming to action is influenced by positive factors such as encouragement, self-realization, career development, and success (Cropley & Cropley, 2015).

Creative Factors

Creative influences are the factors that inspire the individual and leave important and special effects on the individual's life (Thrash & Elliot, 2003). These factors consist of subjects of individual interest. Nature, interest, love, exciting events, and emotional factors leave creative effects (Mete, 2006). The creative factor is beyond positive or negative effects on the individual. Creative factors are innovative, creative, imaginative and unique. These features affect the psychology of the individual and provide the creation of innovative, original and creative ideas in the cognitive process. Creative effects have an impact on the sustainability of the idea as well as the formation of the idea in the cognitive process (Council, 1988). The effect on the implementation of the idea is less than these two effects. The reason for this is the intensity of the effect of the creative factor on the emergence and maintenance of the idea (Ind & Watt, 2004). Thus, new ideas can emerge (Cardoso, Gonçalves, & Badke-Schaub, 2012).

PSYCHOLOGICAL MANAGEMENT IN INNOVATION

Creating original and creative ideas require an important management process (Sonnentag, 2003). The implementation of the idea, implementation period, path and place require strategic management. Strategic management is to use the resources of organizations efficiently, to set a vision suitable for the mission, and to establish a control mechanism for the continuity of the organization (Luthans, 2002). Psychological management is the control of the effects caused by the mental function of human resources. Controlling the complex human mind is possible with psychological management (Guzzo, Noonan, & Elron, 1994).

The creation of innovation is influenced by the psychology of the individual. Factors such as mobbing, pressure, financial factors, career barriers, rewarding success, appreciation, discrimination, harassment, culture, organizational climate in the workplace or the organization are effective in revealing the idea of innovation. For this reason, an organizational climate suitable for creativity should be provided to reveal innovation and creative ideas. This situation requires a certain process. In this process, an appropriate climate should be provided by the

organization. The psychological process includes getting away from the negative factors affecting the individual's life, eliminating the individual features that prevent creativity and originality through training for personal development, providing the necessary training for the development of creative ideas and actions, and providing an incentive and reward system (Cullinane & Dundon, 2006).

Psychological management includes developing motivational actions. Feedbacks are received from customers and consumers for the development of innovation, innovation in service and product, innovation in the process, and innovation management. The same feedback is obtained from suppliers, employees, and managers. The information obtained is used for innovative ideas and actions (Glick, 1985). To form unique and creative ideas of the individual, training is provided to develop knowledge and skills. These trainings are also provided to eliminate the negative effects of personal characteristics on creativity (Sturges et al., 2005). Necessary improvements are realized for project development and process management within the organization. These processes are carried out to ensure that the psychology of the individual within the organization is revealed for innovation. The efficiency of the process depends on constituting strategic management.

CONCLUSIONS AND RECOMMENDATIONS

Human psychology involves a difficult and complex process to manage. Innovation is a multidisciplinary issue that takes place in this process. Innovation, which concerns many fields, develops under the influence of human psychology. Considering the multitude of factors affecting human psychology, developing a strategic management approach is important for developing innovative ideas and actions.

Innovation management consists of preliminary, start-up, implementation, sustainability and feedback processes. When these processes are transformed into an important cycle, sustainability will be achieved in innovation. Sustainability in innovation will enable competitive advantage, to enter new markets, to gain new customers, and to improve service and product quality. Future customers can be gained through service innovation and innovative behavior of employees. For this reason, necessary training and incentives should be provided for revealing the creative ideas of the employees and the transformation of innovative ideas into behavior.

Innovation psychology is under the influence of three basic factors: negative, neutral, positive and creative. Negative factors have an effect on the formation of the idea of innovation, neutral effects have an effect on instability, and positive factors have an effect on the implementation of the innovative idea. Creative factors are influenced by factors that inspire the

individual. Considering the effects of these factors on the employees in the organization, necessary measures should be taken especially to bring creative factors to the fore and prevent the effects of other factors with negative effects on creative ideas. These measures emphasize human resources management in psychological management. The emergence of original, inspiring and creative ideas within the organization depends on the suitability of the organizational climate to this situation. Improvements to be realized by the organization managers on this issue will increase the sustainability, efficiency, and profitability of the organization.

A limited number of research topics have been conducted in the literature on innovation psychology in organizational management. Increasing empirical studies on this subject will contribute to management and business literature. Besides, the evaluation of innovation in terms of psychology, which is a multidisciplinary subject, will contribute significantly to the development, improvement, and implementation of creative ideas.

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CHAPTER – IV

AN ANALYSIS ON THE RELATIONSHIP BETWEEN PUBLIC EXPENDITURES AND ECONOMIC GROWTH IN TURKEY

Metin SAĞLAM* & Sümeyye UZUN**

INTRODUCTION

States receive revenues from various sources, particularly taxes. These revenues are spent by the state to meet the common needs of the society. In other words, these revenues return to the economy as public expenditure. Public expenditures have an effect on revenue expenditure flows and economy. It is desired that this effect is in the direction of growth. The reason for this is that one of the objectives in economy is economic growth. From this viewpoint, the relationship between public expenditures and economic growth is important.

In the field of public finance, approaches to public expenditures are diverse in the historical process. While the focus is on expenditure as little as possible in the classical public finance understanding, the modern public finance approach envisages state intervention and considers the increase in public expenditures normal (Edizdoğan; 2007: 42-44). With the spread of the second approach following the 1929 economic crisis, there was a significant increase in the public expenditures of the countries which led to intense public deficits and borrowings.

In the literature, it is seen that various classifications have been made regarding public expenditures. One of them is the economic classification. This classification made in terms of the effects on the economy is in the form of real expenditures-transfer expenditures and current expenditures-investment expenditures (Nadaroğlu; 1992: 157-179). Each expenditure type in this classification has a different effect on the economy. These effects need to be considered when designing economic policies. On the other hand, economic growth also affects public expenditures.

In the literature, the opinions regarding the relationship between public expenditures and economic growth are gathered around Wagner and Keynes Approaches. Wagner addresses the continuous increase in public

* Assoc. Prof. Dr. Ondokuz Mayıs University, Samsun, Turkey, e-mail: metinsaglam@omu.edu.tr

** Research Assistant Ondokuz Mayıs University, Samsun, Turkey, e-mail: sumeyye.uzun@omu.edu.tr

expenditures which is called the Wagner's Law. Wagner argues that public expenditures increase following economic growth (Gül & Yavuz; 2010: 166), whereas Keynes discusses that the increase in public expenditures causes economic growth (Arısoy; 2005: 64).

1. LITERATURE

Many studies have been conducted at national and international level on the relationship between public expenditures and economic growth. Some of these studies are given in Table 1.

Table 1: Literature Review

Author	Period/Country	Method	Finding
Devarajan et al. (1996)	1970-1990 43 Developing Countries	Regression Analysis	Although the effect of current expenditures on economic growth is positive, the relationship between capital expenditures and economic growth per capita is negative.
Kweka and Morrisey (2000)	1965-1996 Tanzania	Granger Causality	The increase in productive public expenditures causes low growth.
Ulutürk (2001)	1963-1994 Turkey	OLS	The effect of public expenditure on economic growth is positive.
Al-Faris (2002)	1970-1997 Arab States of the Gulf	Johansen Cointegration, Granger Causality	Although there is a long-term relationship between public expenditures and national income, public expenditures are not the cause of national income.
Uzay (2002)	1971-1999 Turkey	OLS	The increases occurring in public expenditures positively affect economic growth.
Kar and Taban (2003)	1971-2000 Turkey	Cointegration	While the effect of education and social security expenditures on economic growth is positive, the effect of health expenditures on economic growth is negative.

Ramayandi (2003)	1969-1999 Indonesia	Cointegration	The increase in public expenditures affects growth in the long and short term in a negative way.
Arısoy (2005)	1950-2003 Turkey	Engle-Granger, Granger Causality	The findings obtained support the Wagner's Law.
Işık and Alagöz (2005)	1985-2003 Turkey	Johansen Cointegration	There is a long-term relationship between public expenditures and economic growth.
Schaltegger and Torgler (2006)	1981-2001 Switzerland	Panel Data Analysis	There is a negative and strong relationship between public expenditures and economic growth.
Guerrero and Parker (2007)	1972-2004 USA	Cointegration, Causality	Findings that supported the Wagner's Law were obtained.
Bose et al. (2007).	1970-1990 30 Developing Countries	Panel Data Analysis	Although the relationship between capital expenditures and economic growth is positive, the relationship between current expenditures and economic growth is not significant.
Oktay and Susam (2008)	1970-2005 Turkey	OLS	Public expenditures do not have a significant effect on economic growth.
Bağdigen and Beşer (2009)	1950-2005 Turkey	Granger, Toda- Yamamoto	Findings that supported the Wagner's Law were not obtained.
Başar et al. (2009)	1975-2005 Turkey	Bound Test	No relationship was found between public expenditures and economic growth.
Aytaç and Güran (2010)	1987-2005 Turkey	VAR	The increase in economic growth causes an increase in public expenditures.

Gül and Yavuz (2010)	1996-2008 EU Countries	Pedroni Cointegration	There is a relationship between public expenditures and economic growth in Turkey and in the last member states of EU.
Altunç (2011)	1960-2009 Turkey	ARDL	There are findings that support the Wagner's Law in terms of the relationship between public expenditures and economic growth.
Colombier (2011)	1960-2005 Switzerland	ARDL	The effect of public expenditures made for transport, education and administration on economic growth is positive.
Oktayer (2011)	1950-2009 Turkey	Johansen Cointegration, VECM	In the period analyzed, Wagner's Law is valid for the economy of Turkey.
Tıraşoğlu and Yıldırım (2012)	2006:01- 2012:03 Turkey	Gregory- Hansen Cointegration Test	A long-term relationship was found between health expenditures and economic growth.
Ağayev (2012)	1995-2009 10 Former Soviet Union Countries	Panel Data Analysis	Public expenditures and economic growth are cointegrated and there is a one-way causality relationship from economic growth to public expenditures.
Ulucak and Ulucak (2014)	1950-2011 Turkey	Hacker-Hatemi J Bootstrap Causality	No causality relationship was detected between public expenditures and economic growth.
Esen and Bayrak (2015)	1990-2012 5 Turkish Republics	Panel Data Analysis	The relationship between public expenditures and economic growth in the long term is statistically and significantly positive.
Simiyu (2015)	1963-2012 Kenya	VECM	Public expenditures and economic growth are balanced in the long term.

Güder et al. (2016)	2006Q1-2015Q4 Turkey	Granger Causality	There is a two-way relationship between GDP and public expenditures.
Quy (2016)	2013-2015 Vietnam	Regression Analysis	Public expenditures made for provinces are directly proportional to economic growth.
Mohapatra (2017)	1990-2010 India	Granger Causality	There is a causality from GDP to public expenditures in the short and long term.
Trabelsi (2017)	1980-2010 50 Countries	Regression Analysis	In the countries with a good level of education, expenditures on education have a positive effect on economic growth; while in the countries with a low level of education, education expenditures negatively affect economic growth.
Yaraşır Tülümce and Zeren (2017)	1975-2014 Turkey	Hacker-Hatemi-J Asymmetric Causality	There is a two-way causality between total public expenditures and economic growth.
Lupu et al. (2018)	1995Q1-2015Q4 10 EU Countries	ARDL	While the effect of education and health expenditures on economic growth is positive, defense, general public services and social welfare expenditures affect economic growth negatively.

2. METHOD

In the study, the relationship between public expenditures and economic growth was analyzed for the Turkish economy with quarterly data belonging to the 2006Q1-2019Q3 period. The data of the public expenditures (EX) and gross domestic product (GDP) variables used in the study were obtained from the Republic of Turkey Electronic Data Distribution System database. In the time series analyses, it is seen that monthly or quarterly data have seasonal effects. Therefore, the seasonal effects were removed from the variables before performing analysis. In

addition, the logarithmic values of the variables were included in the analysis in order to observe the changes in the variables more clearly.

First of all, ADF unit root test was performed in the study to determine whether the series were stationary. Afterwards, Engle-Granger cointegration test was used to determine the long-term relationship between the variables. Lastly, the causality relationship between the variables was tested with the Granger causality test.

Spurious regression problem emerging in time series analyses performed with non-stationary series prevents the analysis to be reliable. For this reason, the time series used in the analyses must be stationary. In stationary time series, the difference between two consecutive values results from time interval not from time. Therefore, in a stationary series, the average of the series does not change in the course of time (Kutlar, 2017). The ADF unit root test is performed within the framework of three models:

$$\Delta Y_t = \beta_1 Y_{t-1} + \sum_{k=1}^n \alpha_k Y_{t-k} + \varepsilon_t \quad (1)$$

$$\Delta Y_t = \beta_0 + \beta_1 Y_{t-1} + \sum_{k=1}^n \alpha_k Y_{t-k} + \varepsilon_t \quad (2)$$

$$\Delta Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 trend + \sum_{k=1}^n \alpha_k Y_{t-k} + \varepsilon_t \quad (3)$$

In time series analyses, cointegration tests are used to determine the long-term relationship between the series. Cointegration indicates that the variables move together in the long term, i.e., they are stabilized together. In this study, the long-term relationship between variables was analyzed by using the cointegration test developed by Engle and Granger (1987). The Engle-Granger cointegration test examines the long-term relationship between the series with the same stationarity levels by using error terms.

In the study, the causality relationship between the variables was analyzed with the causality test developed by Granger (1969). The equations belonging to the Granger causality test are given below:

$$Y_t = \sum_{k=1}^n \alpha_k Y_{t-k} + \sum_{k=1}^n \beta_k X_{t-k} + \varepsilon_{1t} \quad (4)$$

$$X_t = \sum_{k=1}^n \delta_k X_{t-k} + \sum_{k=1}^n \theta_k Y_{t-k} + \varepsilon_{2t} \quad (5)$$

3. FINDINGS

In the analysis part of the study, the stationarity test was firstly performed and ADF unit root test was used for the stationarity test. The findings regarding the ADF unit root test are given in Table 2. When Table 2 is examined; since the probability value of both public expenditures and GDP variable is higher than 0.05 in the model with a constant and without a constant, these variables are not stationary at level values. However, both variables become stationary when the first difference is taken. Accordingly, it can be stated that LEX and LGDP variables are I(1).

Table 2: ADF Unit Root Test Results

	Model with a Constant		Model without a Constant	
	ADF Test Statistics	Prob.*	ADF Test Statistics	Prob.*
LEX	-0.793834	0.8123	1.179189	0.9368
LGDP	1.818655	0.9997	3.647321	0.9999
D(LEX)	-8.026410	0.0000	-11.83376	0.0000
D(LGDP)	-3.906005	0.0039	-4.528801	0.0035

The second finding of the analysis is the results of the Engle-Granger cointegration test applied to the variables. According to Engle-Granger cointegration test; in the case that the error terms of the OLS model predicted with the level values of the variables are stationary at the level values, there is a long-term relationship between the variables. When Table 3 is examined, it is seen that the error terms are stationary at the level values. This situation shows that the series are cointegrated.

Table 3: Engle-Granger Cointegration Test Results

		t-statistics	Prob.*
Test Statistics		-5.384583	0.0000
	1%	-2.608490	
Critical Values	5%	-1.946996	
	10%	-1.612934	

The third finding obtained in the study is related to the causality relationship between the variables. Granger causality test was applied to determine the causality relationship between the variables. In order to perform the Granger causality test, the optimal lag length must be primarily found. Optimal lag lengths are given in Table 4. Accordingly, the optimal lag length was determined as 5.

Table 4: Optimal Lag Lengths

Lag	LogL	LR	FPE	AIC	SC	HQ
0	0.963546	NA	0.003579	0.043186	0.121152	0.072649
1	12.09354	20.86875	0.002660	-0.253898	-0.019998	-0.165506
2	47.69112	63.77899	0.000714	-1.570463	-1.180630	-1.423145
3	57.87026	17.38936	0.000553	-1.827927	-1.282160	-1.621681
		13.14286			-	
4	65.95817	*	0.000469	-1.998257	1.296557*	-1.733083
			0.000441	-		
5	71.62031	8.729131	*	2.067513*	-1.209879	-1.743412*
6	74.95341	4.860776	0.000458	-2.039726	-1.026158	-1.656697

Granger causality test results are given in Table 5. Accordingly, there is a causality relationship from GDP to public expenditures. However, no causality from public expenditures to GDP could be determined.

Table 5: Granger Causality Test Results

	Chi-Square	Prob.
Dependent Variable: D(LGDP)		
D(LEX)	6.817359	0.2346
All	6.817359	0.2346
Dependent Variable: D(LEX)		
D(LGDP)	15.96611	0.0069
All	15.96611	0.0069

4. CONCLUSION

In this study, the relationship between public expenditures and economic growth was analyzed with quarterly data belonging to the 2006:Q1-2019Q3 period. In the first phase of the econometric analysis section of the study, ADF unit root test was applied to the variables in order to determine whether the variables were stationary. According to ADF unit root test results, the variables are stationary at the first difference. Afterwards, Engle-Granger cointegration test was applied to the variables and it was concluded that the error terms of the variables were stationary at the level values. These results revealed that there was a long-term relationship between the variables, i.e., the variables were cointegrated. Lastly, according to the Granger causality test performed in the study, there is a one-way causality from economic growth to public expenditures.

The findings obtained in this study support the Wagner's Law for the Turkish economy in the examined period. Accordingly, public expenditures increase with the growth of the economy in Turkey. On the other hand, within the framework of the findings obtained from study in the examined period, it can be stated that public expenditures have a significant effect on economic growth in Turkey. This situation reveals that Keynes Approach is not valid in Turkey regarding public expenditures.

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CHAPTER – V

THE EFFECT OF ORGANISATIONAL CITIZENSHIP BEHAVIOUR ON ORGANISATIONAL CYNICISM: AN EMPIRICAL RESEARCH IN BEYLİKDÜZÜ PROVINCE IN EDUCATION, HEALTH AND TOURISM SERVICES SECTORS

Pelin Şahin YARBAĞ*

INTRODUCTION

The roots of cynicism date back to Ancient Greek Philosophy. Cynicism is a general or special attitude characterized by frustration, despair, and disappointment towards an institution, social customs, ideology, social group or people (İşçi & Arı 2018: 23-59). Over the years, researchers have started to become more interested in topics related to organizational cynicism.

Organizational cynicism is defined as an attitude that consists of beliefs, feelings, and behavioral tendencies. Organizational cynicism is a result of the belief that employees are devoid of honesty.

Organizational citizenship behavior has drawn much academic interest since its emergence. Citizenship behaviors appear in many different shapes and forms. All such types of organizational citizenship must be actively encouraged because employees boost each other's performance and welfare, thus supporting the organization, which is consequently reflected in lower costs and increased profitability at the organizational level.

This study is aimed at investigating the relationship between organizational citizenship and organizational cynicism, two opposite concepts, in the most basic sectors and in a local field.

1. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The theoretical framework of the research consists of cynicism, organizational cynicism, and organizational citizenship. In that context, a literature review of the three concepts is presented. Durrah, Chaudhary, and Gharib (2019) have searched the origin of the word cynicism; Ince and Turan (2011), the disciplines that have worked on the concept of cynicism; Özgener, Ögüt, and Kaplan (2008), the issue of cynicism as a personality trait; and Reichers, Wanous and Austin (1997), the factors that influence cynicism. As for the researches on organizational cynicism, Dean, Brandes, and Dharwadkar (1998) have studied the behavioral aspect of

* Asst. Prof. Dr., Beykent University..

organizational cynicism; Durrah, et al. (2019) the relation between organizational cynicism definitions and feelings of frustration and anger; Ince and Turan (2011), the view that organizational cynicism is a result of the belief that employees are devoid of honesty; Barefoot et al. (1989), the view that a cynical worker may affect the entire organization: and İşçi and Arı (2018), the view that organizational cynicism is the movement by which employees protest the management. As for the researches on organizational citizenship, Zhang has studied the view that OCB has a significant positive effect at organizational level; Podsakoff, et al. (2009), the view that OCB has trilateral effects on employee performance; Organ, Podsakoff, and MacKenzie (2006), that employees with high levels of OCB exhibit higher degrees of performance; Whiting et al. (2009), that OCB is correlated with lower levels of employee turnover rates and absenteeism rates.

1.1. Organizational Cynicism

The word cynicism dates back to Hellenistic philosophy in the fourth century B.C. On the other hand, in the third century B.C., cynicism had revived like a school of thought and spread as a view that "mocks/scorns" the traditions and the present beliefs and behavior patterns (Durrah, Chaudhary & Gharib 2019: 1203). The term cynicism is also defined as feeling negative and pessimistic about the others (Barefoot, Dodge et al., 1989: 46-57). Some researchers believe that cynicism is not a lifestyle, but rather a personality trait or an attitude (Özgener, Öğüt & Kaplan 2008: 53-72).

Organizational cynicism is defined as an attitude that consists of beliefs, feelings, and behavioral tendencies. It is a negative attitude, made up of three factors, developed by a person towards an organizational structure: a cynical structure has cognitive, emotional, and behavioral aspects (Dean, Brandes & Dharwadkar 1998: 341-352).

Organizational cynicism is, in the simplest sense, an attitude that is born when the employees do not trust their organization (Durrah, Chaudhary & Gharib 2019: 1203). Organizational cynicism is a result of the belief that employees are devoid of honesty (Ince & Turan 2011: 104-121). Cynical people believe that the other employees have low levels of critical thinking abilities and that they do not deserve confidence or loyalty (Abraham 2000: 269- 292).

"Work cynicism" has been examined as a component of burnout. "Employee cynicism", on the other hand, refers to behavioral outcomes and the negative attitudes of employees. For example, an employee can, instead of doing his job, spend time shirking the work (Durrah, Chaudhary & Gharib, 2019: 1203).

Another dimension of organizational cynicism is the protesting movements of the employees against the management. However, this concept has been defined with a different emphasis. According to another approach, organizational cynicism is considered as a concept that has emerged in response to unethical behaviors such as injustice, favoritism, partiality, and infidelity (İşçi & Arı 2018: 23-59).

1.2. Organizational Citizenship

Organizational citizenship behavior (OCB) has emerged at the end of the 1980s. OCB is a term that the employees have done on their own free will to support their workmates and benefit the company. In other words, it is optional. It is perceived as something intangible. OCB mostly goes officially unrecognized or unrewarded, and it is difficult to measure concepts such as "assistance" or "sincerity". Still, it has been proven that OCB has a significant positive effect at the organizational level and has increased organizational effectiveness from 18 to 38% at different levels of assessment. OCB also involves organizational actions such as working without being paid for overtime or volunteering for the organization of the functions across the office (Zhang 2011: 1-13). Mac Kenzie, Podsakoff, and Ahearne (1998) have stated that there are two reasons for OCB being discussed a lot in the literature. Firstly, the performance obtained as a result of this behavior is taken into account in the performance evaluation, promotion, and salary applications of the employees. Secondly, this behavior has contributions to the success and efficiency of organizations. The organ has stated that when OCB is considered in total in the long run, this behavior will boost organizational efficiency and performance (Netemeyer & Boles, 1997: 89).

It has been determined that OCB has a positive effect on employee performance and welfare, and it is supposed that this has obvious effects on the organization.

OCB has trilateral effects on employee performance. Firstly, the employees involved in OCB have the tendency to be given higher performance scores by their managers. This may be because the employees involved in OCB are liked more and perceived more positively. The second effect is related to gaining rewards such as a better performance rating, salary increases, bonuses, promotions, or work-related benefits (Podsakoff, Whiting et al. 2009: 122-141). Third, these employees have better performance ratings and therefore have a lower chance of being considered redundant when the company goes downsizing (in cases of economic recession, etc.) (Organ, Podsakoff & MacKenzie, 2006: 1-23). In a research on the OCB in supermarkets, it has been reported that "OCB accounts for about 20% of the variance in-store profitability"(Ehrhart 2004: 61-94).

2. METHODOLOGY

In this part of the research; the universe and sample of the study, data collection technique and sampling method, restrictions of the study, research model and research data analysis are presented.

2.1. Universe and Sample

The universe of the study consists of the employees of private enterprises in education, health, and tourism sectors operating in Beylikdüzü district of Istanbul. The sample of the study consists of 201 participants, including 108 females and 93 males. Since the subjects are selected from among all of the full time and contracted employees working in the operations, it is believed that the condition of sampling adequacy has been met. The number of participants from the education sector was 71, but the data of 4 of them have been excluded due to unsuitability for evaluation. Similarly, the data of 2 subjects in the health sector and 1 in the tourism sector has been removed from the data set because of being incomplete. In that context, the results of 67 participants from each sector have been analyzed. On the other hand, the KMO sampling adequacy test has been done statistically in relation to sampling adequacy and found to be significant. The random sampling technique has been preferred as the sampling method.

2.2. Data Collecting Tool

The survey method has been preferred as the data collection technique in the study. The survey consists of three parts. In addition to the demographical items in the first part, an organizational cynicism scale has been used to determine the organizational cynicism levels of survey participants. Organizational cynicism scale is a 13-item scale developed by Brandes, Dharwadkar, and Dean (1999), passed from exploratory and confirmatory factor analyses and validity and reliability controls, adapted to Turkish in Turkey by Kalağan (2009); and successfully rechecked for validity and reliability by Karacaoğlu and İnce (2012). The scale developed by Podsakoff and Mackenzie (1989) has been used to find out the organizational citizenship levels of survey participants. In this study, the 20-item scale that has been adapted to Turkish by İşbaşı (2000) and employed in many researches (Gök, 2007; Kabataş, 2010) has been used. The scales are of 5-point Likert scale type (1-Absolutely Disagree – 5-Absolutely Agree). For the analysis of the research data, reliability analysis, explanatory factor analysis, correlation analysis, and regression analysis have been done using SPSS 20.0 software.

2.3. Limitations of the Research

It is deemed necessary to mention the limitations of the research and suggestions to practitioners. The first limitation of the study is that it

was restricted from the employees in the education, health, and tourism sectors. The second limitation is that the sample was selected from the Beylikdüzü district of İstanbul. For the generalization of research findings, there is a need to support them by studies performed across İstanbul, in the other provinces and other sectors. On the other hand, it is believed that literature will be enhanced by researches on the potential correlation between organizational citizenship and organizational cynicism in the public sector as well, which is assumed to be dominated by autocratic management style.

2.4. Research Model

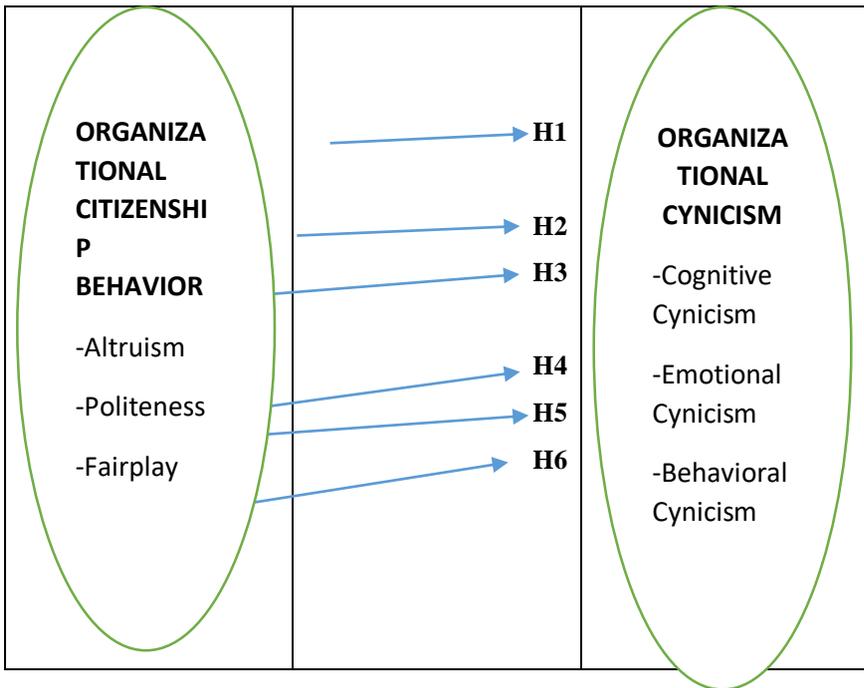


Figure 1. Research Model for the Effect of Organisational Citizenship Behaviour on Organisational Cynicism

The following hypotheses have been developed to determine the relations between organizational citizenship behavior and organizational cynicism and to identify the effects of organizational citizenship behavior and its subdimensions (Altruism, Politeness, Fairplay, Conscience, Civil Virtue) on organizational cynicism.

H1: Organizational Citizenship Behavior has an effect on Organizational Cynicism.

H2: Altruism subdimension of Organizational Citizenship Behavior has an effect on organizational cynicism (general).

H3: Politeness subdimension of Organizational Citizenship Behavior has an effect on organizational cynicism (general).

H4: Fairplay subdimension of Organizational Citizenship Behavior has an effect on organizational cynicism (general).

H5: Conscience subdimension of Organizational Citizenship Behavior has an effect on organizational cynicism (general).

H6: Civil Virtue subdimension of Organizational Citizenship Behavior has an effect on organizational cynicism (general).

Table 1 includes the demographical data of the employees who participated in the study. According to these data; 100 (49,7%) of the subjects are aged between 19-29, 66 (32,8%) between 30-39, 28 (13,9%) between 40-49 and 7 (5,5%) are 50 and above. 108 (53,7%) of the participants are females, and 93 (46,3%) are males. The number of married people is 80 (39,8%), while the number of singles is 121 (60,2%). As for the educational status of the participants, there are 73 (36,3%) master's degree owners, 70 (34,8%) university graduates, 45 (22,4%) college graduates, and 13 (6,5%) high school graduates. 67 (33,3%) of the participants are employed in education, 67 (33,3%) are in the health, and 67 (33,3%) are in the tourism sector. When classified in terms of professional seniority; 64 (31,8%) of the participants have between 0-2 years of seniority, 41 (20,4%) between 3-6 years, 30 (14,9%) between 7-10 years, 30 (14,9%) between 11-15 years and finally 39 (19,4%) subjects have over 16 years of seniority. With regard to the positions held by the participants; there are 26 people (12,9%) in chief position, 27 (13,4%) in mid-level management, 12 (6,0%) in senior-level management, 38 (18,9%) in expert/assistant expert positions and 98 (48,8) in first-tier jobs.

Table 1: Sociodemographic data of the participants

		N	%
Age	19-29	100	49,7
	30-39	66	32,8
	40-49	28	13,9

	50 and above	7	3,5
Sex	Female	108	53,7
	Male	93	46,3
Marital Status	Married	80	39,8
	Single	121	60,2
Education	High School	13	6,5
	University	70	34,8
	College	45	22,4
	Postgraduate	73	36,3
Sector of Employment	Education	67	33,3
	Health	67	33,3
	Tourism	67	33,3
Seniority	0-2 years	64	31,8
	3-6 years	41	20,4
	7-10 years	30	14,9
	11-15 years	27	13,4
	16 years and above	39	19,4
Position	Chief	26	12,9
	Mid-level manager	27	13,4
	Senior manager	12	6,0
	First-tier	98	48,8
	Expert/assistant expert	38	18,9

According to the reliability analysis results of the Organizational Cynicism Scale, the Cronbach alpha coefficient of the scale is 0,913, and accordingly, the scale is considered to be highly reliable.

Table 2 shows the factor analysis results of the Organizational Cynicism Scale. Before performing the factor analysis, the Bartlett test has

been implemented to check whether the scale fulfills the criteria of sphericity. The result of the Barlett test is significant at ($p=0,000$) level. As for the KMO test result ($KMO=0,898>0,60$), the size of the sample has been found to be sufficient to implement factor analysis. According to Table 2, the Organizational Cynicism Scale can be explained with three factors and 71,664% variance.

Table 2: Organizational Cynicism Scale EFA table

Component	Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	
1	6,566	50,507	50,507	6,566	50,507	50,507	5,432	
2	1,564	12,030	62,537	1,564	12,030	62,537	2,453	
3	1,187	9,127	71,664	1,187	9,127	71,664	5,319	
KMO Measure							,898	
Bartlett's Test of Sphericity			X²				1627,550	
			df				78	
			p				,000	

According to the reliability analysis results of the Organizational Citizenship Scale, the Cronbach alpha coefficient of the scale is 0,775, and accordingly, the scale is considered to be quite reliable.

Table 3 shows the factor analysis results of the Organizational Citizenship Behavior Scale. Before performing the factor analysis, the Bartlett test has been implemented to check whether the scale fulfills the criteria of sphericity. The result of the Barlett test is significant at

($p=0,000$) level. As for the KMO test result ($KMO=0,806>0,60$), the size of the sample has been found to be sufficient to implement factor analysis. According to Table 4, Organizational Citizenship Behavior Scale can be explained with five factors and a 60,527% variance.

Table 3: Organizational Citizenship Behavior Scale EFA table

Component	Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5,630	28,150	28,150	5,630	28,150	28,150	2,775
2	2,017	10,087	38,237	2,017	10,087	38,237	2,766
3	1,704	8,519	46,756	1,704	8,519	46,756	1,883
4	1,399	6,993	53,749	1,399	6,993	53,749	3,805
5	1,356	6,778	60,527	1,356	6,778	60,527	3,752
KMO Measure							
Bartlett's Test of Sphericity			Approx. Chi-Square				
			df				
			p				

The mean, standard deviation, and reliability analysis results of the subdimensions of the Organizational Cynicism Scale and Organizational Citizenship Behavior Scale are given in Table 4. Only in the "Fairplay"

subdimension of the organizational citizenship behavior have we obtained a low-reliability value of, 54. Moreover, the highest reliability was found in the Emotional Cynicism subdimension of the Organizational Cynicism Scale with, 92. In general, the scale and its subdimensions have been found to be quite reliable.

Table 4: Mean values and reliability results of the scale and its subdimensions

	Mean	Standard deviation	Number of items	Cronbach alpha coefficient
Cognitive Cynicism	2,58	1,12	5	,88
Emotional Cynicism	2,16	1,16	4	,92
Behavioral Cynicism	2,86	,98	4	,74
Total score of Organizational cynicism	2,54	,92	13	,91
Altruism	4,12	,77	4	,80
Politeness	4,46	,64	4	,75
Fairplay	1,80	,74	4	,54
Conscience	4,01	,82	4	,76
Civil Virtue	3,97	,79	4	,76
Total score of organizational citizenship	3,67	,44	20	,77

Table 5 shows the correlations among the scales and their subdimensions. Altruism and Conscience subdimensions of Organizational Citizenship Behavior are not correlated with Organizational Cynicism and its subdimensions. Fairplay and Civil Virtue subdimensions of Organizational Citizenship Behavior are, respectively, positively and negatively correlated with Organizational Cynicism and all of its subdimensions. Politeness subdimension of Organizational Citizenship is negatively correlated with Organizational Cynicism, Cognitive Cynicism, and Emotional Cynicism ($p < 0,05$).

Table 5. The correlation between Organizational Cynicism and Organizational citizenship

		Cognitive Cynicism	Emotional Cynicism	Behavioral Cynicism	Total score of Organizational cynicism
Altruism	R	-,106	-,116	,040	-,081
	P	,137	,105	,575	,255
Politeness	R	-,164*	-,158*	-,076	-,164*
	P	,021	,027	,289	,021
Fairplay	R	,261**	,337**	,378**	,374**
	P	,000	,000	,000	,000
Conscience	R	-,034	-,039	-,109	-,068
	P	,634	,584	,127	,344
Civil Virtue	R	-,226**	-,285**	-,194**	-,281**
	P	,001	,000	,006	,000
Total score of organizational citizenship	R	-,090	-,091	,008	-,076
	P	,205	,205	,908	,286

Table 6 shows the correlation between the employment sector of the subjects and organizational cynicism, Organizational Citizenship Behavior, and their subdimensions. However, according to the result of the Anova test, there is not a statistically significant difference between the sectors with regard to the mentioned variables.

