

PERSPECTIVES ON APPLIED ECONOMICS & POLITICS CASES FROM TURKEY

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(Edited by: Kerem Karabulut, Christos Teazis, Emre Bulut, Cumali Marangoz)



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INTRODUCTION: PERSPECTIVES ON APPLIED ECONOMICS AND POLITICS: CASES FROM TURKEY

It is a fact that there is a need for scientific studies in order to keep up with the pace of rapid developments of economic structures of countries and to have effective resolution of complex problems in today's world. In this context, this book, consisting of 5 sections and 26 chapters and called "Perspectives on Applied Economics and Politics: Cases From Turkey, is an important work that includes practical and theoretical research in the field of social sciences. The study will help readers to comprehend the issues and to able to discern complicated topics by presenting sub-fields of social sciences. Within this scope, the book offers various analyzes and perspectives in economic, political, administrative and sociological terms. The studies on economics, business and politics from various topics, especially the ones on Turkey, would contribute to the scientific community, managers, and student who are interested. The book has a very rich content especially in terms of subject ranking and subjects covered. Students of the Faculty of Economics and Administrative Sciences could also easily benefit from the book and follow the topics in English.

The main characteristic that distinguishes this book from its peers is that it contributes to the literature acquisition of by combining multi-faceted information and different topics from sub-disciplines in the field of economic and administrative sciences. To illustrate, from one side, the book provides useful information on the social, political, cultural, and environmental studies, on the other side, it offers evaluation of the current macroeconomic issues for the World and Turkey's economy. Thus, students and all readers who are interested in these topics would be able to comprehend all the related areas more easily by making connections with current developments and taking advantage of the examples in the book. In addition, the book provides convenience to readers with its classification in 5 main chapters and with its fluent and simple narrative.

Therefore, this book is a study that can be used by all segments of society who are interested in socio-economic developments and changes.

The first section of the book is titled “Macroeconomy and Empirical Macroeconomics”. The seven chapters of this section include investigations and empirical studies in various areas of the economy such as debt, purchasing power parity, industrialization and happiness economy. The first section examines the sustainability of external debts in countries. High and medium debtors are examined. Country-specific conclusions are reached on the sustainability level of external debts and fiscal policy proposals are presented according to the sustainability level of the external debts of the high and middle-debt countries of the world. In addition, this section tests whether the purchasing power parity is valid in D-8 countries. Also, it analyses the relationship between public debt and sustainable economic growth in the EU (28) countries and finds that there is a bi-directional causality relationship between public debt and economic growth.

The second section is “Political Economy and Environmental Policy”. There are three chapters in this section which are mainly about economy of the 21st century and Turkey, economic development, tax distribution and analysis of the urbanization process in Turkey and Europe. This section provides information about economic structure and developments in 21st century both in the World and Turkey. In this direction, first historical developments and then the current situation and the preparations for the future are analyzed. Also, The shares of taxes, which have the largest proportion of public revenues, the direct and indirect distinction of these taxes are explained and their distribution rates and reasons are explained. Furthermore, it contributes to the process of creating urban regeneration policies in Turkey.

The third section is titled “Finance, Accounting, and Social Responsibility”. The topics covered in the six chapters are; management accounting, corporate social responsibility, corporate investors, sustainable environment, individual creativity and SMEs. This section investigates how

companies comprehend climate change effects from the point of opportunities or threats, what are the causes of these comprehensions and use of management accounting implementations to examine the relationship between climate change comprehensions and management accounting use. Within this scope, it reveals theoretical terms between the corporate social responsibility and accounting. Also, the section examines the effects of individual creativity on psychological capital of academic managers working in a medium-sized university located in the Eastern Anatolia Region of Turkey.

The fourth section is presented under the title of “Quantitative Methods, Optimization, and Estimation”. In the four chapters of this section, researches touch upon issues such as multiple criteria approaches, multi-dimensional statistical techniques, demand for electricity and comparison of shopping centers with other markets. In this section TOPSIS, VIKOR and MULTIMOORA methods are introduced in general terms since the decision-making process has evolved from single person decision making (boss) to group decision making, from a single criteria (profit) to multiple criteria decision making in terms of businesses. Due to this development, numerous methods have been developed to solve multi-criteria decision problems. In this context, Multiple regression analysis, canonical correlation analysis, variance analysis (ANOVA), multivariate variance analysis (MANOVA), multiple discriminate analysis, logistic regression analysis, conjoint analysis, structural equation modeling could be examples of multivariate dependent techniques. This section theoretically examines multivariate statistical techniques.

The fifth and last section of the book is titled “Economical-Cultural History and Election Systems”. This section consists of six chapters which are about electoral systems, elections in Turkey, the AK Party, 2019 local elections, the Ottoman imperialism, and comparison of language and culture of societies. This section determines main difference between Archaic/Cultural and traditional-based societies in terms of settled social places. It also explains the temporary nature of traditional indexes in Archaic /

Cultural societies. Furthermore, it provides general information about political economic conjuncture theories and examines whether the theory is valid in Turkey local elections after 2002 and 2019 local elections. In addition, this section, by retaining data from which Twitter usage of March 31, 2019 metropolitan mayoral candidates in Turkey, analyses local elections in depth. Considering the social-political relations in Turkey, the section shed light on future studies and contributes possible policies.

It is a very demanding and tedious work to combine different topics of social studies and publish them into a book. The transform of efforts and time into a scientific contribution would increase the satisfaction of authors and editors. I hope that the book wins scientific and social appreciation since it is a combination of physical and mental effort. In this context, the book is prepared and published very meticulously. It is also necessary to state that all thoughts and expressions in the chapters bind their authors. I am thankful to Cumali Marangoz, Emre Bulut, Christos Teazis and, all authors and contributors who made great efforts in the preparation of the book. Finally, I appreciate efforts of IJOPEC Publication and their employees.

November 2019

Kerem Karabulut

SECTION **I**

**MACROECONOMY AND EMPIRICAL
MACROECONOMICS**

1

SUSTAINABILITY ANALYSIS OF EXTERNAL DEBTS IN SELECTED EMERGING MARKET ECONOMIES: EVIDENCE FROM FOURIER UNIT ROOT TESTS

Ömer Yalçınkaya¹

1. Introduction

As known, external debts are among the most important financial policy tools used for eliminating deficits in budget, savings-investments, foreign trade and balance of payments, ensuring price stability, financing of large-scale investment projects and extraordinary expenditures and paying external debt services in national economies (Öztürk, 2016:180). In the most general sense, external debt refers to the short, medium and long term foreign resources that resident persons/institutions within a country provide from resident persons/institutions abroad with a repayment condition of capital plus interest after a certain period of time. In this respect, while external debt has positive effects on economic growth by stimulating investments at its first stage of foreign capital inflow to the country, its effects on economic growth turn to negative as it restricts investments in the future stages of domestic resource outflows with capital and interest payments (Ülgen, 2005:21-22; Şahin, 2012:46).

The fact that external debt burden, which is aggravated by increasing external debt stock and external debt services in national economies, causes a larger portion of production and export revenues to be allocated to external debt payments, increases risk premiums, decreases capital inflows

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and increases capital outflows, decreases credit ratings and increases tax expectations and causes a decrease in national-international investments, etc. could be considered as some of the possible causes of this situation. For these reasons, the increases in the production volume of investments and economic growth as a result of investments financed by external debts gradually decrease, and the increases in the production volume and economic growth at a certain level fall below the external debt service payments that are required to meet the external debt burden (Karagöl, 2010:4). In this context, ensuring the sustainability of external debt stock and external debt burden shaped by the external debt services in national economies by reducing it to reasonable levels is one of the main objectives of financial policies to sustain economic growth at its potential level.

Theoretically, the sustainability of external debts is defined as the ability of national economies to repay their external debt obligations in the long term without resorting to re-regulations in exchange rates and interest rates or to default, while empirically it refers to external debt burden remaining steady at a reasonable level in the long term (Nasira and Noman, 2012:673). The sustainability of external debts in theoretical and empirical sense can be measured through external debt burden ratios, which are formed by the proportion of external debt stock and external debt services forming external debt burden to Gross National Product-GNP and indicate the level of meeting external debt burdens. In this context, the fact that the external debt burden ratios formed by the proportion of external debt stock and external debt services to GNP remain steady at reasonable levels in the long term indicates that external debts are theoretically sustainable, while a stationary process with a tendency to return to average indicates that they are empirically sustainable (Yılancı and Özcan, 2008:92; Boengiu et al., 2011:16). Empirically, it is possible to investigate through unit root tests whether external debt burden ratios follow a stationary process that tends to return to average in the long term, in other words, whether external debts are sustainable or not (Goktas and Hepsag, 2015:2).

When the empirical literature is examined, it is seen that the investigation of the sustainability of external debts and the long term stability of external debt burden ratios through unit tests is based on the intertemporal budget constraint model developed by Hamilton and Flavin (1986) and Trehan and Walsh (1991). Hamilton and Flavin (1986) and Trehan and Walsh (1991) investigated the sustainability of external debts in The United States of America-USA over the stability of external debt burden ratios using different unit root tests within a time series analysis. Hamilton and Flavin (1986) determined that the external debt burden ratios they used in 1962-1984 period followed a steady process and that external debts were sustainable, while Trehan and Walsh (1991) found that the external debt burden ratios used in 1946-1987 period did not follow a steady process and that external debts were not sustainable (Hamilton and Flavin, 1986:808-19; Trehan and Walsh, 1991:206-23).

When the empirical literature that started to emerge following the studies of Hamilton and Flavin (1986) and Trehan and Walsh (1991) is examined, it is observed that the studies on the sustainability of external debts have been carried out on various countries and country groups using different unit root tests within a time series or panel data analysis since the 1990s. In these studies where the stability of external debt burden ratios is analyzed using different unit root tests within a time series or panel data analysis, it is generally concluded that external debt burden ratios are not steady in the relevant countries and that external debts are not sustainable in the long term. (Wilcox (1989-ABD), Sawada (1994), Caparole (1995), Utkulu (1999-Turkey), Jha and Sharma (2004-India), Yilanci and Özcan (2008-Turkey), Boengiu et al. (2011-Romania), Andrić et al. (2016-Serbia), Afonso et al. (2017), Wysocki (2017)). In addition, in some of the studies in this scope, it was determined that the external debt burden ratios were steady and that external debts were sustainable in the long term. (Sawada (1994), Uctum et al. (2006), Nasir and Noman (2012), Lau et al.(2013), Pradhan (2014-India), Afonso et al. (2017), Llorca (2017))².

2 (For countries covered by Sawada (1994), Caparole (1995), Uctum et al., (2006), Nasir and Noman (2012), Lau et al., (2013), Llorca (2017), Afonso et al., (2017),

In this study, we aimed to empirically examine the sustainability level of external debts in terms of external debt burden ratios in emerging market economies where external debts are used as an important financial policy tool and the sustainability level is discussed. For this purpose, in the study, the sustainability levels of external debts in selected rapidly emerging market economies (Bangladesh, Brazil, Bulgaria, China, Colombia, India, Indonesia, Mexico, Pakistan, Peru, Philippines, Romania, Russia, South Africa, Thailand, Turkey, Ukraine, Venezuela) were analyzed econometrically for the 1990-2018 period using Fourier unit root tests within a time series analysis. The findings of the study regarding selected emerging market economies using Fourier unit root tests, which do not require the determination of the nature, location or number of structural breaks in time series, are considered to contribute to the development of the literature in terms of the relevant countries and the external debt burden ratios and econometric methods used.

In the second chapter following the introduction, the scope of the research is explained, and the data are introduced. In the third chapter, the econometric methodology of the research is explained, and the sustainability level of the external debts in selected emerging market economies is analysed econometrically for the 1990-2018 period using Fourier unit root tests within a time series analysis. The study is concluded in the final chapter where the research findings are discussed, and the policy implications are presented.

2. The Scope and Data of the Study

The external debt burden ratios formed by the proportion of external debt services and external debt stock to Gross National Product (GNP), are among the most basic indicators used in determining the sustainability levels of external debts and the external debt burden in a theoretical

Wysocki (2017) in studies using panel data analysis methodology, see the relevant studies).

and empirical sense (Roubini, 2001:2). In this context, this section of the study explains the countries that are considered to be rapidly emerging market economies according to the IMF (International Monetary Fund) 2018 classifications and their external debt service, external debt stock and external debt burden ratios formed using GNP series. These 23 countries that are considered as rapidly emerging market economies according to IMF-2018 classifications are listed alphabetically as follows: Argentina, Bangladesh, Brazil, Bulgaria, Chile, China, Colombia, Hungary, India, Indonesia, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Romania, Russia, South Africa, Thailand, Turkey, Ukraine and Venezuela. (5 of these 23 countries, namely Argentina, Chile, Hungary, Malaysia, Poland, were not included in the analysis since their data on external debt services, external debt stock and GNP series were not available in the relevant database).

In the study, the variables for the external debt burden ratios in the 18 emerging market economies selected according to the accessibility of the data of external debt burden ratios used in the econometric analyses for the 1990-2018 period, which are calculated by the proportion of external debt services and external debt stock series to GNP series, are presented in Table 1. Retrieving the data regarding external debt burden ratios for all 18 selected emerging market economies without interruption from the relevant database within this period was effective in determining the scope of the study as 1990-2018 period.

Table 1: Defining Variables

Abbreviations for the Variables	Definitions of the Variables	Data Sources of the Variables
SEDS-GNP	Share of External Debt Services in GNP	World Bank (WB) (World Development Indicators-WDI-2019).
SGEDS-GNP	Share of Gross External Debt Stock in GNP	

The SEDS-GNP variable defined in Table 1 shows the share of external debt services in the GNP (the sum of capital and interest payments of short and long term external debts) and is obtained from the relevant database as available data calculated over nominal USD. The SGEDS-GNP variable shows the share of gross external debt stock (the sum of the short and long term gross external debts of the public and private sector) in the GNP and is obtained from the relevant database as available data calculated over nominal USD.

3. Econometric Methodology and Findings of the Research

In this section of the study, we aimed to empirically investigate the sustainability levels of external debts in the 18 selected emerging market economies over the stability of external debt burden ratios in the form of SEDS-GNP and SGEDS-GNP. For this purpose, the sustainability levels of external debts in the selected 18 emerging market economies are analyzed econometrically for the 1990-2018 period using Fourier unit root tests within a time series analysis methodology. (EVIEWS 10.0 and Gauss 18.0 econometrics package programs were used in the econometric analyses of the study).

In the methodology of econometrics, the concept of stability means that the mean and variance of variables remain constant over time and that the common variance of variables should be dependent on the difference between two time values, and not time overall (Gujarati and Porter, 2012:740). In econometric analyses, series are generally not assumed to be non-stationary because they contain trends, and it is accepted that they can be steady when adjusted to be free from the trend originating from external factors (Kennedy, 2006:355-356). In addition, in econometric analyses, the steady-state of series can be investigated through different unit root tests, which can calculate test statistics under various assumptions considering the symmetric and asymmetric properties of the series and their deterministic, stochastic and functional structure, etc.

The stability of the external debt burden ratios of selected 18 emerging market economies using time series is investigated by the FKPSS, FGLS and FADF unit root tests developed using the Fourier function. As a matter of fact, Fourier unit root tests, which do not require the determination of the nature, position or number of the structural breaks occurring in time series and can be gradually determined as a whole, can give more consistent and reliable results regarding the stability of series (Becker, et al., 2006:381-382).

In the FKPSS unit root test developed by Becker et al. (2006), to determine the gradual breaks and deterministic components of unknown numbers and forms in the series, a stability test based on the KPSS (Kwiatkowski-Phillips-Schmidt-Shin) unit root test is done using the frequency component of a Fourier type function. The FKPSS unit root test where trigonometric terms are added to the model to determine the non-linearity in time series is based on the following regression equation:

$$Y_t = X_t'\beta + Z_t'\gamma + r_t + \varepsilon_t \quad (1)$$

Where $(r_t = r_{t-1} + \mu_t)$, and (ε_t) shows steady-state error, and (μ_t) shows independent and identically distributed variance (δ_u^2) . The $(X_t' = [1])$ and $(X_t' = [1, t])$ in the equation are used to determine the threshold steady-state and trend-steady-state processes of (Y_t') , respectively. (T) refers to the sample size, and (k) indicates the optimal number of frequencies minimizing the sum of error frames, and both can be determined by the gradual breaks in the deterministic component or the non-linearity equation $(Z_t = [\sin(2\pi kt/T), \cos(2\pi kt/T)])$. Considering this and expanding the regression equation in Equation 1, which will follow a steady-state process under the assumption of $(\delta_u^2 = 0)$, can be rewritten as follows:

$$y_t = \alpha + \beta t + \gamma_1 \sin\left(\frac{2\pi kt}{T}\right) + \gamma_1 \cos\left(\frac{2\pi kt}{T}\right) + \varepsilon_t \quad (2)$$

When the (β_t) is added to the equation in case the model contains a trend, the stability of the time series depends only on the number of frequencies (k) and the number of observations (T) . Where $(\bar{S}_t(k) = \sum_{j=1}^t \bar{\varepsilon}_j)$

) and $(\bar{\varepsilon}_j)$, the FKPSS unit root test statistics showing the residues of the regression estimated by the least squares method and obtained from the constant and constant+trend form of the time series are calculated based on the following equation:

$$\tau_{\mu}(k) = \frac{1}{T^2} \frac{\sum_{t=1}^T \bar{S}_t(k)^2}{\bar{\delta}^2} \quad (3)$$

In the FKPSS unit root test, the basic hypothesis of “there is no unit root in the series” ($\delta_u^2 = 0$) is tested against the alternative hypothesis, and the basic hypothesis cannot be rejected if the FKPSS test statistic is smaller than the critical table values obtained by simulations (Becker et al., 2006:381-409).

In the FGLS unit root test developed by Rodrigues and Taylor (2012), the stability test to determine the gradual breaks and deterministic components in unknown form and number in the time series is done using the frequency component of the Fourier type function and based on the GLS (Modified Dickey-Fuller) unit root test. In this respect, it is stated that the GLS unit root test is stronger than LM (Lagrange Multiplier) and OLS (Ordinary Least Squares) time series in separating time series from trend and that the FGLS unit root test is capable of more consistent unit root tests. Stability analysis in the FGLS unit root test is based on the following regression equations:

$$y_t = a_0 + a_1 t + a_2 \sin\left(\frac{2\pi kt}{T}\right) + a_3 \cos\left(\frac{2\pi kt}{T}\right) + \varepsilon_t \quad (4)$$

Where $(\varepsilon_t = \varphi \varepsilon_{t-1} + \mu_t)$, (μ_t) defines the residues with the qualities of $(iid(0, \sigma^2))$, and (k) indicates a Fourier frequency that takes a constant value. Considering this and when $(z_t = [1, t]')$, $(\alpha = (a_0, a_1))$ and $(\varphi = (a_2, a_3))$, the equation in Equation 4 can be rewritten as follows:

$$y_t = z_t' \alpha + f_t(k)' \varphi + \varepsilon_t \quad (5)$$

$$y_t = Z_t \alpha + f_t(k) \varphi + \varepsilon_t \quad (6)$$

Where, $(Z = (z'_1, \dots, z'_T)')$ and $(f(k) = (f_1(k)', \dots, f_T(k)'))'$, when the parameters in Equation 4 are separated from the trend according to the GLS method, the following regression equation can be achieved, where the FGLS unit root test statistics are calculated.

$$\Delta y_t^{\bar{c}_{k,\zeta}} = \phi y_{t-1}^{\bar{c}_{k,\zeta}} + e_t \quad (7)$$

In the equation, when $(t = 2, \dots, T)$, $(\bar{c}_{k,\zeta})$ indicates the form of the deterministic component, and $(\zeta = \mu, \tau)$ includes (μ) and (τ) , which indicate the constant and the trend, respectively. In the FGLS unit root test where t-statistics are calculated according to the constant and constant+trend form of the time series, the basic hypothesis of “there is no unit root in the series” ($\phi = 1$) is tested against the alternative hypothesis, and the basic hypothesis cannot be rejected if the FGLS t-statistics are absolutely smaller than the critical table values obtained by simulations (Rodrigues and Taylor, 2012:736-759).

In the FGLS unit root test developed by Rodrigues and Taylor (2012), the stability test to determine the gradual breaks and deterministic components in unknown form and number in the time series is done using the frequency component of the Fourier type function and based on the ADF (Augmented Dickey-Fuller) unit root test. In this respect, it is stated that the FADF unit root test is stronger and gives more consistent results compared to the FGLS unit root tests when the initial values of time series are large and there is nonlinearity in the time series. The FADF unit root test where the deterministic component is represented by a time-dependent function such as $(\alpha(t))$ is based on the following DF-type regression equation:

$$y_t = \alpha(t) + \rho y_{t-1} + \varepsilon_t \quad (8)$$

Where (ε_t) indicates the error with constant variance, and (δ_u^2) indicates the steady-state error; so the Fourier type regression can be written as follows:

$$\Delta y_t = \rho y_{t-1} + c_1 + c_2 t + c_3 \sin\left(\frac{2\pi kt}{T}\right) + c_4 \cos\left(\frac{2\pi kt}{T}\right) + \varepsilon_+ \quad (9)$$

The term (t) in the equation is added to the equation if the model contains a trend and depends only on the number of frequencies (k) and (T) the number of observations of the steady-state of the time series. In the regression, the number of frequencies (k) is determined using the model with the minimum residual squares, and the FADF unit root test statistics (τ_{DF-c}) and (τ_{DF-t}) are calculated according to the constant and constant+trend form of the time series. In the FADF unit root test, the basic hypothesis of “there is no unit root in the series” ($\rho = 0$) is tested against the alternative hypothesis, and the basic hypothesis cannot be rejected if the FADF test statistics are absolutely smaller than the critical table values obtained by simulations (Enders and Lee, 2012:196-199).

In this study, the results of the FKPSS, FGLS and FADF unit root tests investigating the stability of the external debt burden ratios in the form of Constant+Trend as SEDS-GNP and SGEDS-GNP, which were used to determine the sustainability levels of the external debts of 18 selected emerging market economies in the 1990-2018 period, are shown in Tables 2 and 3.

Table 2: *Fourier Unit Root Test Results*

SEDs-GNP	Constant+Trend			Constant+Trend			Constant+Trend						
Countries	FKPSS		L	K	FGLS		L	K	FADF		L	K	I
	LV	FD			LV	FD			LV	FD			
Bangladesh	0.079	0.030*	0	1	-1.89	-8.77*	1	5	-2.92	-8.65*	1	5	I(1)
Brazil	0.117	0.034*	0	1	-3.01	-6.38*	0	1	-3.07	-5.95*	0	2	I(1)
Bulgaria	0.051*	—	0	3	-6.34*	—	0	3	-5.98*	—	0	3	I(0)
China	0.095	0.021*	0	1	-3.43	-7.54*	0	1	-3.88	-7.01*	0	1	I(1)
Colombia	0.061*	—	0	2	-5.67*	—	0	2	-5.36*	—	0	2	I(0)
India	0.046*	—	0	1	-6.10*	—	0	3	-5.64*	—	0	3	I(0)
Indonesia	0.048*	—	0	1	-4.24**	—	0	1	-4.88**	—	0	1	I(0)
Mexico	0.032*	—	0	1	-6.24*	—	0	1	-5.77*	—	0	1	I(0)
Pakistan	0.047*	—	0	1	-5.43*	—	0	1	-4.99*	—	0	1	I(0)
Peru	0.041*	—	0	1	-6.22*	—	0	1	-5.81*	—	0	1	I(0)
Philippines	0.442	0.028*	0	2	-2.42	-8.32*	0	2	-3.49	-7.91*	0	1	I(1)
Romania	0.070*	—	0	2	-5.60*	—	0	2	-5.17*	—	0	2	I(0)
Russia	0.074	0.036*	0	1	-4.12	-7.00*	0	1	-3.86	-6.46*	0	1	I(1)
South Africa	0.034*	—	0	1	-5.46*	—	0	1	-5.40*	—	0	1	I(0)
Thailand	0.096	0.040*	0	1	-3.27	-5.77*	0	1	-3.22	-6.06*	0	1	I(1)
Turkey	0.218	0.079*	0	4	-2.63	-5.85*	0	4	-2.39	-6.01*	0	4	I(1)
Ukraine	0.103*	—	0	2	-4.49*	—	0	2	-4.35**	—	0	2	I(0)
Venezuela	0.089	0.050*	0	1	-3.41	-5.11*	1	1	-2.96	-5.49*	1	1	I(1)
Critical Table Values	K	% 1	% 5		% 1		% 5		% 1		% 5		
	1	0.072	0.055		-4.77		-4.18		-4.95		-4.35		
	2	0.202	0.132		-4.28		-3.65		-4.69		-4.05		
	3	0.210	0.142		-4.04		-3.37		-4.45		-3.78		
	4	0.217	0.148		-3.92		-3.23		-4.29		-3.65		
	5	0.218	0.149		-3.80		-3.15		-4.20		-3.56		

Note: The “*” and “**” on the test statistics indicate that the relevant variables were steady at 1% and 5% significance levels, respectively. The “L” and “K” columns in the table show the optimal lag lengths and numbers of frequencies, respectively, that were determined for the variables in the FKPSS, FGLS and FADF tests using the Schwarz Information Criteria (SIC). The critical table values for the FKPSS, FGLS and FADF tests were obtained from Becker et al., (2006) Rodrigues and Taylor (2012) and Enders and Lee (2012), respectively.

When the FKPSS, FGLS and FADF unit root test findings in Table 2 are examined, the SEDS-GNP external debt burden ratio used to determine the sustainability level of external debts was found to be steady at the level value (LV) in 10 of the selected emerging market economies (India, Indonesia, Mexico, Bulgaria, Colombia, Pakistan, Peru, Romania, Ukraine, South Africa). This finding can be achieved by the fact that the test statistics calculated in the Constant+Trend form and the level value (LV) for the SEDS-GNP variable in the FKPSS, FGLS and FADF unit root tests are absolutely smaller and absolutely larger than the critical table values at 1% or 5% significance level, respectively. These findings obtained from the Fourier type FKPSS, FGLS and FADF unit root tests indicate that in the emerging market economies of India, Indonesia, Mexico, Bulgaria, Colombia, Pakistan, Peru, Romania, Ukraine and South Africa, the SEDS-GNP external debt burden ratios were steady at the level value [$I(0)$] and that the external debts in the 1990-2018 period were at a sustainable level.

On the other hand, when the FKPSS, FGLS and FADF test findings in Table 2 are examined, the SEDS-GNP external debt burden ratios used to determine the sustainability level of external debts were steady at the first differences (FD) in 8 of the selected emerging market economies (Brazil, China, Turkey, Bangladesh, Philippines, Venezuela, Thailand, Russia). This finding can be achieved by the fact that the test statistics calculated in the Constant+Trend form and the first differences (FD) for the SEDS-GNP variable in the FKPSS, FGLS and FADF unit root tests are absolutely smaller and absolutely larger than the critical table values at 1% or 5% significance level, respectively. These findings obtained from the Fourier type FKPSS, FGLS and FADF unit root tests indicate that in the emerging market economies of Brazil, China, Turkey, Bangladesh, Philippines, Venezuela, Thailand and Russia, the SEDS-GNP external debt burden ratios were not steady at the level value [$I(0)$] but that they became steady taking their first differences [$I(1)$]. In addition, these findings that show that in the emerging market economies of Brazil, China, Turkey, Bangladesh, Philippines, Venezuela, Thailand and Russia, the external debt burden ratios in the form of SEDS-GNP were steady at the

first differences due to gradual structural breaks, suggesting that external debts in the 1990-2018 period were at an unsustainable level.

Table 3: *Fourier Unit Root Test Results*

SGEDS-GNP	Constant+Trend			Constant+Trend			Constant+Trend						
Countries	FKPSS		L	K	FGLS		L	K	FADF		L	K	I
	LV	FD			LV	FD			LV	FD			
Bangladesh	0.190	0.040*	0	1	-3.57	-5.35*	4	2	-3.75	-5.24*	4	2	I(1)
Brazil	0.254	0.080*	0	2	-2.71	-5.03*	1	2	-2.70	-4.56**	1	1	I(1)
Bulgaria	0.072*	—	0	2	-6.43*	—	1	2	-6.15*	—	1	2	I(0)
China	0.074	0.029*	0	1	-2.34	-6.30*	0	3	-2.86	-6.20*	0	1	I(1)
Colombia	0.383	0.070*	0	2	-1.76	-6.46*	0	2	-3.20	-6.08*	0	1	I(1)
India	0.077*	—	0	2	-4.82*	—	1	1	-4.79**	—	3	1	I(0)
Indonesia	0.116*	—	0	2	-3.80**	—	0	2	-4.64**	—	0	2	I(0)
Mexico	0.042*	—	0	1	-5.08*	—	0	1	-5.16*	—	0	1	I(0)
Pakistan	0.046*	—	0	1	-4.07**	—	0	1	-4.19**	—	0	2	I(0)
Peru	0.239	0.029*	0	2	-3.30	-5.82*	4	1	-0.15	-6.84*	3	1	I(1)
Philippines	0.421	0.062*	0	2	-2.49	-5.60*	2	1	-3.00	-5.39*	2	2	I(1)
Romania	0.130	0.038*	0	1	-2.64	-5.93*	0	1	-2.81	-5.50*	0	4	I(1)
Russia	0.074	0.026*	0	1	-3.42	-5.49*	0	1	-3.14	-5.03*	0	1	I(1)
South Africa	0.052*	—	0	1	-4.57**	—	0	1	-5.29*	—	0	2	I(0)
Thailand	0.215	0.127*	0	2	-2.18	-4.60**	1	2	-2.30	-6.37*	1	2	I(1)
Turkey	0.075	0.026*	0	1	-3.79	-4.78*	0	1	-3.28	-4.49**	0	1	I(1)
Ukraine	0.073*	—	0	2	-4.73*	—	0	2	-4.58**	—	0	2	I(0)
Venezuela	0.080	0.042*	0	1	-3.41	-7.04*	0	1	-3.38	-6.58*	0	1	I(1)
Critical Table Values	K	% 1	% 5		% 1	% 5		% 1		% 5			
	1	0.072	0.055		-4.77	-4.18		-4.95		-4.35			
	2	0.202	0.132		-4.28	-3.65		-4.69		-4.05			
	3	0.210	0.142		-4.04	-3.37		-4.45		-3.78			
	4	0.217	0.148		-3.92	-3.23		-4.29		-3.65			
	5	0.218	0.149		-3.80	-3.15		-4.20		-3.56			

Note: See the explanations in Table 2.

When the FKPSS, FGLS and FADF unit root test findings in Table 3 are examined, the SGEDS-GNP external debt burden ratio used to determine

the sustainability level of external debts was found to be steady at the level value (LV) in 7 of the selected emerging market economies (India, Indonesia, Mexico, Bulgaria, Pakistan, Ukraine, South Africa). This finding can be achieved by the fact that the test statistics calculated in the Constant+Trend form and the level value (LV) for the SGEDS-GNP variable in the FKPSS, FGLS and FADF unit root tests are absolutely smaller and absolutely larger than the critical table values at 1% or 5% significance level, respectively. These findings obtained from the Fourier type FKPSS, FGLS and FADF unit root tests indicate that in the emerging market economies of India, Indonesia, Mexico, Bulgaria, Pakistan, Ukraine and South Africa, the SGEDS-GNP external debt burden ratios were steady at the level value $[I(0)]$ and that the external debts in the 1990-2018 period were at a sustainable level.

On the other hand, when the FKPSS, FGLS and FADF test findings in Table 3 are examined, the SGEDS-GNP external debt burden ratios used to determine the sustainability level of external debts were steady at the first differences (FD) in 11 of the selected emerging market economies (Brazil, China, Turkey, Bangladesh, Colombia, Peru, Philippines, Venezuela, Thailand, Romania, Russia). This finding can be achieved by the fact that the test statistics calculated in the Constant+Trend form and the first differences (FD) for the SGEDS-GNP variable in the FKPSS, FGLS and FADF unit root tests are absolutely smaller and absolutely larger than the critical table values at 1% or 5% significance level, respectively. These findings obtained from the Fourier type FKPSS, FGLS and FADF unit root tests indicate that in the emerging market economies of Brazil, China, Turkey, Bangladesh, Colombia, Peru, Philippines, Venezuela, Thailand, Romania, and Russia, the SGEDS-GNP external debt burden ratios were not steady at the level value $[I(0)]$ but that they became steady taking their first differences $[I(1)]$. In addition, these findings show that in the emerging market economies of Brazil, China, Turkey, Bangladesh, Colombia, Peru, Philippines, Venezuela, Thailand, Romania and Russia, the external debt burden ratios in the form of SGEDS-GNP were steady

at the first differences due to gradual structural breaks, suggesting that external debts in the 1990-2018 period were not at a sustainable level.