Table 6: The correlation between the sector and the subdimensions

	Sector	N	Mean±std	F	p
Cognitive Cynicism	Education	67	2,52±1,05	1,07	,34
	Health	67	2,74±1,17		
	Tourism	67	2,48±1,14		
Emotional Cynicism	Education	67	2,01±1,07	,88	,41
	Health	67	2,25±1,15		
	Tourism	67	2,23±1,25		

Behavioral Cynicism	Education	67	2,81±1,03		
	Health	67	2,84±,93	,35	,69
	Tourism	67	2,95±,98		
Total score of Organizational cynicism	Education	67	2,45±,92		
	Health	67	2,62±,88	,55	,57
	Tourism	67	2,55±,96		
Altruism	Education	67	4,12±,78		
	Health	67	4,06±,68	,35	,70
	Tourism	67	4,18±,85		
Politeness	Education	67	4,54±,51		
	Health	67	4,45±,67	,87	,41
	Tourism	67	4,39±,73		
Fairplay	Education	67	1,70±,66		
	Health	67	1,74±,70	2,01	,13
	Tourism	67	1,95±,84		
Conscience	Education	67	4,17±,80		
	Health	67	4,01±,85	2,70	,06
	Tourism	67	3,83±,79		
Civil Virtue	Education	67	4,06±,80		
	Health	67	4,00±,76	,59	,08
	Tourism	67	3,85±,80		
Total score of Organizational Citizenship behavior	Education	67	3,72±,40		
	Health	67	3,65±,45	,78	,14
	Tourism	67	3,64±,46		

The study was aimed to find out whether organizational cynicism can be predicted by organizational citizenship. As can be seen in Table 7, the result of the regression analysis did not indicate any statistical significance ($p > 0,05$).

Table 7. The regression analysis between the total score of organizational cynicism scale and the organizational citizenship scale

Model	R	R ²	Corrected R ²	Variance statistics		
				Variance of R2	F	p
1	,076	,006	,001	,984	1,147	,286

The coefficients of variables are given in Table 8. As can be seen, Organizational Cynicism is not significantly affected by organizational citizenship.

Table 8. Table of Effect Coefficients

Model	Non-standardized coefficients		Standardized coefficients	t	p
	B	Std. Error	Beta		
Constant	3,130	,555		5,641	,000
Total score of organizational citizenship	-,161	,150	-,076	-1,071	,286

Dependent Variable: Total score of organizational cynicism

Independent Variables: Total score of organizational citizenship

The study was also aimed to find out whether organizational cynicism can be predicted by the subdimensions of organizational citizenship. As can be seen in Table 9, the result of the regression analysis indicated statistical significance ($p > 0,05$). The established model is able to explain organizational cynicism by a ratio of 19,3%.

Table 9. The regression analysis between the total score of organizational cynicism scale and the subdimensions of organizational citizenship scale

Model	R	R ²	Corrected R ²	Variance statistics		
				Variance of R2	F	p
1	,439	,193	,172	6,522	9,172	,000*

The coefficients of variables are given in Table 10. As can be seen, organizational cynicism is significantly affected by the fairplay and civil virtue subdimensions of organizational citizenship. Among them, civil virtue has a negative effect (-,255), whereas fairplay is the variable having the strongest effect (B=,335).

Table 10. Table of Effect Coefficients

Model	Non-standardized coefficients		Standardized coefficients	t	p
	B	Std. Error	Beta		
Constant	2,575	,528		4,874	,000
Altruism	,079	,092	,066	,853	,395
Politeness	-,052	,117	-,036	-,445	,657
Fairplay	,416	,083	,335	5,025	,000*
Conscience	,077	,081	,068	,946	,345
Civil virtue	-,298	,092	-,255	- 3,254	,001*

Dependent Variable: Total score of organizational cynicism

Independent Variables: Civil virtue, Fairplay, Conscience, Altruism, Politeness

4. DISCUSSION AND RESULT

The word cynicism can be defined as a cold attitude towards the workplace. The Cronbach alpha scale we used in our study to determine organizational cynicism has a high rate of reliability. Also, the KMO test has indicated that the number of employees we have included in our study is sufficient. As for the results of the hypotheses in the study, while hypotheses h_4 and h_6 are accepted; hypotheses h_1 , h_2 , h_3 , h_5 are rejected.

h_1 : OCB has an effect on OC. (Hypothesis rejected.)

h_2 : Altruism subdimension of OCB has an effect on OC (general). (Hypothesis rejected.)

h_3 : Politeness subdimension of OCB has an effect on OC (general). (Hypothesis rejected.)

h₄: Fairplay subdimension of OCB has an effect on OC (general).
(Hypothesis rejected.)

h₅: Conscience subdimension of OCB has an effect on OC (general).
(Hypothesis rejected.)

h₆: Civil Virtue subdimension of OCB has an effect on OC (general).
(Hypothesis accepted.)

A comparison of the correlation between organizational citizenship values and sectors did not reveal a significant difference among the sectors. This result indicates that organizational citizenship is an employee-based concept, albeit independent of the sectors.

Comparing the correlations between organizational cynicism and organizational citizenship, Politeness subdimension of Organizational Citizenship has been found to be negatively correlated to Organizational Cynicism, Cognitive Cynicism, and Emotional Cynicism. This negative correlation results from the fact that politeness is a positive feeling towards the other party. The level of a person's understanding of the other workmates and, consequently, the level of organizational citizenship increases as the level of politeness is increased. However, in organizational cynicism, the employee has negative feelings towards the employer and the organization and therefore has a negative perspective of his workmates. Therefore, it can be said that the result we have found is compatible with the meanings of organizational cynicism and organizational citizenship.

Organizational cynicism and organizational citizenship are opposite views. In our study, we examined the interaction of these two terms, but we were not able to find out a significant correlation. This result may be based on the possibility that an employee who has adopted one of these views may have closed his doors to the other. This opinion is supported by another result we have found, indicating that organizational cynicism is not affected by organizational citizenship.

In the literature, some of the studies on the correlation between organizational cynicism and organizational citizenship behavior have found out a negative correlation, while some other studies have not found a significant correlation between these two variables. The purpose of the study was to determine the relations between organizational cynicism and organizational citizenship behavior. In that sense, this study examined how the cognitive, emotional, and behavioral aspects of organizational cynicism were correlated with organizational citizenship behavior. At the end of the study, the results obtained were parallel to those that can be

found in both Turkish literature and foreign literature (Ertosun, Genç & Çekmecelioğlu 2016: 43-53)

The result of the research are not similar to the studies performed by İçerli and Yıldırım (2012), Yetim and Ceylan (2011), Yorulmazer A. and Çelik S. (2016) which indicated a negative correlation between organizational citizenship behavior and organizational cynicism.

The results of the research are consistent with the other researches in the literature. In a study carried out in the health sector in 2012 (İçerli & Yıldırım 2012: 1309), healthcare personnel was found to have a low level of organizational cynicism. In the researches conducted in educational institutions, it was found that teachers have low levels of cynicism perception (Erdoğan & Bedük 2013: 17-36).

In conclusion, it can be said that the views of organizational cynicism and organizational citizenship that we have examined in our study are independent of each other and that these views rely more on the employee's perspective than the sector itself.

For making a generalization of the research findings, future researches should involve different geographical regions and different sectors so that the results can find support.

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CHAPTER – VI

RELATIONSHIP BETWEEN CORPORATE SUSTAINABILITY REPORTING AND FIRM EFFICIENCY, PRODUCTIVITY, AND PROFITABILITY AND FIRM VALUE: EVIDENCE FROM TURKEY

Oğuzhan ECE* & Salim Sercan SARI**

INTRODUCTION

With increasing globalization, the changes taking place on the earth have assumed different meanings from different aspects. Opportunities and threats occurring in living spaces parallel to technological developments and industrialization have started to affect the structure of societies. Upon the integration of social, political, and economic events among countries, the commercially leading countries have begun to assume more and more responsibilities in order not to lose their capital. In order to survive or sustain success in an increasingly competitive environment, economic actors have had to adapt their activities to social and economic variables. Globalization, industrialization, technological developments, and all other changes have played a role in the formation of the concept of sustainability. The concept of sustainability, which is being used in many fields today, has led to international impacts.

The emergence of the concept of sustainability dates back to the search for solutions to environmental problems inherited from the past. With the increase in population, the efforts to meet the raw material needs in many areas also intensified. In Egyptian, Mesopotamian, Roman, and Greek societies, the concept of sustainability was used to eliminate famine and similar situations that led to major economic and social problems and to use resources effectively. Awareness was created in these societies about the use of natural resources, thus laying the foundations of today's sustainability concept (Pisani, 2006: 85- 86). For the last over 200 years, economists have conducted studies on the concept of sustainability (Elliott, 2005: 267).

* Asst. Prof. Dr., Department of Banking and Finance, Faculty of Economics and Administrative Sciences, Erzincan Binali Yıldırım University, Erzincan, Turkey, oece@erzincan.edu.tr, ORCID: 0000-0003-2443-9678.

**RA. Dr., Department of Business Administration, Faculty of Economics and Administrative Sciences, Erzincan Binali Yıldırım University, Erzincan, Turkey, salim.sari@erzincan.edu.tr, ORCID: 0000-0003-2607-5249.

At this point, it would be useful to define the concept of sustainability, which brings to mind a number of meanings, such as continuity, durability, and permanence. The word sustainability is rooted in forestry, fishery, and soil sciences. It was first used by German mining worker Carlowitz in the 18th century, and after the second half of the 20th century, it was started to be translated into different languages. For example, the French word for sustainability is “durabilite” and the German word is “nachhaltigkeit” (Pisani, 2006: 85).

Chapin et al. define sustainability as the ability of existing processes, elements, and ongoing productivity of the ecological order to continue to exist in the future. Considering the concept of income, Hicks argues that if income is less than consumption, there can be no sustainability. Soubbotina, on the other hand, defines sustainability as the ability of actors with different aspirations and ideas to sustain the same conditions while meeting their needs. In short, sustainability is the fulfillment of the needs of the social and economic system, in a way that does not cause future generations to undergo hardships (Gönenç & Wolflin, 2004: 1).

Therefore, sustainability, defined as the ability to meet the needs of today’s generation without hindering future generations to meet their needs, is important for national economies and even for the world economy at the macro level as well as has significant meanings for firms at the micro level. For firms, sustainability refers to the need to stay away from actions that may have negative consequences for the ecosystem while continuing their activities based on supply and demand balance. To this end, firms, which constitute the building block of the general economic system, must either make changes, innovations, research and other actions that will provide positive gains to the environment or must carry out activities that will not harm the environment (Høgevold & Svensson, 2012: 142). As a result of these coordinated activities, they can provide a competitive advantage in the global economy in terms of strategy, finance, product, management, and human resources (www.sustainability-index.com). In this context, sustainability, for firms, can be expressed as ***the determination to maintain existence by providing advantages, with the awareness of ecological and social responsibilities, and without violating the rights of future generations.***

Rapid population growth, technological advancements, and consumption-based economy have led to increasing environmental and social problems as well as a scarcity of resources. Sustainability that has undergone a change in the way it is perceived as a result of all these, has started to be understood as the intention of stakeholders and organizations to be permanent and has given rise to the concept of corporate sustainability (Hockerts, 2001: 3). Corporate sustainability, which

addresses a company as a whole and emphasizes the organizational equivalent of the concept of sustainability, places the firm at the center of global development and offers a perspective to increase shareholder value by managing the risks and opportunities for economic, ecological, and social development (Christofi vd., 2012: 157 ; Wilson, 2003:1). In this respect, corporate sustainability shapes firms' maintaining their existence in the intense competition of the new world order on the basis of protecting the rights of future generations. Taking these as a starting point, this paper aims to provide empirical evidence on how sustainability practices change firm efficiency, productivity, and profitability, and firm value. The sample of the study consists of 47 non-financial corporates included in the BIST sustainability index as of November 2019. The methodological flow of the study, covering the 2008-2018 period, consists of three main parts: the first part provides theoretical information about corporate sustainability and sustainability reporting, the second part summarizes the relevant literature on the impact of sustainability practices and sustainability reporting on firms, and the third part includes Turkey-scale econometric examinations. The research has scientific uniqueness in that it addresses corporate sustainability practices on a broad spectrum of efficiency, productivity, profitability, and firm value and directly addresses the impact of sustainability reporting. Furthermore, the study feeds our determination to encourage firms to carry out activities to protect the rights of future generations.

1. CONCEPTUAL FRAMEWORK

In the new world order, which is dominated by a management approach based on goals, companies strive to reach their goals and maintain their existence. With technological advances and the change in global market structure, companies need to carry out their efforts with the opportunities and responsibilities presented by the market structure. This necessity is reflected in the definition of sustainability. Sustainability is based on the activities to meet today's needs without risking the ability of future generations to meet their needs and demonstrates the necessity to carry out these activities in parallel with increasing economic, ecological, and social changes (Çalışkan, 2012:42). Both the scarcity of resources and the high population growth shape firms' activities to maintain their existence with the responsibility of protecting the rights of future generations. The fulfillment of responsibilities is a prerequisite for sustainability, and the task of establishing this framework is the mission of people living today (Marrewijk, 2003: 102). This brings a new dimension to the concept of sustainability, with the concepts of corporate sustainability and corporate social responsibility, which is an extension of sustainable development, and makes sustainability an important subject for academic research (Christofi vd., 2012: 158 ; Wilson, 2003:2).

The concept of corporate sustainability was defined by Roca and Searcy as “the ability of companies to maintain their economic, social and environmental activities without giving up their future needs while trying to meet the needs that arise today” (Roca & Searcy. 2012:104). Marrewijk, on the other hand, stated that “economic, social, and environmental factors are the result of joint actions of firms and interest groups” (Marrewijk, 2003: 102). Besides, Hahn et al. define corporate sustainability as “sustainability efforts that enable economic, social, and environmental sustainability factors to complement each other rather than overshadow each other” (Hahn et al. 2015:298).

When we examine the academic explanations regarding the concept of corporate sustainability as a whole, we can say that the general lines of the concept vary according to the approaches firms adopt. Nevertheless, these approaches can be grouped under five headings: compliance-driven corporate sustainability, profit-driven corporate sustainability, responsibility-driven corporate sustainability, synergistic corporate sustainability, and holistic corporate sustainability (Altuntaş, et al. 2012:40-42 ; Wilson, 2003:1-3). Also, corporate sustainability can be expressed as efforts that are adopted by all of the interest groups of a firm, both in order to meet today’s needs and to preserve the resources to be utilized in the future, by focusing on social and environmental systems as well as creating value at the firm level and providing a regular and continuous return.

1.1. Principles of Corporate Sustainability

Corporate sustainability, which is generally based on the basic principles of economic, ecological and social responsibility, has three main principles depending on companies' organizational structures and practices. These principles, which are prerequisites for sustainable development, are ecological integrity, social equality, and economic prosperity (Bansal, 2005:199-200):

Ecological Integrity Principle: Companies aim to minimize their negative impacts on the ecological system through corporate environmental management. The production process is generally the result of an intervention in the natural course of nature, which leaves some undesired traces on the ecological system. This principle refers to the necessity of making efforts to ensure ecological integrity by reducing or eliminating these traces that occur as a result of corporate activities.

Social Equality Principle: This principle indicates that the people living today do not hold the privilege to use the blessings of nature, which is one of the components of production factor, but future generations also have the right to use them. Accordingly, the uses for the satisfaction of needs should be based on a fair share among the beneficiaries (today's and

future generations). This principle, which can be implemented through companies' social responsibility projects, emphasizes the equality in resource sharing as well as easy and continuous access to the means of satisfaction.

Economic Prosperity Principle: This principle refers to the necessity of efficient use of resources in the production process. This creates a value based on the positive feedback of consumers by ensuring continuous access to the means of satisfying needs while providing profit maximization based on lower production costs.

1.2. Elements of Corporate Sustainability

Corporate sustainability principles, which constitute the action plan of corporate sustainability, are shaped by the concepts of economic development, profit maximization, and value creation. However, this is outlined not only by the growth, profit, and sustainability of firms, but also by social goals such as maintaining ecological balance, social justice, and equality, and assisting economic development (Wilson, 2003:1). These elements, which are conceptualized as the "Elements of Corporate Sustainability," can be summarized as follows:

Sustainable Development: Stressing that corporate sustainability should be based not only on economic goals but also on ecological and social responsibility, this element has made two important contributions to corporate sustainability: First, the concept of sustainable development helps firms to make economic, ecological and social assessments and take necessary measures while maintaining their activities. Second, it enables joint efforts with a holistic approach by individuals, firms, governments, and other units to achieve economic, ecological, and social sustainability (Wilson, 2003:2).

Corporate Social Responsibility: This principle underlines firms' responsibilities for the actors of the social environment and emphasizes the effective implementation of corporate sustainability and sustainable development (Weber, 2008:1).

Corporate and administrative transparency have dominated the overall market structure, and this has made social responsibility practices the most important necessity of today's business world. The positive returns of this requirement can be listed as the contributions of corporate social responsibility for firms (Weber, 2008:1-3):

- Ensuring brand prestige
- Ensuring employees' productivity and motivation
- Ensuring cost minimization
- Improving the firm's position in the market and increasing the firm's revenues

- Improving the creativity of the firm by increasing employees' desire to learn
- Ensuring effective and efficient relations with investors
- Leading to new high-potential markets that are not recognized by competitors
- Improving the quality of goods and services
- Developing the ability to use risk management actively
- Increasing the value attributed to the firm by society and other market actors

While these benefits of corporate social responsibility are primarily for the firm, the results are aimed at improving the quality of life of the firm's interest groups and society. Therefore, corporate social responsibility not only provides benefits for the firm but also contributes to sustainable economic development and thus forms the basic philosophy of corporate sustainability (Wilson, 2003: 2).

Social Stakeholder Theory: Individuals or institutions that enable companies to achieve their goals and are affected positively or negatively by the realization of these goals are defined as stakeholders. Although it is possible to diversify on the basis of different characterizations, each group has different objectives and priorities, which is the reason for this theory. Emphasizing managerial social responsibility, this theory underlines that the decisions of firms should be made considering the interests of all stakeholders (Freeman, 1984:25 ; Jensen, 2001:298). The main objective of the social stakeholder theory within the scope of strategic management is to provide a competitive advantage for companies by improving communication among stakeholder groups with the awareness of social responsibility (Kaptein & Van Tulder, 2003:208).

Corporate Accountability Theory: Corporate Accountability is defined as a firm's duty to provide an account to society for its activities or transactions. Corporate accountability argues that reporting of economic and environmental indicators, as well as economic indicators, benefit firms. This theory postulates that it is aimed to increase corporate sustainability by clarifying the relationships among the interest groups (Wilson, 2003:4-5). This theory, therefore, shapes its methodology based on the principles of reporting and value maximization.

Corporate Sustainability Reporting as a Requirement of Accountability: Sustainability reporting, which is the evidence of accountability, is an important tool used to establish a management system that is aware of economic, ecological and social responsibilities, increase corporate transparency, prestige, and brand value, create awareness in interest groups, and maintain sustainability based on value maximization.

Value Maximization and Shareholder Value as a Requirement of Accountability: It is important for companies to increase their market share, increase the number of active assets or employees, or gain competitive advantage, but they are not sufficient to ensure sustainability and efficiency. This competence and effectiveness can be achieved through the value-based management approach for the goals of companies (Nyiramahoro, Shooshina, 2001:21).

The concept of value, which constitutes the dynamism of value maximization, can be defined by different qualifications based on different perspectives. These qualifications may be the quality of information, time and perception control, tolerance for risk and uncertainty, or individuals' perspective on a particular period of the firm. In value-based firm management, the most important determinant of firm value is what investors expect from the firm's cash flow, which is a reference to shareholders' rights on assets. This leads to the conclusion that the value to be maximized is the shareholder's value (Nyiramahoro, Shooshina, 2001:23). Although it may seem like a shift from stakeholder objectivity to shareholder subjectivity, the priority acquisition of shareholder value is the most essential condition of a firm's sustainability. This is because shareholders are the provider of the funds necessary for the existence and sustainability of the firm's activities. The presence of other interest groups within and outside the firm depends on the presence of shareholders.

2. RELEVANT LITERATURE

Research on monitoring the impact of corporate sustainability reporting on firms generally focuses on firm performance and firm value. In addition, when the relevant literature is examined, the number of international studies, albeit insufficient, emphasizes the accuracy of our choice of this research subject. Hoping that this situation, which feeds our determination, will inspire future studies, we have listed the relevant literature on the subject as follows:

Montabon et al. (2007) used an innovative data source to explore environmental management practices. The research, which included a series of applications to determine the relationships between environmental management practices and firms' performance, was carried out with a sample of 45 firms. In the two-stage study, the authors used content analysis to collect data and canonical correlation analysis to determine the relationship between environmental management practices and performance measures. The results of the study, which determined the relationship between environmental management practices and firm performance, support the relevant literature.

The research conducted by Cheung (2011) to determine the effects of being included in the sustainability index on stock returns, risks, and

liquidity was carried out in the United States. The study, which examined the 2002-2008 period, aimed to determine the market response of the announcements for being included in the index. The research concluded that the announcement effect does not have a statistically significant effect on stock return and risk, but it causes anomalies. In particular, the stock returns of the firms included in the index showed a positive fluctuation, while the stock returns of the firms not included in the index showed a negative fluctuation. The study also concludes that announcements of inclusion in the index led to a small change in terms of systematic risks but a greater change in terms of firm-specific risks.

Reddy & Gordon (2010), who aimed to determine the relationships between sustainability reporting and financial performance of firms, used the case study method. The study, which was conducted with a sample of 17 companies listed on the New Zealand Stock Exchange and 68 companies listed on the Australian Stock Exchange, found that sustainability reporting was statistically significant in explaining abnormal returns for Australian firms. The results of the cross-sectional analysis of the data set combined for the two countries showed that sustainability reporting, depending on the industry type, significantly affected the abnormal returns. In addition, as a result of examinations based on reporting type, only the corporate social responsibility type sustainability reporting was claimed to be important in explaining the abnormal returns of New Zealandia firms.

In their Australia-based research, Bachoo et al. (2012) aimed to determine the relationship between the quality of sustainability reporting and firm value. The research was conducted with a sample of companies listed in Australia's ASX 200. The study reported a negative relationship between sustainability reporting quality and firms' equity costs and a positive relationship between sustainability reporting quality and expected return. Another study that examined the relationship between sustainability reporting and firm value was conducted by Loh et al. (2017). This Singapore-based study was conducted with a sample of 502 listed companies. The study used a predetermined sustainability reporting evaluation framework and determined the relationship between the adoption and quality of sustainability reporting and the market value of firms. Their empirical results suggest that sustainability reporting is positively correlated with firms' market value. The authors also noted that the result obtained was independent of firms' legal structures.

Bartlett (2012) used a normalized sustainability scoring system to examine the effects of sustainability reporting on firm value. Their research that utilized a simplified version of the Linear Information Model analyzes sustainability scores for ten various industries. The authors reported a statistically significant positive relationship between corporate

sustainability reporting and firm value. They also concluded that sustainability could be an advantageous business instrument in stable economic times but not so important in terms of increasing firm value in times of recession.

Lourenço et al. (2012), who aimed to provide empirical evidence on the impact of corporate sustainability performance on firms' market value, addressed corporate sustainability performance within the stakeholder theory and resource-based theoretical framework. The study, which examined the 2007-2010 period, was based on unbalanced panel data analysis. The study was conducted with a sample of 600 largest US and Canadian companies listed in the Dow Jones Global Total Stock Market Index. The study reported significant positive relationships between corporate sustainability performance and stock returns and performance-based performance indicators. The authors also indicated that further studies should focus on corporate sustainability.

In their Malaysia-based study, Kasbun et al. (2016) aimed to determine the relationship between sustainability reporting and financial performance. The study conducted with a sample of 200 publicly traded Malaysian firms examined the 2006-2013 period. Financial performance was determined by the return on assets (ROA) and return on equity (ROE). The research using regression analysis found that corporate sustainability reporting had a statistically significant positive effect on firms' financial performance. Nnamani et al. (2017) conducted similar research in Nigeria. The research was carried out with a sample of companies operating in the manufacturing industry and used the Linear Regression Method. The authors found that sustainability reporting had a positive and significant impact on firms' financial performance.

Another study aimed at determining the impact of sustainability reporting on firms' market performance was conducted by Caesaria & Basuki (2017). They authors aimed to reveal the relationship between market performance represented by Tobin's Q and economic, ecological, and social sustainability reporting. The study conducted with a sample of 44 companies that are listed on the Indonesian Stock Exchange (IDX) and that published sustainability reports in GRI-G4 standards concluded that sustainability reporting positively affects firms' market performance.

Ching et al. (2017) aimed to determine whether the sustainability reporting quality affects the corporate financial performance of the companies listed in the Corporate Sustainability Index and to examine the quality of the information disclosed in the sustainability reports. The study, which examined the 2008-2014 period, was conducted with a sample of firms listed in the Istanbul Stock Exchange (BIST) sustainability index. The study concluded that there was no relationship between variables

representing accounting and market performance and reporting quality and that although the quality of sustainability reporting improved over the years examined, their scores were still low.

Horwath (2017), who aimed to determine the effects of corporate sustainability reporting, conducted their study with a sample of Hungarian banks. The authors concluded that voluntary corporate sustainability statements made positive contributions to the activities and strategies of firms.

Laskar (2018) aimed to determine the impact of corporate sustainability reporting on firm performance in four developed and developing Asian countries, i.e., Japan, South Korea, Indonesia, and India. The study, which examined the 2009-2014 period, used a sample of 28 Japanese firms, 26 Indian and South Korean firms, and 21 Indonesian firms. The research first determines the sustainability reporting performance of firms. Secondly, it tries to explain the relationship between reporting performance scores based on content analysis and firms' market performance through regression analysis. According to the results of the analysis, there is a significant positive relationship between sustainability reporting and firm performance, and this impact is greater in developed countries than in developing countries. Whetman (2018) conducted a similar study in the USA. The study examined the cross-sectional data of 95 American firms for the 2015-2016 period. The relationship between market performance indicators represented by ROA, ROE, and Profit Margin and sustainability reporting was demonstrated by means of regression analysis. The study found a significant positive relationship between sustainability reporting and firm performance.

Swarnapali et al. (2018), who aimed to explore whether corporate sustainability disclosures have a potential impact on firms' market value in developing countries, used a sample of 220 companies listed on the Colombo Stock Exchange in Sri Lanka. The study, which utilized regression analysis, concluded that there is a positive relationship between sustainability reporting and market value. The authors also noted that this positive contribution to firm performance is a result of investors' commitment to ecological and social responsibility.

3. IMPLEMENTATION

Evaluating the relationship between corporate sustainability practices and firm efficiency, productivity, and profitability and firm value in the context of Turkish firms, this part of the study proceeds with the following headings: Scope and Importance of the Research, The Data Set of the Research, and Methodology.

3.1. Scope and Importance of the Research

This study examines the relationships between corporate sustainability practices and firm efficiency, productivity, and profitability and firm value in the context of Turkish firms. The sample of the study consists of 47 non-financial corporates included in the BIST sustainability index. Although the scope of the research that examines the 2008-2018 period is limited to Turkish firms, the originality of the way the subject is covered and the diversity of the topics examined reveal the importance of the research. In addition, instead of using raw data, we examined the data related to the independent variables in relation to sustainable reporting, which makes the effects of sustainable reporting more visible. This has also enabled us to achieve more specific results.

3.2. Data Set of the Research

We examined corporate sustainability practices in terms of their impact on firm efficiency, productivity, and profitability, and firm value. The data were obtained from the financial statements published by the relevant companies on the Public Disclosure Platform. Sustainability reports were obtained from the websites of the companies. Table 1 presents the data set and the dependent and independent variables used in the study.

Table 1: Variables used in the Research and Their Descriptions

DEPENDENT VARIABLES			INDEPENDENT VARIABLES ¹		
Variable Group	Variable Code	Variable and its Description	V. Group	V. Code	Variable and its Description

¹ The independent variables are shown as raw data. In the modeling, they are associated with sustainability reporting. This association was achieved by multiplying the sustainability reporting coefficient of the related variable.*

** Calculated by the economist James Tobin in 1969 to value firms, this ratio is used as an indicator of firms' market performance. In the calculations, Chung and Pruitt's (1994) approximate Q formula, which provides more practical calculations, was utilized. Chung and Pruitt's approximate Q was calculated as follows.

$$\text{Approximate Q} = \frac{MVE + PS + DEBT}{TA}$$

MVE: (Market cap) X (Number of issued shares)

PS = (Preferred stock price) X (Number of shares)

DEBT = (Short term liabilities of the firm - Short term assets) + Long term liabilities of the firm

TA = Book value of total assets of the firm

EFFICIENCY	ROCE	Return on capital employed: EBIT / Invested Capital	Independent Variables	LIQ*	Liquidity: represented by the liquidity ratio.
	EROCE	Efficiency of return on capital employed: EBIT / Operating Costs		AGE*	Age: Natural logarithm of the firm age
	AP	Activity Period: Average Collection Time of Receivables + Inventory Retention Time		SREP	Sustainable Reporting: It is the dummy variable represented by 1 if reporting has been performed and by 0 if not.
PRODUCTIVITY	PRD	Operational efficiency: (EBIT + Financing Expense) / Total Assets		LVR *	Leverage: represented by the leverage ratio
PROFIT ABILITY	ROA	Return on assets: Net Profit / Total Assets		CAR*	Capital Adequacy Ratio
	ROE	Return on Equity: Net Profit / Total Equity		GRW*	Growth: represented by the increase (%) in sales revenues.
FIRM VALUE	FV1	Firm value 1: represented by Tobin's Q.**		SZE*	Size: represented by the natural logarithm of the active size.
	MVA	Market Value Added		AQ*	Asset Quality: represented by the share of fixed assets in total assets
	FV2	Firm value 2: Natural logarithm of market value			

3.3. Methodology

Corporate sustainability reporting, in one aspect, is the disclosure of firms' sustainability practices. This research, which was conducted to determine how firms' sharing their managerial activities with interest groups affects their efficiency, productivity, profitability, and value, utilized the panel data analysis. The general flow of the methodology and the application results are as follows.

3.3.1. Hypotheses and Mathematical Models

In panel data methodology, the analysis process begins with the formation of hypotheses to explain the scientific problem being studied. The hypotheses to be tested under the headings of efficiency, productivity, profitability, and firm value are as follows:

H1: There is a statistically significant relationship between corporate sustainability reporting and return on equity (ROE).

H2: There is a positive relationship between corporate sustainability reporting and return on assets (ROA).

H3: There is a statistically significant relationship between corporate sustainability reporting and firm value (FV1) represented by Tobin's Q.

H4: There is a statistically significant relationship between corporate sustainability reporting and firm value (FV2) represented by LnMarket Value.

H5: There is a statistically significant relationship between corporate sustainability reporting and market performance represented by market value added (MVA).

H6: There is a statistically significant relationship between corporate sustainability reporting and firm efficiency represented by the return on capital employed (ROCE).

H7: There is a statistically significant relationship between corporate sustainability reporting and firm efficiency represented by the efficiency of the return on capital employed (EROCE).

H8: There is a statistically significant relationship between corporate sustainability reporting and firm efficiency represented by the firm's period (AP).

H9: There is a positive relationship between sustainability reporting and firm productivity (PRD).

The hypotheses that test the existence of the relationship between sustainability reporting and firm efficiency, productivity, profitability, and firm value were established with the help of the following mathematical models:

$$\begin{aligned} \text{ROE}_{it} = & \beta_0 + \beta_1 \text{AGE}_{it} + \beta_2 \text{SREP}_{it} + \beta_3 \text{LVR}_{it} + \beta_4 \text{LIQ}_{it} \\ & + \beta_5 \text{GRW}_{it} \end{aligned} \quad \text{(Model 1)}$$

$$\begin{aligned} \text{ROA}_{it} = & \beta_0 + \beta_1 \text{AGE}_{it} + \beta_2 \text{SREP}_{it} + \beta_3 \text{LVR}_{it} + \beta_4 \text{LIQ}_{it} \\ & + \beta_5 \text{GRW}_{it} \\ & + \beta_6 \text{SZE}_{it} + \beta_7 \text{AQ}_{it} + \beta_8 \text{CAR}_{it} \\ & + u_{it} \end{aligned} \quad \text{(Model 2)}$$

$$\begin{aligned} \text{FV1}_{it} = & \beta_0 + \beta_1 \text{AGE}_{it} + \beta_2 \text{SREP}_{it} + \beta_3 \text{LVR}_{it} + \beta_4 \text{LIQ}_{it} \\ & + \beta_5 \text{GRW}_{it} \\ & + \beta_6 \text{SZE}_{it} + \beta_7 \text{AQ}_{it} + \beta_8 \text{CAR}_{it} \\ & + u_{it} \end{aligned} \quad \text{(Model 3)}$$

$$\begin{aligned} \text{FV2}_{it} = & \beta_0 + \beta_1 \text{AGE}_{it} + \beta_2 \text{SREP}_{it} + \beta_3 \text{LVR}_{it} + \beta_4 \text{LIQ}_{it} \\ & + \beta_5 \text{GRW}_{it} \\ & + \beta_6 \text{SZE}_{it} + \beta_7 \text{AQ}_{it} + \beta_8 \text{CAR}_{it} \\ & + u_{it} \end{aligned} \quad \text{(Model 4)}$$

$$\begin{aligned} \text{MVA}_{it} = & \beta_0 + \beta_1 \text{AGE}_{it} + \beta_2 \text{SREP}_{it} + \beta_3 \text{LVR}_{it} + \beta_4 \text{LIQ}_{it} \\ & + \beta_5 \text{GRW}_{it} \\ & + \beta_6 \text{SZE}_{it} + \beta_7 \text{AQ}_{it} + \beta_8 \text{CAR}_{it} \\ & + u_{it} \end{aligned} \quad \text{(Model 5)}$$

$$ROCE_{it} = \beta_0 + \beta_1 AGE_{it} + \beta_2 SREP_{it} + \beta_3 LVR_{it} + \beta_4 LIQ_{it} + \beta_5 GRW_{it} + \beta_6 SZE_{it} + \beta_7 AQ_{it} + \beta_8 CAR_{it} + u_{it} \quad (\text{Model 6})$$

$$EROCE_{it} = \beta_0 + \beta_1 AGE_{it} + \beta_2 SREP_{it} + \beta_3 LVR_{it} + \beta_4 LIQ_{it} + \beta_5 GRW_{it} + \beta_6 SZE_{it} + \beta_7 AQ_{it} + \beta_8 CAR_{it} + u_{it} \quad (\text{Model 7})$$

$$AP_{it} = \beta_0 + \beta_1 AGE_{it} + \beta_2 SREP_{it} + \beta_3 LVR_{it} + \beta_4 LIQ_{it} + \beta_5 GRW_{it} + \beta_6 SZE_{it} + \beta_7 AQ_{it} + \beta_8 CAR_{it} + u_{it} \quad (\text{Model 8})$$

$$PRD_{it} = \beta_0 + \beta_1 AGE_{it} + \beta_2 SREP_{it} + \beta_3 LVR_{it} + \beta_4 LIQ_{it} + \beta_5 GRW_{it} + \beta_6 SZE_{it} + \beta_7 AQ_{it} + \beta_8 CAR_{it} + u_{it} \quad (\text{Model 9})$$

3.3.2. Panel Unit Root Analysis

Stability investigations based on panel unit root tests are an important indicator of the reliability of the research results. Panel data analysis may include both time-series and cross-sectional dependence of the data. Therefore, the stationarity of the data can be examined after investigating whether the data exhibits cross-sectional dependence. Considering the internal dependence and horizontal segment dependence of the variables forming the data set, Levin, Lin and Chu (LLC) and Im, Pesaran and Shin (IPS) tests, which are second-generation unit root test statistics, were used. The test results are shown in Table 2.

Table 2: Unit Root Test Statistics of Independent and Dependent Variables

Variable Group	Variable Code	LEVIN LIN CHU (LLC)				IM PESAREN SHIN (IPS)			
		UNIT ROOT TEST				UNIT ROOT TEST			
		AI C	intercept	AI C	Intercept and Trend	AI C	intercept	AI C	Intercept and Trend
DEPENDENT VARIABLES	ROE	0.13	-17,1849*	0.45	-17,3151*	0.13	-10,6712*	0.45	-9,3430*
	ROA	0.28	-14,9495*	0.47	-16,8652*	0.28	-9,4344*	0.47	-7,6548*
	FV1	0.25	-8,4729*	0.55	-12,2921*	0.25	-4,0563*	0.55	-3,5420*

	FV2	0.28	-23,5356*	0.25	-1,0055***	0.28	-9,6424*	0.25	-1,7937**
	MVA	0.28	-9,2474*	0.42	-11,7759*	0.28	-4,9497*	0.42	-3,2662*
	ROCE	0.07	-10,3950*	0.33	-13,4392*	0.07	-4,6432*	0.33	-4,4795*
	EROCE	0.13	-14,9426*	0.38	-17,3242*	0.13	-9,2501*	0.38	-7,6360*
	AP	0.25	-12,5583*	0.35	-14,3611*	0.25	-7,7926*	0.35	-6,4231*
	PRD	0.28	-15,0187*	0.28	-20,1719*	0.28	-9,2680*	0.28	-9,1938*
INDEPENDENT VARIABLES	AGE	0.97	-61,3162*	0.9	-40,3406*	0.98	-1,6e+02*	0.90	-2,5e+02*
	LVR	0.25	-4,8562*	0.4	-14,7766*	0.25	-1,4778***	0.40	-4,3432*
	GRW	0.25	-18,4478*	0.4	-22,4664*	0.25	-12,2216*	0.40	-11,1846*
	SZE	0.20	-7,5384*	0.55	-14,9056*	0.20	-2,5814*	0.55	-4,9813*
	AQ	0.35	-11,8337*	0.42	-10,3636*	0.35	-4,1895*	0.42	-1,7950**
	LIQ	0.38	-11,1332*	0.5	-14,1104*	0.38	-5,9849*	0.50	-4,5557*
	CAR	0.30	-6,2142*	0.47	-12,3862*	0.3	-2,0624***	0.47	-3,0594*

As can be seen in Table 2, the unit root test statistics for the determination of the stability of the variables were examined in intercept and intercept-trend forms. As a result of the examinations, it was concluded that all the variables do not contain unit root in the level values and are stable.