4. Conclusion

In this study, we aimed to empirically examine the sustainability level of external debts in terms of external debt burden ratios in emerging market economies where external debts are used as an important financial policy tool and the sustainability level is discussed. For this purpose, in the study, the sustainability levels of external debts in selected rapidly emerging market economies (Bangladesh, Brazil, Bulgaria, China, Colombia, India, Indonesia, Mexico, Pakistan, Peru, Philippines, Romania, Russia, South Africa, Thailand, Turkey, Ukraine, Venezuela) were analyzed econometrically for the 1990-2018 period using Fourier unit root tests within a time series analysis. The results of the Fourier unit root tests on the stability of external debt burden ratios and the sustainability levels of external debts in selected emerging market economies can be summarized as follows:

In this context, we have reached the conclusion that the external debt burden ratios were steady at the level value in the emerging market economies of India, Indonesia, Mexico, Bulgaria, Pakistan, Ukraine and South Africa, whereas they became steady at the first differences in the emerging market economies of Brazil, China, Turkey, Bangladesh, Philippines, Venezuela, Thailand and Russia. These results show that external debts were at a sustainable level in selected emerging market economies such as India, Indonesia, Mexico, Bulgaria, Pakistan, Ukraine and South Africa, while they were not sustainable in Brazil, China, Turkey, Bangladesh, Philippines, Venezuela, Thailand and Russia. In addition, it was determined that the external debt burden ratios formed using external debt services in the emerging market economies of Colombia, Peru and Romania were steady at the level value and that the external debt burden ratios formed using the external debt stock were not steady at the level value. These results show that in the emerging market economies in Colombia, Peru and Romania, the sustainability levels of external debts differed

significantly compared to the external debt burden ratios used and that no final conclusion can be achieved about the sustainability levels of external debts in the 1990-2018 period.

These results indicate that the increases in production volume and economic growth by external debts in Brazil, China, Turkey, Bangladesh, Philippines, Venezuela, Thailand and Russia, where the external debts of the 1990-2018 period were determined to be unsustainable, were at a decreasing level and were below the level of external debt service payments required to meet the external debt burden. This also applies for Colombia, Peru and Romania, where no definitive conclusion could be reached on the sustainability of external debts in the 1990-2018 period. Moreover, the results show that external debts have not yet reached such a level for India, Indonesia, Mexico, Bulgaria, Pakistan, Ukraine and South Africa, where external debts were determined to be at a sustainable level in the 1990-2018 period. These results, which led to the question of whether the external debts in the 1990-2018 period were used effectively as a financial policy tool, reveal that financial discipline has not been achieved in terms of external debts in the selected emerging market economies of Brazil, China, Turkey, Bangladesh, Philippines, Venezuela, Thailand, Russia, Colombia, Peru and Romania.

In this context, in the economies of Brazil, China, Turkey, Bangladesh, Philippines, Venezuela, Thailand, Russia, Colombia, Peru and Romania, it is necessary for policy makers to develop and implement financial policy measures to ensure financial discipline in terms of external debts and to achieve a reasonable level of sustainability of external debts. For this purpose, it is important for policy makers to design financial policies in these economies in a way as to reduce the areas of use, objectives, rates and frequencies of external debts within financial policy tools to reduce the dependence on external debts and to meet the external debt burden. In addition, in these economies, policy makers should implement policies to channel the external debts into productive areas and to ensure the continuity of the increase in production volume and economic growth

provided by external debts. Thus, it will be possible for these economies to achieve financial discipline in terms of external debts and to achieve a reasonable level of sustainability of external debts. In addition to all of this, it is thought that future empirical studies will contribute to the development of the literature on research on the effects and determinants of external debts on economic growth and macroeconomic indicators.

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2

TESTING PURCHASING POWER PARITY FOR D-8 COUNTRIES

Mehmet Dinç¹

1. Introduction

The purchasing power parity (PPP) means that exchange rate between two currencies should be equal to the general level of prices between the two countries, so that two currencies will have the same purchasing power in each of countries (Taylor & Taylor, 2004). There are two different approaches to PPP, which are absolute PPP and relative PPP. Among these approaches, the absolute PPP states that the general price levels between the two countries should be the same after converting to a common currency, whereas the relative PPP allows a difference between general price levels and states that the price behavior in the common currency should be similar in the long run (Li, Lin & Hsiao, 2015).

The validity of PPP hypothesis may vary from period to period. The reasons behind the fact that the PPP hypothesis is not valid in the short term, in other words, that the real exchange rate (REXR) cannot return to a stable equilibrium value, can be cited as subsidies, taxation, transaction costs and trade barriers. However, since the long-term international commodity market arbitrage needs to be traded the PPP hypothesis is expected to be valid (Lin, Chang & Chang, 2011). On the other hand, the importance of estimating the PPP hypothesis, especially for underdeveloped countries or countries with high level difference between the general level of domestic and foreign prices, is important for estimating the exchange rate and also it provides a criterion for policy makers to decide whether the country's currency is excessive or low. (Holmes, 2001).

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From this point of view, the purpose of this study is to test the validity of PPP hypothesis for Developing Eight Countries (D-8) consisting of countries with higher levels of inflation. In the next part of the study, there is a literature review of previous studies in which the validity of the hypothesis is tested. Following the literature review, there is the data set and method subhead, which defines the data set and method used in the study. In the last two subheads, first the findings obtained from the unit root test results are discussed and then there is the results section where the general evaluation of the study is presented.

2. Literature Review

The results of empirical studies conducted to test the validity of PPP vary according to the country/country group, data set and the method. Some of the studies on the validity PPP are given in Table 1.

TABLE 1. A REVIEW OF THE LITERATURE

AUTHOR	Country	Data Set	Method	Result
ARİZE (2011)	66 LDCs Countries	1980M1-2009M10	Linear and Non-linear unit root Test	LDCs (+)
ACARAVCI & ÖZTÜRK (2010)	8 Transition Countries	1992:M1-2009M1	Linear Unit Root and Unit Root with Structural Break	Bulgaria and Romania (+)
TELATAR & HASANOV (2009)	12 Central and East European Countries	1990M1-2007M12	Linear and Non-linear Unit Root Test	The Central and Eastern European Countries (+)
BAHMANİ-OSKOOEE, CHANG & LEE (2016)	11 Emerging Countries	1994M1-2013M3	Panel Unit Root Test	11 Emerging Countries (+)
SOLAKOĞLU (2006)	21 Transition Countries	1992-2003	Panel Unit Root Test	Transition Countries (+)
GUESTAS & REGİS (2013)	OECD countries	1972M1-2010M1	Non-linear Unit Root Test	12 OECD Countries (+)
BAHMANİ-OSKOOEE, CHANG & LEE (2014)	BRICS and MIST Countries	1994M1-2012M6	Sequential Panel Selection Method	Both BRICS and MIST (+)
ASLAN, KULA & KALYONCU (2010)	Turkey	1953-1998	Unit Root with Structural Breaks	Turkey (+)
KALYONCU & KALYONCU (2008)	25 OECD Countries	1980Q1-2005Q4	Panel Unit root	OECD (+)

TABLE 1. A REVIEW OF THE LİTERATURE

AUTHOR	Country	Data Set	Method	Result
SARNO (2000)	Turkey	1980-1997	Non-linear Unit Root Test	Turkey (+)
ÖZDEMİR (2008)	Turkey	1984M1-2004M12	Non-linear Cointegration	Turkey (+)
YAZGAN (2003)	Turkey	1982Q1-2001Q4	Cointegration test	Turkey (+)
TELATAR & KAZDAĞLI (1998)	Turkey	1980M10-1993M10	Cointegration Test	Turkey (+)
PAN, CHANG, LEE & LİU (2012)	18 African Countries	1985M1-2008M9	Sequential Panel Selection Method	Sierra Leone, Tanzania, Madagascar and Morocco (+)
WU, CHENG & HOU (2011)	76 Countries	1976M1-2006M6	Panel Unit Root	Latin America and Africa Countries (+)
KARAGÖZ & SARAÇ (2016)	Turkey	2003M1-2014M6	Non-linear Unit Root Test	Turkey (-)
CHANG, LEE & LİU (2012)	8 Association of Southeast Asian Nations (ASEAN) Countries	1980M1-2008M9 (various date)	Non-linear Unit Root Test	Indonesia, Malaysia and Thailand (-)
DOĞANLAR, BAL & ÖZMEN (2009)	10 Emerging Market Economies	1995M1-2005M12	Cointegration	Mexico and Peru (+) but the others (-)
ENDERS & CHUMRUSPKONLERT (2004)	8 Pacific Countries	1973M1-2001M7 (various date)	Threshold Cointegration	7 Pacific Countries (+)
DOĞANLAR (1999)	5 developing Asia Countries	1980M1-1995M4	Cointegration	Turkey (+) but the others (-)
BAHMANİ-OSKOOEE, KONES & CHANG (2014)	20 African Countries	1971Q1-2012Q4	Sequential Panel Selection Method.	Cote D'Ivoire, Niger, Togo (+)
YILDIRIM (2017)	Turkey	2001M3-2015M10	Non-linear Unit Root Test	Turkey (+)
BAHMANİ-OSKOOEE, CHANG & WU (2014)	20 African Countries	1971Q1-2012Q4	Panel Stationary Test	10 African Countries (+)
CHOWDHURY (2007)	Bangladesh	1994M1-2012M12	Non-linear Analysis	Bangladesh (+)

TABLE 1. A REVIEW OF THE LITERATURE

AUTHOR	Country	Data Set	Method	Result
CHANG & SU (2010)	7 OECD Countries	1995M11-2008M2	Non-Linear Panel Unit-Root Test	Angola, Indonesia, Iran and Saudi Arabia (+)
YILDIRIM, MERCAN & KOSTAKOĞLU (2013)	EU27, EU15, OECD, G8	1960-2012 (various date)	Unit Root with Structural Breaks, Panel Data Analysis	Turkey (-) but EU27, EU15, OECD, G8 (+)
SU, CHANG & ZHU (2012)	20 African Countries	1981-2009 Monthly	Nonlinear Unit Root	The most African Countries (+)
SU, CHANG & LIU (2012)	15 African Countries	1994:M12-2008M7	Non-linear Panel Unit Root Test	Botswana, Burundi, Madagascar and Seychelles (+)
JİANG, BAHMANİ-OSKOOEE & CHANG (2015)	34 OECD Countries	1994:M1-2013M8	Panel Unit Root Test	in half of 34 OECD countries (+)
VASCONCELOS & JUNIOR (2016)	Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela	1994M1-2014M4	Linear and Non-linear Unit Root Test	Chile, Mexico and Peru (+)
HE, CHOU & CHANG (2014)	15 Latin American Countries	1994M12-2010M2	Panel SURKSS Test	14 Latin American Countries (+) but Honduras (-)
GÜRİŞ, YAŞGÜL & TIRAŞOĞLU (2016)	NORDIC Countries	2009M1-2014M12	Linear and Non-linear Unit Root Tests	Nordic Countries (-)
WU, BAHMANİ-OSKOOEE & CHANG (2018)	G6 Countries (Canada, Italy, Japan, France and UK)	1971M1-2013M12	Smooth Time-varying Cointegration Test	France and Germany (+)

NOTE: THE (+) SIGN REPRESENTS “PPP VALID FOR “AND THE (-) REPRESENTS “PPP DOES NOT VALID FOR”

3. Data Set and Method

3.1. Data Set

In this study, which is conducted to test the validity of PPP in D-8 countries, the data set covering the period 1993M07-2018M11 of the respective countries was used. The nominal exchange rate (NEXR) (\$/currency

of the country) and consumer price index (2010=100) data of the countries in the relevant period are obtained from the International Financial Statistics prepared by the International Monetary Fund (IMF).

3.2. Method

In this study, the validity of PPP in D-8 countries is examined with traditional unit root and Fourier unit root test statistics. Test statistics of Dickey & Fuller (DF) (1979, 81) Augmented Dickey and Fuller (ADF), Phillips & Perron (PP) (1988) and Kwiatkowski, Phillips, Schmidt & Shin (KPSS) (1992) which are traditional unit root tests, in contrast to the KPSS test, other test statistics test that the series has unit root in null hypotheses, in other words, the series is not stationary (Greene, 2011, pp.598). Traditional unit root statistics ignore the structural changes in the deterministic trend of the series. This situation causes a change in unit root test results as stated by Perron (1989) (Maddala & Kim, 1998, pp.389). Therefore, in order to capture both the structural change that occurred in the deterministic trend of the series and the naturalness of this change, fourier unit root test statistics were used. The Fourier unit root test statistic, defined as the decomposition of the deterministic trend of the series into the sum of the sinusoidal components, is as follows (Montgomert, Jennings & Kulahci, 2015 pp.529-530):

$$y_t = \sum_{k=1}^T a_k \sin(2\pi f_k t) + b_k \cos(2\pi f_k t)$$

Where $f_k = k/T$ and a_k and b_k is calculated as:

$$a_k = \frac{2}{T} \sum_{k=1}^T \cos(2\pi f_k t)$$

$$b_k = \frac{2}{T} \sum_{k=1}^T \sin(2\pi f_k t)$$

Based on the general formula, we can calculate the fourier unit root test statistic based on the ADF test procedure of Enders and Lee (2012) as follows:

$$y_t = \alpha(t) + \phi y_{t-1} + \beta t + \varepsilon_t$$

Where in the test statistic testing $\phi = 1$, ε_t , σ_ε^2 represents the variance error. The $\alpha(t)$ from the above equation is calculated as follows:

$$\alpha(t) = \alpha_0 + \sum_{k=1}^n \alpha_k \sin(2\pi kt / T) + \sum_{k=1}^n \delta_k \cos(2\pi kt / T)$$

Using the two foregoing equations, the regression equation for the ADF type fourier test statistic with a single k frequency in terms of simplicity is as follows:

$$\Delta y_t = \rho y_{t-1} + a_1 + a_2 t + a_3 \sin(2\pi kt / T) + a_4 \cos(2\pi kt / T) + v_t$$

The above fourier unit root regression model tests the basic hypothesis $\rho = 0$. The number of frequencies in the equation is between $1 \leq k \leq 5$ (Enders and Lee, 2012).

4. Findings

The results of the traditional unit root tests used in the study where the validity of PPP in the D-8 countries is tested are given in Table 2. When Table 2 is examined, it is seen that, in contrast to other test statistics, KPSS test statistic shows that the series is stationary in the constant model for the countries Egypt, Indonesia, and Nigeria, and in both constant and trend model for Iran. However, the same test statistic shows that in the first difference for Pakistan, the series is not stationary in contrast to other test statistics in the constant and trend model.

The difference between traditional unit root test results indicates that there is a structural change in the deterministic trends of the series as Perron (1989) states. Fourier unit root test results from the sharp and smooth transformation approaches used in the determination of this structural change are presented in Table 3.

Table 2. Traditional Unit Root Tests Results

Country	Model	ADF	DF-GLS	PP	KPSS	ADF	DF-GLS	PP	KPSS
Panel A: Lnrex						Panel B: Δ Lnrex			
Bangladesh	Constant	-0,302 (0,921)	-0,164	-0,108 (0,946)	0.935*	-13.64* (0,000)	-13.33*	-13.38* (0,000)	0.350
	Constant and Trend	-1.124 (0,922)	-0.951	-0.965 (0,945)	0.488*	-13.72* (0,000)	-13.74*	-13.40* (0,000)	0.080
Egypt	Constant	-1.994 (0,289)	-1.716	-1.979 (0,296)	0.263	-12.24* (0,000)	-7.451*	-18.06* (0,000)	0.083
	Constant and Trend	-1.949 (0,625)	-1.898	-1.932 (0,634)	0.202**	-12.23* (0,000)	-17.85*	18.04* (0,000)	0.085
Indonesia	Constant	-2.681 (0,078)	-1.815	-2.772 (0,063)	0.289	-14.05* (0,000)	-14.07*	-16.34* (0,000)	0.060
	Constant and Trend	-2.735 (0,223)	-2.248	-2.820 (0,191)	0.224*	-14.03* (0,000)	-13.88*	-16.32* (0,000)	0.045
Iran	Constant	-2.565 (0,101)	-1.233	-2.559 (0,102)	0.147	-17.74* (0,000)	-17.73*	-17.74* (0,000)	0.091
	Constant and Trend	-2.603 (0,279)	-1.845	-2.596 (0,282)	0.129	-17.73* (0,000)	-17.75*	-17.73* (0,000)	0.072
Malaysia	Constant	-1.892 (0,335)	-0.327	-1.951 (0,308)	0.536**	-16.72* (0,000)	-16.63*	-16.71* (0,000)	0.099
	Constant and Trend	-1.929 (0,636)	-1.605	-2.022 (0,586)	0.269*	-16.70* (0,000)	-16.70*	-16.69* (0,000)	0.081
Nigeria	Constant	-1.917 (0,324)	-1.376	-2.114 (0,239)	0.219	-16.74* (0,000)	-16.42*	-16.79* (0,000)	0.082
	Constant and Trend	1.949 (0,626)	-1.669	-2.142 (0,519)	0.214**	-16.72* (0,000)	-16.71*	-16.77* (0,000)	0.084
Pakistan	Constant	-1.229 (0,662)	-0.974	-1.372 (0,595)	0.510**	-16.19* (0,000)	-3.182*	-16.26* (0,000)	0.162
	Constant and Trend	-1.215 (0,904)	-1.169	-1.365 (0,869)	0.392*	-16.16* (0,000)	-5.228*	-16.23* (0,000)	0.170**
Turkey	Constant	-1.709 (0,425)	-1.690	-1.685 (0,437)	0.972*	-16.07* (0,000)	-14.59*	-16.11* (0,000)	0.163
	Constant and Trend	-1.588 (0,795)	-1.745	-1.574 (0,801)	0.337*	-16.07* (0,000)	-15.61*	-16.18* (0,000)	0.104

Note: The value in parentheses indicates the probability value of the variables and *, ** indicates the significance level of 1% and 5%, respectively.

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When Fourier unit root test results shown in Table 3 are examined, it is seen that both constant model and constant and trend model results of the countries are not statistically significant for any of the countries except for Turkey's constant model. These results show that the REXR series of countries have a unit root and are not stationary around the broken deterministic trend.

Table 3. Fourier Unit Root Test Results

Country	Variable	Method	Constant			Constant and Trend		
			Test value	Number of Fourier	Critical Value	Test value	Number of Fourier	Critical Value
Bangladesh	Lnrex	Fourier ADF	-3.335	1	-4.42	-4.052	1	-4.95
					-3.81			-4.35
Egypt	Lnrex		-2.867	2	-3.97	-3.355	2	-4.69
					-3.27			-4.05
Indonesia	Lnrex		-3.189	1	-4.42	-3.798	1	-4.95
					-3.81			-4.35
Iran	Lnrex		-3.247	2	-3.97	-3.236	2	-4.69
					-3.27			-4.05
Malaysia	Lnrex		-2.194	3	-3.77	-3.412	1	-4.95
					-3.07			-4.35
Nigeria	Lnrex		-1.966	3	-3.77	-3.086	1	-4.95
					-3.07			-4.35
Pakistan	Lnrex		-1.431	1	-4.42	-2.944	1	-4.95
					-3.81			-4.35
Turkey	Lnrex		-4.04**	1	-4.42	-4.220	1	-4.95
					-3.81			-4.35

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

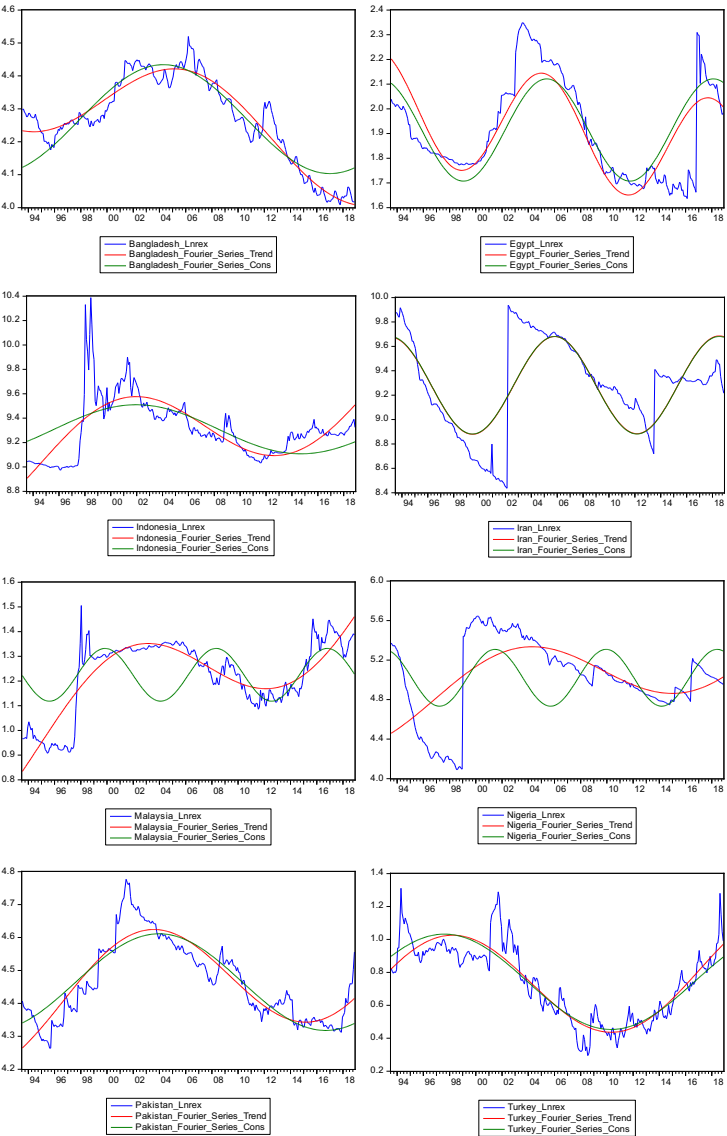


Figure 1. Real Exchange Rate and Fourier Function

5. Conclusion

In this study, the validity of PPP for D-8 countries was examined with the help of the data set covering the period 1993M7-2018M11. Since the traditional unit root test statistics ignore the structural changes in the series, fourier unit root test statistic was used to capture the structural changes in the series. According to Fourier unit root test results, the REXR series were determined to have unit root in all countries (except for the constant model of Turkey) both in constant model and in constant and trend models. In other words, the real exchange rate series of countries are not stationary around the broken deterministic trend. It is concluded that PPP is not valid in the countries included in the study (except for the constant model of Turkey) in contradistinction to the studies of Sarno, 2000; Özdemir, 2008; Yazgan, 2003; Chowdhury, 2007; Aslan, Kula and Kalyoncu, 2010; Kasman, Kasman and Ayhan, 2010; Chang and Su, 2010; Chang, Lee and Liu, 2012; Yıldırım, 2017. The findings show that a deviation in the REXR is permanent in the series. This indicates that the NEXR is insufficient in response to price changes, in other words, the NEXR is not realized in a way to eliminate the effect of these price changes and the exchange rate policies implemented in countries are not effective in terms of price stability.

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3

REAL EFFECTS OF GOVERNMENT DEBT ON SUSTAINABLE ECONOMIC GROWTH IN THE EU COUNTRIES

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1. Introduction

The relationship between economic growth and fiscal policy, although complicated, is highly important for policy-makers. Fiscal policy is of vital importance for economic growth both in the short and long term. As far as fiscal policy is concerned, continuous public debt may have a negative impact on capital stock and productivity (Kumar & Woo, 2010: 4). Thus, budgetary regulations have been a common means of carrying out a solid fiscal policy in recent years.

Although the economic growth rate may have a linear negative impact on the ratio of public debt to national income, it is highly likely that high public debt will adversely affect economic growth after a certain level of potential is reached in the economy (Checherita & Rother, 2010: 5).

Whereas in the past, issues of high public debt were more likely to be associated with developing countries, it is seen today that high public debt is becoming permanent also in developed economies due to disruptions in the financial cycle (Cecchetti, Mohanty & Zampolli, 2010: 2).

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In general, theoretical studies indicate a negative correlation between public debt and economic growth and suggest an investigation of the effects of high public debt on capital stock, growth and high risk. Barro (1990) and Elmendorf & Mankiw (1999), in addition, points out to the changes in the effects of public debt on economic output in the short and the long term. Debt is likely to lead to an increase in capital and a decrease in production in the long term, whereas in the short term, it may increase aggregate demand and overall efficiency (Puig & Rivero, 2017: 1).

Public finance in the Euro zone created serious high pressure particularly on national debt following the 2008-2009 crisis. Many of the European Union (EU) countries took significant risks in terms of fiscal sustainability. The magnitude of the crisis has led policy makers to move towards increasing public expenditures in order to increase fiscal policy incentives based on the experiences stemming from past crises. Despite resulting in higher budgetary deficits and public debt, the implemented policies prevented stagnation caused by financial crisis from heading towards another depression (Theodoropoulou, 2018: 5; Checherita & Rother, 2010: 5). Increasing public debt by the EU countries in recent have raised questions of sustainability of European fiscal and budgetary policies. In this context, the impact high and permanent public debt has on economy has become an important subject of research.

The present study aimed to investigate the relationship between public debt and economic growth in countries of in consideration of ongoing empirical analyses on the transformation of public debt in existing economies. In line with this objective, the relationship between public debt and sustainable economic growth in the EU countries between 1996 and 2017 through panel data analysis. The empirical findings acquired suggested a bidirectional causation between public debt and economic growth.

2. Public Debt in Countries of European Union

In cases where it is difficult to raise taxes or expenditures, the most important means for states to finance their public expenditures is through

public borrowing (Coccia, 2018: 2). Public debt management refers to the process of effective policy making and executing in order to increase the necessary amount of funds. An effective public debt management aids in reducing countries' borrowing costs as well as providing necessary finances for public investments. A comprehensive and dynamic debt policy that is based on rules, which provides the correct options, helps eliminate financial constraints and provides a wealth effect is of uttermost importance for countries (Government of Pakistan, 2015: 151).

A high public debt, however, might constitute a critical problem especially for countries with a rather weak economic system, since it can potentially cause economic instability and a crisis of debt. Public debt may also take a financial tool on capital markets of a country. This is because a high ratio of public debt to national income is considered an economic problem by investors (Coccia, 2018: 2).

Policies of public debt differ from country to country. While some countries enter a culture of financial prudence after negative experiences, others are sometimes seen as successful from successful experiences. However, instable dynamics of debt in many countries lead to increased rates which in turn resulted in even higher levels of debt. Under these circumstances, it is argued that it is crucial to approach financial problems faced especially by industrialized countries in recent years carefully and firmly. It is believed that not taking necessary precautions against high levels of debt in public policies may in the short run make it more difficult for central banks of countries to control inflation and result in a loss of trust in central banks (Cecchetti, Mohanty & Zampolli, 2010: 2).

Maastricht Treaty signed by the EU countries in 1992 brought forth certain rules on public debt for the sake of sustainable, stable public finance. In accordance with this purpose, the ratio of budgetary deficit to GDP for the EU member states was limited to 3%, whereas the ratio of public debt to GDP was limited to 60%. Within the scope of this policy, all member countries made the endeavor to fulfill the expectations of financial discipline, although not all of them succeeded in reaching the desired

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level. Many of the EU member countries strived to follow these criteria and significantly reduced their public debt up until 2008. The global financial crisis of 2008, however, played a big role in public debt rates in these countries increasing yet again. Among these countries, Spain and Ireland in particular showed a maximum effort in policies of reducing public debt. Greece, with the highest level of debt among member countries as well as Italy took successful actions in reducing their levels of debt until 2008. Germany and France were the two countries that faced a constant increase in public debt levels (Berghausen, 2014: 55-56).

In the wake of the global financial crisis, prevalence of monetary policy has lost its effect in EU countries and public finance came once again into prominence. These countries began taking financial precautions based on high public expenditure in order to re-capitalize banks against financial crisis and to invigorate aggregate demand (Mencinger, 2014: 403). Public debt, despite starting off in a rather stable position in 2007, has increased significantly and reached considerably high levels. Whereas the ratio of budgetary deficits to national income was 1% for 27 EU countries in 2007, the ratio reached 7% by 2010. Similarly, for the same countries, the ratio of public debt to national income rose to 80% in 2010 from 59% in 2007. Within this scope, policies implemented to support the financial sector as well as to increase the aggregate demand caused serious pressure on public finance. Such interventions have been effective in providing economic stability, however also lead to an increased pressure on public finance (Dinca & Dinca, 2015: 125).

Public debt is considered to be the biggest contributor to development of various industrialized countries in the last decade. However, increasing public debt and public expenditures are also believed to have an impact on financial strains these countries are confronted with.

3. Literature Search

Empirical studies investigating the relationship between debt and economic growth are on the increase. Most studies conducted in this field

look into the relationship between public debt and economic growth. A review of literature brings forth various studies suggesting both a positive and a negative relationship between public debt and economic growth.

Cordella (2005) investigated the relationship between public debt and economic growth in their analysis of 79 developing countries covering the period from 1970 to 2002. The results of the study suggested a negative correlation between economic growth and public debt.

Reinhart & Rogoff (2010) looked into the relationship of public debt to growth and inflation in 20 developed countries between 1946 and 2009. The analyses concluded that a public debt to GDP ratio of over 90% slowed down the growth rate in these countries.

Kumar & Woo (2010) investigated the relationship between public debt and economic growth in 38 developed countries covering the period of 1970-2007 and proposed a negative correlation between the two variables. The results indicated that the increases in public debt had a negative impact on economic growth.

Presbitero (2012), studied the effect of public debt on economic growth in low- and middle-income countries between 1990 and 2007. It was found that in countries where the ratio of public debt to GDP exceeds 90%, its effect on economic growth is negative.

Baum et al. (2012) looked into the relationship between public debt and economic growth in order to investigate the sustainability of debt in 12 Euro Zone countries covering the time period from 1990 to 2010. The results of the analyses suggested that public debt positively and significantly affected economic growth. It was also found that this correlation became negative and significant in cases where the ratio of public debt to GDP exceeds 90%.

Mencinger & Aristovnik (2013) analyzed the relationship between public debt and economic growth for 25 the EU countries. For analysis, they divided the countries into two groups of 'new members' and 'old

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members' and covered the period from 1980 to 2010 for old member states and the period from 1995 to 2010 for new members. Econometric analyses showed that a negative correlation between public debt and economic growth in the case the ratio of public debt to GDP exceeds 80 - 90% in old member states and 53 – 54% in new members. It was concluded that the threshold value for new member states was lower than that of old members.

Zouhaier & Fatma (2014) investigated the effect of public debt on economic growth in 19 developing countries covering the period from 1990 to 2011 using dynamic panel data analysis. They found that the effect of public debt on economic growth was negative.

Puig & Rivero (2017) investigated the effect of public debt on economic growth on in the short and long-run referring to annual data of central and surrounding countries of the Euro Zone. In the analysis covering the years from 1961 to 2013, it was found that although public debt had a positive impact on economic growth in the short term, the impact in the long term was negative.

Mousa & Shawawreh (2017) investigated the relationship between public debt and economic growth in Jordan using annual data from 2000 to 2015. The results of the analyses revealed a negative impact of public debt, and particularly external debt, on economic growth.

Ndieupa (2018) looked into the relationship between public debt and economic growth for 6 member states of Central African Economic and Monetary Community (CEMAC) through panel data method. In the analysis covering the period from 2000 to 2016, public debt was found to have a negative impact on economic growth.

Pegkas (2018) used VAR model in the analysis of economic growth, investment, public debt and population growth in Greece, where economic fluctuations are still present in the wake of the global financial crisis of 2008. A long-standing relationship between variables was identified. It

was suggested that expenditures of private sector as well as expenditures of the state had a positive impact on economic growth, whereas population growth and public debt negatively affected economic growth in the long run.

Yusuf & Said (2018), investigated the relationship between public debt and economic growth in Tanzania, covering the period of 1970 to 2015. In their study, they used the VECM estimator in order to determine the long-term relationship between the variables, followed by the application of Granger Causality Test. The results of the analyses suggested a negative correlation between public debt and economic growth in Tanzania. Granger Causality Test indicated no causal relationship between public debt and economic growth.