3.3.3. The Validity of the Classical Model and Selection of Appropriate Estimator

The econometric accuracy of the mathematical construct of the research is important for the reliability of the results. This is possible by determining the validity of the classical model and the appropriate estimator for the model. Therefore, the validity of the classical model is the first stage of panel data analysis and determines whether there are unit and time effects. For this purpose, F test and Likelihood ratio test statistics were used. The test results are shown in Table 3.

Table 3: Classical Model Validity Tests

MODEL	Dep. Variable	F Test and the Results k: (46-462)		(LR) Likelihood Ratio Test and Results (k: (1))	
		F	Result and Explanation	χ^2	Result and Explanation
Model 1	ROE	2,77*	$H_0: \mu_0 = 0$ Rejection $H_A: \mu_0 \neq 0$ Acceptance	20,40*	$H_0: \sigma_\lambda = 0$ Rejection $H_A: \sigma_\lambda \neq 0$ Acceptance
Model 2	ROA	6,02*	$H_0: \mu_0 = 0$ Rejection $H_A: \mu_0 \neq 0$ Acceptance	79,59*	$H_0: \sigma_\lambda = 0$ Rejection $H_A: \sigma_\lambda \neq 0$ Acceptance
Model 3	FV1	11,64*	$H_0: \mu_0 = 0$ Rejection $H_A: \mu_0 \neq 0$ Acceptance	189,14*	$H_0: \sigma_\lambda = 0$ Rejection $H_A: \sigma_\lambda \neq 0$ Acceptance
Model 4	FV2	4,88*	$H_0: \mu_0 = 0$ Rejection $H_A: \mu_0 \neq 0$ Acceptance	45,14*	$H_0: \sigma_\lambda = 0$ Rejection $H_A: \sigma_\lambda \neq 0$ Acceptance
Model 5	MVA	10,9*	$H_0: \mu_0 = 0$ Rejection $H_A: \mu_0 \neq 0$ Acceptance	149,26*	$H_0: \sigma_\lambda = 0$ Rejection $H_A: \sigma_\lambda \neq 0$ Acceptance
Model 6	ROCE	13,52*	$H_0: \mu_0 = 0$ Rejection $H_A: \mu_0 \neq 0$ Acceptance	217,66*	$H_0: \sigma_\lambda = 0$ Rejection $H_A: \sigma_\lambda \neq 0$ Acceptance
Model 7	EROCE	5,69*	$H_0: \mu_0 = 0$ Rejection $H_A: \mu_0 \neq 0$ Acceptance	80,33*	$H_0: \sigma_\lambda = 0$ Rejection $H_A: \sigma_\lambda \neq 0$ Acceptance
Model 8	AP	8,21*	$H_0: \mu_0 = 0$ Rejection $H_A: \mu_0 \neq 0$ Acceptance	124,10*	$H_0: \sigma_\lambda = 0$ Rejection $H_A: \sigma_\lambda \neq 0$ Acceptance
Model 9	PRD	7,26*	$H_0: \mu_0 = 0$ Rejection $H_A: \mu_0 \neq 0$ Acceptance	104,37*	$H_0: \sigma_\lambda = 0$ Rejection $H_A: \sigma_\lambda \neq 0$ Acceptance

The validity of the classical model was examined by the F test and the results are shown in Table 3. When the test results are compared with the F distribution table with $((N-1)=46, (n(T-1)-K)=462)$ degree of freedom, it is seen that the unit effects are not equal to zero. Hence, H_0 is rejected and H_A , suggesting that there are unit effects, is accepted. Therefore, it is concluded that the classical model is not appropriate.

The likelihood ratio test is used to test the classical model against the random-effects model. In the likelihood ratio test H_0 , the H_A test

hypothesizes that the standard errors of unit effects are equal to zero and thus the classical model is appropriate. Test statistic values were compared with χ^2 table values with 1 degree of freedom. Since $\sigma_\lambda \neq 0$ according to the comparison results, H_0 is rejected. Therefore, it is concluded that the classical model is not appropriate.

The fact that the classical model is not appropriate necessitates the determination of the appropriate estimator. Hausman test was used to determine the appropriate estimator. The test results are shown in Table 4.

Table 4: Hausman Test Statistics for Determining Appropriate Estimators

Variable Group	Model No	Dep. Variable	χ^2	Explanation
PROFITABILITY	Model 1	ROE	9,18	H_0 : Acceptance. Random effects estimator is valid
	Model 2	ROA	8,92	H_0 : Acceptance. Random effects estimator is valid
FIRM VALUE	Model 3	FV1	12,12	H_0 : Acceptance. Random effects estimator is valid
	Model 4	FV2	36,48*	H_0 : Rejection. Fixed effects estimator is valid
	Model 5	MVA	73,83*	H_0 : Rejection. Fixed effects estimator is valid
EFFICIENCY	Model 6	ROCE	15,92	H_0 : Acceptance. Random effects estimator is valid
	Model 7	EROCE	7,42	H_0 : Acceptance. Random effects estimator is valid
	Model 8	AP	18,76	H_0 : Acceptance. Random effects estimator is valid
PRODUCTIVITY	Model 9	PRD	9,47	H_0 : Acceptance. Random effects estimator is valid

As shown in Table 4, for each model, test statistics were applied and test values were determined. By comparing the obtained test values with χ^2 table values with degrees of freedom equal to the number of parameters (8), the following hypotheses were tested:

$$H_0 : \text{Random Effects Model [} E(ai/xi) = 0 \text{]}$$

$$H_a : \text{Fixed Effects Model [} E(ai/xi) < > 0 \text{]}$$

. In conclusion, since H_0 cannot be rejected at a 1% significance level for Model 1 represented by the ROE dependent variable in the Profitability model group and Model 2 represented by the ROA dependent variable, Model 3 represented by FV1 dependent variable in the Firm value model group, Models 6, 7, and 8 represented by ROCE, EROCE, and AP dependent variables in the Firm activity model group, and Model 9 represented by PRD dependent variable in Productivity model group; it is concluded that the fixed effects estimator is consistent, the random effects estimator is effective, and the effective random effects estimator is valid.

Also, since H_0 is rejected at a 1% significance level for Models 4 and 5 represented by FV2 and MVA dependent variables in the Firm Value model group, it is concluded that the random effects estimator is inconsistent, and the fixed effects estimator is valid.

3.3.4. Basic Assumption Test Statistics of Panel Data Models

Panel data models provide reliable results when there are no variance, autocorrelation, and inter-unit correlation problems. These tests, which are the basic assumptions of panel data analysis, should be performed according to the appropriate estimators. The test statistics and results are as follows:

Investigation of Basic Assumptions of Panel Data Models for Fixed Effect Estimators

The variance problem, the autocorrelation problem, and the inter-unit correlation problem from the basic assumptions of the panel data models for the fixed effect estimators were examined by Modified Wald Test, Durbin Watson and Balatgi and Wu Test statistics, and Pesaran, Friedman and Fries Test statistics, respectively.

Table 5: Testing Basic Panel Data Assumptions for Fixed Effect Estimators

DEPENDENT VARIABLE	HETEROSCEDASTICITY	AUTOCORRELATION		INTER-UNIT CORRELATION Frees Critical Values (% 1:0,2333-% 5:0,3103- % 10:0,4649)		
	C. Wald Test	Mdf	LBI Test Statistics	Pesaran	Friedman	Frees

		D-W Test		Test St.	Test St.	Test
FV2	1,2e+05*	0,820739	1,25323	17,156*	97,341*	4,493
	$\sigma_i^2 \neq \sigma^2$: has heteroscedasticity problem	has autocorrelation problem		Has inter-unit correlation problem		
MVA	4078,57*	0,99427	1,20421	19,814*	85,627*	3,539
	$\sigma_i^2 \neq \sigma^2$: has heteroscedasticity problem	has autocorrelation problem		Has inter-unit correlation problem		

Investigation of Basic Assumptions of Panel Data Models for Random Effect Estimators

Of the basic assumptions of panel data analysis on models in which the random effect estimator is effective according to the result of Hausman test statistics, the changing variance problem, the autocorrelation problem, and the inter-unit correlation problem were examined by Levene, Brown, and Forsythe (LBF) Test statistics, Bhargava, Franzini, and Narendranathan's modified Durbin-Watson and Baltagi-Wu's local best invariant (LBI) tests, and Pesaran, Friedman, and Frees Test Statistics, respectively.

Table 6: Testing Basic Panel Data Assumptions for Random Effect Estimators

DEP. VARIABLE	HETEROSCEDASTICITY k: (47,517)			AUTOCORRELATION		INTER-UNIT CORRELATION Frees Critical Values (%1:0,2333-%5:0,3103-10:0,4649)		
	Levene, Brown Forsythe (LBF)			Mdf D-W Test	LBI Test Statistic	Pesaran Test St.	Friedman Test St.	Frees Test
	W0	W10	W50					
ROE	8,763*	4,323*	6,207*	2,486	2,567	1,099**	14,055**	1,485
	H ₀ : Rejection Has heteroscedasticity			has autocorrelation not problem		Has inter-unit correlation problem		
ROA	3,404*	2,036*	3,053*	1,6147	1,842	4,286*	29,500**	0,604
	H ₀ : Rejection Has heteroscedasticity			has autocorrelation problem		Has inter-unit correlation problem		
ROCFVI	7,790*	5,885*	6,982*	2,172	2,360	10,438*	51,264**	1,869
	H ₀ : Rejection Has heteroscedasticity			has autocorrelation not problem		Has inter-unit correlation problem		
ROCFVI	2,978*	2,303*	2,743*	1,1702	1,409	1,432**	16,32**	2,734

	H ₀ : Rejection Has heteroscedasticity			has autocorrelation problem		Has inter-unit correlation problem		
EROCE	8,008*	5,775 *	7,466 *	2,129	2,271	3,673*	28,450* **	1,47 7
	H ₀ : Rejection Has heteroscedasticity			has not autocorrelation problem		Has inter-unit correlation problem		
AP	4,110*	2,041 *	2,199 *	1,069	1,625	3,916*	31,941* **	1,80 7
	H ₀ : Rejection Has heteroscedasticity			has autocorrelation problem		Has inter-unit correlation problem		
PRD	3,178*	1,846 *	2,795 *	1,533	1,788	4,389*	27,091* **	0,81 8
	H ₀ : Rejection Has heteroscedasticity			has autocorrelation problem		Has inter-unit correlation problem		

3.3.5. Selection of the Appropriate Analysis Method

The appropriate analysis method should be determined according to the results of Hausman Test statistics and assumption test statistics regarding changing variance, autocorrelation, and inter-unit correlation problems. The results of the determination of the appropriate estimator considering the econometric problems determined as a result of the evaluations are summarized below.

- For Model 1 with ROE as the dependent variable, Model 3 with FV1 as the dependent variable, Model 4 with FV2 as the dependent variable, Model 6 with ROCE as the dependent variable, Model 7 with EROCE as the dependent variable, and Model 8 with AP as the dependent variable, it is concluded that the most appropriate estimator considering the determined econometric problems is Parks-Kmenta's Flexible Generalized Least Squares Method.

- For Model 2 with ROA as the dependent variable, the most appropriate estimator considering the determined econometric problems is the Resistant Standard Errors Method.

- For Model 5 with MVA as the dependent variable and Model 9 with PRD as the dependent variable, it is concluded that the most appropriate estimator considering the determined econometric problems is Prais-Winsten Estimator.

3.3.6. Research Results and Evaluation of Results

A sample of 47 non-financial firms included in the BIST sustainability index for the period 2008-2018 was used to determine the relationships between sustainability reporting and firm efficiency, productivity, profitability, and firm value. The variables of efficiency, productivity, profitability, and firm value have been evaluated under the

heading of firm performance. In this respect, the evaluation of the research results was carried out in parallel with this grouping criterion. The results and evaluations of the results for each performance group are as follows:

Results of the Relationship between Profitability and Sustainability Reporting

The effects of sustainable reporting on firms' profitability were examined in two respects: the return on equity (ROE) and the return on assets (ROA). For this purpose, Model 1, where the H1 hypothesis was tested, was examined according to the Random Effects Estimator based on Parks-Kmenta's Flexible Generalized Least Squares method. Model 2, where the H2 hypothesis was tested, was examined according to the Random Effects estimator based on the Resistant Standard Errors Method. The results are summarized in Table 7.

Table 7: Relationship between Profitability and Sustainability Reporting

Variables	ROE		ROA	
	Coef.	Z Value	Coef.	Z Value
AGE	2,39701	1,98**	-0,1875999	-0,29***
SREP	-9,19670	-3,06*	-3,75856800	2,39**
LVR	20,64158	1,69**	7,7713810	1,01***
CAR	47,26091	4,07*	31,0467600	4,12*
GRW	12,89249	4,14*	3,7286730	3,70*
SZE	3,40937	7,36*	1,0231990	3,70*
AQ	-29,18267	-6,87*	-8,5164470	-4,50*
LIQ	-2,49878	-2,37**	-0,0668661	-1,07***
_cons	-84,73502	-4,76*	-28,3023500	-2,97*
Number of obs	517		517	
Number of groups	47		47	
Obs per groups	11		11	
Wald χ^2	145,38		179,72	
Prob.	0,00000		0,00000	

As can be seen in Table 7, for the model explaining the relationship between sustainability reporting and return on equity (ROE) and return on assets (ROA), covariance was calculated based on 47 units and 517 observations. The parameters and standard errors calculated for each unit were found to be different. The Wald χ^2 value obtained from the Wald statistics testing the significance of the model as a whole was found to be

145.38 for ROE and 179.72 for ROA. When the test statistic values were compared with the critical table value, the models were found to be significant at a 1% significance level. Accordingly, H1 and H2 are accepted. Therefore, there is a statistically significant relationship between corporate sustainability reporting and return on equity and this relationship is negative. Accordingly, a 1-unit improvement in corporate sustainability activities will result in a decrease of 9,19670 units in return on equity. This also applies to the rate of return of assets. In other words, there is a statistically significant relationship between corporate sustainability reporting and return on assets and this relationship is negative. A 1-unit improvement in corporate sustainability activities will result in a decrease of 3,7585680 units in return on assets.

Among the variables included in Model 1, whose dependent variable was ROE; AGE, LVR, and LIQ variables were found to be statistically significant at 5% while SREP, CAR, GRW, and AQ variables were found to be statistically significant at 1% significance level. The AGE and LVR variables, SREP variable, and other variables included in Model 2 with ROA as the dependent variable showed statistically significant relationships at 10%, 5%, and 1% significance levels, respectively. The fact that all of the independent variables included in the model to explain the dependent variables show significant relationships is indicative of the accuracy and internal consistency of the inclusion of these variables in the model.

A statistically significant negative correlation was found between sustainability reporting and liquidity (LIQ) and asset quality (AQ). A statistically significant and positive relationship was found with Age (AGE), Leverage ratio (LVR), Capital adequacy ratio (CAR), Growth (GRW), and Size (SZE). This relationship is quite significant for CAR.

These results regarding profitability indicators are similar to those reported by Bachoo, Tan, and Wilson (2012). However, our results contradict the results reported by Kasbun, Teh and Ong (2016), Caesaria and Basuki (2017), Nnamani, Onyekwelu and Ugwu (2017), Laskar (2018) and Whetman (2018).

The significant negative relationship between corporate sustainability reporting and return on equity and return on assets is, in a sense, consistent with theoretical expectations. The reason for this is that the costs of ecological and social responsibility activities required by corporate sustainability cause pressure on the returns of firms. Ecological and social responsibility activities do not provide positive returns for firms in the short term. Therefore, studies seeking to provide scientific evidence of the relationship between sustainability reporting and profitability should

examine both short- and long-term effects. Nevertheless, it would be useful to monitor the sustainability activities of the firms included in the sample.

Findings on the Relationship between Firm Value and Sustainability Reporting

The impact of sustainable reporting on firm value was examined in terms of Tobin's Q (FV1), market value (MV2), and market value added (MVA). It was aimed to test this relationship through Model 3, Model 4, and Model 5 where H3, H4, and H5 hypotheses were tested. Model 3, where H3 was tested, and Model 4, where H4 was tested, were examined according to the Random Effects Estimator based on Parks-Kmente's Flexible Generalized Least Squares method. Model 5, where H5 was tested, was examined according to the random effects estimator based on the Prais-Winsten method. The results are summarized in Table 8.

Table 8: Relationship between Firm Value and Sustainability Reporting

Variables	FV1		FV2		MVA	
	COEF.	Z Value	COEF.	Z Value	COEF.	Z Value
AGE	0,0045776	0,35***	-3,020255	8,21*	0,1476941	2,28**
SREP	0,0298815	2,11**	0,467072	1,96**	0,2293816	-1,66**
LVR	1,1520840	8,94*	29,304290	16,94*	4,1162810	5,58*
CAR	0,0985100	0,82***	32,187900	18,70*	5,7248320	7,19*
GRW	0,0259014	2,33**	0,766421	7,19*	0,2719265	-2,06**
SIZE	0,0006625	0,19***	-0,429256	7,18*	0,0504311	1,18***
AQ	0,8943473	38,35*	2,846744	6,79*	1,5219890	-6,18*
LIQ	0,0088099	1,63***	1,329883	12,96*	0,2470145	-2,54**
_cons	0,7575437	5,24*	8,343962	5,19*	3,9875090	-4,21*
Number of obs	517		517		517	
Number of groups	47		47		47	
Obs per groups	11		11		11	
Wald χ^2	8419,47		1223,18		253,88	
Prob.	0,00000		0,00000		0,00000	

As can be seen in Table 8, the model describing the relationship between corporate sustainability reporting and FV1 represented by Tobin's Q, FV2 represented by firm market value, and MVA represented by market

value added were analyzed based on 517 observations, 47 units, and 11 different time periods. The Wald χ^2 values obtained from the Wald statistics, which test the significance of the model as a whole, were obtained as 8419.47 for FV1, 1223.18 for FV2, and 253.88 for MVA. When the test statistic values were compared with the critical table value, the models were found to be significant at a 1% significance level for all three indicators. Hence, H3, H4, and H5 are accepted. Therefore, there are statistically significant relationships between corporate sustainability reporting and value indicators. The high Wald χ^2 values of all models, especially Model 3, where FV1 is the dependent variable, can be considered as an indicator of the reliability of the research results.

Corporate sustainability reporting was found to be positively correlated with FV1 represented by Tobin Q and FV2 represented by market value and negatively correlated with MVA represented by market added value. Accordingly, a 1-unit improvement in corporate sustainability activities will result in an increase of 0.0298815 units in Tobin's Q value and an increase of 0.467072 in firm value and a decrease of 0.2293816 units in market value added.

The relationship between all independent variables included in the models and dependent variables is statistically significant. This relationship is positive for all variables except GRW in Model 3, whose dependent variable is FV1. This relationship is positive for all variables except AGE and SZE in Model 4, whose dependent variable is FV2. This relationship is positive for all variables except SREP, GRW, and AQ in Model 5, whose dependent variable is MVA.

The results on the relationship between firm value indicators represented by FV1 and FV2 and corporate sustainability reporting are similar to those reported by Bartlett (2012), Lourenco et al. (2012), Keil and Bartlett (2012), Caesaria and Basuki (2017), and Loh et al. (2017). Also, the results on the relationship between firm value represented by MVA are similar to those reported by Bachoo et al. (2012).

Findings on the Relationship between Firm Value and Sustainability Reporting

The relationship between corporate sustainability reporting and firm efficiency has been examined under the headings of ROCE and EROCE, and AP. It was aimed to test this relationship through Model 6, Model 7, and Model 8 where H6, H7, and H8 were tested. To this end, Model 6, Model 7, and Model 8 were examined according to the Random Effects Estimator based on Parks-Kmente's Flexible Generalized Least Squares method. The results are summarized in Table 9.

Table 9: Relationship between Firm Efficiency and Sustainability Reporting

Variables	ROCE		EROCE		AP	
	COEF.	Z Value	COEF.	Z Value	COEF.	Z Value
AGE	-1,04590	- 0,31***	- 0,0211953	- 0,95***	26,51745	2,72***
SREP	2,31159	2,33**	0,1046267	-2,13**	-31,08196	-2,12**
LVR	18,33884	1,11***	- 0,2504620	- 1,30***	-77,46969	- 1,03***
CAR	29,41137	1,79**	0,4138910	2,08**	147,17830	-2,08**
GRW	4,10070	2,17**	0,1454402	5,86*	55,71534	7,70*
SZE	2,52891	3,31***	0,0097045	1,17***	-25,11471	-6,20*
AQ	- 26,38551	- 4,67***	- 0,2314897	- -4,83*	- 117,98770	- -6,08*
LIQ	-4,03738	- 3,71***	- 0,0306830	- -1,82**	-2,79089	- 0,39***
_cons	- 39,54354	- 1,71**	- 0,0761099	- 0,34***	729,14580	5,55*
Number of obs	517		517		517	
Number of groups	47		47		47	
Obs per groups	11		11		11	
Wald χ^2	61,76		226,83		142,52	
Prob.	0,00000		0,00000		0,00000	

As can be seen in Table 9, models explaining the relationship between corporate sustainability reporting and indicators of firm efficiency were analyzed based on 517 observations, 47 units, and 11 different time periods. The Wald χ^2 values obtained from the Wald statistics testing the significance of the models as a whole were found to be 61.76 for ROCE, 226.83 for EROCE, and 142.52 for AP. When the test statistic values were compared with the critical table value, the models were found to be significant at a 1% significance level for all three indicators. Accordingly, H6, H7, and H8 are accepted. Therefore, there is a statistically significant relationship between corporate sustainability reporting and indicators of firm efficiency.

Corporate sustainability reporting was found to be positively correlated with firm efficiency represented by ROCE and negatively correlated with firm efficiency represented by EROCE and AP.

Accordingly, a 1-unit improvement in corporate sustainability activities will result in an increase of 2,31159 units in return on capital employed, a decrease of 0,1046267 units in the efficiency of return on capital employed, and a decrease of 31,08196 units in the duration of activities.

The relationship between all independent variables included in the models and dependent variables is statistically significant. This relationship is positive for all variables except AGE, AQ, and LIQ in Model 6, whose dependent variable is ROCE. This relationship is positive for all variables except AGE, SREP, AQ, and LIQ in Model 7, whose dependent variable is EROCE. Finally, in Model 8, whose dependent variable is AP, this relationship is negative for all variables except AGE and GRW.

We have not been able to compare the results of the relationship between the firm efficiency indicators represented by ROCE, EROCE, and AP with corporate sustainability reporting, as no other study has previously examined this relationship. Nevertheless, we can say that our results are consistent with theoretical expectations.

Findings on the Relationship between Productivity and Sustainability Reporting

The relationship between sustainable reporting and firm productivity was examined through the dependent variable PRD. It was aimed to test this relationship through Model 9 where H9 was tested. To this end, Model 9 was examined according to the Random Effects Estimator based on the Prais-Winsten method. The results are summarized in Table 10.

Table 10: Relationship between Firm Productivity and Sustainability Reporting

PRD	COEF.	Z Value
AGE	-0,0042269	-0,72***
SREP	-0,0467782	-2,21**
LVR	0,0144307	0,27***
CAR	0,2778341	5,12*
GRW	0,0456054	4,16*
SZE	0,0077542	4,36*
AQ	-0,1018895	-5,59*
LIQ	-0,0123569	-1,60***
SABIT	-0,1488556	-1,68**
Number of obs	517	
Number of groups	47	
Obs per groups	11	
Wald χ^2	175,5	
Prob.	0,0000	

As can be seen in Table 10, the model explaining the relationship between corporate sustainability reporting and firm productivity was analyzed based on 517 observations, 47 units, and 11 different time periods. The Wald χ^2 value obtained from the Wald statistics testing the significance of the model as a whole was found to be 175.5. When the test statistic value was compared with the critical table value, the model was found to be significant at a 1% significance level. Accordingly, H9 is accepted. Therefore, there is a statistically significant relationship between corporate sustainability reporting and firm productivity.

A negative correlation was found between corporate sustainability reporting and firm productivity. Accordingly, a 1-unit improvement in corporate sustainability activities will result in a decrease of 0.0467782 units in productivity.

The relationship between all of the independent variables included in the model and the dependent variable representing firm productivity is statistically significant. This relationship is negative for AGE, SREP, AQ, and LIQ and positive for all other variables.

We have not been able to compare the results of the relationship between firm productivity and corporate sustainability reporting, as no other study has previously examined this relationship. Nevertheless, we can say that our results are consistent with theoretical expectations because ecological and social responsibility activities do not provide positive returns for firms in the short term. Therefore, studies seeking to provide scientific evidence of the relationship between sustainability reporting and productivity should examine both short- and long-term effects.

OVERALL EVALUATION AND CONCLUSION

This study examines the relationship between corporate sustainability practices and firms efficiency, productivity, profitability, and firm value with a sample of Turkish firms for the - period. A sample of 47 non-financial firms included in the BIST sustainability index was examined in terms of 9 dependent variables in 4 groups.

Our research has scientific uniqueness in that it addresses corporate sustainability practices on a broad spectrum. Furthermore, to the best of our knowledge, no study has been conducted in Turkey on the subject. Therefore, we expect that our study will fill the gap in the literature and inspire further study on the subject.

The relationship between corporate sustainability reporting and firm performance and value indicators was analyzed based on 517 observations, 47 units, and 11 different time periods. The empirical results of the research can be summarized as follows:

- The relationship between corporate sustainability reporting and profitability has been examined under the headings of ROA and ROE dependent variables. As a result, corporate sustainability reporting was found to have a statistically significant and negative correlation with both ROA and ROE. This finding is similar to those reported by Bachoo, Tan, and Wilson (2012).

- The effects of sustainable reporting on firm value were examined in terms of FV1 represented by Tobin's Q, FV2 represented by market value, and market value added (MVA). The established models are statistically significant at a 1% significance level. Accordingly, corporate sustainability reporting was found to be positively correlated with FV1 represented by Tobin's Q and FV2 represented by market value but negatively correlated with MVA. This finding is similar to those reported by Bartlett (2012), Lourenco et al. (2012), Keil and Bartlett (2012), Caesaria and Basuki (2017), and Loh et al. (2017). Also, the finding on the relationship between corporate sustainability reporting and market value added is consistent with those reported by Bachoo et al. (2012).

- The relationship between corporate sustainability reporting and firm efficiency has been examined under the headings of ROCE and EROCE, and AP. As a result, corporate sustainability reporting was found to have a positive correlation with ROCE but a negative correlation with EROCE and AP.

- The relationship between sustainable reporting and firm productivity was examined through the dependent variable PRD. As a result, corporate sustainability reporting was found to have a negative correlation with PRD.

Overall, our results are consistent with those reported in the relevant literature. Compliance with the ecological and social responsibility required by the corporate sustainability approach should be considered important in terms of the maintenance of natural resources. represented by Tobin Q and FV2 represented by market value and negatively correlated with MVA represented by market added value.

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CHAPTER – VII

TRADE CREDIT AND BANK FINANCING: A SUBSTITUTE OR A COMPLEMENT?

Bahadır KARAKOÇ*

INTRODUCTION

In the course of business life, a seller offers trade credit (hereafter TC) provision to a buyer, which basically involves timely delivery of the product but delayed payment. The time period between the delivery and the payment provides the buyer some time to liquidate the merchandise and channel the funds toward its operations till the payment is due, i.e., the seller provides the buyer with short term liquidity which may come with cost of maintaining inventory. When assessing TC policies, it is important to keep in mind that, in addition to implicit cost attached to TC itself, the buyer has to bear the cost of inventory till it is liquidated. Similar provision may be offered to other costumers by the firm which received TC from her suppliers, thus, a firm can be on the both side of the transaction and help provide liquidity. Figure 1 below demonstrates TC provision; bot received and supplied by a firm, along with some of the short-term items on the balance sheet.

.....Company Balance Sheet December 31, 2019

<u>Short Term Assets</u>	<u>Short Term Liabilities</u>
- Cash	- <i>Accounts Payable</i>
- Marketable Securities	- Short term debt
- <i>Accounts Receivable</i>	- Taxes payable
- Inventory	- Accrued expenses

Figure 1. Trade credit provision on the balance sheet.

Trade credit supply, namely accounts receivable, is a form of investment therefore it is shown in the section among short term

* Dr. Bahadır Karakoç is assistant professor at Muş Alparslan University, Management Department. E-mail: b.karakoc@alparslan.edu.tr, also associated with Boğaziçi University

assets, whereas trade credit that is received, namely accounts payable, constitutes a source of funding obtained from outside the company therefore presented in short term liabilities section. Common reasoning emphasized in existing literature² as to why TC exists and surprisingly in high amounts, measured as percentage of total assets is that, from the perspective of providing firm, TC is extended because its main purpose is to promote sales (Petersen & Rajan, 1997; Kim & Choi, 2003; Fisman & Raturi, 2004; Fabbri & Klapper, 2008). On the other hand, receiving firms accept this provision because it provides short term financing and extra liquidity which may be channeled toward operations until the payment is due. By financing the buyer, the seller also hopes to build a long term relationship (Petersen & Rajan, 1997; Ng, et al., 1999; Chenga & Richard, 2003), a relationship that is beneficial to both parties because the more business the buyer has, in turn, the more business the seller will have since their revenue generation process is connected. Therefore, the supplier, by providing TC, hopes to generate growth in business as much as the growth in his buyers' business. Wilner (2000) argues that when the buyer generates large portion of the seller's profit TC is offered to him at longer periods and in favorable terms. Similar findings are reported by Fabbri & Klapper (2016) that the volume of the business between two parties relative to a supplier's total business is significantly effective on the terms of TC contracts. For example, in a recent study Karakoç (2020) finds that firms with valuable investment projects, regardless of their access to credit, receive more TC because the seller wishes to obtain her share of growth in costumers' business. Business partners are incentivized through the investment activities of the buyer thus they are willing to supply more TC, possibly in favorable terms. The suppliers are motivated by the idea that an investment by a business partner is likely to result in growth in sales, which, in turn, will be similarly reflected in his sales. Compatible findings are reported by Werner & Nielen (2011) that innovation affects amount of TC received from the supplier, pointing to the influence of potential growth in future business. They report that particularly innovative small firms with limited access to credit channels receive more TC. In the analysis they use World Bank survey data and these firms

² Some of the arguments discussed in the literature such as TC being as contractual solution to transaction cost (Ferris (1981), or it used price-discriminate among the buyers (Brennan, Maksimovic and Zechner, 1988)

actually state that they have difficulty obtaining conventional credit. Petersen & Rajan (1997) and Atanasova & Wilson (2003) empirically find that smaller firms with considerable growth opportunities, proxied by sales growth, obtain relatively more TC. Empirical evidence is overwhelming in suggesting that one of the reasons that motivate supplier to finance her buyers is the hope to obtain her share of growth in buyers' business.

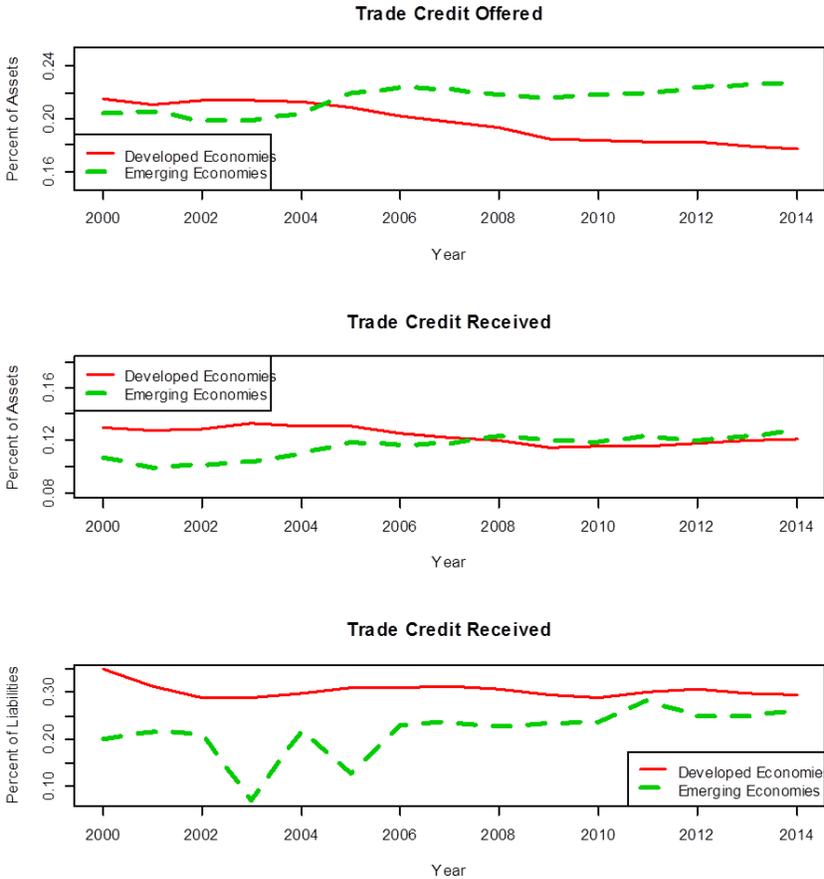


Figure 2. Trade credit averages, percent of assets and liabilities.

In addition to important roles attributed to TC, its importance also comes from its size in balance sheet, in proportion to other items. In this study, a comprehensive data set, covering publicly traded firm data from 17 countries, 9 developed economies (DE) (US, UK, Canada, France,

Germany, Japan, Italy, Australia, South Korea) and 8 emerging economies (EM) (China, India, Russia, Brazil, Turkey, South Africa, Mexico and Indonesia) is used. First of all, trade credit constitutes noteworthy portion of an average firm's funding. The graph for average data, shown in Figure 2, indicates that firms in developed and emerging economies finance 12% of the assets via TC whereas investment in TC, trade credit offered to the costumers is approximately 22% in emerging and 18 percent in developed economies. It is clear that publicly traded firms in emerging economies supply more TC than their counterparts in developed economies. This point is discussed in Demirgüç-Kunt & Maximovic (2001) that less developed financial system and inefficient legal structure, as in the case of emerging economies relative to those in developed economies, may force firms to find alternative sources for financing. In countries where the legal system, which provides relatively weaker protection to the lender, may also encourage firms toward TC financing (Ferrando & Mulier, 2013). Another indicator that emphasizes the importance of TC is its weight in total external funding as shown in Figure 2. On average TC constitutes about 25- 30 % of all funds acquired from outside the company in emerging and developed economies, respectively. Despite the presence of well-developed financial system as well as highly competitive banking sector, firms in developed countries seem to obtain higher portion of external funds via TC. These figures clearly demonstrate how important TC provision is as the second most important source of external funding, after bank loans and debt securities. Furthermore, its importance amplifies if the firm is defined as financially constraint, or as commonly documented in the literature the firm size is relatively smaller (Choi & Kim, 2003; Casey et al. 2014; Özlü & Yalçın, 2014; McGuinness et al., 2018).

1.1. Trade credit-bank credit relationship

Previous studies contributed to the literature with two opposing views, regarding how TC interacts with bank financing: The first view argues that TC, to borrowing firms, constitutes an alternative form of financing when their access to conventional bank financing is limited, implying a negative correlation (Petersen & Rajan, 1997; Ng & Smith, 1999; Nilsen, 2002; Garcia-Appendini & Montoriol-Garriga, 2011; McGuinness et al., 2018), whereas the second view states that bank financing and TC are complementary because suppliers have reliable information about buyers and banks can consider TC as a signal of borrowers' quality (Biais & Gollier, 1997; Burkart & Ellingsen 2004; Antov, 2005; Alphonse, Ducret, and Severin, 2004; Agostino & Trivieri, 2014). Main implication of complementary view is that a firm with relatively more suppliers'

financing maybe considered of higher quality, and banks, taking that signal into account about the firm, provide more financing.