4. Data And Methodology

In the study which examined the relationship between public debt and economic growth in the European Union countries (28), annual data between 1996 and 2017 were used. The variables used in the econometric model and the sources obtained are presented in Table 1.

Table 1. Variable in the Study

Variables	Used Variables	Source
gdp	GDP per person (US \$ 2010 constant)	WDI (World Bank)
gd	General government gross debt	Eurostat
l	Total force participation rate (15+)	WDI (World Bank)
gcf	Gross capital formation constant \$	WDI (World Bank)

The gdp variable, which is used as a dependent variable to represent economic growth, is considered as gdp per capita at fixed prices and obtained from the World Bank. The variable “gd” represents public debt and is derived from the Eurostat database. The variables “l” and “gcf” represent labour and capital respectively and are used as independent

variables. Cross-sectional dependence test was performed for the variables discussed, thus unit root tests taking into account the cross-sectional dependence were included.

4.1. Cross-Section Dependence Test

The LMBP test statistic of Breusch & Pagan (1980) was used to test the cross-sectional dependence. The LMBP test statistic is calculated from the following regression:

$$y_{it} = a_i + b_i' x_{it} + m_i \quad i=1,2,\dots,N; t=1,2,\dots,T \quad (1)$$

The null and alternative hypotheses of the cross-sectional dependence test which test the existence of inter-sectional dependence in the study are as follows:

H_0 : There is no cross section dependence.

H_1 : There is cross-section dependence.

The test statistic of Breusch & Pagan (1980), which has a standard normal distribution, is calculated as follows:

$$LM_{BP} = T \cdot \sum_{i=1}^{N-1} \sum_{j=i+1}^N \hat{\rho}_{ij}^2 \sim \chi_{N(N-1)/2}^2 \quad (2)$$

When the probability value obtained from the test is less than 0.05, H_0 hypothesis is rejected at 5% significance level and it is decided that there is a cross-section dependency between the units forming the panel (Pesaran & Yamagata, 2008).

The presence of cross-sectional dependence among the variables is shown in Table 2 below.

Table 2. Cross Section Dependency Test

Level	gdp		gd		l		gcf	
	Stat.	Prob.	Stat.	Prob.	Stat.	Prob.	Stat.	Prob.
CDLM1 (Breusch, Pagan1980)	805.464	0.000	724.172	0.000	840.646	0.000	758.000	0.000
CDLM2 (Pesaran 2004 CDLM)	15.547	0.000	12.590	0.000	16.826	0.000	13.821	0.000

As shown in Table 2, H_0 hypotheses were rejected because the probability values were less than 0.05. Cross section dependence was determined in the series. In this case, there is a cross-sectional dependence between the countries that make up the panel.

4.2. Panel Unit Root Test

The CIPS statistic is the average of t statistic values calculated for each cross section and is derived from the following equation:

$$\text{CIPSN}, T) = \bar{t} = N^{-1} \sum_{i=1}^N t_i(N, T) \quad (3)$$

The hypotheses of the test are shown below:

$H_0: \beta_i = 0$ the series are stationary.

$H_1: \beta_i < 0$ the series are not stationary.

Table 3. Panel Unit Root Test Results

Variables	Panel CIPS Statistic	Critical Values		
		%1	%5	%10
gdp	-2.20	-2.89	-2.70	-2.60
gd	-2.30	-2.89	-2.70	-2.60
l	-1.571	-2.89	-2.70	-2.60
gcf	-1.25	-2.89	-2.70	-2.60

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Table 3 shows the CADF unit root test results for each variable. The statistical value t calculated for gdp , gd , l , gcf variables are significant at 1%, 5% and 10% significance level when compared with Peseran (2007) critical table values and H_0 is rejected. The calculated CIPS test statistical values are -2.89% in 1%, -2.70% in 5% and -2.60% in 10%, respectively. All of the statistical values obtained from the variables are greater than these values and H_0 hypothesis is rejected. Thus, it is concluded that the series show $I(1)$ property.

4.3. Panel Cointegration Test

The existence of the cointegration relationship between the series was examined by LM bootstrap panel cointegration test developed by Westerlund & Edgerton (2007). The LM bootstrap test is based on the Lagrange Multiplier test developed by McCoskey and Kao, and in case of cross-sectional dependence, the LM test bootstrap critical values and econometric models are tested for cointegration for the overall panel. The developed panel cointegration equation is derived from the following equation.

$$y_{it} = \alpha_i + x'_{it}\beta_{it} + z_{it} \quad (4)$$

$$z_{it} = u_{it} + v_{it} \quad (5)$$

$$v_{it} = \sum_{j=1}^t \eta_{ij} \quad (6)$$

η_{ij} is an error term with an average of zero and variance σ_i^2 . The hypotheses of the test are as follows:

$\sigma_i^2 = 0$ There is a cointegration relationship between the series.

$\sigma_i^2 > 0$ There is no cointegration relationship between the series.

The LM statistics generated by Westerlund are as follows:

$$LM_N^+ = \frac{1}{NT^2} \sum_{i=1}^N \sum_{t=1}^t \hat{\omega}_i^2 S_{it}^2 \quad (7)$$

In the LM statistic and S_{it} are partial sums of the error terms \hat{z}_{it} in the model estimated by FMOLS (Westerlund & Edgerton, 2007:186-188).

Table 4. LM Cointegration Test Results

Level Constant and Trend Statistics Bootstrap p-value		
LM_N^+	12.494	0.984

Table 4 presents the results of the Westerlund & Edgerton (2007) LM bootstrap panel cointegration test. According to the results obtained from the table, it is accepted that there is a cointegration relationship due to the fact that the test probability values are higher than 0.05 in both constant and trend models under cross-sectional dependence. Therefore, it is concluded that there is a cointegration relationship between the series.

4.4. Panel Causality Test

Panel Fisher test developed by Emirmahmutoglu & Köse (2011) is based on the logic of causality test in Toda & Yamamoto (1995) time series. This test is also used if the series are stationary, if there is cointegration and cross-section dependence between the series. In the first stage of the test, the following model is estimated:

$$Z_{i,t} = U_i + A_{i1}Z_{i,t-1} + \dots + A_{ik}Z_{i,t-k_i} + \sum_{l=k_i+1}^{k_i+dmax_i} A_{il}Z_{i,t-1} + u_{i,t} \quad (8)$$

$$i = 1, 2, 3 \dots \dots N, \quad t = 1, 2, 3T \quad (9)$$

While the null hypothesis shows that there is no causality in the panel, the alternative hypothesis shows that there is a causality relationship between the variables of at least one series (Emirmahmutoglu & Köse, 2011: 872).

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Table 5. Panel Causality Test Results

	Statistic	p-value
$gdp \leftrightarrow gd$	208.363	0.001***
$gd \leftrightarrow gdp$	806.739	0.000***
$gdp \leftrightarrow gcf$	155.989	0.000***
$gcf \leftrightarrow gdp$	162.171	0.006***
$gdp \leftrightarrow l$	423.132	0.000***
$l \leftrightarrow gdp$	194.846	0.005***
$gd \leftrightarrow l$	143.679	0.017**
$l \leftrightarrow gd$	122.861	0.000***
$gd \leftrightarrow gcf$	194.109	0.000***
$gcf \leftrightarrow gd$	222.077	0.000***
$l \leftrightarrow gcf$	103.838	0.000***
$gcf \leftrightarrow l$	401.212	0.000***

Note: *, **, *** indicate significance levels of 10%, 5% and 1%, respectively.

Table 5 shows the panel causality test results developed by Emirmahmutoglu and Köse. In this study, the causality relationship between economic growth, public debt, labour and capital variables was investigated and it was found that there was a two-way causality relationship between all variables.

5. Conclusion

The world economy faced a crisis that started in the US mortgage market in 2007 and then deepened into a financial crisis in 2008 and spread to the real sector and affected other countries and regions. The global crisis has led to a significant increase in public deficits and debt stocks in the EU countries, and in many member states, endangering the sustainability of public finances. Due to the declines in tax revenues in the face of

the crisis, many countries that have tried to finance public expenditures have opted for the borrowing method, resulting in significant increases in their debt stock. The abundant and cheap capital of the countries with high debt burdens has led to tax cuts and increased public expenditures in these countries.

In order to mitigate the effects of the financial crisis, interest rate cuts were made and revitalizing policies were implemented to stabilize the economy. On the other hand, the problems that occurred in the banking sector of European countries with the financial crisis forced the countries to help or nationalize these banks, and the crisis in the banking sector spread to the public.

In this study, the relationship between public debt and economic growth for 28 European Union countries is examined. In this study, first of all, cross-sectional dependence and homogeneity test was applied in order to take into account the international interaction. Since the presence of horizontal cross-sectional dependence among the countries was determined, panel unit root test and cointegration test were applied to allow cross-sectional dependence. According to the results of the unit root test, it was observed that all variables were first aware stationary and there was a long term relationship between the variables. In addition, the dates of the structural breaks of the cointegration model emerged in all of the countries concerned in the years following the 2008 global crisis. It is seen that the structural breaks have been experienced as a result of the continuous increase in the share of public debt in GDP of these countries since the crisis.

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4

HAPINESS PERCEPTION OF STUDENTS: AN APLPLICATION

Songül Gül¹

1. Introduction

There are many discussions and ideas about the meaning of happiness from past to present. Neoclassical economics, which dominated the long-term economics literature, claimed that happiness would only increase by prospering. However, today, high financial gain alone is not considered to cause high life satisfaction and it is known that there are many factors determining the happiness of individuals. A wide literature on happiness (unemployment, consumption, globalization, institutions, migration, education, etc.), including interdisciplinary studies that are trying to understand the factors affecting people's happiness, has started to emerge. Life satisfaction includes objective parameters such as income, education, health and transportation, which are called objective well-being, and also includes subjective experiences in the individual's life, which can be called subjective well-being (Lykken & Tellegen, 1996). Many researchers use the concepts of life satisfaction and happiness interchangeably in happiness studies. (Diener, Lucas, & Oishi, 2002). We will also do this in this study. In this study, we searched the factors that affect life satisfaction of students who are studying in universities in two cities of Turkey which are very different from each other in terms of social, economic and geographical development levels. The environments of university students in these two cities are very different. While the first city, known as the "student city", has a well-established university which is in a good status in social, economic, cultural and geographical terms (we will call it E University), the university in the second city (we will call it A University) is

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highly disadvantaged in social, economic, cultural and geographical terms and has a short history compared to the other university. Furthermore, the student profiles of these two universities are quite different from each other. University E has a student profile coming from almost everywhere in the country and is one of the universities calls for high entrance scores. However, when we look at the A University, we see that it has a student profile usually living in the east of the country and coming from the surrounding cities of the university. We can easily say that the students in A University mostly come from the cities which have low social and economic development level like A city. In this study which examined two different university youth groups, factors such as absolute income, relative income (economic and social comparison), gender, health, confidence, hope for the future, hope of finding a job were analyzed and the reasons affecting the life satisfaction of two different groups of young people with a certain level of education were tried to be determined by using descriptive statistical analyzes. Further, the factors that affect the life satisfaction of all of these students in different social, economic and cultural environments are probed.

2. Data

In the study, face to face survey technique and random selection method were applied. The study was conducted with the participation of 585 people, 266 of whom were male and 319 of whom were female. The sample number represents the population for both universities. The Cronbach's Alpha [DÖ1] value, 730, questionnaire questions and answers were found to be reliable. For the question of life satisfaction, which is our dependent variable, individuals were asked to evaluate their lives as a whole (How satisfied are you with your life in general?) Answers were categorized in the range of 0 (I am not at all satisfied) to 10 (I am very satisfied). The income group was asked in terms of Turkish Lira and this then was converted into dollars by taking the average exchange rate of the last three months. I should also regret to say that some of the questions used in the survey are not included here due to answers with lack of

credibility. Horizontal cross-sectional data used were processed in Eviews 9 program and estimates were made. OLS analysis method was preferred for cross-sectional analysis. Also, ORDERED LOGIT analysis which is used for horizontal cross-sectional data was made and it is seen that the results are very close to each other. However, OLS analysis method was preferred in this study because it is easy to interpret. After estimating the model with OLS, it was examined whether there was a variance problem in the model and for White-changing variance, resistant variance covariance matrix was used. Variance Inflation Factors (VIF) test was used to determine whether there is a multiple linear connection between independent variables. Ramsey Reset test showed that there is no error of model building. According to Jargue-Bera test, there is a normal distribution at 5% significance level. Before the statistical analysis in which the results of the survey was used, it was examined whether the data were categorical (nominal, ordinal) or continuous (intermittent, proportional). Non-parametric statistics are used in categorical data, and parametric statistics are used in continuous data. Additionally, t-test was applied to the variables of happiness, job expectation and gender to compare the two groups. Using the question of life satisfaction, it was tried to determine how happy the students at these two universities were and how the variables such as absolute income, relative income, trust, hope for the future, employment status, hope of finding a job, frequency of participating in social activities affect students' life satisfaction. The remaining questions consist of socio-demographic questions such as age, gender and health status.

3. Analyzes

Firstly, descriptive statistical analysis was performed in order to examine the dependent variables happiness and independent variables (absolute income, relative income (economic and social comparison), gender, health, GPA, hope for finding a job, hope for the future and trust) together and to reveal the relationship between them. Then, t-test was used to compare the two groups in terms of happiness, hope for finding a job and

gender and the effects of all these variables on life satisfaction were evaluated by OLS analysis method.

Reasons that affect the life satisfaction of students in two universities will be examined and then the whole group will be analyzed for a holistic perspective. Table 1 shows the descriptive statistical analysis of two universities and the whole sample.

Although it is accepted that there is a positive correlation between income and happiness in the literature of happiness, there are some studies discussing the continuity of this positive correlation between income and happiness. In the literature, there are arguments about whether or the income growth brings additional happiness or not or happiness increase accompanies income growth or not. There are studies showing that in societies where basic needs are not met (underdeveloped and developing countries) additional income growth increase happiness level but in societies where basic needs are met (developed countries) additional income growth does not have a serious effect on life satisfaction (Easterlin, 1974); , Frijters, & Shields, 2006); (Bruni & Porta, 2005)). Some studies suggest that income growth over time also increases happiness ((Veenhoven & Vergunst, 2014); (Stevenson & Wolfers, 2013)). In Turkey which is one of the developing countries, responses of individuals to the question about the level of income shows that in all three groups (E University; A University; All Samples) there is a positive correlation between absolute income and life satisfaction. Absolute income growth increases happiness.