Large portion of studies focusing on the role of TC, as a financing instrument; consider it as an imperfect substitute to bank financing. These studies such as Petersen and Rajan (1997); Ng and Smith (1999); Nilsen, (2002); Garcia-Appendini & Montoriol-Garriga (2011); McGuinness et al. (2018) argue that TC is an alternative form of financing, i.e. a substitute in the shortage of liquidity, and usually offered from firms with relatively better access to institutional finance to firms with relatively weaker access. Thus, the literature underlines its role as an alternative form of financing in times of need. Particularly, it is argued that firms with better access to institutional finance, larger in size, financially liquid and can tolerate financing their buyers, provide TC to firms which are smaller in size, credit constraint and financially dependent. Atanasova & Wilson (2003) summarize how this mechanism works: Borrowing constraints arising from asymmetric information and the lack of collateral worsen in times of economic contractions. Firms with limited access switch to a less desirable alternative, i.e., TC for financing. They further argue that the lack of demand for conventional credit, since alternative financing, namely, TC is preferred more; drives the reduction in supply of loans. Existing empirical evidence indicate that small financial constrained firms are financed by their larger, financially strong suppliers, and the reliance on TC magnifies in difficult times of the economy Nilsen (2002; Biais & Gollier, 1997). This discussion leads to a question: “Why would a supplier offer financing to a firm who is found to be inadequate by a formal institution which is licensed to supply funds? Fisman & Love (2003) list three plausible arguments to answer this question. First of all the supplier has informational advantage obtained from the regular business activities. Secondly, Frank & Maksimovic (1999); Mian and Smith (1992) argue that the supplier holds salvaging or liquidation advantage in case of borrowers’ default. They can seize the product and re-sell them to others because this is the product that they know very well. Because of that advantage the buyer will focus on obtaining TC from the supplier (Wilner, 2000) since they know the supplier can reacquire the goods and recover his losses thus willing to supply TC. Thirdly, due to the cost of switching suppliers i.e., large volume of sunk costs, they become dependent on each other in the model designed by Cunat (2007). Finally, though not listed in Fisman & Love (2003), supplier has more to gain than a bank in the survival of her customer due to buyers’ and sellers’ connected revenue generating process. The listed arguments make convincing case why suppliers may be more generous as well as eager in lending, compared to a financial institution.

In some of the studies³ it is either directly stated or implicitly assumed that TC is a more expensive choice of external funding than traditional bank financing. This assumption is in support to the view that TC is an alternative financing which may be used when bank financing is not available and naturally in expansionary times of economy firms switch back from TC to conventional bank financing because credit supply rises and cost of borrowing declines.

Another strand of TC literature such as Schwartz (1974); Biais & Gollier (1997); Demirgüç-Kunt & Maximovic (2001); Burkart & Ellingsen (2004); Antov (2005) and Alphonse, Ducret & Severin (2004) view TC provision as complementary to conventional bank financing. The idea is built upon signaling characteristics of TC. As suggested by Biais & Gollier (1997) the supplier has better information about her customer. The sellers' informational advantage in judging the quality of the buyer is stemming from that they can actually track the buyer's order cycle and size of the purchases, i.e., simply observing and keeping track of the orders (Petersen and Rajan, 1997). Banks can use this information to accurately judge the quality of the borrower. Antov (2005) demonstrates evidence that reception of TC from supplier tend to rise with the access to conventional financing, indicating a positive correlation. Cook (1999) examines the case of Russian firms in a period of financial turmoil; when it is very difficult for lenders to identify the quality of the borrowers. Firms use TC as a signal to banks and obtain more credit. Furthermore, amount of TC received rises with bank credit. Alphonse, Ducret & Severin (2004) study US small business data and report that firms can improve reputation through providing TC and amount of TC they hold facilitate their access to bank credit, lending support to complementary view. Another study, Ono (2001) examines the determinants of TC in Japanese manufacturing firms. The study documents empirical evidence that level of TC is influenced both by transactional factors and by financial positions.

Consistent with the signaling hypothesis, some studies explored the implications on firm performance that if TC communicates private information about the borrower which is

³ See for example Smith (1987); Ng et al. (1999); Werner & Nielen (2011) Petersen & Rajan (1997); Ng et al. (1999); Burkart & Ellingsen (2004); Cuñat (2007); Atasanova (2007); Danielson & Scott (2004); Wilner (2000).

costly to obtain for outsiders than it may be used to proxy for its performance. For instance, Aktas, Bodt, Lobeze & Statnik (2012) report that TC level is related to firms' Z-score, return on assets, and long-run abnormal returns. Similarly, Goto, Xiao, and Xu (2015), relying on the informational content of suppliers' financing, argue that TC is a strong predictor of stock return of the borrowing firm and firms that rely on TC relative to debt financing have higher subsequent stock return. Therefore, theoretical ground and empirical findings lead to a conclusion that the supplier is better informed of the borrowers' operational performance and offers TC based on that, and outsiders, using the level of TC received from the supplier can reliably judge true quality of the buyer and determine if it is worthy of credit. This discussion results in an empirically testable implication that more TC from supplier is accompanied by more bank financing.

1.2. Alternative Explanations

In addition to main function attributed to TC, one other hypothesis, related to its role is product quality verification, promoted by Long, Malitz & Ravid, (1993). They claim that there is a strong informational asymmetry between the buyer and the seller regarding the quality of product, and the seller needs to establish reputation, thus offers TC, which allows her to overcome non-existing reputation related issues, and gives the buyer a chance to verify the quality of the product purchased. Product quality hypothesis received empirical support from existing studies. For example, Deloof & Jegers (1996) report that firms with high tech products, quality of which may take longer time to verify tend to offer more TC. Kim & Choi (2003) find that small firms with relatively little recognition offer more TC compared to amount of TC they receive from the supplier. Similar findings are reported in Klapper, Laeven and Rajan (2012) that a small seller offers more TC at longer time period when doing business with a larger buyer⁴. The negative correlation between the suppliers age and amount of TC that she extends is interpreted as that established and reputable firms have less incentives to extend trade credit since they do not need to have the quality of their goods certified and offer extra TC to boost

⁴ Their interpretation of the findings indicates that, in addition to product quality theory, market power of the large buyer causes that imbalance.

their sales Garcia-Appendini & Montoriol-Garriga (2011); Burkart, Ellingsen and Giannetti (2011).

Additional theoretical explanations are offered for the use of TC. For instance, sellers may wish to ask for different prices favoring certain costumers, which might be illegal, thus it is used to conduct price discrimination among buyers (Brennan, Maksimovic and Zechner, 1988). A contractual solution argument of Ferris (1981) suggests that due to high number of transactions between the buyer and the seller, transaction cost becomes significant and TC allows payments to be made periodically, reducing the cost.

1.3. Trade Credit and firm performance

Another aspect to TC activity is its contribution to firm performance. Despite the assumption, that TC is relatively more expensive than bank loans, underlined in many studies such as Werner & Nielen (2011) Petersen & Rajan (1997); Ng et al. (1999); Burkart & Ellingsen (2004) empirical evidence indicate otherwise. Recent studies focusing on the role of TC have documented positive influence of TC channel, both received and supplied, on firm growth (Ferrando & Mulier, 2013) and profitability (Martinez-Sola et al., 2014; Hoang et al., 2019). Garcia-Appendini & Montoriol-Garriga (2011) find that firms that extended TC during crisis tend to perform better, relative to their ex ante performance. Similar empirical findings provided by Martínez-Sola et al. (2014) that investing in trade credit as well as borrowing from supplier can have positive effect on firm performance. Extending TC is valuable for future business growth, and by acquiring financially dependent clientele they can actually accomplish such an objective (Wilner, 2000). If offering and receiving TC is beneficial to the firm then it should improve performance, therefore positive results are not surprising because in the subject data set, which is nearly 90 percent of all publicly traded firms, no drastic shifts in average TC offered or received are noticeable over 15-year period, implying positive contribution of TC activity to performance. This observation is no surprise because firms do increase borrowing activity in expansionary states of the economy (Karakoç, 2019), and changes in credit conditions and increased borrowing from financial institutions would result in distinct patterns in TC ratios.

II. Objective of the study

Present study aims at contributing to literature by investigating the relationship between TC, both offered and received, and financial debt while accounting for certain firm specific variables, which are found to be relevant in previous studies. Relying on the maturity matching principle, significant correlation between TC received and supplied is anticipated. Hence, based on

the assumption that there is a balance between TC offered and supplied, the changes in TC received relative to TC supplied as well as the net difference between them are examined. This approach provides insight into TC policy of firms in consideration to their financial situation. In final set of the analysis TC received is included in the model as a portion of external funding, treating it as an alternative source of external funding. This approach is previously used by Nilsen (2002), Özlü & Yalçın (2014). The second objective of the study is to reliably compare the results from developed world to that of EMs and obtain conclusive evidence. To achieve such an objective extensive data set covering publicly traded firms from 17 largest economies (9 developed and 8 emerging) is used. A comprehensive study would require analyzing not only developed economies with well-developed financial system but also emerging economies with relatively less developed financial system, relatively less efficient banking sector and inadequate legal framework. Poorly developed financial system, which is inefficient in allocating resources to the projects with highest return may force firms to be dependent on either internal sources or on other sources of funding (Fisman & Love, 2003) Therefore, in latter it is more likely to obtain evidence regarding substitutability of TC as suggested in Demirgüç-Kunt, & Maximovic (2001).

In the analysis, firm specific variables such as market power, level of liquidity, size and productivity are considered, in addition to commonly used variables in the literature. The results suggest that TC financing is an imperfect substitute to bank financing, confirmed by the negative relation between conventional borrowing and TC obtained. On the other hand, no statically significant relation is observed between TC offered and bank financing. Competitive power of firms is effective on amount of TC they receive from their supplier whereas it does not display significant influence on TC supply decision.

III. Data and Methodology

Corporate data is obtained from Thomson Reuters data provider, which covers the period of 2000-2014 and listed firms from 9 developed and 8 emerging economies (See Table 1 for the list of countries and average trade credit as percent of total assets). The countries were included in order to increase the generality of results from the analysis. Tables 1 through 3 clearly represent the significance of TC. TC supply is more than 20% of total assets in 12 of 17 countries and goes as high up as 30 percent

of total assets in France, whereas TC received reaches somewhere around 20 percent of total assets in countries such as Russia, Italy and South Africa and only in Brazil it is little less than 10 percent of total assets. Although numbers are confirming the importance of TC, they do not yield significant persistent differences among EMs and DEs, as suggested in the literature.

Table 1. Average Accounts Receivable as Percent of Total Assets

Year	Australia	Brazil	China	Canada	France	Germany	Indonesia	India	Italy	Japan	Russia	Turkey	UK	US	Mexico	S.Korea	S.Africa
2000	0,16	0,23	0,16	0,13	0,31	0,23	0,17	0,24	0,28	0,23	0,14	0,29	0,21	0,17	0,13	0,21	0,26
2001	0,15	0,25	0,15	0,12	0,32	0,22	0,17	0,24	0,28	0,24	0,13	0,29	0,20	0,17	0,13	0,20	0,25
2002	0,15	0,24	0,14	0,12	0,32	0,23	0,17	0,23	0,30	0,23	0,13	0,27	0,20	0,16	0,15	0,21	0,25
2003	0,14	0,24	0,15	0,12	0,33	0,23	0,18	0,23	0,29	0,24	0,15	0,23	0,21	0,16	0,16	0,22	0,25
2004	0,13	0,25	0,14	0,11	0,33	0,24	0,20	0,24	0,29	0,24	0,16	0,23	0,21	0,16	0,16	0,22	0,26
2005	0,13	0,24	0,14	0,10	0,33	0,23	0,20	0,24	0,28	0,24	0,26	0,24	0,20	0,16	0,17	0,23	0,27
2006	0,12	0,23	0,14	0,10	0,31	0,23	0,21	0,25	0,28	0,23	0,26	0,26	0,20	0,15	0,17	0,22	0,26
2007	0,10	0,22	0,15	0,09	0,31	0,23	0,21	0,26	0,28	0,24	0,25	0,24	0,18	0,15	0,16	0,22	0,24
2008	0,10	0,22	0,15	0,09	0,30	0,22	0,20	0,26	0,28	0,24	0,24	0,23	0,18	0,15	0,16	0,20	0,23
2009	0,10	0,21	0,17	0,08	0,28	0,21	0,19	0,26	0,27	0,21	0,22	0,25	0,17	0,14	0,16	0,21	0,21
2010	0,10	0,22	0,16	0,08	0,28	0,21	0,19	0,26	0,26	0,22	0,23	0,25	0,17	0,15	0,15	0,21	0,21
2011	0,09	0,21	0,17	0,09	0,28	0,22	0,18	0,27	0,26	0,22	0,24	0,26	0,17	0,14	0,16	0,22	0,20
2012	0,09	0,22	0,18	0,08	0,27	0,20	0,18	0,28	0,27	0,23	0,24	0,24	0,17	0,14	0,15	0,21	0,21
2013	0,10	0,20	0,19	0,08	0,27	0,21	0,18	0,29	0,25	0,22	0,25	0,25	0,17	0,14	0,14	0,21	0,22
2014	0,10	0,21	0,19	0,09	0,26	0,20	0,17	0,30	0,25	0,22	0,25	0,25	0,17	0,13	0,14	0,21	0,20

Table 2. Average Accounts Payable as Percent of Total Assets

Year	Australia	Brazil	China	Canada	France	Germany	Indonesia	India	Italy	Japan	Russia	Turkey	UK	US	Mexico	S.Korea	S.Africa
2000	0,10	0,07	0,08	0,12	0,17	0,10	0,10	0,14	0,15	0,16	0,11	0,14	0,13	0,10	0,10	0,10	0,22
2001	0,10	0,08	0,08	0,12	0,17	0,10	0,10	0,13	0,15	0,16	0,08	0,13	0,12	0,10	0,09	0,10	0,21
2002	0,11	0,09	0,08	0,12	0,18	0,10	0,10	0,15	0,16	0,15	0,06	0,13	0,12	0,10	0,10	0,10	0,21
2003	0,11	0,08	0,08	0,13	0,18	0,11	0,11	0,15	0,16	0,15	0,07	0,12	0,12	0,09	0,10	0,11	0,21
2004	0,10	0,09	0,09	0,12	0,18	0,11	0,12	0,16	0,17	0,16	0,07	0,13	0,12	0,09	0,10	0,11	0,20
2005	0,10	0,09	0,09	0,13	0,17	0,11	0,12	0,16	0,17	0,16	0,13	0,12	0,12	0,09	0,10	0,11	0,20
2006	0,09	0,09	0,10	0,12	0,16	0,11	0,12	0,15	0,17	0,15	0,12	0,13	0,11	0,09	0,10	0,10	0,19
2007	0,08	0,08	0,10	0,11	0,16	0,11	0,13	0,14	0,18	0,16	0,13	0,13	0,10	0,08	0,10	0,10	0,17

2008	0,07	0,08	0,10	0,12	0,15	0,11	0,13	0,14	0,17	0,15	0,14	0,15	0,11	0,08	0,10	0,09	0,15
2009	0,07	0,08	0,10	0,12	0,14	0,10	0,12	0,14	0,16	0,13	0,14	0,14	0,10	0,08	0,10	0,10	0,13
2010	0,07	0,08	0,10	0,12	0,14	0,11	0,12	0,14	0,17	0,13	0,13	0,14	0,10	0,08	0,10	0,10	0,14
2011	0,07	0,07	0,10	0,11	0,14	0,11	0,12	0,15	0,17	0,14	0,15	0,14	0,10	0,08	0,10	0,10	0,14
2012	0,07	0,08	0,10	0,11	0,14	0,11	0,11	0,13	0,18	0,14	0,16	0,14	0,11	0,08	0,10	0,09	0,14
2013	0,09	0,08	0,10	0,12	0,15	0,11	0,11	0,13	0,18	0,13	0,17	0,14	0,11	0,08	0,09	0,10	0,14
2014	0,10	0,08	0,10	0,13	0,14	0,11	0,11	0,13	0,18	0,13	0,20	0,15	0,11	0,08	0,10	0,09	0,14

Table 3. Average Accounts Payable as Percent of Total Liabilities

Year	Australia	Brazil	China	Canada	France	Germany	Indonesia	India	Italy	Japan	Russia	Turkey	UK	US	Mexico	.Korea	S.Africa
2000	0,37	0,14	0,19	0,44	0,30	0,17	0,19	0,28	0,29	0,30	0,34	0,25	0,27	0,23	0,22	0,20	0,43
2001	0,37	0,14	0,19	0,41	0,29	0,17	0,21	0,27	0,27	0,30	0,27	0,23	0,26	0,22	0,19	0,21	0,41
2002	0,37	0,14	0,18	0,44	0,29	0,18	0,23	0,27	0,28	0,29	0,19	0,26	0,25	0,21	0,21	0,25	0,43
2003	0,38	0,13	0,18	0,42	0,29	0,17	0,63	0,28	0,28	0,31	0,18	0,26	0,24	0,24	0,20	0,25	0,41
2004	0,39	0,16	0,19	0,43	0,29	0,21	0,23	0,29	0,28	0,31	0,17	0,29	0,26	0,20	0,22	0,26	0,38
2005	0,37	0,15	0,19	0,53	0,29	0,20	0,24	0,27	0,31	0,31	0,20	0,29	0,26	0,22	0,21	0,26	0,44
2006	0,37	0,14	0,20	0,54	0,29	0,21	0,23	0,26	0,31	0,31	0,26	0,28	0,27	0,19	0,21	0,26	0,37
2007	0,37	0,14	0,21	0,54	0,29	0,21	0,25	0,26	0,31	0,32	0,26	0,30	0,25	0,21	0,24	0,26	0,36
2008	0,38	0,13	0,21	0,54	0,27	0,20	0,20	0,26	0,29	0,32	0,26	0,32	0,24	0,22	0,21	0,23	0,34
2009	0,34	0,13	0,23	0,52	0,25	0,19	0,24	0,25	0,28	0,35	0,24	0,31	0,23	0,20	0,21	0,24	0,30
2010	0,37	0,13	0,25	0,48	0,26	0,21	0,24	0,25	0,29	0,29	0,24	0,30	0,24	0,18	0,20	0,25	0,30
2011	0,38	0,13	0,26	0,51	0,26	0,21	0,43	0,27	0,30	0,32	0,29	0,32	0,25	0,19	0,20	0,24	0,29
2012	0,38	0,12	0,27	0,45	0,26	0,21	0,24	0,24	0,29	0,34	0,31	0,32	0,26	0,19	0,21	0,23	0,29
2013	0,39	0,13	0,27	0,39	0,26	0,21	0,23	0,25	0,34	0,32	0,32	0,31	0,26	0,19	0,20	0,23	0,33
2014	0,43	0,13	0,26	0,45	0,25	0,21	0,24	0,24	0,29	0,28	0,35	0,36	0,28	0,19	0,21	0,23	0,30

In data preparation, balance sheet variables, accounts receivable/payable, cash balance, tangible assets, after being scaled by total assets, are kept within the lower bound of zero and upper bound of 1. Similarly, extreme values from main variable of interest is eliminated from each data set. Finally, financial firms and observations with negative total assets and sales are also eliminated.

It is necessary to emphasize the discrepancy across studies in the choice of explanatory variables. Nevertheless, we aimed at including variables which have been found to be relevant in previous studies. Firm fixed effect panel data analysis is the main methodology, conducted with the inclusion of year dummies, and base regression model and the variables are presented below in Eq. 1.

$$TC_{itj} = \alpha_i + \beta_1 leverage_{itj} + \beta_n X_{ijt} + \delta_t + \varepsilon_{it} \quad (1)$$

In this specification TC represents trade credit received, supplied, and the difference between them, scaled by total assets and in final set of analysis, given in Table 8, relevant variables and TC received are scaled by total liabilities (See Table 4 for detailed description of the variables). X_{ijt} represents vector of explanatory variables, and $leverage_{itj}$ represents total financial debt (bank loans and debt securities), short and long term debt. The main objective of the study requires focusing on the relation between debt and TC . Thus, firstly total debt is regressed against TC . However, given the short term nature of it, including debt components, in the form of short and long term debt, separately may add value to the study because it may constitute an alternative for short term debt whereas long term debt is more likely to be an indicative of firm's access to external funding. Therefore, each item may contribute to the analysis in a unique way. TC variables and sales growth are added to the model in real terms. This point has been ignored by the literature, but it is important to use real values as is the case with sales⁵. Moreover, the reaction of firms with the highest and lowest leverage, calculated in a given year and nation, firms whose leverage falls into top 30 percentile and bottom 30 percentile, respectively, are examined, considering that high leverage may proxy for access to credit lines whereas low level of leverage may indicate unused debt capacity.

Table 4. Variable Description.

⁵ Although using real or nominal TC does not create much of a difference for developed economies but for emerging economies however the difference is considerable and needs to be accounted for.

Dependent Variables	
TC Received	Accounts payable*
TC Supplied	Accounts receivable*
Net TC	Accounts payable minus accounts receivable*
Explanatory Variables	
Cash	Cash*
PPE	Plant property and equipment*
Debt	Total bank loans and debt securities*
STD	Short term debt (bank loans, notes payable and short term portion of the long term debt)*
LTD	Long term bank loans and debt securities*
Size	Total assets in logarithmic form
Sales growth	Real sales growth in percentage form
Slack	Current assets in logarithmic form, minus short term liabilities in logarithmic form, excluding TCs
Current Ratio	Current assets divided by short term liabilities
Prod	Sales*
Competitive	Interaction of sales in logarithmic form and assets in logarithmic form
ROA	Operating profit*
INF	Annual price rise
Bottom	In each year and nation, the firms whose leverage fall into lowest 30 percentile*
Leverage	
Top Leverage	In each year and nation, the firms whose leverage fall into top 30 percentile*
GDP Growth	Real GDP growth
Inflation	Annual price rise
* Variables in Table 5, 6 and 7 are scaled by total assets, and scaled by total liabilities in Table 8.	
TC and Sales variables are adjusted for inflation.	

Liquidity variables such as cash, operating cash flow, financial slack, and current ratio are included as control variables and they also provide valuable feedback in the process of drawing insightful evidence. Performance variables such as sales per asset, sales growth in percentage form are placed into the analysis. In order to account for market power of a firm, interaction of sales and size variables, in logarithmic form is included. Large firms, both in assets size and sales volume, are more likely to hold negotiation power against their suppliers and customers. It is expected that such advantage will be reflected in the amount of TC received.

3.2. Empirical findings

In order to obtain reliable answers, total debt, short and long term debt components are separately included. Heteroscedasticity and autocorrelation robust standard errors are given in adjacent columns. The results indicate that overall debt has negative relation

with the amount of TC received. On the other hand, separate debt items tell us a slightly different story that short term debt positive, though statistically insignificant, long term debt has negative effect on TC, confirming that the better access to financial credit a firm has the less trade credit it obtains. Obviously, this would imply that conventional financing is less costly in comparison to suppliers financing which comes with cost of inventory in addition to terms attached by the supplier. The coefficients for leverage of the highest and lowest leveraged firms, in Table 5 column 3, indicate that highest leveraged firms negatively react as their leverage goes up whereas the ones with the lowest leverage, though statistically insignificant positively related to TC. The significance of these two groups of firms comes from their level of debt, an indicative of access to credit for highest leveraged firms, which may be the unused debt capacity in case of the lowest leveraged group. Therefore, our early conclusion receives further support from the sign of the coefficients of the two groups that the better access to bank financing firms have, the more they seem to move away from TC financing. Interestingly, debt variable of high leveraged firms absorbs the significant relation between long term debt and TC; in return, the coefficient for short term debt becomes highly significant, suggesting a positive relation between TC and the need for short term liquidity. Overall, results particularly significant and negative effect of both long term debt and total debt indicate substitutionary effect between TC and conventional financing. On the other hand, the positive coefficient quantifying the relation between short term debt and TC points to the presence of the need for short term liquidity, which may force firms to finance it via both sources simultaneously. Table 5, left hand side (LHS) columns 4 through 6 present the results for firms from EM economies. The signs of coefficients for total and long term debt are similar to those of DE, they positively affect TC decision. Unlike, however, EM short term debt is negatively but insignificantly related to TC decision. Similarly enough, adding highest leveraged firms' variable absorbs that effect and they become insignificant. At final analysis, the more leverage is associated with less TC and this effect becomes more distinct with highest leveraged firms, i.e., firms with better access to conventional financing prefer relatively less TC, a result consistent with the one obtained in case of DEs.

Table 5. Dependent variable: Accounts payable/ total assets

	Developed Economies						Emerging Economies					
	1	2	3	4	5	6						
Cash	-.039***	(.003)	-.041***	(.003)	-.040***	(.003)	-.059***	(.008)	-.060***	(.008)	-.060***	(.008)
PPE	-.041***	(.004)	-.039***	(.004)	-.039***	(.004)	-.038***	(.0055)	-.036***	(.005)	-.036***	(.005)
Debt	-.009***	(.003)					-.022***	(.004)				
STD			.006	(.004)	.017***	(.005)			-.006	(0.007)	.013	(.009)
LTD			-.015***	(.002)	-.005	(.003)			-.028***	(.005)	-.008	(.007)
Size	-.023***	(.004)	-.023***	(.004)	-.024***	(.004)	-.024***	(.004)	-.024***	(.004)	-.024***	(.004)
Sales	-.000	(.002)	-.000	(.002)	-.000	(.002)	.001***	(.000)	.001***	(.000)	.001***	(.000)
Slack	.008***	(.000)	.010***	(.000)	.010***	(.000)	.014***	(.001)	.015***	(.001)	.015***	(.001)
Liquid	-.005***	(.000)	-.005***	(.000)	-.005***	(.000)	-.006***	(.000)	-.006***	(.001)	-.006***	(.001)
Prod	.027***	(.005)	.027***	(.005)	.027***	(.005)	.021***	(.004)	.021***	(.004)	.021***	(.004)
Market power	.001***	(.000)	.001***	(.000)	.001***	(.000)	.001***	(.000)	.001***	(.000)	.001***	(.000)
ROA	-.033***	(.004)	-.033***	(.004)	-.033***	(.004)	-.050***	(.009)	-.058***	(.008)	-.058***	(.008)
Bottom Leverage					.009	(.007)					.000	(.000)
Top Leverage					-.008***	(.002)					-.016***	(.004)
Constant	.313***	(.033)	.322***	(.033)	.322***	(.033)	.299***	(.037)	.293***	(.037)	.295***	(.037)
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.175	0.176	0.176	0.176	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125

***, **, * denote significance at 1%, 5%, and 10%, respectively

As for other variables, the ones related to level of liquidity such as cash, liquidity itself operating cash flow; they all have negative relationship with TC demand, implying that availability of internal sources reduces the need for TC financing, consistent with principle of pecking order financing. PPE and size variables are also negatively related to TC decision, possibly due to their effect on borrowing ability of the firm. The role of PPE as a collateral in conventional borrowing and debt capacity attached to size variable may be improving firms' access to bank financing and to other financial sources, thus the need for TC as a financing instrument is diminished. On the other hand, productivity variable and the measure of market power are positively related to TC decision, suggesting that high performing firms with strong market power may obtain relatively more TC. This finding is consistent with previous literature. The supplier holds informational advantage by keeping track of orders coming from the buyer and can accurately judge the quality of her and accordingly determine the level of TC to supply. Similarly, firms with higher market power can generate significant portion of the seller's profit therefore obtain relatively more TC and possibly in favorable terms.

Table 6. Dependent variable: Accounts receivable/ total assets

	Developed Economies						Emerging Economies					
	1		2		3		4		5		6	
Cash	-0.077***	(.005)	-0.074***	(.005)	-0.074***	(.005)	-0.145***	(.011)	-0.141***	(.011)	-0.140***	(.011)
PPE	-0.141***	(.006)	-0.145***	(.006)	-0.145***	(.006)	-0.233***	(.009)	-0.242***	(.009)	-0.242***	(.009)
Debt	-0.034*** (.004)						-0.018*** (.006)					
STD			-0.067*** (.006)		-0.068*** (.007)				-0.062*** (.009)		-0.056*** (.012)	
LTD			-0.020*** (.004)		-0.021*** (.005)				.006 (.006)		.012 (.009)	
Size	-0.040***	(.005)	-0.040***	(.005)	-0.040***	(.005)	-0.039***	(.005)	-0.040***	(.005)	-0.040***	(.005)
Sales	.001	(.002)	.001	(.002)	.001	(.002)	.001***	(.002)	.001***	(.002)	.001***	(.002)
Slack	-0.023***	(.000)	-0.026***	(.000)	-0.026***	(.000)	-0.030***	(.000)	-0.034***	(.000)	-0.034***	(.000)
Liquid	.003***	(.000)	.003***	(.000)	.003***	(.000)	.004***	(.001)	.004***	(.001)	.004***	(.001)
Prod	.029***	(.005)	.029***	(.005)	.029***	(.005)	.015***	(.003)	.015***	(.003)	.016***	(.003)
Market power	.001***	(.000)	.001***	(.000)	.001***	(.000)	.001***	(.000)	.001***	(.000)	.001***	(.000)
ROA	-0.020***	(.004)	-0.020***	(.004)	-0.020***	(.004)	-0.035***	(.008)	-0.033***	(.008)	-0.033***	(.008)
Bottom Leverage					.006 (.009)						.006 (.018)	
Top Leverage					.001 (.001)						-.004 (.005)	
Constant	.557***	(.041)	.557***	(.041)	.557***	(.001)	.586***	(.041)	.604***	(.041)	.607***	(.041)
Time Fixed Effect	Yes		Yes		Yes		Yes		Yes		Yes	
R ²	0.213		0.215		0.176		0.235		0.239		0.240	

***, **, * denote significance at 1%, 5%, and 10%, respectively

Table 6 presents the result for TC supply decision. Given the correlation between received and supplied TC it is expected that the effect of conventional financing on TC supply may provide valuable feedback which would contribute to the goal of the study. Table 6 columns 1 through 3 present results for DEs; in column 1 the effect of total debt is tested, and it seems to be negatively related to TC supply decision. In columns 2 and 3, debt components are examined separately. Both short and long term debt are negatively associated with TC supply decision, suggesting that the more they are able to borrow from conventional sources the less TC they supply, which, assessed together with the effect observed with received TC implies that when firms borrow more they reduce TC activity. Similar results for EMs are shown in Table 6 columns 4 through 6; total debt and short term debt has negative influence on TC supply. While long term debt has positive but insignificant effect, short term debt is highly significant and negatively correlated. On the other hand, highest and lowest leveraged firms do not seem to be particularly sensitive to TC supply decision in either of the groups.

In order to take further advantage of the correlation between TC supply and demand decisions, the difference between them, net TC balance, is included as the dependent variable. If, in fact, TC policy decision is financial in nature and there is a balance between received and the supplied TC then the effect of financial situation of the company on net TC should yield that effect. The expectation is that if TC is substitute to bank financing then borrowing should have negative association with the difference, indicating to a decline in demand for TC with more leverage. However, the results, presented in Table 7 columns 1 through 3, indicate the opposite effect that more leverage is associated with greater positive gap (more TC received less TC supplied), displaying a pattern consistent with complementary view.

Table 7. Dependent variable: (Accounts payable - accounts receivable)/ total assets

	Developed Economies						Emerging Economies					
	1	2	3	4	5	6	4	5	6	4	5	6
Cash	.039***	(.005)	.033***	(.005)	.033***	(.005)	.086***	(.012)	.080***	(.012)	.080***	(.012)
PPE	.103***	(.006)	.108***	(.006)	.108***	(.006)	.194***	(.010)	.206***	(.010)	.206***	(.010)
Debt	.025***	(.003)					-.002	(.003)				
STD			.075***	(.005)	.085***	(.008)			.056***	(.011)	.069***	(.014)
LTD			.005	(.004)	.015***	(.004)			-.034***	(.007)	-.020*	(.010)
Size	.017***	(.002)	.017***	(.002)	.017***	(.002)	.014***	(.005)	.016***	(.005)	.016***	(.005)
Sales	-.000**	(.000)	-.000*	(.000)	-.000*	(.000)	-.000*	(.000)	-.000	(.000)	-.000	(.000)
Slack	.033***	(.001)	.036***	(.001)	.036***	(.001)	.044***	(.002)	.049***	(.002)	.049***	(.002)
Liquid	-.009***	(.000)	-.009***	(.000)	-.009***	(.000)	-.009***	(.000)	-.009***	(.000)	-.009***	(.000)
Prod	-.002	(.001)	-.003*	(.001)	-.003*	(.001)	.005	(.003)	.005	(.004)	.005	(.004)
Market power	.001***	(.000)	.001***	(.000)	.001***	(.000)	-.001**	(.000)	-.001***	(.000)	-.001***	(.000)
ROA	-.047***	(.004)	-.047***	(.004)	-.047***	(.005)	-.094***	(.011)	-.092***	(.011)	-.092***	(.011)
INF	.000	(.000)	.000	(.000)	.000	(.000)	.001***	(.000)	.001***	(.000)	.001***	(.000)
GDP	-.001	(.000)	-.001	(.000)	-.001	(.000)	-.001	(.000)	-.001*	(.000)	-.001*	(.000)
Bottom Leverage					.003	(.010)					-.006	(.020)
Top Leverage					-.010***	(.003)					-.011**	(.006)
Constant	.235***	(.022)	.240***	(.022)	.238***	(.022)	.286***	(.044)	.286***	(.044)	.313***	(.044)
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.132	0.136	0.137	0.137	0.203	0.203	0.203	0.203	0.203	0.203	0.208	0.208

***, **, * denote significance at 1%, 5%, and 10%, respectively

Table 8. Dependent variable: Accounts payable/ Total liabilities

	Developed Economies				Emerging Economies			
	1		2		3		4	
Cash	-.040***	(.018)	-.041***	(.018)	.077***	(.009)	.079***	(.009)
PPE	.076***	(.018)	.074***	(.017)	.018***	(.007)	.016***	(.007)
Debt								
STD	-.227***	(.043)	-.223***	(.042)	-.099*	(.055)	-.075	(.064)
LTD	-.266***	(.040)	-.273***	(.041)	.055	(.073)	-.019	(.091)
Size	.062***	(.016)	.062***	(.016)	-.010	(.014)	-.013	(.016)
Sales	.000	(.000)	.000	(.000)	-.000	(.000)	-.000	(.000)
Slack	.032***	(.005)	.042***	(.005)	.038***	(.007)	.035***	(.007)
Liquid	-.016***	(.003)	-.016***	(.003)	-.019***	(.004)	-.019***	(.004)
Prod	.058***	(.007)	.060***	(.007)	.029***	(.004)	.028***	(.004)
Market power	-.002***	(.000)	-.002***	(.000)	.000	(.000)	.000	(.000)
ROA	-.037***	(.014)	-.038***	(.014)	-.016	(.018)	-.018	(.019)
INF	-.004***	(.000)	-.004***	(.000)	-.002***	(.000)	-.002***	(.000)
GDP	.001**	(.000)	.001**	(.000)	-.001***	(.000)	-.001***	(.000)
Bottom Leverage			-.169***	(.057)			.132	(.100)
Top Leverage			.015***	(.008)			-.062*	(.036)
Constant	.210*	(.114)	.084***	(.024)	.295***	(.094)	.299***	(.084)
Time Fixed Effect	Yes		Yes		Yes		Yes	
R ²	0.850		0.851		0.563		0.566	

***, **, * denote significance at 1%, 5%, and 10%, respectively

The Positive effect is strongly observable with total, short and long term debt. A likely explanation of this finding, consistent with early studies, is that firms with competitive edge are more likely to receive more TC than they supply. Similarly, the same competitive edge may enable their access to conventional financing. However, highest leveraged firms seem to display negative association suggesting that the more they borrow the smaller gap they have between TC supplied and received, implying less demand for TC and increasing TC supply. On the other hand, lowest leveraged group displays no significant connection between conventional financing and TC. Table 7 LHS columns 4 through 6 present the results for EM firms, for which no significant relation between total debt and the net difference is observed. Both short and long term debt variables are significantly related to net TC level. However, short term debt is positively, whereas long term debt is negatively associated with it. This finding is consistent with earlier results that short term liquidity needs may be causing TC and short term borrowing to co-move whereas long term debt, a proxy for access to external funding, may eliminate that need, thus the gap between demand for TC and supply of it declines as a result.

In final set of analysis, the dependent variable is modified so that it can be accounted for in the analysis as a part of external funding therefore concerned variables, including received TC is normalized with total liabilities. The results are given in Table 8 columns 1 through 4. Although the results for EM firms, in Table 8 columns 3 and 4, do not point to the presence of a significant correlation between debt and TC, DE firms do demonstrate noteworthy association, the results are in columns 1 and 2 both short and long term debt are negatively related to TC demand. Similarly, lowest leveraged firms also negatively react as they increase leverage. These findings are actually confirming our early conclusion that TC is negatively related to conventional borrowing and the more firms are able to borrow from banks and other financial institutions, the less TC they demand from the supplier. Only exception is the firms with highest leverage, that they increase borrowing from conventional sources and their suppliers simultaneously.

IV. Conclusion

Using a comprehensive data set covering 17 countries from 2000 to 2014, empirical analysis shows that TC is negatively correlated to traditional borrowing, examined in the form of total debt, and in the form of sub-components: short and long term debt. Various dependent variables related to firms demand for TC are employed in order to establish intuitive as well as conclusive inferences. The empirical evidence is undeniable, obtained from both developed and emerging economies that bank financing and TC demand from supplier are negatively related. On the other hand, evidence that would suggest positive co-movement between short term financial debt and TC financing is obtained, implying that both decisions may be driven by the need for short term liquidity. However, the evidence is weak and requires further investigations. Finally, despite the arguments and discussions in the literature regarding developed and emerging economies current study presents very similar results concerning debt and TC relation.

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CHAPTER – VIII

ANALYSIS OF FACTORS AFFECTING THE PRODUCTION OF FORAGE CROPS OF FARMERS: GAP-ŞANLIURFA SAMPLING OF TURKEY

Mustafa Hakkı AYDOĞDU*, İlay AYDOĞDU**
A. Cenap CEVHERİ***⁶

INTRODUCTION

Due to global population growth, nutrition-related problems are increasing. Food consumption is one of the most basic needs of people, adequate and balanced consumption affects societies and individual development (ÖzçiçekDölekoğlu, 2003: 15; Aydogdu and Kucuk, 2018). Today, the nutrition level of the population is considered as one of the development criteria. Healthy nutrition is an issue that concerns society with all its actors and it is examined with socio-economic researches (Sengul, 2002). In many countries, nutrition has become increasingly more dependent on grain. The main reasons are the inability of animal production, failure to meet domestic demand for meat and price increases, lack of meadow and pasture areas, and inadequate production of forage crops limit the consumption of animal proteins of individuals (Ertuğrul, 2000; Aydogdu and Kucuk, 2018). The products that are necessary for human health and nutrition are the products of animal origin (Tosun and Hatırlı, 2006). Per capita consumption of animal products is considered as an important criterion in comparison to the development levels of countries (Sarıözkan et al., 2007). Per capita consumption of animal products in Turkey is low as compared to developed countries (Aydogdu and Kucuk, 2018). In order for the consumption of animal products to be high, either pasture and meadow areas should be more or forage crop areas should be more or both of them should be more which is an ideal case. Turkey had 44 million hectares (ha) of meadows and pastures in 1935, this rate today is 14.6 million ha, and is ranked 46 in the world in terms of area size (Sancak, 2017). In addition, these areas are mostly low in terms of animal nutrition due to overgrazing, climate change, uncontrolled and out of purpose uses. There is a linear relationship between animal product

* (Assoc. Prof. Dr.); Harran University, Şanlıurfa, Turkey. E mail: mhaydogdu@hotmail.com

** (M. Sc.); Harran University, Şanlıurfa, Turkey. E mail: aydogduilay@hotmail.com

*** (Assoc. Prof. Dr.); Harran University, Şanlıurfa, Turkey. E mail: ccevheri@harran.edu.tr

consumption rates and forage crop cultivation areas (Aydogdu and Kucuk, 2018). GAP-Şanlıurfa is located in a semi-arid climate zone with a tendency to drought. Forage crops are of great importance for sustainable livestock breeding in semi-arid regions with a tendency to drought (Annicchiarico et al., 2017). The forage crops have a share of 11.8% in the total cultivated area (Sancak, 2017) which is a very low rate in terms of Turkey's existing potential and needs.

It is a necessity to spread the forage crops planting areas in GAP-Şanlıurfa as well as in Turkey. Forage crops have many known benefits. Because of the short growing season of many forage crops have benefits for social, economic, agronomic, environmental and wildlife. There are many benefits of diversifying forage crop rotations with annual crops such as the high yield increase in following year, less disease in subsequent crops, the improved quality and fertility of the soil, reduced weed populations, better water filtration, reducing fertilizer needs and amounts, and also providing environmental benefits (Entz et al., 2002; Singh et al., 2012). Given the social, economic and environmental importance of forage crops globally, there is the potential to improve food security and to provide economic and political stability (Capstaff and Miller, 2018) and flexible and sustainable feed production strategies are required (Martin et al., 2017).

The Southeastern Anatolia Project (GAP in Turkish) is Turkey's most comprehensive integrated regional development project with a budget of \$ 32 billion and the agricultural is the most important sector (Aydogdu et al., 2015). GAP is around 10% of Turkey in terms of area and population that covers 9 provinces. Şanlıurfa is the most important province of the GAP in terms of agricultural potential (Aydogdu, 2017). The population of Şanlıurfa is 2.04 million and the population growth rate is 2.5% in 2018 (TUIK, 2019). The total agricultural area of GAP is 2.91 million ha, and the agricultural area of Şanlıurfa is 1.11 million ha that is 38.1% of the GAP Region (GAP, 2019). There are 11.1 million livestock in the GAP Region and Şanlıurfa has 2.5 million of them which is 22.5% of GAP (GAP, 2019). The total milk production of the GAP Region in 2018 is 2.11 million tons and the share of Şanlıurfa is 20.4% of GAP (GAP, 2019). 63.4% of industrial facilities are agriculture and agriculture-based industries in Şanlıurfa (GAP, 2019). Agriculture and livestock sectors are important for Turkey, more important for GAP Region and the most important for Şanlıurfa. Agricultural enterprises are generally composed of small and dispersed family businesses in GAP-Şanlıurfa. The majority of the pastures are unqualified, the production of forage crops is not

sufficient, the imbalance in the input prices and the costliness cause not to benefit enough from the animal production potential in Şanlıurfa. One of the most important inputs for livestock breeding is feed. The cultivation of the first or second crop of forage crops in agricultural lands is quite limited in GAP and Şanlıurfa.

The aim of this study is to analyze the reasons for the planting of forage crops and the factors affecting them in GAP-Şanlıurfa. On the other hand, with the results obtained here, it is also aimed to determine the reasons why the forage crops planting areas are low and not widespread enough.

2. Materials and Methods

The data used in this research were obtained from the forage crops producers in GAP-Şanlıurfa. The surveys were conducted with face-to-face interviews with farmers through a simple random sampling method in 2018. According to the Farmer Registration System, the number of registered farmers in Şanlıurfa was 59,195 in 2018. Only 5% of these are forage crop producers and the main sampling volume was 2,960. The sampling volume was taken from the table of sample volumes according to the sample size and tolerable sampling error (Bayram, 2015: 26). The sample volume was 341 with a 95% confidence level and a 5% margin of error. To increase the confidence level of the research, local surveyors and 365 questionnaires were used in the analyses in order to be on the safe side.

The obtained data were processed to Excel based on a specific code plan and analyzed in SPSS. Logistic Regression test was used in the analyzes which is a special type of multiple regression. In cases where the answer variable is categorical, it is a method used to determine the cause-effect relationship with explanatory variables when it is observed in binary and multiple subcategories. As the logistic regression model, the enter method was chosen in the research. In this method, all common variables are included in the regression model as a block and the parameter estimates are calculated for each block. The significance of the independent variables was measured by the Wald statistics where the degree of freedom, the level of significance, and the exponential logistic regression coefficient indicated by $\text{Exp}(B)$ was available. The $\text{Exp}(B)$ coefficient represents the odds ratio. The significance between the dependent variable and the independent variables is determined by the Omnibus test, the variance described by the model Nagelkerke R^2 and the model-data compatibility determined by the Hosmer and Lemeshow test in the model. As a whole, this test is a type of analysis used to determine the effect size (Odds Ratio) of explanatory variables and factors affecting the response variable

(Özdamar, 2013: 523-525; Aydogdu, 2016; Aydogdu and Yenigun, 2016a; 2016b).

3. Results and Discussions

The surveys were conducted with male farmers due to the socio-cultural structure of the region. 91.5% of the participants were married, 45.2% were primary school and less educated, 61.7% of the forage crops are produced as first crop and 38.3% as the second crop by the farmers. The 65% of participants have basic income sources from agriculture and the annual agricultural average net income is determined as 32,100 Turkish Lira, TL (\$ 6,674) and 49% of the participants also have non-agricultural income. The annual average of non-agricultural income for all participants was calculated as 11,510 TL (\$ 2,394). The average annual net income of the participants was calculated as TL 43,610 (\$ 9,068). The average of 2018 is 1\$=4.81TL (Anonymous, 2019). The descriptive statistics of the participants are given in Table 1.

Table 1. Descriptive statistics of the participants

Variables	Farmer's	Mean	Std. Deviation
Age	Age of the farmer (year)	47.34	11.986
Marital Status	If single 1, married 2, widowed 3	1.94	0.85
Household	Number of household in the family	7.68	3.420
Education	If literacy 1, primary school 2, secondary school 3, high school 4, university 5	2.66	1.119
Experience	Farming experience (year)	20.55	11.347
Forage crops experience	How many years of producing forage crops	8.27	5.759
Income	Annual Average Net Income (TL, Turkish Lira), if 10,000 TL and less is 1, between 10,001-20,000 is 2, between 20,001-40,000 is 3, 40,001 and more is 4	3.07	0.942
Income source	Main Income Source, if Non-Farm 1, Agriculture 2	1.69	0.462
Non-farm Income	The farmer has non-agricultural income, If no 1, yes 2	1.55	0.499
Non-farm Income amount	Farmer's net non-farm income (TL)	11.510	2.239
Land amount	Total agricultural land amount (hectares)	17.83	15.172
Forage land	Total forage cropland amount (hectares)	7.90	7.211
Ownership	If own property 1, tenant 2, shareholder 3, A few of them 4	1.81	1.073
Membership	Membership to farmers' organizations if no 1, agriculture chamber 2, agricultural cooperative 3, irrigation union 4, others 5	2.60	1.141
Forage crops type	If vetch 1, alfalfa 2, legumes 3, silage corn 4, others 5	3.45	1.268
Seed supply	Supply of forage crop seeds, if state 1, seed firms 2, free-market 3, others 4	2.44	0.855

Reason for forage crops	The reason for planting forage crops, if commercial sale 1, for own animals 2, both of them 3	1.76	0.873
Livestock	Doing commercial livestock, if no 1, if yes 2	1.44	0.497
Livestock type	Commercial livestock type if small ruminant 1, cattle is 2	1.61	0.488
Livestock purpose	the purpose of livestock, if milk 1, meat 2, both of them 3	2.48	0.845
Supports	Benefit from public forage crop support, if no 1, if yes 2	1.61	0.488
WTP for extension	Willingness to pay for extension service for forage crops to generate more income, if no 1, if yes 2	1.18	0.388

The aim of this study is to analyze the factors affecting the production of forage crops in GAP-Şanlıurfa. Forage crop production was taken as the dependent variable. Bilateral logistic regression analysis was used to determine the affecting factors on the dependent variable. The independent variables that can be effective here are formed from the socio-economic indicators of farmers. These are age, the number of households, experience, production, source of income, amount of land, area of forage crops plantation, ownership status, type of forage, production reason, seed supply, agricultural support and extension service.

The significance of the selected independent variables was measured by the Wald statistics and the significance was found to be 0.021 that is $p < 5\%$. The statistical significance ($0.021 < 0.05$) indicates that independent variables make statistically significant contributions to the model. Then, the significance between the dependent variable and the independent variables was measured as 0.000 with the chi-square value of the Omnibus test and the significance was determined as $p < 1\%$. Therefore, there is a statistically significant relationship between independent variables and the dependent variable. Accordingly, independent variables can be interpreted to contribute to the estimation of the dependent variable. The variance explained by the model was measured with Nagelkerke R^2 and it was determined that it explained 53.2% of the variance in the dependent variable. Finally, Hosmer and Lemeshow test is used to evaluate the fit of the model as a whole and it was determined that the model-data compliance was adequate according to the test result. The tests and model relations applied in this research are explained in more detail in the studies of Aydogdu, 2016; Aydogdu and Yenigun, 2016a; 2016b.

The model results are given in Table 2. The fixed-term in the model result is $B = -3.025$, which gives the log-probability ratio of the participants to produce the forage crops if the independent variables in the model are zero. The B value is the slope coefficient of the variable and to be positive or negative indicates the direction of the relationship. Here, the value of B

is negative, and if the independent variables are zero, it means that farmers will not produce forage crops. The Exp(B) value in the table is the odds ratio calculated for each variable. Indicates the change in odds ratio as a result of one unit change in the independent variable.

Table 2. Table of Variables in the Model

Independent variables	B	S.E.	Wald	df	p	Exp(B)
Age	0.010	0.019	0.265	1	0.607	1.010
House hold numbers	0.165	0.059	7.877	1	0.005*	1.180
Education (Literacy-Ref. group)	-0.925	0.465	10.770	4	0.029**	
Primary school	-0.875	0.469	3.954	1	0.047**	0.397
Secondary school	0.051	0.589	3.476	1	0.062***	0.417
High school	0.051	0.589	0.008	1	0.931	1.053
University	-1.514	0.816	3.438	1	0.064***	0.220
Farming experience	-0.046	0.023	4.035	1	0.045**	0.955
Forage crop production year	0.079	0.036	4.650	1	0.031**	1.082
Main income source- Agriculture	1.164	0.438	7.074	1	0.008*	0.312
Non-agriculture income-Yes	-0.141	0.391	0.129	1	0.719	0.869
Farming land amount	-0.002	0.002	0.893	1	0.345	0.998
Forage crop land amount	0.001	0.004	0.132	1	0.716	1.001
Ownership (Property Owner-Ref. group)			5.008	3	0.097***	
Tenant	0.069	0.430	0.026	1	0.872	1.071
Shareholder	-0.118	0.460	0.065	1	0.798	0.889
A few of them	1.053	0.486	4.700	1	0.030**	2.866
Forage type (vetch- Ref. group)			10.397	4	0.034**	
Alfalfa	1.987	0.753	6.957	1	0.008*	7.297
Legume	1.612	0.787	4.192	1	0.041**	5.013
Corn silage	1.120	0.716	2.447	1	0.118	3.065
Others	0.911	0.811	1.264	1	0.261	2.488
Seed supply (State- Ref. group)			7.003	3	0.046**	
Private seed company	1.040	0.522	3.969	1	0.046**	2.830
Free market company	0.266	0.508	0.274	1	0.601	1.304
Others	-0.106	0.682	0.024	1	0.877	0.900
Forage crops production reason (commercial selling-Ref. group)			63.243	2	0.000*	
Livestock	2.474	0.417	35.220	1	0.000*	11.870
Both of them	2.931	0.393	55.747	1	0.000*	18.741
Benefit from agricultural support- Yes	0.500	0.325	2.066	1	0.094***	1.649
Willingness to pay for extension service-Yes	0.456	0.420	1.080	1	0.097***	1.577
Constant	-3.025	1.303	5.386	1	0.020**	0.049

*1%, **5%, ***10% level of statistically significant

The independent variables used in the model, age, non-agricultural income, land, and forage crops cultivation area amounts were determined not to be the factors that affect the dependent variable which is the production of forage crops. There was no statistical significance between

these independent variables and the dependent variable ($p>10\%$). While the average of the forage crops cultivation areas is 6.6 ha between 20 and 30 years old, it is 7.3 ha in those between 31-45 and 8.51 ha in the age of 46 and older. As age increases, the forage crop plantation area is increasing. However, there is no statistical significance exists between them. Those who have non-agricultural income are more selective in agricultural activities than other farmers and do not take risks for new varieties. Because they do not have non-agricultural income and they prefer to produce known traditional products such as cotton and wheat in the region. The opposite is also an expected situation. However, this result coincides with the pre-research expectations due to the social structure of the region that is not to take the risk as much as possible in agriculture. On the other hand, it is an unexpected result that the land amount and amount of forage crops cultivation area have been statistically insignificant. This is explained by the fact that the amount of public support given to forage crops is lower than other products. The rate of those who do not find the forage crops' supports by the public sufficiently and satisfactorily is 54.5% and the rate of those who believe that planting other products is more profitable is 47%.

There is a statistical significance among households and forage crop cultivation and its importance is $p<1\%$. A one-unit increase in the number of households provides a positive increase of 18% on the dependent variable. In Turkey, due to the lack of adequate agricultural mechanization in many rural areas, households are still widely used as labor in agriculture. In this sense, the result is consistent. There is a statistical significance between the education level and the forage crops plantation, and the significance level is $p<5\%$. In the education sub-groups, when the literate is taken as reference, there is a negative effect on the dependent variable with $p<5\%$ for primary school and $p<10\%$ for high school and university graduates. As the level of education increases, the cultivating rate of forage crops decreases. This ultimately effective factor is literates have the highest rate among commercial livestock producers with a share of 30.4%. In other words, literates do more livestock than farmers who are from other education groups. One of the largest inputs in animal husbandry is feed. In this sense, the result is consistent. There is a statistically significant difference between farming experience and forage crop cultivation reason and its significance level is $p<5\%$ in a negative way. As the experience increases, the planting rate of forage crops decreases. The increase in one-unit experience reduces the cultivation reason rate by 4.5%. On the other hand, there is a positive correlation between the experience of forage crops production year and cultivation reason at $p<5\%$ significance level. A one-

unit increase in the year of the forage crops experiences results in a positive increase of 8.2% on the dependent variable. Here, the opposite results were obtained in two different experiences based on farming and forage production. These results are not a contradiction. Because those who cultivate forage crops are aware of the positive changes in the soil structure and product yield in the subsequent planting periods and that these are also more likely to be commercial livestock breeding. Therefore, they have positive attitudes to forage crops.

69.3% of participants have basic income from agriculture for livelihood. There is a positive relationship between them and the reason for the cultivation of the forage crops which is statistically significant at a level of $p < 1\%$. Farmers whose basic income from agriculture has 68.8% more favorable approaching to forage crops production in a positive way as compared to whose basic income from non-agricultural. This result coincides with the pre-research expectations. There is a marginal statistical significance of $p < 10\%$ between land ownership status and forage crop cultivation. In terms of subgroup variables, there is a positive and statistically significant relationship at a level of $p < 5\%$ between those who have their own property and who have a few of them. Farmers who are owners of the property have a more favorable approach to forage crops planting than other sub-groups. This situation can be explained by both the improvement of the soil structure and the amount of product increase in the next period as well as the reasons for animal husbandry. Because tenants and shareholders do not get the benefits and income increases that may occur in the following periods, because they generally do annual agreement. There is a statistically significant relationship between the forage crop types and the reason for forage crop cultivation with a significance level of $p < 5\%$. There is a positive effect between vetch and alfalfa at a level of $p < 1\%$, vetch, and legume at a level of $p < 5\%$ in the subgroups of this independent variable. It was determined that the cultivation conditions, yield amount, irrigation possibility and knowledge were effective factors in the selection of the forage crop type of farmers. There is a statistically significant relationship at a level of $p < 5\%$ between forage crops seed supply and forage crops cultivation reason. Among subgroups, there is an effective positive relationship between public and seed firms at a level of $p < 5\%$. The participants pay more attention to seeds obtained from seed companies and buy seeds from the free market with a rate of 46%. Among the participants, the rate of those who believe that it is always possible and easy to provide quality forage seeds is 46.8%. Here is the easy access to private sector firms engaged in the supply of seeds that are effective. On the other hand, the rate of finding the expensive of high-

quality forage seeds offered by private sector firms is 56.4%. The remarkable result here is that the forage crop seeds obtained from the public are cheaper, but the abundance of bureaucratic processes is existing, too. In other words, it is more difficult to get forage seed at the desired time and amount from the public than the private sector companies.

There is a statistically significant effect at the $p < 1\%$ significance level between the dependent variable and forage crops planting reason. Among all subgroups of forage crops sowing reasons, there is an impact of $p < 1\%$ significance level for commercial sale, for their own animals and both of them. The same results of research conducted in Turkey of Van and Isparta provinces have been identified (Yılmaz and Şahin, 2008; Balabanlı et al., 2016). Among the participants, 53% believe that producing forage crops are more profitable than other products directly and indirectly in many aspects. There is a statistically marginal relationship that exists between the rate of benefit from forage crops' public supports and forage cultivation at a level of $p < 10\%$. This effect and importance were expected to be higher before the research. Among the participants, 45.5% of the respondents who found the forage crops support by the public adequate. Forage crop public support amounts are lower than other traditional products, such as cotton and wheat. A research conducted in Turkey-Isparta province resulted that 77.5% of forage crop producers stated that there was insufficient public support (Balabanlı et al., 2016). If the amount of public support of the forage crop increases, 66.7% of the respondents believe that the cultivation areas will be increased. For these reasons, the effect and severity were lower than expected and the result was consistent. There is a marginally statistical significant relationship that exists between forage crop cultivation and those who are willing to pay for extension service in order to obtain more agricultural income at a level of $p < 10\%$. Among the participants, the rate of those who believe that the forage crops production is to be supported in terms of knowledge is 63.2%, but only 18.4% of them have the willingness to pay for consultancy and extension services. Among the participants, agricultural extension and consultancy services are considered to be public service and should be given free of charge.

47.8% of the participants are not happy with being a forage crops producer. The most important problems faced by the forage plants producers were the product sales price with 69.7%, the input costs with 67.2%, the water shortage with 52%, the lack of adequate marketing with 50.8%, the lack of technical knowledge with 50% and the quality seed supply with 45.3% respectively. 70.8% of participants stated that if public policies reduce the impact of these problems, they will increase the forage

crops plantation areas. The less of irrigated land and the presence of inadequate irrigation facilities, inadequate public policies applied to forage crops, marketing and organization problems, deficiencies in the implementation of incentives and supports by public and input costs were determined as the biggest problems for forage crop producers by some other researchers in Turkey (Cevher and Karadut, 2010; Karadavut et al., 2011; Balabanlı et al., 2016).

4. Conclusions

Forage crops are included in the ecosystem that can be transformed into many inorganic substances into organic substances that living things do not use them as food directly. Forage crops can grow in both irrigated and dry farming conditions. Globally, for many reasons, agricultural areas are gradually decreasing, the structure of land is deteriorating and yield losses are experienced. Forage crops are produced as animal feed, but also have benefits for the protection of soil and water and for increasing the efficiency of crops following crop rotation. The amount of meat consumption per capita in Turkey is low, one of the main reasons, as well as all over the world, meat is expensive as compared to other foods (Yaylak et al., 2010). The most important input of livestock is the feed that reaches up to 70% of total operating costs (ZMO, 2018).

In order to protect and develop both livestock and soil structure, it is obligatory to expand the forage crops planting areas. The problems experienced in livestock in recent decades raised due to problems of insufficient forage plant productions both in Turkey and GAP-Şanlıurfa. The measures taken in this regard were not sufficient. Turkey is the importer of both red meat and forage crops. The public should develop additional measures, incentive and support policies in Turkey. GAP-Şanlıurfa is one of the most important agricultural cities in Turkey which has great potential in both livestock and agricultural fields. Due to the increasing costs of agricultural production, profitability has started to decrease. By reducing both the input costs and improving the soil structure, the spread of forage crops cultivation areas will contribute positively to the income of the farmer. This situation is also important in terms of social welfare and the national economy. Therefore, it should be encouraged by the public to give more rate of forage crops in crop rotation. The incentives given for certified forage seed should be increased and continued. In order to increase the production of forage crops, their competitiveness should be increased to grain such as wheat and industrial crops such as cotton by additional supports public policies in GAP-Şanlıurfa.

In order to increase the forage crop cultivation areas, the supports should be increased gradually according to the cultivation areas. Incentives for silage forage crop cultivation and silage production should be increased. In order to reduce input costs and to be more effective in marketing, forage crops producer unions should be established. Farmers should be encouraged to become members of these associations. It is necessary to give more coverage to the publication and consultancy services in forage crops by the public. This is the first research on the subject in GAP-Şanlıurfa. The results provide useful and guiding information to policy and decision-makers.

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CHAPTER – IX

ENERGY PROBLEM CURRENT DEFICIT NATURAL GAS PROJECTS AND TURKEY

Yeşim KUBAR*

INTRODUCTION

It is accepted that those first utilizing oil leaking to earth are Sumerians, Assyrians, and Babylonians. It was discovered by archeological research conducted that the crude oil and asphalt, collected from leakages present Tuttul (Hit, in the borders of Iraqı at the present time) in Firat riverbank in B.C.3000, were used in the various forms. In 12th century, upon that Arabs conquered Spain, oil coming to Europe were used for lightening in Europe after this period. Spanish discoverers wrote that Indians used oil as a medicine in today's Cuba, Mexico, Bolivia, and Peru regions. Following Industrial Revolution, oil replaced with fuels such as tree, peat, and coal as a cheap and abundant energy resource (<http://www.megep.meb.gov.tr>).

In the recent history, the story of oil is reported in two different ways. It is expressed that the oil leaking from oil sources in Carpathian Mountains lying in Poland borders was first used for lightening streets in Krosno City of Poland. Polish I. Lukasiwicz, discovering that cheaper lightening could be provided from oil used for lightening the Lvov city of Ukraine in that period, made various research on the refined fuels and succeeded in obtaining "kerosene" from oil in 1853. Lukasiwicz, receiving support from his business partner, had his own oil distillation method registered in Wien in 1853. Following obtaining kerosene from oil, in Eastern Europe in Galician Region and, then, in Romania, it was begun to be produced lightening and heating fuel from oil. In 1857, that some entrepreneurs dig their own wells made importantly contribution to the development of oil industry in Poland. After just two years from these developments, Colonel Edwin Drake, who closely followed these developments in Poland from Rouseville City of USA, went down in history, as "the first man drilling oil from oil well by means of boring". In 1859, upon that Drake produced crude oil from the first commercial oil well, the use of oil-based kerosene and kerosene lamp also became widespread. Thus, oil has become an energy source, which begins to enlighten daily life and economy of human being (Erik and Koşaroglu, 2016:122).

* (Dr.); Firat University, Firat Üniversitesi, Economic and Administrative Sciences, Department of Economics, ykubar@firat.edu.tr

1. Energy Consumption

Ability and way to produce and use energy is directly related to the development of humanity and technology. In the last 30 years, 1.3 billions of people reached electricity and accessed to modern energy resources in the use of cooking and heating purposed energy resource. All over the world, while industrial processes become complex, depending on the increasing global trade, transportation and logistical activities have geometrically increased. The level of global comfort has risen and, in parallel with that infrastructural and service products such as clean drinking water, severe system, basic health services, modern agricultural machineries, and household electrical appliances become widespread, per capita energy consumption has increased (<http://www.tskb.com.tr>). Together with population increase, urban development, and industrialization, energy consumption in the world has increased every passing day. This case reveals that it is necessary to provide energy supply for more people. The world economy is expected to growth by approx. 3% in the following 20 years' process and, all over the world, and it is also foreseen that the rise of middle class, increasing the demand to consumption goods, will increase energy need. The advances experienced in material technologies, speed information technologies added to all sectors, and digitalization affect the cost of energy technologies, their positions in market, and processes to participate in system and change the dominant methods in energy markets.

According to the studies International Energy Agency (IEA) carried out, it is expected that world primary energy demand will reach the level of 20.3 billion tons of equivalent oil (TOE), increasing in the rate of 45% in the next 20 years. Among the countries consuming the most energy, the leading country is China. Turkey took place in 19th order with the primary energy consumption of 29.5 million TOE in respect of the end of the year 2015. Fossil fuel reserves rapidly decreases in the face of global energy demand that continuously increases. When regarded to natural gas reserves, conventional gas reserves are around of 178 trillion m³. The part of approx. 40% of these reserves take place in Middle East region (Iran, Iraqi, Kuwait, Unman, Qatar, Saudi Arabia, and United Arab, Emirates) (<http://www.gazbir.org.tr>). It is predicted that the increase in energy demand will largely arise from the developing economies.

According to Energy Outlook Report by International Energy Agency, in 2000, while Europe and North America form 40% of world energy demand and, 20% of it, the developing economies in Asia, in respect of the year 2040, it is foreseen that the case will reverse. That energy consumptions largely shifts to Asia is also felt in all fuels and technologies as well as energy investments (<https://assets.kpmg/content>).

1.1. Nonrenewable (Primary) Energy Consumption in the World

Coal, one of the oldest and geographically most prevalent energy resources of the world, is a fossil fuel having the lowest production cost, besides that it is relatively reliable. But while it is claimed that about one-third of carbon dioxide pollution in the world arise from coal-operated power plants, the amount of use is expected to be reduced due to sensitivity to the climactic change and environmental pollution (<https://assets.kpmg/content/>).

According to 2019 World Energy Statistical Outlook Report by British Petroleum (BP), the leading countries in global energy consumption are China, USA, and India, in order. In addition, China has become the biggest energy market of the world having the highest growth rate of the world, successively 18 years. In energy resources, consumed in the world, the biggest increase in respect of years actualized in natural gas (<https://www.bp.com/content/>). Global consumption of natural gas, increasing by 5.3 percent in the last year compared to the previous, became 3.3 billion TOE. In the relevant period, all over the world, coal consumption, also increasing 1.4 percent, became 3.7 billion TOE. In the world, the year, when coal consumption was the highest, was registered as 2018.

In parallel with the growing economy of Turkey, energy consumption also followed an increasing course. In the last 25 years, the annual primary energy consumption of Turkey rose from 55 million TOE to 155 million TOE. While 3.3 percent of coal reserves discovered in Turkey was pit coal, the other part consist of lignite. Turkey, which has 14 million tons of proven coal reserve, has production capacity of 115 years in respect of the year 2017. Turkey is evaluated as middle level in lignite and as low level in pit coal in world scale in terms of amount of reserve and production. Approx. 3.2% of a total reserve of lignite in the earth are present in our country; however, the fact that calorific value of a large part of lignite coal is very low makes dominant its use in power plants (<https://assets.kpmg/>). That foreign dependency of Turkey in primary energy resources is high causes foreign trade and current deficit in the increasing rate. Hence, the developments in global energy prices directly reflect to energy invoice and foreign financial need of the country in high amounts and forms additional pressure on Turkish financial assets. Therefore, Turkey makes intensive efforts about reducing foreign dependency in energy and going towards national resources. While “domestic and national” is one of the most fundamental policies of the government in energy, it is tried to pave the way for the investments directed to domestic technology, also including in the areas such as renewable energy policies, The consumption of the primary energy resources and the countries it imports energy are given in Figure 1.

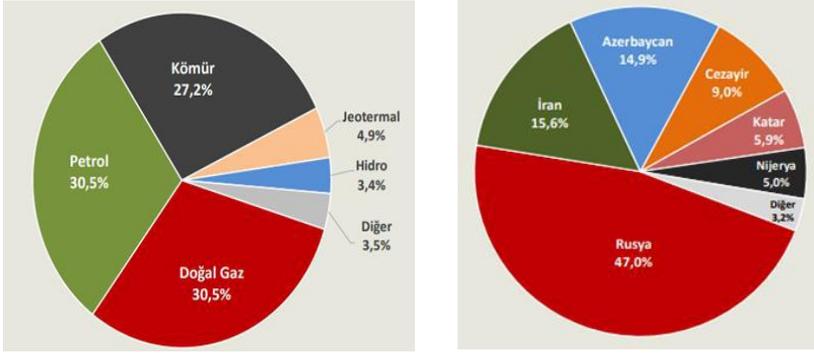


Figure -1: Resources of the use of Primary Energy in Turkey for the year 2018 and their distribution according to the countries (Kaynak: ETKB/EİGM)

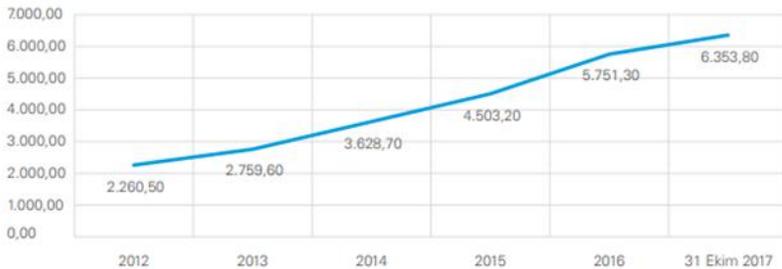
In Figure -1, among the primary energy resources, natural gas consumption takes place together with oil in the first order. Then, it is seen that coal is used with 27.2% and geothermal energy, with 4.9%. When we regard to the countries, from which we import primary energy resources, while Russia takes place in the first order with the percentage of 47%, Iran is in the second order with the percentage of 15.6, and Azerbaijan, in the third order, with the percentage of 14.9 among the countries supplying energy to Turkey.

In 2017, together with consumption, urbanization industrialization, and economic growth, 25% of the increasing consumption of natural gas are made in houses, 25%, in industry; and 38.1%, in [natural gas] conversion/cycle power plants That natural gas-dependency of Turkey is 99%; that its natural gas import has shown continuous increase since 2000, and that natural gas import will continue to increase in middle term are among the predictions made. The year 2018 witnessed major rises and falls for global oil markets. In the first 6 months of 2018, with the decision of limiting supply OPEC and Russia made, the positive developments in the data of global growth supported oil prices. That US Administration unilaterally withdrew from nuclear agreement in Comprehensive Common Action Plan and that it expresses that it will bring back sanctions for Iran strengthened this tendency. However, this trend ended by giving 8 counties including Turkey, which buys 85% of oil exported from Iran, exemption of 6 months on condition that they reduce their purchases. In the first half of the year 2019, that OPEC countries make decision to reduce by 1.2 million barrel per day points out that turmoil will continue in global markets. Turkish oil market is also affected from international price fluctuation. That Turkish Lira devalues in the face of US Dollar leads this effect to increase in the year.

1.2. Renewable Energy Consumption in the World

Renewable energy is defined as “energy resource, which can obtain from natural resources and continuously renew itself” (<http://arena.gov.au/about-renewable-energy>). The most important feature distinguishing renewable energy from the other sorts of energy is that it can naturally renew itself and that it does not disappear. Renewable energy resources are expressed as “solar”, “wind”, “geothermal”, “hydraulic”, “biomass”, “wave”, and “hydrogen”. (<http://www.bbc.co.uk/>). Renewable energy has an important place in terms of reducing foreign dependency of countries by meeting their energy need, providing the use of sustainable energy use by diversifying resources, and lowering environmental damages to minimum due to energy consumption. Nowadays, about 20% of energy consumed across the world are obtained from the renewable resources. When Turkey is compared with EU countries in terms of hydraulic, geothermal, wind, and solar energy potentials, it is seen that it has an extremely position. At the present times, the rate of utilizing these resources is at the low level. This case results from several economic and legal constrictions. However, developments have a positive quality. In the following tables, the amounts of wind, solar, and geothermal energy production of Turkey were shown across the period of 2012-2017.