Table 1. Descriptive Statistics

Variable	E University			A University			All Samples		
	N.O ²	L.S ³	S.D.	N.O	L.S	S.D.	N.O	L.S	S.D.
	<i>Income (\$)</i>			<i>Income (\$)</i>			<i>Income (\$)</i>		
0 - 149	198	5,47	2,32	170	5,34	2,62	350	5,41	2,47
150 - 299	164	6,29	2,09	20	5,05	2,18	184	6,16	2,13
300 - 449	21	6,62	2,17	2	6,50	4,95	23	6,60	2,33
450 - 599	7,67	6	1,86	2	6,50	0,70	6	7,5	1,87
600 +	-	-	-	2	7,00	1,41	4	7,00	1,15
	<i>Gender</i>			<i>Gender</i>			<i>Gender</i>		
Male	147	5,96	2,42	119	5,45	2,60	266	5,73	2,51
Female	242	5,88	2,15	77	5,18	2,53	319	5,71	2,27
	<i>General Health</i>			<i>General Health</i>			<i>General Health</i>		
Very bad	7	2,00	2,88	-	-	-	7	2,00	2,88
Bad	12	4,83	2,85	6	3,17	2,04	18	4,27	2,67
Neutral ⁴	81	5,41	2,33	43	4,33	2,67	124	5,03	2,50
Good	224	5,99	2,03	108	5,68	2,29	332	5,88	2,13
Very good	65	6,91	2,06	39	5,90	2,87	104	6,52	2,44
	<i>Grade average</i>			<i>Grade average</i>			<i>Grade average</i>		
0- 0.79	9	5,00	3,20	-	-	-	9	5,00	3,20
0.80- 1.59	32	5,38	2,42	14	3,64	2,24	46	4,84	2,47
1.60- 2.39	128	5,80	2,12	55	4,91	2,64	183	5,53	2,32
2.40- 3.19	154	6,18	2,22	101	5,60	2,36	255	5,95	2,29
3.20- 4.00	65	5,89	2,36	26	6,19	2,94	92	5,97	2,51

(continued on next page)

2 Numbers of Observations

3 Life Satisfaction

4 Neither Bad nor Good

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Table 1. Descriptive Statistics

Variable	E University			A University			All Samples		
	N.O	L.S	S.D.	N.O	L.S	S.D.	N.O	L.S	S.D.
	<i>PEJ</i> ⁵			<i>PEJ</i>			<i>PEJ</i>		
1 - 6	153	6,22	2,43	59	5,36	2,86	212	5,97	2,58
7 - 12	127	5,86	2,03	36	5,69	2,76	163	5,82	2,19
13 - 18	46	6,13	1,92	30	5,50	2,52	76	5,88	2,19
19 - 24	32	5,81	1,97	26	5,35	2,24	58	5,60	2,09
24 +	30	4,41	2,56	45	4,96	2,27	76	4,73	2,37
	<i>Hope</i>			<i>Hope</i>			<i>Hope</i>		
Not hopeful at all	29	4,10	2,45	21	3,29	2,41	50	3,76	2,44
Not hopeful	48	4,71	2,44	29	4,38	2,65	77	4,58	2,51
Neutral ⁶	114	5,39	1,92	53	5,09	2,24	90	5,14	2,07
Hopeful	164	6,76	1,73	68	6,21	2,41	232	6,59	1,96
Very hopeful	33	6,97	2,88	25	6,40	2,34	59	6,66	2,68
	<i>Trust</i>			<i>Trust</i>			<i>Trust</i>		
Not trust at all	31	4,45	2,94	34	4,50	2,84	65	4,48	2,86
I do not trust	72	5,53	2,44	39	5,23	5,23	111	5,42	2,47
Neutral	147	5,84	2,08	75	5,59	5,59	222	5,76	2,21
Trust	130	6,54	2,00	41	5,51	5,51	171	6,29	2,13
Trust very much.	8	6,50	1,06	7	6,57	6,57	16	6,31	2,55

Source: Survey Data

According to gender studies in the literature of happiness, women are generally happier than men (Alesina, Di Tella, & MacCulloch, 2004). There are studies in the literature suggesting that there is a decrease in the happiness of women as they get older (Plagnol & Easterlin, 2008), as well as studies suggesting that there is not much difference in happiness among women and men (Veenhoven, 1997). Also in some studies, it is stated that women are more unhappy and the reasons for this were

⁵ Prospect of finding a job (Time-Month)

⁶ Neither hopeful nor hopeless

emphasized (For example; (Stutzer & Frey, 2002); (Groot & Van Den Brink, Age and Education Differences in Marriages and Their Effects on Life Satisfaction, 2002)). In this study, in all three groups, it is seen that men are happier than women.

Although the relationship between health and happiness in general is quite complex, health is one of the most important determinants of individual happiness and there is a strong positive relationship between happiness and physical and mental health. It is known that psychological health has a higher positive relationship with happiness than physical health (Shields & Price, 2005). In studies related to health, it has been revealed that individuals with certain disorders have a higher level of happiness than expected by adapting to the situation they are in and many studies have been conducted on the reasons for this ((Oswald & Powdthavee, 2006); (Groot, 2000)). In the study, it was seen that the students who stated their general health status as good were more happy in all three groups.

The graduation average of students in Turkey is playing an important role in their future efforts to find a job. It is taken into consideration during the recruitment in public or private sector after the education life. Therefore it is very important for students to graduate with a good average. When we look at the relationship between the grade point average and life satisfaction of university students, it is observed that individuals with higher grade point average are happier in all three groups.

Happiness and hope are two concepts that feed on each other and have a strong relationship between them (Slade, 2009). A positive relationship between hope, which is a positive look to the future, and happiness have found in the most of the studies in the world (Veenhoven , 2015). When we look at the answers given to the question “Are you hopeful about the future?”, it is seen that there is a positive relationship between hope and happiness about the future in all three groups.

When we ask individuals the question “How soon do you hope to find a job after graduation?”, it is generally seen that those who hope to find a job in a short time are happier. Happiness decreases as the time increases.

The concept of trust is a very important phenomenon in the modern world and an important variable in the field of happiness. Many studies have been conducted about the social, psychological and cultural causes of trusting individuals ((Brehm & Rahn, 1997); (Delhey & Newton, 2003)). It is stated that individuals who believe that they can trust foreigners, who are extroverted and have friendly neighbors, friends or colleagues are more satisfied with life (Helliwell & Putnam, *The social context of well-being*, 2004). Trusting people has an impact on the social level as well as the personal lives of individuals. Granato, Inglehart and Leblangs found a positive relationship between trusting people and economic growth in their transnational analysis (Grenato, Inglehart, & Leblang, 1996). The trust we are referring here is an individual level of trust. It is seen that life satisfaction increases as the individual's trust in the people around him increases.

One of the important behavioural patterns that the economy of happiness emphasizes is comparison. Individuals tend to compare themselves socially and economically with others, and this has an impact on their happiness (Duesenberry, 1949); (Ferrer-i Carbonell, 2005). In other words, in contrast to the discourses of neoclassical economics, the happiness of individuals depends not only on their consumption but also on the income and consumption of the groups they takes as a reference ((Holländer, 2001); (Childers & Rao, 1992) ; (Falk & Knell, 2000)). They try to come to a conclusion by comparing their income with others's and do that by assigning themselves a reference group (Caporale, Georgellis, Tsitsianis, & Yin, 2007). There are many studies on reference groups which individuals compare themselves with. If individuals compare themselves with higher income groups, their happiness decreases and in the contrary case it increases. At the same time, individuals tend to compare themselves with similar groups (Clark, Frijters, & Shields, *Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles*, 2008). There are many studies on these groups (also see. (Senik, 2009); (Van de Stadt, Kapteyn, & Van de Geer, 1985); (Easterlin, *Income and Happiness: Towards a Unified Theory*, 2001)).

When we look at the results of the study, it is seen that as the income levels of individuals increase compared to the group they compare themselves to, their life satisfaction increases. Individuals compare themselves mostly with their relatives in other universities (200 people) and their classmates (197 people) in terms of living standards and economic conditions. In Table 2, life satisfaction increases as the relative income level increases.

Table 2. Relative Income and Life Satisfaction (All Samples)

	Low			Neither low nor high			High		
	Obs.	L.S	S.D.	Obs.	L.S	S.D.	Obs.	L.S	S.D.
Compared to my classmates	94	4.40	2.48	408	5.87	2.28	83	6.46	2.20
Compared to my relatives in university	173	5.19	2.57	328	5.89	2.23	84	6.16	2.41
Compared to my friends in other universities	181	5.22	2.45	309	5.91	2.35	95	6.08	2.22
Compared to my friends studying in other countries	355	5.64	2.38	184	5.99	2.40	44	5.23	2.18
Compared to students in my university	110	4.82	2.37	375	5.88	2.28	100	6.12	2.54
Compared to my relatives	172	5.09	2.63	327	6.05	2.14	86	5.74	2.49

As shown in Chart 1, 55.1% of the survey participants stated that they were “Quite happy ”and “Very Happy”.

Chart 1. Feeling of happiness

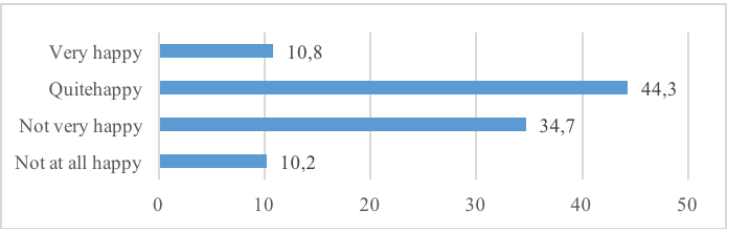


Table 3. Life Satisfaction Means in the Survey

	General Mean
General Life Satisfaction	5,72
Life Satisfaciton for A Univ.	5,32
Life Satisfaciton for E. Univ.	5,92

When we look at the overall happiness average of all participants, it is 5.72. Overall average is higher than Turkey average in 2019 World Happiness Report (Helliwell, Layard, & Sachs, 2019) that is 5.37. E university students are happier than A university students. The unhappiness of the students of A University is an expected situation due to the social, economic and cultural conditions of the students. However, it is seen that the difference is not a significant difference in terms of numbers. The t-test was used to determine whether this difference, which appears to be numerically small, is a significant difference.

Table 4. Distribution showing the comparison of t-Test on Happiness Level of Research Group

University	Mean	Std. Deviation	Std. Error Mean	t	DF	P
E University	5,92	2,267	,115	2.887	583	0,004*
A University	5,32	2,563	,184			

After the t test which is done to compare the happiness levels of E and A students, it was found that the life satisfaction of E and A students were different from each other.⁷ Accordingly, E University students are happier than A University students.

⁷ University E is coded as 1, University A is coded as 2.

Table 5. Distribution showing the comparison of t-test on the happiness level of male students studying at E and A universities.

University	Mean	Std. Deviation	Std. Error Mean	t	DF	P
E University	5.96	2.427	,200	1.633	264	0.104
A University	5.45	2.609	,239			

Table 6. Distribution showing the comparison of t-test on happiness level of female students studying at E and A universities.

University	Mean	Std. Deviation	Std. Error Mean	t	DF	P
E University	5.88	2.158	,139	2.381	317	0,018*
A University	5.18	2.538	,289			

Social roles and responsibilities casted to men and women, especially in the eastern regions of Turkey, do not only restrict the position of women but also restrict all of her actions and thoughts. Although women in the eastern region are more likely to take place in school and work life than past, unfortunately they still feel the pressure of society and family. There is not much difference between men in living in a place that is relatively more comfortable in Turkey and men living in a place where social pressure is high and social life is more limited. Because in Turkey where society is male-dominant men are more free independently of where they live. However, this cannot be said for women. In order to see this difference, we wanted to look at the difference in happiness between men and women in A and E universities. As shown in Table 5, there is no significant difference in happiness between the males of A and E universities. However, when we look at females (table 6), there is a significant correlation between them in terms of happiness. The women who study at the university E which is in a city that is relatively better in terms of social, cultural and development level, are happier than the women who study at the university A which is in a city that has the opposite characteristics and where also community and family pressure is perceived much more.

Table 7. Distribution of t-Test Comparison of Expectations for Finding a Job in E and A Universities

University	Mean	Std. Deviation	Std. Error Mean	t	DF	P
E University	2.13	1.243	,063	-5.222	582	0,000*
A University	2.79	1.550	,111			

When we look at Table 7, it is seen that the students of E university, which is a relatively good university, have higher expectancy of finding a job after graduation than the students of A university.

In Table 8, the results were analyzed by OLS. A positive and significant correlation is seen in all regressions between general health status and happiness. Happiness increases as health status improves. In the whole sample (regression 1), there is a positive correlation between cumulative grade point average and happiness. When we consider the importance of grade point average for finding a job in Turkey we can say that we were expecting this positive relationship. Happiness increases as the grade point average increases. It is seen that relative income is important for individuals. In the study, it is seen that individuals compare themselves with their relatives studying at a university and students studying in their city in terms of economic situation. The life satisfaction of individuals who compare themselves with their relatives studying at a university increases. This may be because of the fact that they consider themselves superior with regards to economic situation (or better) than this group. When individuals compare themselves with the students in their city, their life satisfaction decreases. In social comparison, life satisfaction increases as individuals compare themselves with their friends at the university. There is a positive and significant correlation between hope for the future, individual trust and happiness. Accordingly, as an individual's hope for the future and his trust in the people around him increase, his happiness also increases.

Female students (regression 2) compare themselves economically with their relatives and their happiness increases as this comparison increases. It is seen that women's happiness increases as they compare themselves with their university friends in social terms. For women there is a positive and significant correlation between hope for the future, individual trust and happiness. Therefore, as an individual's hope for the future and his trust in the people around him increase, his happiness increases too.

For male students (regression 3) there is a significant and positive correlation between grade point average and life satisfaction. There is an absolutely significant and positive correlation in income. At the same time, men compare themselves economically with their relatives studying at a university. Their happiness increases as this comparison increases. There is a significant and positive correlation between hope for the future and happiness.

For the students in the University A there is a significant and positive correlation between grade point average, hope for the future and happiness. While for the students at the University E the income is absolutely significant and has a positive correlation with happiness, the students at the University A give relative importance to the income. They compare themselves with their relatives at a university and their happiness increases as this comparison increases. While students of the University A do not make social comparisons, students of the University E compare themselves socially with their friends. As this comparison increases, the happiness of individuals increases. Also as they compare themselves with students outside of Turkey their happiness decreases. The happiness of the students in the university E increases as the hope for the future and the trust in the people around increases.

Table 8. Estimations Results

Estimation Results ⁸	Regression 1		Regression 2		Regression 3	
Dependent Variable = Life Satisfaction	Est. Coeff.	S.D	Est. Coeff.	S.D	Est. Coeff.	S.D
General Health	0.430	0.136*	0.369	0.167**	0.454	0.207**
Gpa ⁹	0.280	0.101*	0.170	0.141	0.308	0.154**
Prospect of finding a job	-0.024	0.069	-0.048	0.085	-0.056	0.115
Income (Absolute)	0.307	0.195	-0.080	0.008	0.004	0.001**
Relative income (Income comparison)						
My classmates	0.110	0.106	0.197	0.154	0.020	0.159
My relatives in university	0.182	0.102**	-0.065	0.131	0.394	0.153**
Students in my university	-0.161	0.087**	-0.165	0.116	-0.166	0.237
My relatives	0.052	0.080	0.168	0.100*	-0.003	0.127
My friends studying in other countries	0.040	0.067	0.082	0.089	0.039	0.107
Social Comparison						
My classmates	0.430	0.176*	0.624	0.217*	0.278	0.283
My relatives in university	0.019	0.175	0.294	0.247	-0.111	0.254
Students in my university	0.011	0.156	0.081	0.198	-0.166	0.237
My relatives	0.030	0.182	-0.084	0.253	0.083	0.256
My friends studying in other countries	-0.184	0.119	-0.147	0.165	-0.223	0.173
Hope (for the future)	0.721	0.100*	0.841	0.122*	0.577	0.156*
General Trust	0.300	0.098*	0.356	0.140*	0.196	0.140
Dependent Variable = Life Satisfaction	Est. Coeff.	S.D	Est. Coeff.	S.D		
General Health	0.526	0.266**	0.477	0.157*		
Gpa	0.590	0.225*	0.141	0.115		
Prospect of finding a job	0.029	0.111	0.004	0.104		
Income (Absolute)	-0.045	0.017	0.855	0.438**		

8 **Regression 1:** Included all samples, **Regression 2:** Included all women; **Regression 3:** Included all men; **Regression 4:** Include A university; **Regression 5:** Include E university

9 Gpa: Grade Point Averages

Estimation Results ⁸	Regression 1		Regression 2		Regression 3	
Dependent Variable = Life Satisfaction	Est. Coeff.	S.D	Est. Coeff.	S.D	Est. Coeff.	S.D
Relative income (Income comparison)						
My classmates	0.111	0.201	0.113	0.122		
My relatives in university	0.343	0.180**	0.040	0.131		
Students in my university	-0.233	0.174	-0.106	0.105		
My relatives	0.114	0.136	0.149	0.104		
My friends studying in other countries	-0.127	0.151	0.035	0.078		
Relative income (Social Comparison)						
My classmates	0.278	0.290	0.491	0.231**		
My relatives in university	0.200	0.330	-0.107	0.201		
Students in my university	-0.189	0.265	0.303	0.205		
My relatives	-0.073	0.294	-0.197	0.303		
My friends studying in other countries	-0.274	0.239	-0.359	0.135**		
Hope (for the future)	0.577	0.156*	0.620	0.139*		
General Trust	0.196	0.140	0.302	0.121**		

Source: Survey, * $p < .01$, ** $p < .05$, *** $p < .010$

4. Conclusion

In this study, we aimed to analyze the factors that affect the life satisfaction of students in two universities which have different social and cultural conditions in two cities which have different levels of development. There is a significant difference between the happiness levels of these two groups. Students of the University E who have better conditions and a better city, are happier. However, when we look at the male and female students in these two universities, in terms of happiness there is no significant correlation between the male students of the two universities, but there is a significant correlation for female students. Female students in the university A are more unhappy. The University A is in a place where women can feel social pressure very clearly.