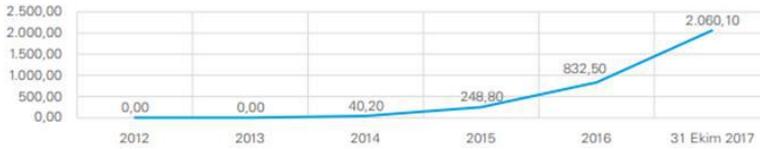
Table -1: The development of wind energy in the period of 2012-2017 (MW)



Reference: TEİAŞ

In the world and Turkey, a number of investment is increasingly made on wind energy, which is the most important resources of renewable energy. In Table 1, it is seen that nominal power of licensed wind energy power plants in Turkey in respect of the late 2016 rose from 5,378 MW to 6,353 MW in respect of the end of October 2017. The wind energy potential of Turkey is estimated as 48,000 MW and total area corresponding to this potential is said to cover 1.3 % of surface area of Turkey. These rates express that we have extreme advantageous geography for wind energy to be able to effectively use wind energy,

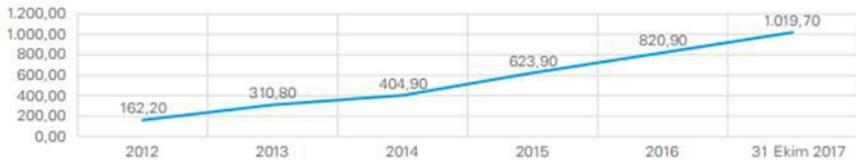
Table-2: The development of Solar Energy in the period of 2012-2017 (MW)



Reference : TEİAŞ

According to Solar Energy Potential Atlas (SEPA), Turkey has a potential that can much more utilize solar energy with a total of annually 2,737 hours sunshine duration and annually average amount of solar energy of 1,527 kWh/m². Cost decrease experienced in solar panels and increase of panel effectivities accelerated solar energy investments. In Table 2, it is seen that the amount of electricity production with solar energy that is only 40 MW in 2014 rises to 2060 MW in October 2017. That the number of household, which has network connection or meets an important part of its consumption with this way, making production in the scope of unlicensed production, is being calculated prevents the real production of Turkey in this area from identifying. The contribution of solar energy production, connected with the identified network, to total consumption is in the rate of 2.5%.

Table-3: The Development of Geothermal Energy in the period of 2012-2017 (MW)



Reference: TEİAŞ

The potential of geothermal energy, which has importance as one of the domestic energy resources of Turkey, is evaluated as 31,500 MW. 10 percent of geothermal resources, whose 78 percent is in West Anatolia; 9 percent, in Central Anatolia; 7 percent, in Marmara Region; 5 percent, in East Anatolia, and the remaining 1 percent, in the other regions, are in suitable profile for electricity production. According to Table 3, while electricity production from geothermal energy in Turkey actualizes as 820 MW, it rose to 1019 MW in the first 10 months of 2017, Turkey, with these numbers, became the most rapidly growing country about electricity production from geothermal energy. Turkey, about electricity production from geothermal energy, in world ranking, takes play in the position of 4th country following USA, Philippines, and Indonesia (<https://assets.kpmg/content>). Turkey gives a specific importance to the

issue of renewable energy in future planning and wants to increase potential of the existing renewable energy. In 2023, it is predicted that electricity production will increase by about two folds compared to today, and it is targeted that the share of renewable energy used in electricity production is to be at least by 30%. It is expected that renewable energy investments largely reduce foreign dependency of Turkey in long term and its energy invoice; and that they provide extremely important benefits in many areas from national income to employment, from investment areas to environmental factors, and from energy supply security to resource diversification (<https://setav.org/assets/uploads/>).

2. Current Deficit Energy Relationship and Turkey

For an economy, being able to meet energy the rapid growth, development, and urbanization will require in suitable price, nonstop, and in sufficient amount is extremely important. Due to the rapidly increasing energy demand, that most of developing countries are foreign-dependent in energy causes them to experience problems with balance of payments and the fiscal and economic balances of these countries to be in vulnerable structure. It is necessary to control current deficits high amount of energy import causes for economic freedom. It is necessary to increase export for providing this. However, since export increase requires extra energy use, it causes a vicious circle to form. In view of this, investing on renewable energy resources becomes more important (Demir,2013:3). Turkey, importing large amount of oil and natural gas, pay large amount of foreign currency to oil producer countries. Since the energy need and foreign dependency of Turkey gradually increases, “the weight of energy issues in Turkish foreign policy increases and gradually becomes an important determinant of foreign policy ” (Yazar, 2011: 63). Turkey develops strategies for supply diversities in import in related to energy security and, in this framework, tries to form energy policies (Bayraç, 2009: 118).

That renewable energy is national and continuous and is used in production and consumption, enabling export to increase by increasing production and capital to stay within the country, is expected to be able to positively affect macroeconomic variables. However, examining the effects of investments on domestic energy resources on foreign economic balances through balance of payments is extremely important. Namely, [for] identifying how big the reflections such as the use of domestic or foreign capital, payment of foreign currency for the imported part of physical investments, profit transfer for foreign capital, interest payments of foreign currency –based payments will be, planning these effects in such way that they will not disturb economic balance are extremely important. The use of domestic energy, even if it is costly, has a feature that will create a positive effect about current deficit in long term.

The increasing energy consumption in the developing countries, where high growth rates are experienced, causes intensive increases in the consumption and, thus, import of energy resources such as oil and natural gas, and the increasing import results in important current deficits in the countries not having sufficient foreign current input. In energy use, as a result of not being able to develop domestic production possibilities, that foreign dependent energy supply gradually deepens much more makes heavier current deficit under consideration. In Turkey, while approx. 48% of energy demand are met by domestic production in 1990, when arrived to the year 2010, this rate regressed to 28%. On the other hand, approx. 75% of total energy supply were met via energy import. In Turkey, while growth rate figures emerging in the last ten years leads to increases in energy demand, energy use that intensively depends on oil and natural gas increases current deficit through energy import. Financing the growth in Turkey emerges high inflation as a problem, and this case results in cost increases. When regarded to the 2014 -2019 data of Turkey, it is seen that energy import forms the biggest item of current deficit. Turkey takes place 11th order in energy import. According to this, fluctuation in oil prices in and rise in foreign currencies make energy import more expensive for Turkey. This case leads one of the most important macroeconomic problems to be current deficit.

Foreign dependency in high rate in energy resources makes it necessary to make a policy preference between economic growth and current deficit. According to Labonte (2010), in the developing countries such as Mexico, Turkey, East Deficit, Brazil, and Argentina, large current deficits become important indicators of financial crises. Therefore, the rate of current deficit/GDP of countries is relatively important in becoming sustainable of economic stability. In Turkey, as a result of the polices applied by Central Bank in the years of 2012 and 2013 to provide economic stability, in the rate of current deficit/[GDP], decrease was seen but economic growth rate fell. This case shows that foreign dependence in energy is an important impediment in front of simultaneously achieving the targets of rapid growth and financial stability (Bahçekapılı, 2015: 72). Inconsistency that economic policy instruments will not be enough to reach all objectives creates requires making self-sacrifice from some objectives in certain measures. Turkey is a country, whose foreign dependency rate is high in industrial production and in spare parts and intermediate goods. Therefore, reducing the share of import becomes difficult. As a solution of this, it is necessary to find domestic alternatives for imported goods and apply this policy (Karaca 2014: 17). The countries applying this policy are both rid of foreign dependency in energy and can keep current deficit at the desired level.

It is estimated that in the period of 2010-2023, total energy investments of Turkey will be \$ 120 to 130 billion and, \$ 225 to 280 billion by 2030. It is foreseen that 60% (\$ 135 to 168 billion) of energy investments to be made will be for purchasing machinery and equipment and, in case that sufficient investment is not made on Turkish industry in energy area, that it will have spent \$ 7 to 8 billion for importing machinery and equipment every year (MMO 2014: 10). It is predicted that the existing resources of geothermal energy can be used for reducing loss arising from energy import and, thus, that a saving of \$ 400 million will be provided by a little reducing natural gas import (Karaca 2013: 5). In Turkey, it is also predicted that this amount of saving may be annually \$ 10 million by using heating potential of geothermal energy in heating houses and greenhouses (MMO 2014: 228). By increasing the use of renewable energy resource in Turkey, it should not be forgotten that it cannot only be closed the deficits of balance of payments arising from imported energy but also environmental pollution can be prevented, which is extremely important in terms of development (Karaca 2014: 7).

3. Natural Pipeline Projects and Its Effects on Turkish Economy.

It is considered that Turkey, in respect of strategic position it has, playing pioneer role in the regional oil and natural gas projects, has a major potential both in providing national supply security and contributing to the amount of regional supply, particularly Europe. In this scope, in the direction of becoming a reliable, stable, and economic region between the rich hydrocarbon sources of Middle East, Caspian Sea Region, and Central Asia and the consumer countries in Europe and World, there are the projects of (<http://www.tpao.gov.tr/tp5/docs/rapor/sektor>);

- Baku-Tiflis-Ceyhan Crude Oil Pipeline (BTC),
- Iraqi-Turkey Crude Oil Pipeline,
- Baku-Tiflis-Erzurum Natural Gas Pipeline (BTE)
- Samsun-Ceyhan Crude Oil Pipeline
- Trans-Anatolian Natural Gas Pipeline (TANAP)
- Turkey-Greece Interconnector (ITG)
- Turk Stream Natural Gas Pipeline Projects

In most of European countries, there are some systems that can transmit and store the amount of natural gas much above annual need of natural gas. Thanks to this infrastructure, in European countries, flexible market and alternative supply channels formed. European countries are also in the dependent position on natural gas like Turkey, and natural gas of 162 billion m³ were supplied from Russia by means of pipeline in 2017. This amount corresponds to 75% of the amount of natural gas (including LNG) European countries (excluding Turkey) supplied out of continent. That European countries dependent on Russia at this level rushes up the

discussions of energy security across the continent and accelerates installations of floating storing and regasification unit (FSRU).

Turkey, evaluating the advantages it lies, has planned its target of being bridge about providing natural gas for Europe and executes the relationships with the other counties in this direction. However, in the countries such as Iran and Iraqi, due to the fact that political ambiguity increases and that relationships disturb, progress was not identified. In 1999, with the agreement made with Turkmenistan, gas transportation was targeted to Europe through Turkey. Due to objection of Russia and Iran, which are the major natural gas exporters that have a cost to Caspian Sea, to pipeline planned to pass through Caspian Sea, project could not be implemented. Due to geographical constraint, that Turkmenistan cannot find any country to [sell its natural gas] other than China caused the price of Turkmen gas to remain market price and, although it is 4th country having natural gas reserve in the world, it caused Turkmenistan to lack instead of living a life of luxury. That the status of Caspian Sea, which are point if debate and confliction for about 25 years, is solved by riparian countries opened an opportunity window. The issue of Turkmen gas to be transported to Western markets, which are likely to become a current issue in the next period also has a great importance in terms of energy policy of Turkey. Turkey, in the scope of providing its own supply security and on purpose of being able to produce natural gas, targets on increasing the capacities of LNG terminals and starting up the new ESRUs. That Turkey that is poor in terms of natural gas resources makes valued its advantageous geographical position between producer and consumer points with strong projects is extremely important (<http://www.tskb.com.tr/i/assets/document/pdf/enerji>).

It is observed that Turkey, as a country, where domestic production can meet only 0.8% of total demand and which is surrounded with the producers having 63% of world natural gas reserves, aims to increasingly play a more active role in energy and natural gas markets. In this framework, the basis of the energy policies and strategy consist of two elements. The first of these is two provide supply security by supplying in sufficient amount of energy from the different resources. This, particularly in natural gas, comes to our face both resource and route diversity. Secondly, it is aimed to realize a number of energy infrastructure projects as many as possible as Turkey-centered and, thus, to increase the geo-economic weight of Turkey in international area. In this context, Turkey is aimed to be transformed into energy center, keeping away from energy pass country. The target of Turkey, as an energy center, includes, beside installing a comprehensive infrastructure such as pipelines, storing, processing, and transforming facilities, in addition to these, turning into as a trade center. Thus, Turkey, turning into a center, where the various

energy resources meet and routes intersect, targets on forming a comprehensive pricing and trade mechanism and opening door to the possibility to sell natural gas coming from the various resources to the third parts.

3.1. Turkish Stream Project and Its Expected Economic Effects

In order to determine the technical, economic, and legal framework for Turk Stream Gas Pipeline, between the government of Turkish Republic and the government of Russian Federation, intergovernmental treaty regarding Turk Stream Gas Pipeline was signed in Istanbul on the date of October 10, 2016. Approval process of treaty was completed in both countries. Turk Stream Gas Pipeline Project is a new gas pipeline project consisting of two lines, which begin from Russian Federation, each of which has a capacity of 15.75 billion m³, and which lie down to the receiving terminal in Black Sea Coast of Turkish Republic through Black Sea and, following it, to neighboring states through the territories of Turkish Republic. Natural gas conflicts experienced between Russian Federation and Ukraine sometimes causes the has coming from West line to our country to be cut and this case, particularly in winter months, forms a threat in terms of energy supply security of our country. In the scope of Turk Stream, together with only putting the pipeline to be constricted for only supplying natural gas to Turkey into operation, an annually total of 14 billion m³ gas taken from West line are planned to be delivered to Turkey through Turk Stream without making any change in the terms and conditions of the existing contracts.

Project, beside the supply of natural gas from Russian Federation to Turkey, is a natural gas pipeline system, which consists of sea and land sections to be constructed in order to provide the supply of Russian gas to Europe through Turkish territories. The construction and operation of two lines taking place in the section will be carried out by Russian Federation. One of the lines taking place in the land section will supply natural gas to only Turkey and as a part of our transmission system, will be constructed by BOTAŞ. The other line in the land section will supply gas to Europe and its construction and operation will be made by Turk Stream Gas Transportation Corporation. (<https://www.enerji.gov.tr/tr-TR/Sayfalar/Dogal-Gaz-Boru-Hatlari>).

Turk Stream Project is considered not only to make contribution to energy security of Turkey but also national economy of Turkey. Economic effect analysis of the land pipeline art of the project is made, and the methodology applied and its direct, indirect, and chain effects were analyzed. Direct economic effect analysis includes the calculations of employment, income, and value added related to construction of pipeline; indirect economic effect analysis, the employment, income, and

value added related to sub industries in the position of supplier during constructing pipeline; and chain economic effect analysis, economic activities emerging on spending the employees gains of companies in direct or indirect associated with the construction of pipeline in national economy. The calculations made show that construction activity will provide direct or indirect employment for 4,000 people. As a direct effect, it was calculated that household income would increase around \$ 21 million, and national income would rise around \$ 155 million. Calculations regarding indirect effects point out that extra employment of 8,000 people, extra household income of about \$ 67 million, and extra value added of about \$ 312 million will be created. When regarded to chain effects, it is foreseen that employment of 1,494 people, extra household income of about \$ 12.5 million, and extra value added of about \$ 79 million will be created (<https://edam.org.tr/turkakim-turkiye-ekonomisine-ve-enerji-guvenligine-etkileri/>).

3.2. TANAP Project and Its Expected Economic Effects

Via TANAP pipeline, natural gas produced in Şah Sea II and other areas on the south of it will be first to Turkey and then to European markets. The decision to transport Azerbaijan gas to Europe by means of TANAP project was completely made in the direction of direct attempts, political wills, and opinions of Azerbaijan and Turkish governments (Yazar, 2011;64). For annually 10 billion m³ Azerbaijani gas to be transported in transit to Europe through Turkey by means of a pipeline to be constructed, an intergovernmental treaty regarding Trans Anatolia Natural Gas Pipeline project, TANAP with its the other name, and in addition to this treaty, host government were signed between Azerbaijan and Turkey on the date of June 26, 2012. With these treaties, legal infrastructure that will provide to be implemented TANAP project was installed. Final investment decisions of Şah Sea Phase II, South Caucasian Pipeline Enlargement Project (SCPX), TANAP and Trans Adriatic Natural Gas Pipelines, whose total prices of investments amounting to \$ 45 billion, were made in the ceremony held in Baku on December 2013. Turkey has a share of 19% in Şah SeaPhase II and South Pipeline Enlargement Projects and a share of 30% share in TANAP project by means of BOAŞ. Thus, Turkey plays an active role in all of processes from producing natural gas to supplying it to final user in nonstop and suitable conditions. The activities regarding project are sustained by TANAP Dođal Gaz İletim A.Ş, to which BOAŞ is a partner with a share of 30%; SOCAR, 58%; and BP, 12%. In TANAP project, it is targeted on providing natural gas supply to Turkey ,m 2018 through a departure points, identified in Eskişehir and Trakya and to Europe in 2020 (<https://www.enerji.gov.tr/Resources/>).

In the scope of the engineering, construction, and supply works of TANAP Project, the maximum effort was made for Turkish contractors and suppliers to contribute to the project, and it was enabled 80% of line pipes to be supplied from Turkish producers and, besides this, Turkish companies to largely take place in construction activities (<https://www.enerji.gov.tr>).

That TANAP project is executed by the financial and technical possibilities of only Turkey and Azerbaijan brought the project into a position that will be realized through Turkey and Azerbaijan. TANAP also means that Turkey and Azerbaijan access together to European Markets about energy transportation (Süleymanov et al, 2013:996).

Examining the attitudes Russia has against TANAP Project has a great importance. Russia having powerful energy resources is used as an instrument energy issue as an instrument, when necessary. Russia objected to the projects that will increase resource diversity and exclude itself and it itself also develops a project a counter maneuver. Russia negatively approaches to Nabucco Project and evaluates to transport Caspian energy resources to European markets through a new East-West corridor opened with Nabucco Project as bypassing itself (Özbay, 2011: 60).

In case that TANAP pipeline also transport Turkmen gas as well as Azerbaijani gas to West in time, its potential to be able to reduce the share of Gas Prom in international gas market and to fall the natural gas prices worry the countries supplying natural gas such as Russia, Iran, Iraq, etc. That Azerbaijan directly begins to sell its own natural gas by means of TANAP project independently from Russia through Turkey to Europe (Erdağ, 2013: 874) and that Azerbaijan uses pipeline belonging to it itself without paying any transit service fee can make the price of Azerbaijani gas competitive in Europe. Therefore, Azerbaijani Administration defines this project as “the way of Azerbaijan to future”. Thanks to TANAP, Azerbaijan, as an energy supplier country, will be undertaken a strong role (Telli; 2015: 363).

TANAP project is an important project with its political and economic dimensions in terms of Turkey, It is expected from TANAP project that Turkey develops the economic and political relationships with the countries of region, increases effectiveness in the region, and raises its position in global energy projects (Erdağ, 2013: 875). By means of TANAP project, Turkey, supplying the gas that will be transported through its own territories cheaper and using in production and consumption, can provide benefit in terms of price security. With TANAP project, Because Azerbaijani gas to be pumped to Turkey is cheaper by 12% than Russian gas, Turkey, paying 88% of the price paid for Russia to Azerbaijan, can have provided support for a little relieving its own

economy and reducing current deficit (Gurbanov, <https://energycorridors.wordpress.com>).

With TANAP project that will start to transport natural gas in 2019, it is expected that Turkey provides a gain of \$ 50 billion in cumulative basis; that the project makes a contribution of \$ 37 billion to GDP by 2029; and that the giant energy companies prefer Turkey (<https://www.yenisafak.com/ekonomi/37-milyar-lik-guc-tanap>). With TANAP project, while 13,000 people are employed in the busiest period, work of 82 million man-hour were made; distance of 82 million km were logged; and 1.8 billion m³ of gas reached Turkey in the first year(<https://www.dunya.com/sektorler/enerji/tanaptan>).

If an evaluation is made about the future of TANAP project, through this pipeline, it can be provided to be transported to Europe not only Turkmen gas but also Kazakhstan gas. In addition, the gas that will also come from North Iraq, Qatar, Iran, and East Mediterranean can be transported through this line. TANAP project strengthens the purpose of Turkey to be hub. All of these positive cases are valid in case of collecting gases coming from the various resources in only a single center, reevaluating them, and being able to sell them to other countries by determining their prices. Otherwise, Turkey will remain in the position of a country purchasing natural gas cheaper than Russian price i.e. it will be only a transit country.

The most important element to become trade center in natural gas is underground storage and LNG facilities. If we do not invest on these two systems enabling to store natural gas, it is evident that we cannot obtain any success in the way of becoming energy hub. Having underground storage for natural gas enables gas to be first stored, then, to pass in to other hand. Since LNG facilitates enable gas to be liquefied and then resold to other buyers through cryogenic tankers, they make contribution to country economy more than pipeline and bring a meaning in like Turk gas. We seem to be deprived of capacity to be able to become a hub with TANAP project. What is the present natural gas projects provide to us is transportation fee obtained from transit pass and cheap gas.

3.3. Rock Gas Reserve and Its Expected Economic Effects

Rock gas was first found in New York State of USA. In the second half of 1880s, rock stone research that regressed upon discovery of crude oil again gained importance with oil crisis experienced in 1970s, and the studies in these areas began to intensify. Beginning from the early 2000s, in USA, rock gas production was intensively made in USA. When the regions, where reserve predictions are made, are examined, it is seen that there are large reserve areas in the continents of America, Africa, and Europe. However, especially in the countries such as China, Russia, and

Australia, there are prominent rock gas beds. It is seen that rock gas almost spreads everywhere of the earth. From this point of view, rock gas is prevalently across the earth not only in a certain regions oil and natural gas. This case strengthens the assumption that rock gas can replace with the oil in the future. In this context, the view that rock gas is effective in the decline of oil prices and that the debate between US-origin rock gas producers and the countries having oil resources triggered the decline in oil prices comes to forefront. The new energy wars with global-scale point out that rock gas can survive as an important instrument (<https://setav.org/assets/uploads/2017>).

The works related to rock gas began in Turkey in 2000s. Within the borders of Turkey, it is stated that especially in Tricia and South East Anatolian Regions, there is a dense rock gas potential. In the direction of predictions made, it is predicted that there are approx. Extractable rock gas potential of 679 billion m³ and rock oil of 4.7 billion barrels in these two regions (<https://www.eia.gov/analysis/>). According to rock gas report prepared by US Energy Information Agency (US-EIA), only 651 billion m³ of this technical potential has an extractable quality in the first phase. These calculations made cover Tricia and South East Anatolian regions of Turkey. Besides this, these studies in this direction are also carried out in Sivas, Tuz Gölü (Salt Lake), and East Anatolian Regions. With these research and drilling activities jointly carried out with the international firms such as Shell and Trans- Atlantic Petroleum, it is targeted on reducing foreign dependency of Turkey in energy that has continued for years.

Rock gas takes place among fossil fuels and, emitting greenhouse gases, causes several environmental negativities. It is argued that operation to extract rock gas leads to environmental pollution, because chemical components, used in the activities of extracting rock gas and present in the content called “rifting liquid”, mess into underground water can cause pollution problems (http://www.eesi.org/files/fracking_technology).

This case transforms water into extremely important production and consumption goods. Therefore, polluting a goods becoming scarce and having vital importance for another service, is not true in the short and long term. Extracting rock gas is economically and environmentally both dangerous and harmful. For the effect of rock gas to be able to be useful economically, it is necessary to alternate extraction method and to use environmental friendly technologies.

During rock gas production, soil pollution and agricultural area losses are of environmental effects that are dealt with. Due to densely opened wells and opening the new roads for being able to reach them, in the regions, where agricultural activities are carried out, a little amount of soil

loss can be experienced. Another point related to these areas does not remain the possibility to be engaged in agriculture after closing wells that have average fifteen to twenty years in the lands they lie (Erik, 2016:427-432). It is necessary to evaluate the advantages and disadvantages of rock gas in preferring it as an energy resource. This relationship is given in Table 4.

Table-4: Advantages and Disadvantages of Rock Gas Production

Advantages	Disadvantages
Increase in natural gas reserves	That production requires high cost .
Fall in energy prices	• Excessive water waste
Decrease of foreign dependency in energy and of energy import	• Polluting air and underground water .
Providing supply security in energy	• Leading to emission.
Increase of tax incomes and GDP	• Its negative effects on worker health
Constriction in current deficient .	• That it requires advance technology.
That it creates new employment areas.	• Social reactions

Reference: https://www.researchgate.net/publication/329718182_

When Table 4 is examined, besides that rock gas has an income creating effects, when considered that it has high coast, it, polluting water having vital importance, as both production and consumption goods, that it makes it unusable; that it pollutes air; and that it negatively affects worker health; it makes think of that it does not have any feature to be able to solve energy problem of Turkey in short term, while in the long term, it can be alternative only by providing to be used harmless technology. Because clean air and clean water and nature are much more important for continuity of human kind.

Conclusion

It is known that more than 70% of energy reserves in the earth are in Caspian Region of Central Asia, Middle East and Mediterranean Regions. A large part of GDPs of the countries taking place in advantageous regions in terms of energy consist of the incomes of energy they export. Turkey is generally in the near position to the regions having high energy reserves. European countries taking place on the west of Turkey are not rich at the self-sufficiency in terms of energy reserves. This case leads the energy import and export to be an important issue. Turkey, taking place between rich and poor countries in terms of energy reserves, has a position to be able to become a secure energy center in terms of transporting energy resources of East to the West. This feature enables Turkey to supply its

own energy in more suitable and lower prices, while transferring energy resources to the West.

Becoming central country or energy hub in energy cannot only be provided with oil and natural gas pipeline projects but also it is necessary to enable natural gas to be first stored by constructing underground storages and pass in the other hand by repricing and after liquefying it in LNG facilities to be installed, to be resold to the other buyers by means of tankers transporting gas. If this infrastructure is installed, Turkish economy can provide more gain than it obtains from the pipeline and gas can gain a meaning like Turk gas.

Besides that Turkey, as a transit country, turns to account primary energy resources, due to the fact that a large part of current deficit is energy-based, utilizing it takes place in an advantageous region, even if its cost is high, its turning to account renewable energy resources presenting continuity is also extremely important. Investments are made related to this issue; however, it seems that our dependency on import in intermediate and investment goods to be used will increase current deficit a longer time.

As a result of that natural gas transportation lines and LNG storage and regasification units are formed via TANAP and Turk Stream projects, Turkey logs important distances in particularly natural gas sector. That the studies of researching oil-natural gas in Black Sea and Mediterranean and that the existing rock gas projects are improved can be evaluated as indicators of that Turkey can have a voice in global energy markets.

Struggling with climatic change, reducing local air pollution, increasing energy security, and utilizing socioeconomic benefits are among the major factor of energy transformation actualizing across the world. Therefore, for struggling with climatic change, instead of fossil fuel –based investments, renewable energy targets should be set, and investments should be supported. Many countries in the world present clear examples regarding how pass to a sustainable energy system can be provided. Turkey, increasing investments it makes on both local renewable energy resources and energy efficiency, should start its own energy transformation and join to this effort. This transformation should be the leading strategic priority of Turkey in such a way that it will reduce current deficit and rapidly increasing energy demand of the country, in order to provide supply security.

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CHAPTER – X

EFFICACY OF UNCONVENTIONAL MONETARY POLICY CHANGES IN A RECESSION⁷

Bilal BAGIS⁸

INTRODUCTION

In a deflationary period such as the Great Recession of 2008, where the zero-lower-bound (ZLB) was hit, policymakers and in particular a central-bank (CB) has an important constraint against its fight with the recession or deflation. However, this does not mean that there is really nothing policymakers (e.g. the central bank) can do. One solution to avoid output losses (real costs) is targeting a higher expected inflation such that the natural rate of interest (real interest rate) goes to negative at the zero nominal interest rate (in case of a shock). Krugman (1998), for instance, offers an inflation target of like 4 percent to decrease real interest rate and increase the demand and spending. However, such a high inflation causes welfare losses (causes distortions in the real economic activity and therefore is inefficient). Eggertsson and Woodford (2003), on the other hand, offers commitment to future monetary policy to increase inflation expectations. In line with these innovative new suggestions, this paper analyzes efficacy of a number of other unconventional monetary policy tools or reforms. I use a model based on RBC theory, and as in the RBC literature, I use the method of calibration to work out the detailed numerical example of the theory. The chapter provides micro foundations, as in RBC models, for macro models.

This chapter discusses efficient monetary policy tools and in that line the role that policymakers should assume in an effort to help deal with the recessions such as the 2008 crisis. In particular, I focus on the tools and policies they have in hand, and how effective those policies are to stimulate the economic activity. In that sense, the very basic and standard 'financial markets are perfect' assumption is relaxed with the introduction of some form of new financial frictions.

The research is inspired from Rajan's (2005) claim that if individual incentives (for decisions regarding risk taking and providing liquidity) differ from what is socially optimal, then there is a 'prima facie' case for a

⁷ This chapter is derived from the author's PhD thesis.

⁸ Visiting Asst. Prof., UC Berkeley, Department of Economics, Berkeley, CA, e-mail: bilalbagis@yahoo.com, ORCID ID: 0000-0003-2314-8991.

policy intervention. This difference between interests primarily comes from the fact that 'asset prices' and 'liquidity' are usually considered as public goods. The chapter also focuses on interaction of the ZLB constraint on nominal interest rates with some form of financial friction such as a credit friction and household heterogeneity, in a single generation setup. The chapter mostly focuses on the short-term period in a recessionary case. In a deflationary case such as the 2008 crisis, output is demand determined and demand is not sufficient; so that, policies should focus on tools to stimulate the demand that is needed.

Rather than a relatively less interventionist solution, such as managing expectations or incentives (e.g. asking managers to invest part of their capital in assets they are managing) - which is also difficult and time consuming to build such a reputation, chapters of this dissertation focus on discretionary policies, e.g. the tools policymakers are able to use to intervene into the market directly (see Bagis, 2017). Meanwhile, all the three chapters of my research focus on different policy instruments at the discretion of policymakers to deal with (certain issues such as) deflationary situations such as the 2008-10 financial crisis (in line with the great depression, the Japanese recession, or the most recent European recession). In particular, I focus on efficacy of these policies and check which of the policy instruments are more effective to stimulate the economic activity.

This paper aims to provide a better understanding of the efficacy and macroeconomic benefits of an unconventional monetary policy for a closed economy case. The paper distinguishes itself from the existing literature by including heterogeneity, binding ZLB constraint and real assets to achieve more reasonable and realistic analysis. The paper discusses a partial equilibrium, standard New-Keynesian DSGE model, but incorporates a binding ZLB and the credit frictions proposed by Kiyotaki and Moore (2008) to better capture the real-world implications of these macro policies.

The central bank (CB) of the closed economy employs quantitative easing (credit easing policies in particular) to stimulate the economy. The paper deals with efficacy of this most controversial tool at the CB's discretion, to deal with a financial crisis and analyzes how it affects the macroeconomic (C, I and Y) and financial variables (asset prices such as the q ratio) of a country. In particular, it analyzes how the interaction of the ZLB with credit frictions affects the economy. Analysis also show the quantitative easing (QE) policies do actually work and are able to stimulate the macro variables significantly.

2. Understanding the Recessions

The Great Recession and the following European debt crisis have taught a new lesson: Even at the zero-lower-bound (ZLB), on the short-term nominal interest rates (e.g. the federal funds rate), there is still much monetary policy can accomplish. The new tool, quantitative easing (QEs), used by the CBs in advanced economies (namely the Fed, the BOJ, the BOE and finally the ECB) was all new. It has been argued, since then, that the recovery across advanced economies owes its success to the determination and aggressive policy actions of the CBs.⁹

Understanding these policies, also requires a profound understanding of the problem during the crisis. It has, for instance, long been argued (see, among others Brendon et al., 2005) that private assets (e.g. mortgage backed securities - MBSs) and the related housing sector were at the core of the 2008 financial crisis (as is evident in the failure and the following effects of Bear Sterns and Fannie Mae). It would, hence, not be possible to increase the economic activity without a significant improvement in the housing sector. Naturally, the QEs should have focused on the MBSs mainly. As a matter of fact, they mostly did. Even during September 2012, when the Fed announced QE III (or LSAP 3), it was aimed at agency MBSs in particular. It brought forth a new \$40 billion worth asset purchases each month (with no end date).¹⁰ Main goal was said to increase the economic activity and bring down the unemployment rate. It is supposed to continue until the economy (particularly the labor markets) shows significant improvement.¹¹

Up until December 2013, the Fed was buying \$85bn (then started decreasing it by \$10bn a month) worth assets a month and funded these purchases with the newly created money.¹² Meanwhile, the BOJ also announced it would accelerate its bond purchases to nearly 84 trillion yen in 2014, equivalent to 17 percent of its GDP. In Europe, on the other hand, the ECB was then planning to start active purchase of assets during the spring of 2015. This paper focuses on the effects of these QE policies and discusses whether these the QEs implemented by the advanced economy

⁹ See e.g. Eichengreen et al. (2011) and Del Negro et al. (2013) among others.

¹⁰ This \$40billion agency MBSs was in addition to the ongoing long-term asset purchases of around \$85 billion per month (which includes \$45billion worth Operation twist that ended in December of 2012).

¹¹ QE III was told to bring in a new language in Fed statements, in the sense that it recalls importance of employment increase within the central bank's dual mandate: price stability and full-unemployment.

¹² The latest range of QE was funded by newly created money, but in the past, it used different measures to fund its asset purchases. See the introduction section.

CBs are a simple 'beggar-thy-neighbour' (zero-sum) actions or a (positive-sum) 'enrich-thy-neighbour' policy actions, as proposed by Bernanke (in a March 2013 briefing). In a simple New Keynesian DSGE model setup, incorporated by Kiyotaki and Moore (2008) type credit frictions, I hope to better capture fluctuation in the macroeconomic variables and show how its real-world economy effects work.

It should also be noted that while the Fed has very recently began tapering its QE stimulus packages, in the EU and Japan, CBs are still easing. Hence, unlike the Bank of England and the Federal Reserve, the ECB and the BOJ are more into further looser monetary policies in an effort to keep their economies out of the deflation risks. Additionally, given low inflation and even a deflation problem in advanced economies, QEs are still very likely to be on the agenda for a foreseeable future, in particular in the developed economies. In 2014, the ECB decreased the rates to the negative territory, as a means to fend off the deflation. Even in the USA, as Mrs. Yellen put it during the talk at her nomination in late 2013, still, 'more needs to be done to strengthen the recovery'.

2.1 Do the QEs Really Work?

Broadly speaking, the usual concern over the effects of QE policies is their domestic effects as they were implemented by advanced economies to mainly deal with their domestic issues. QEs work via a few channels, to affect the economies they are implemented in. They may, for instance, cause an excessive decline in exchange rates and even asset or real-estate bubbles (through capital flows). They have usually sparked concerns of currency wars. Many monetary economists, including economic historian Eichengreen, oppose these claims though. On the other hand, if investors (that sell their securities to the CBs) buy foreign assets, domestic currency also weakens and net-exports (NX) may increase. Decreasing currency value in the rich-world (dollar depreciating for instance) causes capital inflow to the rich world. Neely (2010), for instance, find that the CB purchases of LSAPs had significant effects on the US and foreign long-term bond yields and on the exchange-rates.

Expansionary monetary policies in advanced economies were reported to increase price of the other financial and real estates (since increasing money supply increases the demand for these financial assets) such as the stock prices. Some were even expecting a bubble in real estate market (similar concerns are voiced in the US as well, every now and then). Yen was reported to go down against the US Dollar after the QE announcement by the BOJ. Increasing asset value, increases purchasing

power of the households and firms. Increasing demand and consumption, in return, increases economic activity, and hence the taxes and income for government.

In Japan, since the beginning of 2013 when the QQE was initially applied, a 4 percent growth was observed in the first 2 quarters and another 2 percent growth in the third quarter. Devaluation, following a huge supply of Yen, depreciates (weakens) Yen against other major foreign currencies and increases competitiveness of the domestic producers and hence increase exports. Increased exchange rate (devaluation in small open economy currency) will (in Japan for instance, since the Yen is depreciated) also help increase inflation that is needed through imports.

Likewise, after the September 2012 round of the QE policies in the US, the value of US dollar was decreased, since total supply of dollar is increasing. The real test is the behavior of spending, income and employment in a longer time period. Del Negro et al. (2010) for instance, find similar to the very high government expenditure (and other fiscal multipliers as in Eggertsson (2010) and Christiano et al. (2005)) that non-standard OMOs (liquidity policies) have very large effects in a liquidity trap (in a binding ZLB case). Even as high as preventing another Great Depression (which corresponds to an up to 30 percent drop in output). Elias and Jorda (2013), based on Jorda et al. (2012), show, had a CB responded to the 1907 panic the same way they did at the earlier stages of the 2008 crisis, the GDP would have contracted by 2 percent less. They show both the liquidity shock (the financial shock) and unconventional policy can have large quantitative effects. In absence of the unconventional monetary policies implemented by the CBs, they argue, the economy would have faced a second great depression.

2.3 Focus on Heterogeneity

An important feature of the model in this paper is the heterogeneity it employs. The models that distinguish between savers and borrowers, as in Mankiw (2000) and Bernanke et al. (1999), Eggertsson and Krugman (2010) and Brendon et al. (2005), are usually more useful in policy analysis and discussions, today, than a very basic representative-agent model. Most basically, if borrowers (or debtors) are debt-constrained, as in Eggertsson and Krugman (2010), then the Ricardian equivalence (which itself is an outcome of the models rather than being an empirical reality) does not hold. In the representative household models, since the household holds all the government debt and provides all the money and funds, borrowing constraints (that were at the core of the crisis) do not bind and thus do not

matter. However, if we assume heterogeneous households as in Bernanke et al. (1999) or more recently as in Eggertsson and Krugman (2010) or Gali et al. (2007), the constraints will matter. The effect of OMOs will depend on the type of assets bought, what kind of liabilities are issued and more importantly the way and the time the CB or government profits (transfers) are rebated to the public.

Likewise, papers using the simple representative agent assumption ignore the complications of real life such as varying liquidity of different papers and various interest rates that co-exist. Brendon et al. (2005) use a sticky price business-cycle model with some entrepreneurs constrained with collateral constraints. While they find no role for quantitative easing in general; given some heterogeneity and differing liquidity of papers, their model also shows substantial use for credit easing policies (CB buying securitized loans from banks, that were aimed at entrepreneurs). Therefore, one of the key points of the paper is the differing liquidity of private and public papers (different assets have different liquidities), as in Tobin (1969). The paper, with its focus on liquidity (as opposed to nominal rigidities only, usually studied in the NK models), has an alternative interpretation of the Keynesian interventionist policies, as in Kiyotaki and Moore (2012). With its focus on the effect of LSAPs on market interest rates, the paper analyzes whether the LSAPs decreased the market interest rates and created any spreads.

This paper, via the entrepreneurial setup, have a banking sector (to make sure there isn't any liquidity trap and money supply is effective). This type of financial intermediaries (that function as banks) are key to the money multiplier process as well. If we believe monetary base and aggregate money supply will be different, then there should be a banking sector in the model that uses that base money supplied and via a money creation process (credit and lending). This way, it causes a much higher money supply that is needed to avoid any credit constraints and any decrease in the aggregate demand. Gertler and Karadi (2012) argue LSAPs show the CB as a financial intermediary. This would work if there was any limit to arbitrage for the private financial intermediaries.

2.4 Relation to the Literature

The paper uses a standard NK DSGE model (in line with Christiano et al. (2005) and Smets and Wouters (2007)) and incorporates the Kiyotaki and Moore (KM) credit frictions to account for real effects from an unconventional monetary policy. Other frictions in the model are a result of sticky wage and prices, and capital adjustment costs (as is common in

the RBC models). In response to a shock that decreases the aggregate demand and tightens the credit constraints, the CB uses (unconventional) monetary expansion to stimulate the demand and loose the credit constraint by increasing the collateral values.

The paper is in line with literature that incorporates financial frictions, nominal rigidities and a shock reminiscent of liquidity problems during the 2008 crisis into an otherwise standard DSGE model to analyze efficacy of various policies. This literature includes, but not all, Christiano et al. (2009), Bernanke et al. (1999), and Curdia and Woodford (2009) and Kiyotaki and Moore (2012). The paper adds nominal rigidities to Kiyotaki and Moore (2008) model. Sticky price and wages are important because they allow output to drop (see, among others, Chari et al., (2000) and Erceg et al., (2000)). Absent sticky prices, only investment would be negatively affected by a liquidity shock. Interaction of financial frictions (shocks), nominal frictions (rigidities) and the binding ZLB constraint (that constrains the CB to respond to the shock or to accommodates to shock) creates these results.

The model has heterogeneity in the household sector. The financial intermediation that is introduced in the model is crucial (and matters) for better allocation of resources.¹³ The paper, in this sense, is in line with a series of papers including Williamson (1987), Gertler and Kiyotaki (2010) and Gertler and Karadi (2011) in Kiyotaki and Moore (2008) that include the banking sector in their business cycle model. It analyzes the real effects of the quantitative easing policies implied by the CBs of the rich economies around the world, mainly the Fed and the BOE, BOJ and most recently the ECB.

Gertler and Karadi (2009) show an active role for buying bank equities, as in the latest credit easing policy announced, substantially decreases the response of the output gap and the inflation. Curdia and Woodford (2010) show if the interest rates follow a Taylor rule, instead of an optimal policy for setting interest rates, there is an important role for CB intermediation (for purchasing the private sector assets/loans). The Central Bank purchases loans made by banks to the impatient consumers (or entrepreneurs). QE1 and QE3, that I focus here, were in line with suggestions in Bernanke, Reinhart and Sack (2004). Gertler and Karadi (2012) argue the CB interventions through the LSAPs were a basic re-

¹³ This is in contrast to Wallace (1981), Krugman (1998) and Eggertsson and Woodford (2003) and earlier to Barro (1974) for his work on the RE theory.

intermediation process where the CB is replacing the private intermediaries that face limits to arbitrage.

3. The Model

I use a partial equilibrium, standard New-Keynesian (NK) DSGE model with Calvo (1983) type nominal frictions and Kiyotaki and Moore (2008) type financial frictions.¹⁴ Interaction of the ZLB with credit frictions is key to this paper and I analyze how it affects the economy. Given these nominal frictions (and the recessionary case), actual labor and output will be demand determined.

All agents in the model are optimizing (except the central bank that follows a Taylor rule in normal times and is bounded by the ZLB on interest rates, otherwise). Up to this point, this is a standard New-Keynesian DSGE model. However, I use two type of infinitely lived agents: workers and entrepreneurs (to represent the financial sector), in line with Bernanke et al. (1999), and the CB conducts unconventional policies in addition to its conventional Taylor rule.¹⁵ The households are accompanied by a continuum of intermediate good producers and a representative final good producer. Capital producers, convert consumption goods to investment and then create the capital for the economy. Time is discrete and the only uncertainty comes from a shock to the liquidity of private paper (ϕ). Another shock to the productivity, will also be discussed. The economy is cashless as is standard in the NK literature (See Woodford, 2003).

The model adds banks (i.e. financial intermediaries (entrepreneurs) that intermediate funds between savers and borrowers) to the standard NK model setup. These constrained agents (borrowers or impatient agents) borrow from the unconstrained agents (savers or patient agents or workers).¹⁶ An important assumption is that each member of the household works for the benefit of the whole household (family), such that, because of these preference differences, the entrepreneurs focus on production while workers specialize in supplying labor force and buying the consumption goods needed for the family.

¹⁴ Indeed, all DSGE models are built on RBC models with some form of frictions and some shocks for dynamics.

¹⁵ We need entrepreneurs (financial markets), because we want saving and borrowing to occur between private agents.

¹⁶ It could alternatively be set as $\beta^e < \beta$ (β of workers is higher than that of the entrepreneurs). This is why they are saving.

The model has no money. Instead, I have bonds (government issued nominal assets) as the liquid assets (as in Woodford, 2003). This makes the model different than the original Kiyotaki and Moore (2008) model. Having bonds, instead of money, and an accompanying (gross) nominal interest rate, R_t , makes it possible to use a conventional monetary policy such as a standard nominal interest rate setting rule. It is also needed to show the ZLB case. B_t represents all liquid assets in the market.

3.1 Calibration of the Model Economy

Model economy is calibrated to the data for a small-open-economy at quarterly frequencies. Most of the standard parameter values of the model economy follow Woodford (2003), Christiano (2004), Eggertsson (2010), Gali et al. (2007), Kiyotaki and Moore (2008) and Del Negro et al. (2010). As in the earlier fiscal policy chapter (Bagis, 2017), I use parameter and shock values to match an output contraction of 30 percent and a deflation of 10 percent, both of which are statistics from the first quarter of 1933 in the U.S (Table 1). I choose the great depression as the benchmark because my argument is that the unconventional monetary policies during the 2008 -2010 period were, as argued by many, better be regarded as a reaction to avoid another great depression due from the banking shock in 2008. The magnitude of the crash due to the 2008 crisis was comparable to the Great Depression according to Reis (2010). Therefore, calibration takes place in accordance with the following target values for the benchmark economy:

Table 1: Target Values for the Benchmark Economy

Targets	Values
\dot{Y}_s	-30 percent
π_s	-10 percent

The standard (conventional) parameters are as follows. The discount factor (β), which is quarterly and implies a steady-state short-term interest rate of 2 percent (since $\beta = 1 / (1+r)$ and $(1+0.02)^{-1/4} = 0.995^{17}$ is 0.995; σ_u , coefficient of relative risk aversion is 1.1599; the depreciation rate (ζ) is 0.025 (annual 10 percent); the capital share (α) is 0.4, elasticity of substitution between goods and labor supplied ($1 / (1-\theta_p)$) is $(1.1) / 0.1 = 11^{18}$, the relative utility weight on labor or the parameter that pins down

¹⁷ Consistent with the ZLB literature and increases the likelihood that the ZLB binds in the 'crisis experiment' here.

¹⁸ $\theta_p=1/1.1$ is a measure of the degree of monopolistic competition in labor and product markets and $1/\theta_p= 1.1/1=1.1$, which implies a 10% markup.

the steady state level of hours (ω) is 1 (it is set to get a steady state share of working hours), the Frisch elasticity of labor supply (η^{-1}) is 1.5692, the measure of price and wage rigidity (γ_p or γ_l) is 0.75 implying an average duration of 4 quarters (a year) for wage or price contracts.¹⁹

For the conventional policy rule the standard estimates are those from the Taylor rule, Taylor (1993). The feedback coefficient on inflation (ψ_p) is 1.5, and that on output-gap/output (ψ_y) is 0.5. Coefficient in the fiscal rule that determines how transfer/taxes respond to changes in net government debt position is chosen to be $\psi_t=0.1$ which means transfers/taxes respond very slowly to changes in public debt. This small coefficient in a way tells that the government funds its interventions by public debt (bonds), in the short-run; but in the long-run, with smooth increase in taxes, the intervention will be funded by taxes eventually.

Calibration of the CB intervention (asset purchases) is in accordance with the more than \$1.5trillion increase in the Fed's balance sheet between late 2008 and early 2009, during the first QE. The steady-state value of government-debt-to-GDP ratio ($B/PY = B^f/Y$) is taken as 40 percent, as estimated by Del Negro et al. (2013) and consistent with flow of funds measure of real government paper to GDP ratio. The degree of monopolistic competition is calibrated using the steady-state markup of 10 percent ($\theta_p=\theta_l=0.1$). This is relatively high compared to the literature (such as Bills and Klenow (2004)). Though, it, in a way, is high to account for real rigidities that are ignored.

The main challenge in terms of model parameters is selection of the financial friction parameters, namely ϕ and θ (actually their steady state - pre-crisis - values). ϕ is calculated, in Del Negro et al. (2013), by looking at the average liquidity share in the US economy, between 1952 and 2008 (data from the U.S. flow of funds). $L_t = B_{(t+1)} / (B_{(t+1)} + P_t q_t K_{(t+1)})$ (ratio of the liquid government liabilities to the total assets in the U.S. economy) is about 13 percent on average. Shock to this variable is a shock to ϕ , that we are analyzing here.

The model-specific parameters will be as follows. The arrival rate of investment opportunity per-period ($1-f = \chi$) is 0.05, which is also the fraction of entrepreneurs, as in Kiyotaki and Moore (2011) and Del Negro et al. (2013).²⁰ The steady state value of the two financial friction

¹⁹ And $1/(1-\gamma_p) = 4$ quarters.

²⁰ This is meanwhile the arrival rate of investment opportunity per-period (χ). Since WWII, the fraction of entrepreneurs (household members doing financial intermediation) in the US has increased from 2% to 8%, according to Del Negro et al. (2013). It is as in

parameters is another crucial model specific parameterization. The borrowing constraint parameter (mortgageable fraction of new investment, θ) is 0.19; the resaleability constraint parameter (resaleable fraction of equity in the steady state, ϕ) is 0.185.²¹ The choice of $\phi = 0.185$ corresponds to a liquidity premium of around 1.5 percent (and the liquidity premium goes up as ϕ goes down), and a return on liquid assets equal to 2.2 percent, both of which are real returns (as ϕ goes down, return on liquid assets goes down since liquid assets are becoming more valuable and demand going up).

Model shocks are, a shock to the productivity (used in many RBC and NK DSGE models) A_t (the aggregate productivity), another shock to liquidity of private paper (as used in Kiyotaki Moore (2008) and Del Negro et al. (2013)) ϕ_t (the liquidity of equity) and a shock to the borrowing constraints (as in Brendon et al. (2005)) are the three shocks we will be analyzing.²² I assume these shocks capture events that occurred during the 2008 crisis. They all jointly follow a stationary Markov process (a stochastic process) in the neighborhood of their steady-state values (A, ϕ). A shock to A_t is called a productivity shock, while that to ϕ is called a liquidity shock.

The primary shock to the economy is a financial shock to these frictions (a reduction in resaleability of the private paper - or liquidity in the secondary market for private papers drying up as pointed out by Gorton and Metrick (2010)) similar to the one Del Negro et al. (2013) uses; while Gertler and Karadi (2011) and Gertler and Kiyotaki (2010) use a real shock that decreases the capital stock.²³

Key parameters that determine the calibrated values are the magnitude of shock $\hat{\phi}_L$, where L stands for crisis period), the duration ($1/\omega_w$) of the shock, and the intensity (ψ_k) of the government response to the shock (Table 2). The persistence parameters ρ_a , ρ_θ and ρ_ϕ (in the functions

Doms and Dunne (1998) and Gourio and Kashyap (2007); Cooper et al. (1999) take it as 10% per quarter and 40% per year.

²¹ Consistent with the 13% liquidity share in steady-state, as is evident from the data. It basically means an Entrepreneur can resale up to 18.5% of his equity holding within a period/quarter, and $1-(0.815)^4 = 56\%$ of his equity within a year.

²² I add the third one following Brendon et al. (2005) that claim the shock to the pledgeability ratio (fraction of the expected NPV of assets the entrepreneurs are able to borrow against) captures the fact that the crisis was originated in the financial markets.

²³ If we take $(1-\phi)$ as the haircut on private assets in the secondary market, as pointed out in Gorton and Metrick (2010), then the size of the shock is in a way a shock to this haircut. Haircuts on repo has taken place of run on deposits of the past decades of bank runs indeed.

for exogenous changes in productivity and resaleability constraints) are all equal to 0.95. The innovations of the shocks are e_a , u_θ and u_ϕ , and they follow a normal distribution, $e_a \rightarrow N(0, \sigma)$ and $u_\phi \rightarrow N(0, \sigma)$. The aggregate productivity (A) increases by 1 percent.

Table 2: Parameter Values of the Model Economy

Parameters	Description	Values
σ_u	coefficient of RRA	1.1599
β	subjective discount factor	0.995
η	inverse elasticity of labor supply	1.5692
γ_p	Calvo hazard rate for price	0.75
γ_l	Calvo hazard rate for wage	0.75
θ_p	the degree of MC in goods market	1/1.1
θ_l	the degree of MC in labor market	1/1.1
ζ	depreciation rate	0.025
α	elasticity of output with respect to capital	0.4
$S''(1)$	adjustment cost parameter	1
ψ_p	coefficient on inflation in Taylor rule	1.5
ψ_y	coefficient on output in Taylor rule	0.5/4
ψ_t	coefficient on debt in fiscal rule	0.1
ψ_k	size of government response	-0.063
r_s^n	natural rate of interest rate	-0.0104
θ	SS borrowing constraint	0.19
ϕ	SS resaleability constraint	0.185
ω_w	probability that crisis will end	0.167
$\hat{\phi}_L$	size of the liquidity shock	-0.6
$1 - f = \xi$	fraction of entrepreneurs	0.05
B^r/Y	SS government debt-GDP ratio	0.4
r^b	return on liquid assets	0.022
ω	relative utility weight on labor	1

Magnitude of the shock to the resaleability constraint is captured by increase in liquidity share at the trough of the crisis (right after the collapse of Lehman).²⁴ During the fourth quarter of 2008, liquidity share increased by 26.6 percent according to Del Negro et al. (2013). Size of the government intervention is also known. Then the parameters $\hat{\phi}_L = -0.6$ and $\psi_k = -0.063$ (size of government response or intensity of the government

²⁴ We talk of an increase, because during a crisis, value of bonds - liquid assets- increases while that of illiquid equities decreases. Meanwhile, government will also be increasing quantity of bonds.

response to the shock) are calibrated to match the 26.6 percent increase (on impact) in the liquidity share and an unconventional policy intervention, 10 percent of GDP.²⁵

The only key parameter left to be determined is the expected duration of the shock. For that, I use $\omega_w = 0.167$, which corresponds to 6 quarters of ZLB binding or crisis continuing.²⁶ Average share of liquidity and the steady-state returns on government and private assets (in addition to the other benefits) also provide information on the importance of financial (credit) frictions.

4. Results

The impulse responses show, the initial shock decreases all the main macro and financial variables with output and inflation leading the decline and taking the economy into a deep depression. Private consumption (C) and business investments (I) are negatively affected in line with the output (Y) movement. As is expected, though, *I* (investment) declines by more than *C* (consumption). Indeed, this is the usual trend during the financial crisis. If *I* does not fall as much as expected, this is most probably because of the absence of a strong residential sector and hence the residential investment. Considering the importance of the housing sector during the great recession period, the model outcomes would not make a sense. Overall, this outcome shows we are on the right track.

As discussed earlier, high real impacts of the liquidity shocks are related to existence of both the nominal and real rigidities of the model economy as well as the entrepreneurial setup and the binding ZLB. Following the shock, output, private consumption and the investment go down and then gradually recover over time. The gradual recovery process owes to the persistence of the shock, and also adds to the model dynamics. The fall in private consumption is meanwhile similar to what the data and the literature show. If fall in 'C' was different than the decrease in the data, it would be basically be due to absence of stimulative fiscal policies used that the model ignores (namely the American Recovery Act).

²⁵ Consistent with change in the asset side of The CB's BS after the collapse of Lehman. $\hat{\phi}_L = -0.6$ basically means, the resaleability of equity in the secondary market falls by 60%.

²⁶ ω_w is the probability that the crisis will end. The expected duration of shock (or ZLB to bind): $1 / (1 - (1 - 0.167)) = 1 / 0.167 = 6$ quarters. At baseline $\omega_w = 0.167$, and at great escape $\omega_w = 0.100$.

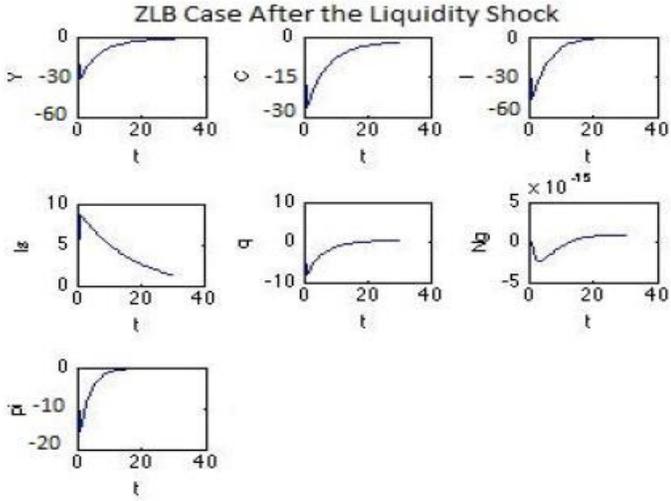


Figure 1: I assume the QE policies are implemented following the liquidity shock. Post-the-QE, the cash flow to the world economies creates are positive money inflow and positively affects the SOEs, as well as the advanced economies applying those policies

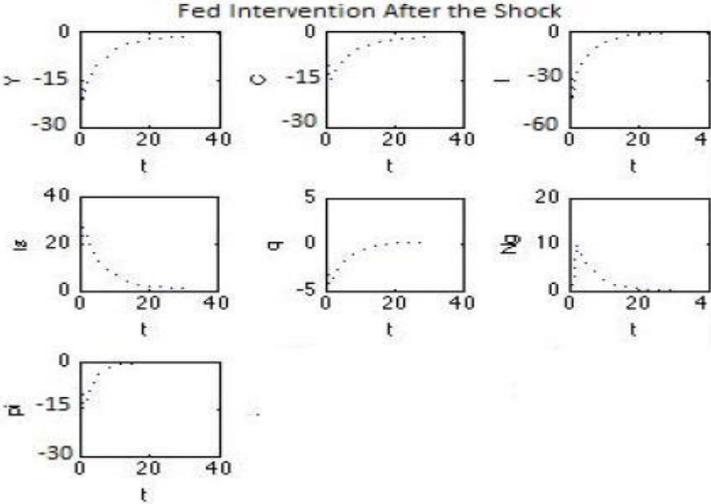


Figure 2: Model simulation results: The initial shock puts economy into a recession with negative output growth and very high deflation. They both correspond to a liquidity trap with a ZLB on the nominal interest rate.

The model delivers simultaneous drop in output, in inflation, and interest rates (goes far below the ZLB, if there is no ZLB) during the crisis. Yet, as argued by the Keynesian business cycle theory, the drop in I (investment) is much higher compared to private sector investment. Even under QE, this difference is still higher but the recovery period for I is

shorter compared to both the general output (Y) and the private sector consumption (C).

Table 3: Impulse Responses: Initial Response of the Main Variables to a Liquidity Shock (Under a QE and Without It)

variable	No Intervention Case	Under QE
Y	-31,2%	-17,0%
π	-13,7%	-14,3%
i	-5	-1%

Comparing figures 1 and 2, we observe that responding to the financial crisis (that is the liquidity crunch) with money creation and bond purchases from the market (using the QE policies or the credit easing policies as we focus on in this paper); hence providing the much-needed money to the market, both decreases the negative outcomes of the crisis and the period of recovery after the shock is over (Table 3). In a way, the outcomes show, non-standard monetary policies of the CBs of the advanced economies have actually been working and helping economies suffer much less compared to what would occur otherwise.

4.1 Robustness Analysis

Following the initial outcomes of the model, I run a couple of robustness tests (Table 4). These tests are to check the significance of the quantitative results to the selected parameter values. As mentioned in the earlier sections of the paper, a few crucial features of the model are the nominal rigidities, the heterogenous household setup and the adjustment costs usually assumed in the RBC literature, due mainly to the time required to accumulate capital and to better capture the dynamics of the model variables. The literature, usually checks for alternative variables σ and β values as well. I run a couple more tests to see whether the nominal rigidity, adjustment cost parameter and the likes also matter for the model outcomes.

For instance, I change the degree of wage and price rigidities parameter γ to play with the time it takes to change prices for a group of firms. γ_p and γ_l are originally set at 0.75, as commonly used in the literature. I change them down to 0.60 and up to 0.85. I then change the relative risk aversion level parameter, γ_u . It was set at originally at 1, corresponding to compensating income and substitution effects of delaying a unit of consumption. Changing this parameter to 2, as in Del Negro et al. (2011), seems to matter as well. Yet assuming a stable value 1 still makes sense as the outcome is not significant.

And the adjustment cost parameter, $S''(1)$. Originally at 1; following the literature, I change it to 0 and to 3 to see its impacts. The feedback coefficient (ψ_k) in the policy rule for asset purchases, and the size of the shock ($\hat{\psi}_{k,t}$) are adjusted, each time (for each new parameter value), to catch the \$1.5tn increase in Fed balance-sheet, and a 26.6 percent increase in liquidity share. For a more severe financial crisis, the expected probability of returning to the steady state might also be increased.

Table 4: Robustness Tests for Various Parameter Values

Targets	Initial Value	After QE	Nom. Rigidity	$\Delta CRRA$	Adj. Cost
\hat{Y}_s	-31 percent	-19	-25	-30	-30
π_s	-14 percent	-14	-11	-13	-13
C_s	-28 percent	-12	-25	-28	-28
I_s	-58 percent	-38	-46	-56	-52

As is clear from the table above, the effects of the QE policies make the most difference with changing nominal rigidity parameter, which is missing in many related studies including in Kiyotaki and Moore (2008). The probability of the recession to end, and the fraction of or probability of being an entrepreneur (that is the heterogeneity of household setup) are also important and needs to be analyzed further.

The table above shows that; while, the Fed intervention has been effective, changing CRRA and the adjustment cost parameters do not affect the results much. Yet, fraction of entrepreneurs and the degree of nominal rigidities are still vital for the quantitative model outcomes.

5. Concluding Remarks

With the ECB most recently announcing its intention to buy private sector bonds in Europe, the earlier bond and asset purchases by the Fed, the BOE and the BOJ has regained importance. While there are already a number of papers on domestic impacts of these policies, literature misses a sticky price, credit constrained NK model for credit easing policy analysis. The paper's main result is that the unconventional Fed policies in this sticky wage, sticky price setup with a binding ZLB constraint have actually prevented a huge output loss and the countries that have implemented these policies have all actually benefited. Additionally, the nominal rigidities (sticky price and/or sticky wages) provide rationale for conventional monetary policy (a rule for setting the interest rate).

Nominal rigidities are needed to get real effects. Absent nominal rigidities, only T goes down (C rise, cancels I change out; so, Y is

unchanged). With the sluggish prices both C and Y go down. This is because, with binding ZLB, nominal interest can't fall, so real rates cannot go down to increase C. This paper has provided an economic analysis of a 2008-like financial crisis. The NK DSGE model had a liquidity shock (decreasing resaleability of the private paper) to capture what happened in 2008. The key factor in the model is varying liquidity in private and government papers, a distinction reminiscent of the difference between the federal funds rate and the private borrowing rate.

The model incorporates nominal rigidities, a few financial frictions and the ZLB to account for quantitative impacts of the QE policies. Adding nominal rigidities provides an extra advantage to capture the real effects of the asset purchases as nominal rigidities provide basis for real movements in response to nominal changes. Real impacts and the impulse responses are positively impacted by the nominal rigidities. Heterogeneity, binding ZLB constraint and real assets distinguish analysis of this paper from the earlier literature.

A theoretical small-open economy with two country model, one country imposing the QE and the other one bearing its effects is an important extension of this paper that I intend to analyze in the future. Meanwhile, a more comprehensive robustness analysis with different key parameter values and estimation of the model parameters also needs to be done in order to better capture the impulse responses.

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CHAPTER – XI

CHANGE MANAGEMENT, INFORMATION MANAGEMENT AND MULTICULTURALISM IN E-COMMERCE

Mesut ATASEVER*

INTRODUCTION

Like all other areas in the rapidly shrinking world, the trade area is undergoing rapid change. It is very difficult to separate areas from each other with sharp lines, so it is quite natural that cultural encounters, harmonies, conflicts and problems occur as societies interact. In addition to this, the trend towards e-commerce along with the traditional trade is one of the results of globalization.

Developments in management affect all parties with a rising trend in parallel with globalization. Quite different societies are confronted in cultural, commercial, legal, tourism and recreational fields. A business manager, especially an e-commerce manager, can only succeed in this regard by taking into account x, y and z generation differences, multicultural management, flexibility and change management. Hard-to-satisfy customers, variable and rapidly increasing market segments are among the issues that need to be emphasized in e-commerce as well as in traditional commerce. Combining all of these with current information management along with the speed of commercial change makes it indispensable for the e-commerce manager.

GLOBALIZATION AND CHANGE IN E-COMMERCE MANAGEMENT

Globalization is a general name given to the situation of the whole world moving towards a single society. Globalization is a comprehensive concept with commercial, legal, political, moral and military aspects. The removal of the barriers to communication, the increase in production and consumption of information, and the ease of interactions have been effective in the formation of globalization. Technological advances have triggered these interactions. Globalization affects cultures as well as e-commerce and erodes local cultures, creating a trend towards a single popular culture.

The dominant cultures, especially the cultures of developed countries, rapidly destroy the cultures of developing and underdeveloped countries.

* Asst. Prof. Dr., Usak University, Applied Sciences School, International Logistics and Transportation Department, mesut.atasever@usak.edu.tr

The most important indicator of this is the way of celebration and entertainment, forms of leisure, the similarity of consumption patterns and even towards the same.

The positive effects of globalization on economic and commercial life cannot be ignored. First of all, the positive effects of the removal of the borders, meeting the human needs, product diversification, increasing the competition and hence the quality of production should be mentioned. Economies have developed rapidly due to all these effects. Moreover, together with foreign trade and e-commerce, which is a kind of necessity, the exchange of culture from society to society has created an opportunity for societies to understand each other better and provide an atmosphere of peace. Although the risk of war does not diminish in the world, it is possible to say that societies of hostility with other societies have decreased. It has become necessary to keep up with this rapid change at the level of enterprises, societies and states. It is clear that the most important way of this is possible by continuous innovation, improvement, quality improvement and continuous progress. Businesses that prefer to be open systems spend energy, time and money both for their R&D studies and for this progress scientifically. Ignoring all these progresses and changes, neglect, lags behind, increases the distance and therefore requires more energy, time and money to catch up. Scientifically, there are numerous studies on continuous quality, productivity, human behavior, job satisfaction, market research and consumer behavior. All of these people are looking for ways to better understand the people and therefore the society, to produce better and to trade better.

Although adaptation to change is a classic expression, the issue that needs to be emphasized is that while adapting to change, it is necessary to become a party that makes the change after a while. Because it is not possible to talk about a sustainable development only when followed. Constantly following the changes that others, other societies and other cultures lead and lead to, will ultimately lead to the separation of societies from their local and own characteristics.

The aim should be to follow the change meticulously, to be followed, to be a leader, to realize scientific technological and commercial leadership. Globalization has a profound impact on business management processes. A more organic, more gentle, more functional and more professional stage has been reached in the governing-managed relationships. This makes institutionalization compulsory.

Logistics is one of the main subjects of foreign trade and e-commerce. It is an area where rapid change takes place and requires high flexibility. If there are products and consumers anywhere, logistics should be mentioned. In this respect, logistics management is one of the areas that should not be

neglected. Globalization is also transforming logistic processes intensively due to e-commerce.

The fact that unmanned aerial vehicles will be used in daily and commercial life will bring another dimension to logistics. This area should be carefully monitored. Another issue that may affect logistics and logistics management is the three-dimensional printers. The software, which is one of the converter features of these printers, will provide the consumer with the opportunity to produce the products he needs himself. Should this be possible in the future, it should be considered, discussed and followed.

There are definitions of goods and services in classical business subjects. Nowadays, these definitions of goods and services are insufficient to define some products. For example; Any software purchased over the internet network can be counted as antivirus, music, movies, goods or as a service. Traditional definitions are insufficient to meet such products. If it is given a third name, the virtual product description should be offered. Management, marketing, logistics and storage of virtual products are different from goods and services. In a period when the borders were lifted, foreign trade and e-commerce became quite similar and complicated. Inter-country and inter-regional and inter-continent commercial partnerships make e-commerce as easy to access as traditional commerce.

INFORMATION MANAGEMENT IN E-COMMERCE

Knowledge was very important in every period. However, the rapid increase in the last quarter century, as never before in the previous millennium, has increased the importance of information and made it an indispensable factor.

Traditional businesses often miss the advantages of using information strategically, as they tend to use information as needed and as much as needed. This is an important problem for businesses.

Nowadays, if information is not included in classical production factors, it is highly unlikely to be successful and to produce value-adding production. There is a period in which the transportation, storage and access to information is very easy. It should be noted that the production of information, especially value-adding, is difficult to produce useful information. Moreover, it is even more difficult to interpret the produced information to benefit human life. Therefore, it is not difficult to access information but to produce and interpret information. Another important point is that it can be characterized as readiness and passive user to constantly benefit from the information produced by others. Being a party that produces and interprets information should be given more importance in terms of sustainability.

While the size of the enterprise is measured with traditional approach, classical criteria such as number of employees, number of machines, capital, building and warehouse are used. Nowadays, these criteria may not be accurate. It cannot be denied that large enterprises that contribute to individual and community life use, produce and exist with knowledge. If these enterprises are considered with classical criteria, it can be concluded that the number of employees and their buildings are of medium size. These businesses are valued in more markets than many large enterprises. Sometimes information can be mixed with data. Data is a heap of raw information. If we can categorize and sort this information, we will come across as information. It is not yet complete knowledge, it becomes real knowledge when it is adapted to human life, interpreted, passes through the human mind and emotions and produces a value.

Information is an important source. Information at the right time is a factor that enables organizations to understand each other with external stakeholders and unites the functions, departments, objectives and processes of these segments. Information, despite capital and physical products, is a resource that can be used continuously and does not decrease as it is used(CASH, 1994). Accordingly, the information shows some differences from other production factors;(ŞERBETÇİ, 2001)

- Information is a self-renewing factor.
- Information is not a scarce factor like other production factors.
- Information is not a complementary factor of production, such as capital and labor, but a substitutable factor.
- Information shows much more mobile features than other factors, it can be transmitted instantly to the desired location.
- Information is not exclusively private property but belongs to all humanity.
- Information can also increase the value of a company. The fact that information is an important factor as an economic value in acquisitions is another example that emphasizes the importance of information.

In mergers or acquisitions, it is seen that the purchased company is paid well above the market value. The goal of paying more than market value is the gain they expect from adding new knowledge to their own knowledge. A good example is that IBM acquired Lotus in 1995 for \$ 3.5 billion, fourteen times the book value of \$ 250 million(DAVENPORT, 1998).

An enterprise, especially an e-commerce business, should not stay away from actual current information in its marketing, social media, publicity, communication with competitors, investment decisions. It must make

special efforts, time, money and labor to keep the information up to date. Because realizing that knowledge is more important than capital will put the company ahead of its competitors. As human resources management, the employees who keep the information up-to-date and care about the information should bring it to the enterprise. It is not always sufficient for employees and managers to be highly interested in information. Even when we bring the most knowledgeable, educated people to our business, after a while, the information becomes out of date and becomes useless. Information that was previously outdated for long periods of time is now outdated, which can be measured in months and days. Therefore, instead of giving information, it has become more important to give clues on how to update and interpret information in education, in-service training and orientation.

E-COMMERCE AND MULTI-CULTURAL MANAGEMENT

Multiculturalism is based on the fact that individuals and groups that make up a society come from different origins in terms of language, religion, race, history and geography. Assurance of individual freedoms will undoubtedly enrich different attitudes and behaviors of different members of identity and ensure that their different cultures live together and look at each other with tolerance(KONGAR, 1997).

Multiculturalism, which is thought of in this way in terms of societies, can be thought of in terms of organizations. The greater the affinity between staff cultures within the organization, the higher the rate of common behavior. The cultural unity of the people in the organization will be more effective for the cultural integrity of the personnel within the enterprise. In such an organization, the organization function can be successfully implemented. Because there is a homogeneous structure and how this organization is organized has become clear(VECCHIO,1996).

Nevertheless, an e-commerce business is a structure consisting of people from different cultures whose cultural unity is very weak. In an organizational structure where there are cultural differences, especially the formation of different groups causes some difficulties in providing the function of the organization and this leads to difficulties in the functioning of the organization.

Therefore, intercultural interaction plays an important role in the functioning of this function. Developing a business culture that is compatible with a new global strategy and structure involves developing integrative values, mechanisms and processes that will allow a business to steer in new directions and manage the business in competition(RHINESMITH, 2000).

Because the teams that need to be managed with a global understanding are people from different cultures, a business culture that will harmonize them is indispensable. The e-commerce business is an organization of teams that do business globally. As the keys to global cohesion; corporate values, corporate communication, financial systems, information systems and human resources system(RHINESMITH, 2000).

At the same time, multinational, international, global and virtual enterprises are multicultural enterprises. The most important task of the global business manager can be to manage the global business culture. Both employees and customers are multicultural in these enterprises. In multicultural enterprises, Andre Laurent made the following observations(RHINESMITH, 2000).

- Multinational enterprises cannot crush the individuality of cultures,
- Connections with teams from other nationalities can reinforce the determination to be different,
- It is of no use to present new theories of management to individuals who are culturally unable to accept them.

In e-commerce businesses, there are key cultural concepts that can be a solution for these;

- Active participation,
- Cooperation,
- Flexibility,
- Formalization in informal,
- Protection of professional independence,
- Resistance to conventional regression,
- Self-management(HOWARD, 2003).

In an enterprise with such cultural diversity, where such diversity cannot be understood and underestimated, each employee may experience his or her own culture and cultural experience by reflecting on other cultures(SARGUT, 2001).

E-commerce businesses should be managed with an awareness of organizational culture that can minimize such conflicts and cultural sovereignty.

Multiculturalism has different dynamics, if they are categorized;

- Individual management in national culture;
- Universal x Subjective, Separator x Integrative, Individual x Social

- Internal x External, Equalizer x Commander
- In the corporate culture;
- Values, Meetings, Heroes, Symbols
- Professional culture;

Analytical paradigms, working norms, business ethics, professional terms(SNOW and OTHERS, 1996).

An e-commerce business manager should be able to turn the business into cultural synergy, not cultural conflict, considering all these dynamics.

The ways of transforming cultural differences into synergies are also discussed. In business life, a number of opinions differ from the generally accepted views on intercultural interaction and form the basis of the concept of cultural synergy. Although the common view, especially in the United States, is the homogeneity based on the myth of the cultural melting vessel, that is, the heterogeneity accepted by cultural synergy, although it is the view that all people are essentially the same.