At the same time, when we look at the student profile of the university A, we see that this students usually come from places that are very similar to the city A in social and cultural terms. Women, whatever the level of education, are disadvantageous in all areas in Turkey and particularly in the eastern region they are more disadvantageous. In Turkey women's employment rate is lower than men's. The probability of graduating from A University, which also exhibits a very negative picture in terms of employment rates after graduation, affects the happiness of individuals negatively. When we look at the general results obtained from the study, it is seen that individuals, especially women, who are living in socially, economically and culturally advantageous cities are happier. In this study, health, grade point average, economic and social comparison, hope for the future and trust are among the reasons that affect students' life satisfaction. Happiness increases as hope for the future and trust in individuals increase for both groups. It is observed that individuals who describe themselves as healthy are happier. There is a positive correlation between grade point average and happiness. While female students give relative importance to income, for male students absolute income is also important. While the students of the University A give relative importance to income, for the students of the University E absolute income is important. This may be due to the more difficult and expensive living conditions of the city E than the city A. It is a fact that new universities transform their cities in social, cultural and economic terms. In order to accelerate this transformation, I believe that the supportive efforts of the policy makers to the universities which are new and located in disadvantaged regions and to the disadvantaged cities where this universities located in will be beneficial and will contribute to the happiness of the society and individuals.

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5

DOES SOCCER TRANSFER MARKET CAUSE CURRENT ACCOUNT DEFICIT? EVIDENCE FROM TURKEY

Cumali Marangoz¹ Emre Bulut²

1. Introduction

Roots of Soccer date back to 2000BCs. In terms of modern sense and the rules, it was first played in England in the 19th century (Robertson, 2009). The adventure of modern Soccer is parallel to modernization and industrialization processes and production and organization models. As Soccer becomes more industrialized or transformed into business activity, the economy of Soccer grows. However, the level of the pleasure and excitement that people get from the Soccer varies.

The existence of a ruthlessly competitive environment is also valid for soccer fields, as it is in the fully competitive market. It is not just to play and enjoy, but to win and achieve. Free movement of Soccer players plays an important role in the emergence of Soccer industry just as the circulation of liberal capital. (Talimciler, 2008)

As a result of the free movement of Soccer players, the transfers of Soccer players among countries have accelerated and thus the transfer deficit problem³ for some Soccer teams emerged. According to the data from the Transfer Market website, which has extensive transfer costs for the

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3 Transfer deficit: The value of a player who is sold abroad by a Soccer team in that period is still bigger than the value of the players he bought from abroad in the same period.

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Soccer industry, the transfer deficit in the UK Premier League in 2017 is about 1 billion euros. In addition, according to an annual report prepared by company Deloitte, which examines the Soccer industry for 26 years, the 2016-17 seasons, the size of the European Soccer market has reached a volume 24.6 billion Euros. England, by itself, composes of the 55% of the European Soccer market pie. Germany, Spain, France, and Italy with 13.5 billion Euros come after respectively. In addition, these countries have the highest transfer deficit.

The concept of transfer in Soccer leads to transfer of not only players but also money across countries. In economic terms, transfer of money might cause a current account deficit problem for the player importing countries. In addition, the deficit might get even worse with impair investments in Soccer despite the increasing demand.

Recently, scholars start to pay attention to the impact of the sports industry on the economy of countries. However, to the best of our knowledge, this study is the first to examine particularly the current account deficit problem of Soccer transfers. Therefore, this study aims to provide the following contributions: 1) informing on the impact of Soccer transfers on current account deficit, 2) awakening regulators' attention for any possible policy implementation regarding transfer economy.

In our study, we examine the relationship between the current account balance of Turkey from 1996 to 2017 and the transfer expenditures by applying an ARDL model. Our control variables are; exchange and the GDP.

The study continues as follows: Second section is the literature review. The third section consists of Data and Methodology. In the fourth section we tabulate and interpret analytical results. Finally, the last section concludes.

2. Literature Review

Soccer has become one of the largest entertainment industries in the world as well as Europe's main economic platform in terms of the sports

industry. Over the past decade the Soccer industry has been professionalizing with multinational corporations and has made transfer spending at an increasing rate. While the Soccer industry grows economically, it is extremely rare to work in this field. (Marcén & Bellido, 2018) examine whether The Bosman Ruling plays an important role in the domestic Soccer's market or not. They find that with the removal of transfer fees after the end of the contracts and the release of professional players in European Soccer, The Bosman Ruling has a negative effect on the number of national players participating in the national leagues, which lead to the problem of transfer for Spanish culprit.

(Simmons, 1997) is the first study to investigate the effect of The Bosman Ruling on the Soccer industry. The study aims to evaluate the impact of the European Court of Justice Decision on the functioning of Jean-Marc Bosman's 1995 Soccer transfer markets. He finds that Bosman Ruling emancipated players when their contract is over leading to an expansion of Soccer transfer market. In addition, his results show that the Bosman Ruling decreases small Soccer clubs' transfer expenditure.

(Schmidt, 2007), in his study, analyses the effects of The Bosman Ruling on the Soccer market. The study concludes that the Soccer clubs in Europe caused the problem of the budget deficit, which is the case with The Bosman Ruling, but with the result that Soccer transfers accelerated.

According to a report published in 2014 by Barclays, the leading bank of professional sports in Europe, Britain is the country with the largest trade deficit in the world Soccer transfer market. The trade deficit arising from UK Soccer transfer is about 344 million Pounds for 2013. According to the report, not only UK but also other European countries face the deficit problem from soccer transfers.

3. Data and Empirical Analysis

We choose our sample based on data available in the period of 1996-2017 and transfer market volume. The variables of the study; transfer deficit

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(TD), GDP, current account deficit (CAD) and exchange rates (ER) are from Trasfermarkt, TUIK (Turkish Statistical Institute) respectively. We calculate the transfer deficit data by subtracting the value of a player who was sold abroad by a Soccer team at that time from the value of the players it bought from abroad in the same period. Table 1 displays the variables used in the study.

Table 1: Variables

Variables	Explanation
BOP	Current Account Deficit (Million USD)
GDP	Gross Domestic Product for Turkey(Million USD)
TD	Soccer Transfer Expenditure for Turkey(Million USD)
EX	USD-TL Exchange Rate

4. Methodology

ARDL

In our study, we apply the ARDL boundary test model developed by Pesaran. The ARDL method does not require that the variables be stationary at the same level to predict the cointegration relationship between the series. Cointegration test can be applied even if series have different stationary levels⁴. The ARDL model provides reliable results in small samples and it is possible to integrate the error correction model with the short and long term balance without losing the long term information. The following process can be followed to explain the ARDL model;

$$Y_t = \alpha + \sum_{j=1}^k \alpha_j Y_{t-j} + \sum_{j=0}^k \beta_j X_{t-j} + \varepsilon_t \quad (1)$$

Equation 1 is determined by the number of lags to be added and the criteria such as AIC, SIC, and LM, especially the significance of the lags.

4 Different stationary level means that the series are stationary at the level or first level. If the series are stationary at the second level, no cointegration test is applied.

In the steady-state long-term equilibrium, variables are assumed to have the same values for all time periods. In other words;

$$Y_t = Y_{t-1} = Y_{t-2} = \dots = Y_{t-k} = Y^* \text{ ve } X_t = X_{t-1} = X_{t-2} = \dots = X_{t-k} = X^*.$$

Therefore, the long-term steady-state relationship will be:

$$Y^* = \frac{\alpha}{1 - \sum_{j=1}^k \alpha_j} + \frac{\sum_{j=0}^k \beta_j}{1 - \sum_{j=1}^k \alpha_j} X^* = \alpha^* + \beta^* X^* \quad (2)$$

The long-term solution is conditional on

$$\sum_{j=1}^k \alpha_j < 1 \quad (3)$$

The cointegration vector is defined as $[1 - \alpha^* - \beta^*]$. After estimating the equation, the error term residues indicating the deviation from the equilibrium are calculated by the following equation:

$$\varepsilon^* = Y^* - \hat{\alpha}^* - \hat{\beta}^* X^* \quad (4)$$

5. Results

ARDL test consists of 4 stages. The first step is the unit root tests to determine the integrated degrees of the series. In Table 2, the ADF unit root test results of the series are given. Accordingly, current account deficit, exchange rate, and gross national product variables are integrated at I (1) first difference level. On the other side, transfer expenditure in the football market is stationary at its level I (0).

Table 2: Unit Root Test Results

Variables	At the Level		First Difference	
	Fixed	Trended	Fixed	Trended
BOP	-2.445 (0.1295)	-3.317 (0.063)*	-8.686 (0.000)***	-8.597 (0.000)***
GDP	1.472 (0.5476)	-2.587 (0.2860)	-11.727 (0.00)***	-11.755 (0.000)***
TD	-4.631 (0.009)***	-4.241 (0.006)***	-10.597 (0.000)***	-10.483 (0.000)***
EX	1.258 (0.9964)	0.215 (0.995)	-3.901 (0.002)***	-4.051 (0.0074)***

*** Indicates the significance level of 1% and * Indicates the significance level of 1% 10%

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After determining the stationary levels of the series, the next step is to determine the appropriate lag length for our model. In Table 3, the appropriate lag length for the boundary test was automatically selected by Stata according to the AIC, SIC and LM criteria and the maximum lag count. According to the results, the appropriate lag length of our model is ARDL (3,2,2,0).

Table 3: Appropriate Lag-Length Selection for the Boundary Test

BOP	Coefficient	Standard Error	t	P>t
BOP(-1)	0.207	0.126	1.640	0.114
BOP(-2)	0.196	0.145	1.350	0.189
BOP(-3)	-0.374	0.116	-3.230	0.004
GDP	-0.182	0.035	-5.27	0
GDP(-1)	-0.077	0.024	-3.19	0.004
GDP(-2)	0.187	0.029	6.47	0
EX	-6980220.0	5882074	-1.190	0.025
EX(-1)	-16300000.0	7720576	-2.110	0.046
EX (-2)	25800000.0	6315342	4.090	0.000
TD	75.8	28	2.740	0.012
Sabit	10800000.0	2285509	4.720	0.000
R-squared = 0.9451 Adj R-squared = 0.9202 Root MSE = 3.187e+06 Prob > F = 0.0000				

Table 4 tabulates the results of estimated ARDL long-term relationship based on the lag length. BG 2 χ , FFF, 2 (2) χ NORM, FHET stand for Breusch- Goldfrey autocorrelation LM test, Ramsey functional form test, LM test for normally distributed error term and White heteroscedasticity test, respectively. ARDL (3,2,2,0) diagnostic test results of the model in which the long-term equation is estimated shows that there is a long-term relationship among the current account deficit, the GDP and the soccer transfer deficit. The direction of the interaction among the variables is parallel to the theory. On the other hand, the existence of long-term relationship between exchange rate and current account deficit is detected.

Table 4: ARDL Long-Term Results

Variables	Coefficient	Standard Error	T	P>t
GDP (-1)	-0.07	0.007	-6.61	0***
EX (-1)	2684	1603	1.67	0.108
TD(-1)	77.41	28.58	2.71	0.013***

*** Indicates the significance level of 1% and * Indicates the significance level of 1% 10%

In the ARDL model not only long-term forecasts but also short-term forecasts could be employed Table 5 shows the short-term results of ARDL. According to the results, GDP and transfer expenditures lead to current account deficit which is similar to the long-term results.

Table 5:ARDL Short-Term Results

Variables	Coefficient	Standard Error	T	P>t
DGDP1	-0.18223	0.033813	-5.39	0***
DGDP2	-0.18744	0.0283376	-6.61	0***
DEX1	-7009081	5753205	-1.22	0.235
LEX1	-2.60E+07	6124851	-4.24	0***
TD(-1)	77.41	28.58	2.79	0.010***
Sabit	10,70	2141617	4.99	0

*** Indicates the significance level of 1% and * Indicates the significance level of 1% 10%

The last step in the ARDL method is the application of the boundary test developed by Pesaran et al. (2001). Since the F statistic calculated at the %1 significance level for three independent variables is higher than the critical values determined by Pesaran et al. The H_0 hypothesis is rejected and there is a cointegration relationship between the series. This is shown in table 6:

DOES SOCCER TRANSFER MARKET CAUSE CURRENT ACCOUNT DEFICIT? EVIDENCE FROM TURKEY

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Table 6: Boundary Test Results

K	F Statistics	Critical Value at %1 significance level	
		Lower Bound	Upper Bound
3	11.962	5.299	7.288

6. Conclusion

This study examines the existence of the causal relationship between trade deficit in the football transfer market and three key macroeconomic variables, namely current account deficit, GDP and exchange rate for Turkey over the period 1996–2017. Employing an ARDL Boundary Test methodology, short and long-run co-integration is observed between the trade deficit in the football transfer market and current account deficit. As the study proves that the transfer deficit in soccer transfer market is a significant factor of current account deficit for the player importing markets, we suggest that politicians should take some measures such as applying restrictions on transfer expenditures to clubs, implying obligations to allocate funds for youth sport centers to clubs or forbidding transfer actions for lower leagues. Thus, clubs might be directed to discover and educate national players. Moreover, balancing clubs' expenditures and incomes would contribute to balance the current account deficit caused by player transfers. In addition, adjusting new taxation policies designed for creating privileges for local players while hardening transfer actions could be another way to reduce or balance transfer deficit.

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6

PREMATURE DEINDUSTRIALIZATION

Şekip YAZGAN¹

1. Introduction

The idea that the industrial sector has a very important role in sustainable economic growth and development is a common view among development economists. It is stated that this view stems from the fact that today's developed countries have initiated and realized the development processes historically through industrialization. For this reason, it is seen that the concepts of “developed country” and “industrialized country” are frequently used as synonyms in the development economics literature. It is observed that many developing countries give importance to industrialization in order to catch up with developed countries in terms of per capita income. Therefore, the industrial sector in general and the manufacturing industry in particular are described as the “engine” (Kaldor, 1966; 1967) or “escalator” (Rodrik, 2016) of economic growth and development.

The structural transformations that occur during the economic growth process cause the weight of production and employment to shift first from the agricultural sector to the industrial sector and then from the industrial sector to the service sector. It is observed that in the process of economic growth, the share of the manufacturing industry in the gross domestic product (GDP) increases until a certain level of per capita income is reached and then begins to decrease. The decline in the share of the manufacturing industry in GDP appears as a historically observed phenomenon in all developed countries. This situation, which emerges as a normal phase of the economic growth process, is called “deindustrialization.” However,

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a similar trend has also started to be observed in developing countries in recent years. However, the downward trend in the share of manufacturing industry in GDP in developed countries is determined to start at much lower levels of per capita income in developing countries. Therefore, this phenomenon, which is called “premature deindustrialization” and constitutes the subject of the study, leads to productivity losses, structural unemployment problems, low demand and low growth rates in economies.

The aim of this study is to investigate the underlying causes of premature deindustrialization and its possible effects on developing economies. For this purpose, in the second section following the introduction, economic growth and deindustrialization are explained within the framework of the concept of structural transformation. In the third and fourth sections of the study, premature deindustrialization phenomenon is presented and the reasons that lead to premature deindustrialization are examined, respectively. In the fifth section of the study, the potential effects of premature deindustrialization on economies are evaluated and the study is completed with the conclusion section.

2. Structural Transformation and Deindustrialization

The concept of structural transformation, which is a frequently used concept in development literature, refers to the shifts between agriculture, industry and service sectors in the economy. (Doğruel & Doğruel, 2018). In this context, the concept of economic growth is generally expressed as a dynamic structural transformation process where the weight of production and employment shifts firstly from agriculture to industry sector and then from industry to service sector. (Kaldor, 1966; Kuznets, 1971). Structural transformation occurs as a result of the increase in productivity resulting from changes in the composition of sectors in favor of the industrial sector. In this context, the industrial sector and, in a more narrow sense, the manufacturing industry has an important position in terms of production increase and structural transformation.