The synergy view assumes that not all people are the same, that is, there are different cultural groups in society and each maintains its own differences. The concept of synergy is the basis of the concept of society, which consists of different cultures rather than homogeneous society. Secondly, although the general acceptance is that the similarities between people are the most important point, the concept of synergy recognizes that similarities and differences are of equal importance(ADLER,1983).

CONCLUSION AND EVALUATION

A successful e-commerce business is a company that adapts to, manages and creates change. Businesses that make open system as a principle have to keep their interest in change intact. Information, as an indispensable element of an enterprise, should be invested in the necessary information. It should produce, interpret information and make efforts to become a learning organization.

With the development of technology, especially communication technologies, information has become a product today. While concepts such as intellectual capital and knowledge management have become widespread, it has become a necessity to use information efficiently in order to keep up with the constantly changing digital age and the competitive environment in business life. The concept of information management should have an important place on the agenda of the executives so that information is not lost, wasted, directed and productive.

An e-commerce business is not one that suffers from cultural diversity, but transforms it into synergy. Culturally key process in e-commerce

business is; to achieve cooperation in harmony with professional independence(HOWARD, 2003).

Strong management and organizational cultures enable the organization to work effectively and efficiently. Because a strong business culture allows people to get to know their business and each other well. Strong business culture; supportive work environment, dedication to common vision and values, well-known common heroes, effective rights and ceremonies, formal and informal business networks(ASHCRAFT,2003).

In this respect, perfect management cultures mean a tendency for action, very good relations with customers, autonomy and intermediate entrepreneurship, productivity in society, value based, full commitment to the organization, maintaining basic form and lean workforce, simultaneous relaxation and contraction(ASHCRAFT,2003).

The culture adopted by the enterprise is also reflected in the nature of the organizational processes and the communication that maintains these processes. The transformation of value chain processes affects both support and primary activities due to technology. Focusing on these changes, flexibility of processes, function and speed of operation are the foundations of agile organization(PLANT,1997):

E-commerce businesses are flexible in terms of time and space, and different from traditional enterprises because of the lack of face-to-face managerial problems. Another of these problems may be employees of the same or close cultures in traditional enterprises, while employees of e-commerce enterprises can come from different cultures and different countries. While multiculturalism can be seen as a problem, it can be turned into a managerial advantage and synergy from another perspective.

As a suggestion;

- To motivate the employees who are fed with different cultural infrastructure for a common purpose and to create a common communication and channel,

- The manager should be open to multiculturalism and be competent in communication technologies, having special days, objects and sensitivities,

- To create a flexible management culture, to create communication and virtual social environments outside of work (eg. organizing an online chess tournament),

- To keep the multiculturalism that becomes ordinary with time and to keep it dynamic,

- Make other cultures feel exciting,

will be able to help solve problems.

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CHAPTER – XII

MARKETING IN THE CIRCULAR ECONOMY

Meftune ÖZBAKIR UMUT*

INTRODUCTION

Nowadays marketing activities are carried out with the aim of adding value to society. According to the societal marketing approach that is accepted as the recent point in marketing vision, companies should not only consider the interests of their target audience but also the rest of the society. On the base of definiton, it is possible to say that the “ circular economy” applications are appropriate to societal marketing understanding. The circular economy reverses activities that could harm society, such as the rapid depletion of resources and waste generation. Circular economy becomes to be important in many areas as industry, politics and academics, cause of the rise on environmental pressures and material scarcity. The circular economy focuses mostly on changing activities related to product use. With respect to the use of products, conventional marketing techniques require brands to be selected, while circular economic conditions will need to adopt new behaviors such as product return, rental, or reuse. In circular economics, marketing gains importance both in terms of product, consumption and supply chain.

1.MARKETING CONCEPTS

American Marketing Association (AMA, 2017) defines marketing as "the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large". As can be understood from the definition that, marketing includes all kind of activities which provide value to whole society. However, until the society-oriented marketing approach in this definition some marketing concepts have been implemented. There are five marketing concepts: the production, product, selling, marketing, and societal marketing concepts.

The Production Concept

According to the concept of production, businesses were concerned primarily with production, manufacturing, and efficiency problems. The production concept specifies that customers primarily want products that are affordable and accessible. Management focuses on

* Dr. Öğr. Üyesi, Bolu Abant İzzet Baysal Üniversitesi, İ.İ.B.F., İşletme Bölümü, ozbakir_m@ibu.edu.tr

improving production and distribution efficiency. This concept is one of the oldest orientations that guides sellers (Kotler & Armstrong, 2012:33).

The Product Concept

The product concept does not influence customer's purchase decision and the concept works on an assumption that they prefer products of greater quality and price and availability. Marketing strategy focuses on making continuous product improvements. But focusing only on the company's products can also lead to marketing myopia (Kotler & Armstrong, 2012:33).

The Selling Concept

The selling concept holds that consumers will ordinarily not buy enough of the organization's products unless it undertakes a large-scale selling and promotion effort. The organisation must undertake aggressive selling and promotional efforts (Kotler & Armstrong, 2012:33). The concept tries to convince the consumer to buy the product (even if she/ he do not in need) with the promotion mix elements such as personal sales, advertising and sales promotion.

The Marketing Concept

The marketing concept holds that the key to achieve organisational goals consists in determining the needs and wants of target markets and delivering the desired satisfaction better than competitors do (Kotler & Armstrong, 2012:34). Marketing research is needed to identify the consumers and products that benefit and create value, in marketing concept.

The Societal Marketing Concept

Societal marketing refers to the duties and obligations of the organisation so that the marketing activities do not harm the people and organizations in the environment (Özbakır Umut, 2018:19). The societal concept holds that determine the needs, wants, and interests of target markets and to deliver desired satisfaction more effectively and efficiently than competitors, preserves or enhances the society's well-being. (Kotler & Armstrong, 2012:35). In this concept, the marketer acts with social and environmental responsibilities. Societal marketing concept should be possible and/ or derive with a circular economy rather than a linear one. It can be said that the applications in the circular economy are suitable with the societal marketing concept.

2. THE CIRCULAR ECONOMY CONCEPT

It has been stated in the World Economic Forum (2014) that the linear economic model has been dominant since the early days of industrialization. However, according to the circular economy model that

should be dominant on disposing of waste through reuse cycles, or recycling products with virtually no leakage from the system for recycling. Although the circular economy was introduced by Walter Stahel 40 years ago, it has gained momentum today by think-tanks such as the Ellen MacArthur Foundation (Spring & Araujo, 2017).

The circular economy concept reverses current practices of rapid resource depletion and waste generation (Linder & Eilliander, 2016; Feng & Yan, 2007). A circular economy is an industrial system that is restorative or regenerative by intention and design (Figure 1). Rather than using ‘end-of-life’ concept, the circular economy uses the renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims the superior design of materials for the elimination of waste through (Ellen MacArthur Foundation, 2013:8).

Figure 1. The Circular Economy



Source:<https://ufuk2020.org.tr/en/thematic-areas/environment-and-raw-materials/Circular-Economy>

Circular Economics aims to deeply transform the way we use resources using systems based on a linear consumption economics model. In the linear economy, raw materials are extracted, processed to finished products, and then consumed and become waste. The circular economy is a new system in which resources are retained in the reproduction and

utilization cycle, allowing more value to be generated (McDonough & Braungart, 2002; Geng et al., 2009, 2012; Xue et al., 2010; Su et al., 2013). Circular Economy is a way of encouraging people towards more sustainable behaviour. It is also a tool for policy makers to develop environmental and management policies and to create new regulations that incorporate sustainability principles (Murray et al., 2017; Besio & Pronzini, 2014). Policy makers need to make an important effort to promote public awareness about Circular Economy, which includes different attitudes and values for recycling and reuse practices and more proactive behaviors (Xue et al., 2010; Guo et al., 2017).

3. PRODUCTS in THE CIRCULAR ECONOMY

In the marketing approach, the product is developed in the context of the manufacturer-centered linear economy. In general, this marketing approach consists of one-way product lifecycles that are limited by the manufacturer's capabilities. However, as a result of this understanding, the necessity of having the related products started to be questioned. The circular economy becomes to be well known by industry, policy and academicians because environmental pressures and material scarcity stimulate on the rise (Spring & Araujo, 2017). "A circular economy is one that is restorative by design, and which aims to keep products, components and materials at their highest utility and value at all times" rather than a linear 'take-make-dispose' model of production and consumption (Ellen MacArthur Foundation, 2015). Regarding the use of products, it is a matter of choosing brands to in conventional marketing techniques whereas a circular economy will require consumers to adopt new behaviors such as product return, rental, or reuse (Chamberlin & Boks, 2018).

Packing The Products in Circular Economy: In the circular economy, "reuse" should be the focus of packaging decisions. Innovative solutions to the reusable packaging model can make a positive contribution to the preferences of users and reusable packaging is a critical part of the solution to eliminate plastic pollution. It provides a superior user experience, to tailor products to individual needs, to gather user insight, and to build brand loyalty, and also can help to optimize processes and save costs. Reuse, offers an innovative opportunity to change the way we think about packing a high-value assets that can provide significant benefits to simply having something cheap to users and businesses. The six benefits of reuse (Ellen Mac Arthur Foundation, 2019) :

- Cut costs: Packaging and transportation costs can be reduced by supplying refills for reusable containers in compact form, such as in concentrates or solids e.g. as tablets.

- Build brand loyalty: Brand loyalty and customer retention can be achieved through deposit and reward schemes for reusable packaging.

-Adapt to individual needs: Individual needs can be accommodated by reuse models that let users mix and match flavours, personalised packaging and/or choosing desired quantities.

- Improve user experience: User experience can be improved by enhancing the look, feel and/or functionality of reusable packaging (which can be more high-end as its initial production cost is divided over many uses).

- Optimise operations: Economies of scale for distribution and logistics can be achieved by sharing reusable packaging across brands, sectors or wider networks.

- Gather intelligence: Information on user preferences and system performance can be gathered by incorporating digital technologies such as sensors, GPS tracking into the reusable packaging system.

4. CIRCULAR CONSUMPTION

Definition of consumption in circular economy depends on how consumers perceive and interpret the circular economy. The literature considers several aspects as anonymity, connected consumption, multiplicity of values, political consumerism and uncertainty when exploring the new meaning of consumption in the circular economy. Meanings of consumption in the circular economy (Camacho-Otero et al., 2018: 14):

Anonymity: In circular economy people become anonymous, because they do not have own products, they just use them. The identity of the potential offered by the middle of goods rises; People can now identify themselves with the products they have (Park & Armstrong, 2017).

Connected consumption: Developing new relationships between the consumers and the companies reveals deeper involvement and participation forms. The idea of society is also seen again in the circular economy. Reciprocity, sociability and interaction through networking and sharing activities become key elements. These key elements, to carry out agreements and facilitates the establishment of institutions that could trigger the commitment by the participants. Generally, these features are caused by interference from the bottom up, not top down (Welch et al., 2017).

Multiplicity of values: Functional circularity based solutions can not rely only on the utility value; they should create a symbolic value as well. Therefore, as in the circular economy, linear economy is needed to address a number of consumption values simultaneously. Frugality and well-being concepts become to be important and valuable issues in circular economy. Circular solutions should also take these aspects into consideration (Santamaria et al., 2016).

Political consumerism: Consumers perceive as a form of rebellion against mainstream consumer solutions circular and is expected to reflect a particular political stance of the engagement with them. In the past, material consumption was perceived as a sign of status; dematerialized but have become the norm in the consumer circular economy (Bardhi & Eckhardt, 2012).

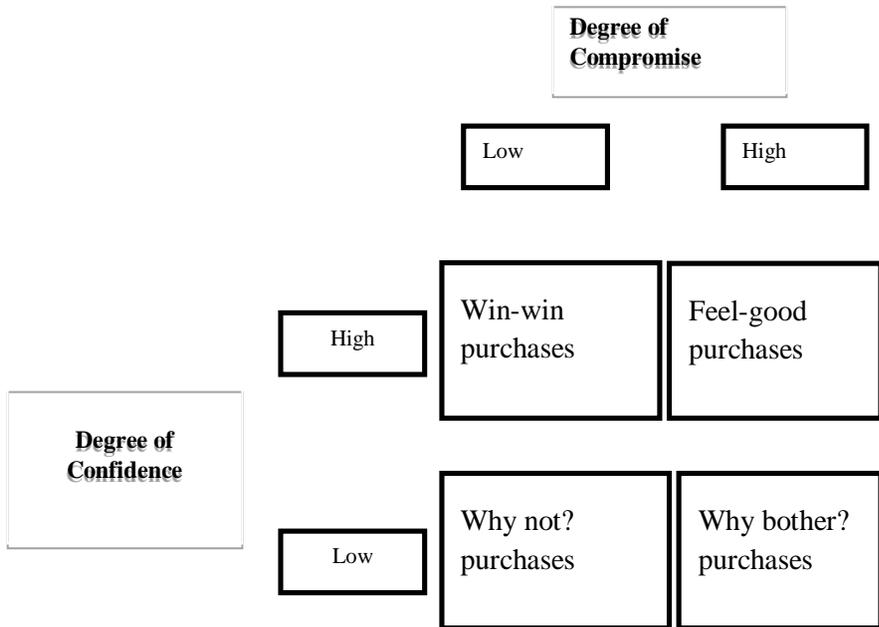
Uncertainty: In the circular economy the goods transfer temporarily from producers to consumers and then return to continue their journey to other consumers, trust, risk and control issues arise. Therefore, this kind of "liquid" formalizes relations efforts are essential to secure both parts of the process. Knowledge and information are also expected to resolve such concerns (Geiger et al., 2018).

There is a need for a sustainable consumption model since the circular economy is reused and valuable waste is generated (Van Weelden et al., 2016).

The sustainable consumption agenda includes a wide range of individual issues, and consumers will vary in their choice of topics, responsive and linked to their consumption behavior. Some may support social orientation to ethical consumption issues such as fair trade. Others will support environmental issues such as organic product or carbon reduction. Some consumers may have a wide range of socio-ecological issues to which they will respond. Others may feel passionately about a very specific subject, such as animal cruelty (Belz & Peattie, 2009:78).

If we try to understand the different contexts for sustainable consumption: There are differences between the types of sustainability buying on these two dimensions (Figure 2).

Figure 2. Sustainable purchase perception



Source: Belz & Peattie (2009:78)

1. Degree of compromise: Travelling and/ or paying more for buying more sustainable product. Or it could mean purchasing a sustainable equivalent of the product without ease of use.

2. The degree of confidence: By purchasing the product, the customer is confident that a valuable benefit will exist and the company behind it is trustable and it has superior sustainability performance.

For circular consumption, the Ellen MacArthur Foundation's suggestion in product level analysis examined specific examples of categories of products according to the value representing 80 percent of the total consumer goods market: food, beverages, textiles and packaging. There are opportunities across the value chain circular: manufacturing (food and beverage), distribution and consumption stages (textile, packaging) and processing after use (food waste) (Ellen MacArthur Foundation, 2013:8).

Food and beverages

By households and catering sector to cope with the mixed food waste are thrown profitable routes. Mostly it is created as a by product of waste in industrial beer labor circularity has potential for example cereals spent in making beer or fruit juice in the production of orange peel. Beer -

water and tea after the world's third most popular drink and producing valuable by-products processing food and beverage representatives - the amount of spent brewers grain away from the storage area. Instead, they sell them as a feed supplement according to the circular principle of US \$ 1,90 per liter of beer produced can generate profit (Ellen MacArthur Foundation, 2013:8).

Clothing

To reuse the life completed clothing, in addition to wear again, to insulation or filling material to protect the cascade can also be recycled or raw fibers, other industrial yarns are circular profitable opportunities. Also, as another branch of the asset-light trend 'rental clothing' segmenting the daily attire should see the opportunity to expand (Ellen MacArthur Foundation, 2013:8).

Packaging

Reusable glass bottles, packaging, processing and distribution lowers costs. Segregation is another option for recovery. Lifetime expired materials by one of two forms: either recycling the materials or returning nutrients to the soil via biodegradable packaging (Ellen MacArthur Foundation, 2013:8).

It is seen that certain products for circular consumption are examined more in the literature especially in mobile phones (the mobile phone sector maybe a solution to increasing resource use), which are mostly related to electronic products. For example Wieser and Tröger (2018) explored three dimensions of mobile phone consumption: timing of replacement, repair and reuse. They defined the motivation of consumers to support their thinking about replacement timing, repair instead of repair and new and used phones. The findings of their study show that mobile phone replacements are based not only on a new desire, but on the perceived old state of the existing phone. They have a phone 1) basic functionality, 2) be current or 3) to identify the three perceived obsolete format associated with the ability to adapt to social practices (Wieser & Tröger, 2018:3042).

Other example is placed in Weelden et al., (2016) 's study. Refurbished products and certain renovated provide a thorough understanding of the factors affecting consumer acceptance of mobile phones and renovated the main factors affecting consumer acceptance of mobile phones maps. Weelden et al. (2016)'s findings, a majority of consumers, the lack of awareness and renew actually mean that the misunderstanding to consider a refurbished product as a result he reveals. In addition, the renewed negative exchange between products perceived risks and benefits as a result of generally rejected. Affecting their personal

assessment of the risks and benefits of a renewed consumer products is determined and contextual factors related to the product (Weelden et al., 2016:743). Furthermore, Hobson et al., (2018) discusses empirical research exploring consumers' reactions to a novel, hypothetical mobile phone Sustainable Product Service Systems (SPSS). They examines consumers' knowledge about current mobile phone life cycles, and responses to the proposed SPSS, drawing on a 'systems of practice' framework to discuss the potential for significant changes in phone purchase and use (Hobson et al., 2018:147).

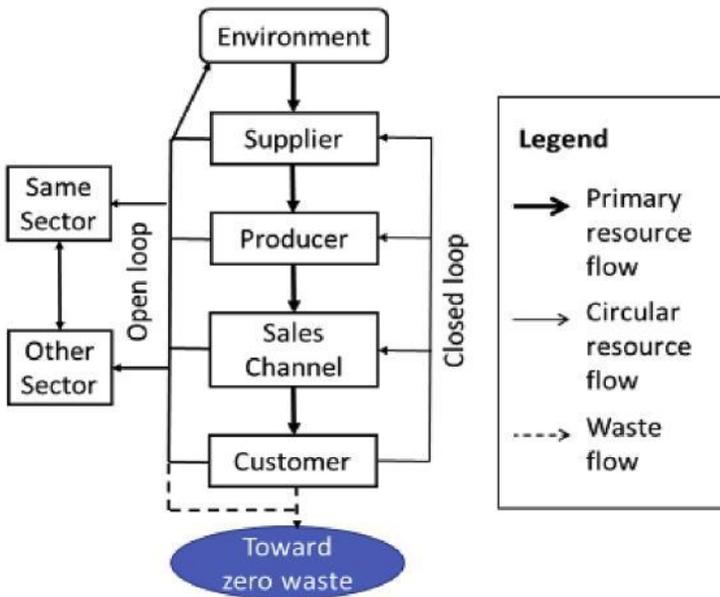
Ellen MacArthur Foundation (2017) focuses on smart phones, laptops, tablets, and smart home devices in circular consumer electronics report. The report speeds up the passage of the first vision of how that can adapt to a circular economy and industrial electronics represent actions. The report identified five industries by economic measures can be taken to accelerate this transition, enjoying the highest level of social and environmental benefits (Ellen MacArthur Foundation, 2017):

1. Design for circularity: A circular design strategy must be selected which fits current business model. These strategies, adaptability to design for durability and can vary from design to availability repaired, but technically, inside and of a circular economy, such as materials cycle to increase the partial dismantling convenience will focus on the protection of the values in both the outer loop and only suitable materials.
2. Give added purpose to cloud migration: More information operations has taken place in the cloud, it becomes less important than the hardware features of the connection. Longer operating system when coupled with the stability, it has the potential to reduce the aging rate equipment.
3. Products match changing needs: Products, communicate in real time thanks to the replacement of components, product performance or product that informs the user when required and directs circulates among users who have different and changing needs. Matching of big data and advanced analytics can improve the efficiency of the work greatly and may help to predict reverse logistics demands.
4. Increase reuse market efficiency: The second-hand market creates confidence by increasing price transparency, product characteristics, condition and traceability. This price forecasts, product information, specifications and certified with conditions can be achieved by providing refurbishment and remanufacturing activities by supporting them to re-sell users' devices.
5. Increase automation in disassembly and refurbishment processes: Improved automatic process may increase the number of products that can be treated and the treatment may reduce the time required for. Increased quantity and high quality material yield will strengthen the economic situation for recycling.

5. CIRCULAR SUPPLY CHAIN

Circular supply chain management is the integration of the management of industrial and natural ecosystems in and around the supply chain of circular thinking. A product / service on all stakeholders including business models and supply chain functions in the product / service to the end-of-life for the design and restores the systematic technical materials to waste management and transform biological materials into zero waste vision parts / product manufacturers, service providers, including consumers and users life cycle (Farooque et al., 2019). Circular supply chain goes further by recovering value from waste by collaborating with other organizations (Figure 3).

Figure 3. Circular supply chain



Source: Farooque et al. (2019)

A circular supply chain will produce zero waste because of restoring systematically in the industrial and natural resources, ecosystems. There are two types of resources annular flow of supply chain: the primary source of flow and radial flow source. The primary source streams are defined by the forward flow of goods in linear and closed-loop supply chain. Circular source feeds, recycled, maintained, reused, repaired,

regenerated, renewed, up dated and so on. Represents “re“ type goods / materials / energy flows (Farooque et al., 2019: 885).

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CHAPTER – XIII

GOVERNMENT FAVOURITISM OF RELIGION, SOCIAL CAPITAL AND CONSUMER SPENDING

Volkan YENİARAS*

INTRODUCTION

Questioning whether the privileges given to the predominant religious group(s) may help understanding whether the efficiency of the economy by fuelling consumer expenditures will add to the extant theory of the positive effect of social capital to the economic growth via the extension of interpersonal trust.

The examination of the political environment is often limited to scrutiny of tax policy, labour law, environmental law, trade restriction tariffs, and political stability. These factors are taken into consideration to determine the degree of government involvement to the economy as well as to determine the extent to which a liberal economic system exists in a given country. However, the examinations pertinent to the relationship of government favouritism of religion to consumer spending are scant. Fukuyama (2001) suggests that an extended atmosphere of trust is essential for the functioning of financial economy. Evans (1996) argues that for the trust to extend outside of the nuclear family, a state needs coherent and dependable public institutions where citizens are treated equally. Fox (1992), on the other hand, gives the Mexican case where he argues that even a schizophrenic government apparatus can create social capital. In accordance with Fox's (1992) argument, this paper provides empirical evidence that government favouritism of religion may be creating an atmosphere of trust that triggers expenditures.

The quantitative cross-national scrutiny of the origin of social trust and social capital and whether it may be accelerated through government policy has been neglected. Considering the potential positive effect of the phenomenon on consumer spending, to treat the Government Favouritism of Religion Index as part of the PEST analysis for the multinational companies to assess the markets that they are operating in is crucial. This study examines the relationship between government favouritism of religion and consumer recreation and culture expenditure levels to comprehend whether providing privileges to the predominant religions

* Ozyegin University. Department of Business Administration, Istanbul, Turkey. E-mail: Volkan.yeniaras@ozyegin.edu.tr

would contribute to the efficient functioning of the economies in the form of increasing consumer expenditures.

LITERATURE REVIEW

The literature pertinent to the effect of government favouritism of religion on consumption preferences and expenditures requires further research. Government favouritism of religion is defined as the extent to which government gives special privileges, support, or favourable sanctions to a specific religion (Grim and Finke, 2006). The concept of government favouritism of religion may echo to have a negative impact on consumer recreation and cultural spending because of the fact that religions advise their followers to restrict their consumption (Kuran, 1986: Michaelis, 2000). Therefore, one may conclude that favouring a certain religion would increase the diffusion of religious indoctrination into everyday life and consequently have consumers moderate their consumption to conform to the society.

One should also note Grim and Finke's (2006) argument where they put forward the empirical evidence that supports the idea that in most European countries governments favour a certain religion over the others. Similarly, Garza and Solano-Garcia (2007) also state that the European countries are far from being considered as fully secularized and that the median voter in most countries belongs to the major denomination and/or religion and therefore is in favour (at least does not oppose) of government favouritism of religion. As antidemocratic as it may sound, a governmental support on a specific religion that the majority of voters follow could in fact create an atmosphere of trust as it may help create a wider radius of trust extending outside of the nuclear family to all sharing the same religion (Fukuyama, 2001). This extended atmosphere of trust is defined as social capital by Fukuyama (2001) and is argued to be of critical importance to the "efficient functioning of modern economies, and is the sine qua non of stable liberal democracy" (Fukuyama, 7, 2001).

Social capital is also often associated with important economic outcomes. Knack and Keefer (1997), for instance, have discovered that one standard deviation increase in country-level trust increased economic growth by more than one and a half standard deviation. While arguing that the social capital is essential for an efficient economy, this paper does not suggest that social capital is free from positive and negative externalities. An example of positive externality may be given as Christianity's moral code that dictates to treat all people morally, even the ones that are not Christian. While arguing that there are positive externalities, I do not ignore the negative counterparts that come in the form of hate groups (Ku Klux Klan, English Defence League, or other extremist groups that employ social capital for the sole aim of attacking the larger societies in which they

are embedded) or inbred bureaucracies (Fukuyama, 2001). The negative externalities that may originate from the diffusion of social capital is by no means solely attributable to social capital. One may also observe negative externalities as a result of physical capital in the form of assault rifles or tasteless entertainment (Fukuyama, 2001).

De Boef and Kellstedt (2004) argue that consumers' optimism regarding the economy and their spending levels do not solely rely on economic variables but also depend heavily on politics which yields the examination of the political environment of critical importance. The ability to understand the consumer consumption preferences and to what degree they are, in fact, affected by the political environment will provide a valuable strategic tool for businesses. In this vein, Solana-Garcia (2007) suggests that the government favouritism of religion that the median voter belongs to will create an optimistic atmosphere and will in turn trigger the consumers spending. Therefore, one should not find it paradoxical to find a positive relationship between the government favouritism of religion and consumer spending.

Fukuyama's (2001) point regarding the positive relationship between country-level trust and economic growth is also supported by Uslaner (1998). Uslaner (1998) suggests that trust reflects a basic sense of optimism and control and adds that optimists do not let occasional setbacks to change their behaviour. Considering that government favouritism of religion will create an optimistic atmosphere by creating a wider radius of trust, examining the consequences of the government favouritism of a select religion or group of religions necessitates further research to demonstrate whether it has an effect on consumption preferences. This paper will specifically focus on the scrutiny of the relationship between government favouritism of religion and recreation and culture expenditures as Bastagli and Hills (2013) suggest that the recreation and culture expenditures vary greatly across the countries and that this variation cannot be accounted by government spending. To establish the causes of the variations in recreation and culture expenditures will be valuable for the marketers that want to conduct a PEST analysis to understand the external environment of their firms that may operate in this specific sector. Also, one should note that the outdoor recreation expenditures alone creates 6.1 million American jobs and accounts for %8 of the American economy (Outdoor Industry Association, 2012).

We believe, therefore, that to explore whether government favouritism of religion has a positive impact on consumer recreation and cultural expenditure considering the consequences of the government favouritism of religion (social capital, interpersonal trust and optimism) is crucial. The examination of the literature also suggests that inflation and unemployment (Fuhrer, 1988; Krause, 1997; Stephens, 2001), and population density

(Rappaport, 2008) have an effect on consumer expenditures. To offer the marketers and/or market researchers a valuable tool to understand the effect of the external political environment on consumer spending in countries with variant economic conditions, we used inflation, unemployment, and population density variables as grouping variables where countries were grouped via the employment of a hierarchical median split approach. In addition, as GDP (Sian, 2009) has been identified to have a direct effect on consumer expenditures, it has been employed as an independent variable in addition to government favouritism of religion index to predict recreation and culture expenditures. We hypothesize that both government favouritism of religion and GDP per capita will have positive effects on recreation and culture expenditures in all groups regardless of their unemployment, inflation and population density levels.

RESEARCH METHODOLOGY

The research reported in the remainder of this article examines the effect of Government Favouritism of Religion Index on PPP adjusted recreation and culture expenditures given different levels of inflation, unemployment, population density, and religious affiliations of nations while controlling for the PPP adjusted GDP per capita via the use of multigroup SEM (Arbuckle, 1997). The Government Favouritism of Religion Index is prepared by the Association of Religion Data Achieves (ARDA) by systematically coding the text reports prepared by the US State Department as part of the international religious freedom reports. The Government Favouritism of Religion Index is prepared with the leadership of Grim and Finke (2006) and is prepared as a five dimensional index that encapsulates: (1) Imbalanced government funding of religion; (2) degree to which a religion is favoured; (3) inequitable level of government favours; (4) inequitable government funding of things related to religion; (5) government funding index. The PPP conversion factor for GDP per capita, unemployment rate, inflation rate and population density as well as the PPP conversion factor for private consumption was obtained from Worldbank for the year 2008. The recreation and culture expenditures was acquired from the UN Statistics again for 2008.

The use of multigroup analyses that were conducted on 54 countries²⁷ as part of a cross-national analysis with AMOS v.19 to explore the

²⁷ Armenia, Austria, Belize, Bulgaria, Burkina Faso, Canada, China, Colombia, Cyprus, Czech Republic, Denmark, Estonia, France, Germany, Guatemala, Honduras, Hungary, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Kyrgyz Republic, Latvia, Lithuania, Luxembourg, Malaysia, Malta, Mauritania, Mexico, Montenegro, Namibia, Netherlands, New Zealand, Niger, Norway, Philippines, Poland, Portugal, Russia, Senegal, Serbia, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Ukraine, United Kingdom, Yemen

relationship between government favouritism of religion and recreation and culture expenditures for countries with varying levels of inflation, unemployment, population density, and different religious affiliations. The study was conducted on a data set from 2008 as the latest version of Government Favouritism of Religion Index is available for that year.

The multigroup model analyses “permits testing for group differences in the specified model or testing for differences in specific parameter estimates by imposing constraints” (Schumaker and Lomax, 2010, 250). Via the use multigroup analyses, this study attempts to offer empirical evidence of a theory where the effect government favouritism of religion may be used to analyse the political environments in countries with high/low levels of unemployment, inflation, population density and in Christian and Muslim countries. In addition, to test for the structural invariance, first a free estimation of the structural coefficients was allowed in all groups separately to calculate the chi-square statistics for all groups. Subsequently, constraints on structure weights were added to calculate the chi-square statistics. To evaluate whether the casual links between the groups differ, the significance of the difference between the constrained and unconstrained chi-square statistics were checked (Chung and Davies, 2006). For the groups that differed significantly, the structural invariance was further examined via the inspection of individual structural path to identify which path caused the structural difference (Chung and Davies, 2006).

In addition to test for the theoretical models’ ability to reproduce the observed correlations the Goodness-of-Fit Index (GFI) was examined for all models and groups. The GFI was selected as it is known to be less sensitive to sample size and a good stand-alone index (Hu and Bentler, 1998). The GFI values of all models were calculated. In case where the GFI values of unconstrained models would be higher than the fully constrained models, it would provide evidence of group invariance for the multigroup models.

RESULTS

The multigroup analyses provided evidence to argue that Government Favouritism of Religion positively influences consumer recreation and culture expenditures in countries where there are low level of unemployment. A similar finding was also discovered for countries with high inflation. In addition, the multigroup analyses provided further evidence that government favouritism of religion seems to positively affect recreation and culture expenditures in countries where the predominant religion is Christianity. The multigroup analyses also showed that the GDP per capita has positive significant effect in all groups with the exception of

statistically insignificant effect on recreation and culture expenditures at countries with inflation levels that are over the cross-nation median.

Table 1 – Standardized egression weights and significance level: Multigroup analysis

		Unemployment	
Model	Path	High	Low
Unconstrained	γ GFOI→Exp*	-,778** (,975)***	,238 (,001)
	γ GDP→Exp****	,784 (,122)	,557 (,001)

		Inflation	
Model	Path	High	Low
Unconstrained	γ GFOI→Exp	,449 (,034)	,113 (,361)
	γ GDP→Exp	,328 (,122)	,657 (,001)

		Population Density	
Model	Path	High	Low
Unconstrained	γ GFOI→Exp	,238 (,137)	,038 (,736)
	γ GDP→Exp	,546 (,001)	,816 (,001)

		Religious Affiliation	
Model	Path	Non-Christian	Christian
Unconstrained	γ GFOI→Exp	-,310 (,173)	,329 (,007)
	γ GDP→Exp	,452 (,047)	,559 (,001)

* The Effect of Government Favouritism of Religion on Recreation and Culture Expenditures

** Standardized Regression Weight

*** Significance Level at %95

****The Effect of PPP Adjusted GDP per Capita on Recreation and Culture Expenditures

The results presented in Table 1 suggested that the government favouritism of religion may be utilized as a tool to evaluate the political environment as part of the PEST analysis in countries where the predominant religion is Christianity as it positively affects recreation and culture expenditures. Also, the results showed that government favouritism of religion positively affects recreation and culture expenditures in countries with low unemployment and high inflation. Probably the most important result that is exhibited as part of this article is given for those countries with inflation levels above the world-median. The results provided evidence that the recreation and culture expenditures are

positively affected by government favouritism of religion irrespective of GDP per capita. This finding provides empirical evidence to argue that government favouritism of religion creates an optimistic atmosphere where consumers do not feel uncertain about the future which triggers consumer spending (Solana-Garcia, 2007). The results also provided evidence to suggest that government favouritism of religion does in fact act as a spending catalyser in countries with high inflation, low unemployment, and Christianity as the predominant religion.

To test whether group invariance exists between the groups, chi-square difference tests were carried out as presented in Table 2. The tests were calculated so that the equivalence of item measurements between groups is guaranteed (Byrne, 2001). The baseline model was compared to fully constrained models (Ryan, T.; Bailey, A; Fearon, Pasco; King, John; 2013). This comparison showed that the group invariance exist for low/high unemployment groups as well as low/high inflation groups. However, the results suggested against group invariance for the religious affiliation group. To this end, the relationship between the independent variables; government favouritism of religion, and GDP per capita and the dependent variable recreation and culture expenditures was re-visited by only constraining the $\gamma_{GDP \rightarrow Exp}$ path. The results provided evidence that the government favouritism of religion is invariant across religious affiliation groups with a chi-square of 14.786 at %95 level (chi-square=14.84 at %95 level was the threshold). The GFI values ranging from .890 to .874 provided evidence of respectable goodness of fit.

Table 2 – Multigroup invariance test: Chi-square difference test

		Chi Square	Df	P	GFI	Invariant
Unemployment	Unconstrained	11	2		.890	
	Fully Constrained	13.950	4		.872	
	Difference	1.4	1	.229	.018	Yes
Inflation	Unconstrained	11.416	2		.884	
	Fully Constrained	12.722	4		.870	
	Difference	1.306	2	.520	.014	Yes
Religious Affiliation	Unconstrained	12.7	2		.874	
	Fully Constrained	18.015	4		.845	
	Difference	5.315	2	.070	.029	No

CONCLUSIONS

The primary aim of this study was to quantitatively assess the relationship between government favouritism of religion and recreation and culture expenditures on a cross-national level. This paper provides important empirical evidence about the necessity of considering government favouritism of religion indices as a tool to assess the political environment as part of the PEST analysis given that they have an effect on consumption preferences. Although, there was not a statistically significant relationship between government favouritism of religion and recreation and culture expenditures for high-population density, low-population density, high-unemployment, low-inflation, and non-Christian groups; the results provide important empirical evidence of the existence of a relationship for high-inflation, low-unemployment, and Christian groups. In accordance with what has been suggested by Fukuyama (2001) the government favouritism of religion may be a factor that extends the trust to outside the nuclear family and create an optimistic atmosphere (De Beef and Kellstedt, 2004; Salona-Garcia, 2007) which triggers expenditures.

Limitations and Further Research

The literature pertaining to the examination of government favouritism of religion and its effect on consumption preferences is non-existent in the

marketing literature. This under-studied phenomenon and its relationship with consumer behaviour forced this study to conduct an exploratory research that lacks support from the relevant literature. This study shows that the scrutiny of the government favouritism of religion is crucial as it seems to affect recreation and culture expenditure levels. Further studies that examine the relationship between government favouritism of religion and other consumer spending items such as expenditures on durable, non-durable and services will help to identify whether government favouritism of religion should be considered as part of PEST analysis as a factor that influences consumer spending in general.

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