The importance of industrialization for economic growth is frequently emphasized in the development literature. It is seen that most of the studies examining the relationship between industrialization and economic growth in the literature address the issue within the framework of the Kaldor Law, which states that the industrial sector is the engine of economic growth. Kaldor Law states that forward and backward production links are stronger in the industrial sector compared to other sectors. Thus, the effect of unit demand increases created in the industrial sector on the whole economy is stronger in comparison to the other sectors. Therefore, there is a strong positive relationship between the growth of the industrial sector and the growth of the total economy. Therefore, the industrial sector is considered to be “the engine of growth.” In addition, the industrial sector is a relatively important sector with the opportunities it provides in terms of production and use of new technologies. Technological innovations that increase productivity in the industrial sector find areas of implementation in agriculture and service sectors, which are other sectors of the economy, and create significant positive externalities. From this point of view, the industrial sector is not only critical in the sustainability of economic growth with the production/technological innovation links within itself, but also through the links established entirely by the economy through these elements. (Tregenna, 2008; 2009). In summary, manufacturing industry both ensures growth as the source of productivity increases in the economy and plays a transformative role in other sectors while undergoing continuous transformation. It is accepted that the production and productivity increases to be actualized in the manufacturing industry are potentially more effective than the increases in the agricultural and service sectors in terms of their effects on both the sector and the whole economy.

In the process of structural transformation in the economy, industrialization phenomenon is observed with the decrease of the share of agriculture in terms of added value and/or employment in the economy and the increase of the share of manufacturing industry, and then, followed by deindustrialization phenomenon which is characterized by decreasing share of industry and increasing share of services in the economy. In this context, it

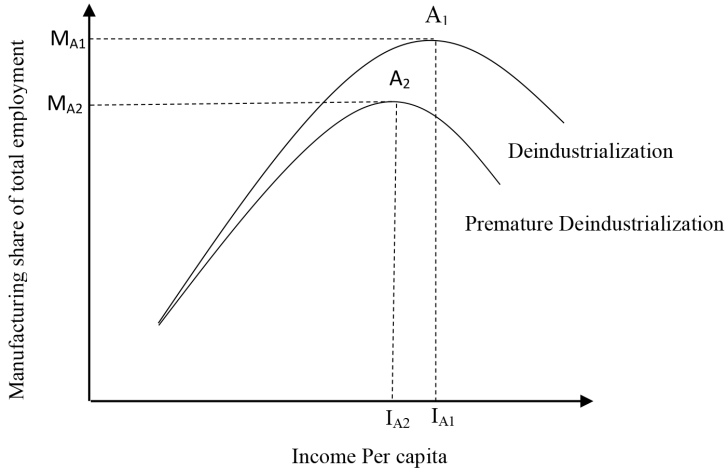
is emphasized that the relationship between the share of manufacturing industry in GDP and real per capita income is generally depicted in the form of “inverse-U” ((Dasgupta & Singh, 2006; Timmer et al., 2014; Rodrik, 2016). In other words, the share of the manufacturing industry increases until a certain level of per capita income is reached and then begins to decrease. In this respect, the deindustrialization phenomenon emerges as an ordinary phase of the economic development process. In the literature, deindustrialization can be expressed by indicators of production and employment. While the share of industry/manufacturing industry value added in GDP is used to reveal deindustrialization in terms of production, deindustrialization in terms of employment is indicated by the share of manufacturing industry employment in total employment.

3. Premature Deindustrialization

In recent studies, it has been noted that the share of manufacturing industry value added in GDP systematically decreased in developed/industrialized countries (Nickell et al., 2008; Jorgenson & Timmer, 2011). More recent studies have shown a similar trend in emerging market economies and developing countries, excluding East Asian countries. In addition, the decline trend in the share of the manufacturing industry, which has been historically observed in almost all developed/industrialized countries, is observed to have started at much lower per capita income levels in developing countries. This phenomenon is called “premature deindustrialization” ((Dasgupta & Singh, 2006; Palma, 2014; Rodrik, 2016). In other words, the fact that the share of the industrial sector in general and the manufacturing industry in particular in total value added or total employment has started to decrease at much lower per capita income levels in developing countries compared to the experiences of developed countries is defined as premature deindustrialization. This transformation, which starts after the per capita income in developed economies reaches \$ 10,000- \$ 15,000, is seen to be in the range of \$ 3,000- \$ 4,000 in developing countries (Rowthorn & Ramaswamy, 1997; Castillo & Neto, 2016). Moreover, the deindustrialization observed in developing countries in recent periods begins when the

share of industry and manufacturing industry in value added or total employment is at relatively low levels. Therefore, we see that that developing countries have begun to deindustrialize at a stage which can be considered premature, before reaching a sufficient maturity level. In this context, the concepts of deindustrialization and premature deindustrialization are given below in a comparative manner in Figure 1. Figure.1 shows the inverse-U relationship between the share of manufacturing industry employment in total employment and per capita income. In the figure, the deindustrialization curve shows that the share of manufacturing industry employment in total employment (MA_1), increases to the climax (A_1) where per capita income level is at (IA_1) and decreases after this climax as a result of the stages of structural transformation in the process of economic growth. Also, when the “premature deindustrialization” curve and “deindustrialization” curve are compared, we see that the share of manufacturing industry employment in total employment (MA_2) reaches the climax when it is lower at the point (IA_2) and this point expresses a lower per capita income (IA_1) (Du & Xie, 2019).

Figure.1. Deindustrialization and Premature Deindustrialization



Source: Du & Xie (2019)

4. Factors Leading to Deindustrialization/Premature Deindustrialization

Institutional changes in the world economy cause inevitable transformations in national economies. A recent example of this situation is the globalization we have experienced in recent years and the “deindustrialization” tendencies emerging as a result of this in the economies of various countries. (Rodrik, 2016). In the first phase of globalization, which emerged in the early 1980s, we witnessed integration of the goods markets of the countries with the world economy through “commercial liberalization” and the international marketization of these markets. In the second phase of the globalization, which was put into practice with the “financial liberalization” in the 1990s and was the period following the first phase of globalization, the movement of capital was liberalized and the access of economic units to international financial resources was facilitated. In today’s world, many countries are experiencing the globalization by integrating their goods and capital markets with the world. These institutional transformations at the international level lead to structural transformation of the national economies. The internationalization of the production process and the fact that the “value chain” goes beyond the borders of a single country are among the most important results of this transformation. It is determined that this transformation is first seen in developed market economies and the physical production of the emerging value chain has shifted from these countries to developing countries in the Southeast Asia. As a result of this process, while industrial activities in developed economies decreased, they increased in other countries of Southeast Asia, and these countries became increasingly advanced in industrialization. This transformation in developed market economies is known as “deindustrialization.” In sum, globalization reinforces deindustrialization, especially in developed market economies (Bayar & Günçavdı, 2019: 38-39).

Another factor leading to deindustrialization/premature deindustrialization is thought to be related to demand. It is known that the share of food expenditures in the total expenditures of the consumers whose income

increases in the industrialization processes of the countries, as stipulated in the Engel's Law, decreases and the share of expenditures for the manufacturing industry products increases. It is stated that a similar trend is observed in post-industrial societies. At this stage, it is seen that the share of manufacturing expenditures in total expenditures decreases and the share of expenditures for service sector increases (Francois and Reinert, 1996). What must be noticed here is that the reason for the decrease in the expenditures for the manufacturing industry in total expenditures is the decrease in relative prices rather than the decrease in the real demand for the manufacturing industry products. As a result of the increase in import from countries with cheap labor and domestic productivity rates, manufacturing industry products get cheaper in developed countries; therefore, although its total consumption does not change, its share in total expenditures may decrease. Demand factor also causes deindustrialization in developing countries. The production of cheap goods by the developed countries and the exportation of these cheap goods to the developing countries cause the developing countries to import the goods at a cheaper price than in their domestic production. This situation may lead to the consumption of manufacturing industry products in developing countries at cheaper prices and decrease their share in total expenditures even if the total consumption does not change. (Rowthorn & Coutts, 2004). The domestic manufacturing industry of the developing countries that procure the products of the manufacturing industry cheaper than the developed countries is withdrawn from production if it cannot reach the level that can compete with that cheap price level. Besides, consumers can access to products all over the world with globalization. Countries with short-term financing and overvalued national currencies tend to import rather than produce in the face of increasing consumption. This situation causes the real production to be limited and thus shifting of the employment to the service sector.

Another factor leading to the deindustrialization/premature deindustrialization is the technological progress. Technological progress, which is faster in the industrial sector compared to the service sector, leads to an increase

in productivity, that is, the need for fewer employees for the same amount of production, and this results in a decrease in the share of industry in total employment. The low efficiency of production in developing countries is one of the important reasons that leads the country towards imported products. Inefficient production with low technology causes the production and labor volume of the manufacturing sector to decrease. This is another reason for the shift of employment to the service sector. Service sectors are generally low in efficiency and weak in competitiveness in developing countries. For this reason, the sectors with low added value and informal labor gain more weight within the service sectors of developing countries. In short, the development of the service sector and the increase in the share of employment in the service sector emerge as a result of technology intensive production processes in the industry.

International trade is another factor that has an impact on the deindustrialization and the decrease in the share of manufacturing industry employment in total employment. The effects of international trade on manufacturing industry employment can manifest in different ways. International trade can both affect the employment in the manufacturing industry by stimulating competition and increasing productivity and provide new employment opportunities in importing and exporting countries. For example, in a developed country that imports textiles from a labor-intensive country and exports sophisticated equipment, while the number of workers in the textile sector decreases, employment can increase in the technology intensive sector. However, in a developed country, job losses in the low-value-added textile sector will be greater than the increase in employment in the high-value-added equipment sector, resulting in a total decrease in manufacturing industry employment. The employment surplus resulting from this development is used by the service sector. If we summarize this process experienced in today's developed countries, the surplus in the manufacturing industry that is produced as a result of the fact that the manufacturing industry is oriented towards a more sophisticated and technology intensive production process with high added value constitutes a source for the development for the service sector when it

is used in this sector. In developing countries, while the short-term capital inflows and the decrease in real effective exchange rate increase the value of the national currency, consumption increases and the demand for non-tradable goods and services increases. This cycle continues with the rise of wages in the national economy, and profit margins gradually decrease in the business sectors whose prices are determined in international markets. This situation leads to a decrease in the manufacturing industry where competitiveness decreases. In developing countries, while the consumer demand for non-tradable sectors and imported goods increases through valued national currency and cheap credit costs, entrepreneurs direct production factors from tradable sectors to non-tradable sectors. On the other hand, consumer demand for the sectors subject to trade is increasingly met by imports, leading to reductions in domestic production. This process leads to a decrease in the competitiveness of the goods subject to exportation, to the growth of external deficits and paves the way for deindustrialization phenomenon by neutralizing “the learning effect and organizational skills” in the industrialization process. (Bacak, 2014). Whereas inadequate industrial structures of developing countries cause manufacturing products to be more costly, they import the same product less costly. Production downturn in the country directs the labor to the service sector, thus increasing the share of the service sector not only in national income, but also its weight in employment.

In addition to globalization, demand, technology and international trade, Middle Income Trap (MIT) is regarded as one of the reasons for deindustrialization, especially in developing countries. MIT means that per capita income level in an economy cannot go beyond a certain stage or that it enters a recession after reaching a certain income level (Egilmez, 2019). Countries which cannot increase their per capita income levels are caught in MIT and are enter into a vicious circle. The fact that countries are caught in the middle-income trap and their inability to increase their per capita national income with the industrial sector is often a major factor in their orientation to the service sector. This situation, in fact, pushes the economies in question to the deindustrialization grip. On the

other hand, the fact that countries have fallen into the middle-income trap puts them in a vicious circle and they cannot take the necessary steps towards industrialization which is expected to increase the revenues. This puts these trapped countries in a spiral and these two effects feed each other. In short, the middle-income trap feeds the deindustrialization and the deindustrialization feeds the middle-income trap.

5. Potential Impacts of Premature Deindustrialization on Economy

Premature deindustrialization generally brings about productivity losses, structural unemployment problems, low demand and low growth rates. It is stated that the most important effect of premature deindustrialization on developing countries' economies is that it leads to lower growth rates in countries. As pointed out in the first part of the study, the industrial sector is the most important sector in terms of establishing production, learning and income connections in the economy and thus ensuring the sustainability of economic growth and dynamic production increases. In this context, premature deindustrialization means lower potential growth. In this case, there appears an important obstacle to closing the growth/development gap of a developing economy. From this point of view, deindustrialization seems as a pathological situation that halts the potential growth opportunities of the economy and the use of labor and resources. In addition, given that the manufacturing industry is the most dynamic sector in terms of innovation and progress, it shows that the "unconditional convergence" between developing and developed economies is only for industry and that the growth potential of economies entering the premature deindustrialization process is negatively affected. Compared to the industry and manufacturing sectors, the service sector has a relatively low potential for contribution to economic growth. Beginning of the shift of weight of economic structure into the service sector before it gets mature enough in industrial production, which is the driving force of the economy, causes disruption in high and persistent growth and employment creation process. At the same time, all these adversities negatively

affect capital accumulation processes and lead to lower employment and lower income increases (Singh, 1977; Rodrik, 2013; Taymaz & Voyvoda, 2017; Bakır et al., 2017).

The effects of premature deindustrialization on income distribution in economies is another subject analyzed by economists. Whereas previously the effects of the shift from the agricultural sector to the industrial sector on income distribution are focused on, now the income distribution problems that are caused by the direct shift from agricultural sector to the service sector that bypasses the industrialization in developing countries are emphasized (Cruz, 2015; Qamar, 2015; Samy & Daude-
lin, 2014; Suryahadi et al., 2009). While empirical studies conducted for various countries in recent years examine the relationship between deindustrialization and income distribution, this relationship is built on the Kuznets Hypothesis. According to Kuznets (1955), while the income inequality increases with economic growth at the beginning of the transition from agriculture to industry in the process of economic development, income inequality decreases with economic growth in the later stages of economic development. This path, which is created by income inequality over time in two different stages of economic development, follows a inverse-U-shaped course. When premature deindustrialization is defined as a shift towards the service sector without sufficiently decreasing the difference between skilled and unskilled wages within the industrial sector, it is stated that the income distribution will not decrease at the level predicted by Kuznets. In addition, in this case, the employment of unskilled labor that is detached from the agricultural sector in the service sector leads to a gap between the yields of skilled and unskilled labor and other production factors within this sector. This gap is much bigger especially in the service sector, which has a more heterogeneous structure compared to industry sector. Another point to be mentioned here is that the employment of unskilled labor, which cannot be employed in the industry in the service sector despite the decreasing incomes in the agricultural sector, will in general enable an increase in incomes in the economy. When we look at the issue in terms of shift from industry to service

sector, the predictions of the Kuznets hypotheses do not change much. In particular, there is a tendency of unskilled labor and capital towards service sector before the gap between skilled and unskilled labor wages due to deindustrialization does not sufficiently decrease. This situation leads to the employment of labor force at a much lower level in the service sector and an increase in sectoral inequality. With this effect of rapid technological developments and globalization, it is almost inevitable that unskilled labor, detached from agriculture, shifts to the service sector which does not experience the pressure of international competition. With this feature, the service sector is able to compensate for the unemployment and welfare losses caused by globalization and technological development in the industrial sector by employing the unskilled labor force which has been separated from agriculture and industry. For this reason, political authorities make special efforts to keep the service sector alive and for it to grow continuously. In fact, this shift occurs even though the unskilled labor wages in services are much lower than those in the industry, leading to sectoral inequality in terms of incomes in these two sectors. Furthermore, due to the heterogeneous structure of the service sector, it is highly possible that wage differences within the sector are high (Bayar & Günçavdı, 2019: 38-39).

Another important problem in which economists investigate the effects of premature deindustrialization on the economy is environmental pollution. In the literature, the relationship between economic growth and environmental pollution is examined within the framework of the Environmental Kuznets Curve (EKC) hypothesis. EKC hypothesis is a hypothesis that came along as a result of the reinterpretation of Kuznets hypothesis, which states that there is an inverse-U-shaped relationship first increasing and then decreasing between income and income inequality by Kuznets (1955), by Grossman and Krueger (1991) for the relationship between income growth and the environment. Grossman and Krueger (1991) reported that there is a direct relationship between income growth and environmental quality at low levels of per capita income and an inverse relationship at high national income levels, and they explained this

with Kuznets Curve. Panayotou (1993) called this relationship between environmental quality and income as the Environmental Kuznets Curve Hypothesis. According to the Environmental Kuznets Curve Hypothesis, environmental deterioration will increase at the beginning of a country's growth path, but once a certain level of per capita income is reached, the impact of economic growth on environmental quality will be positive (Panayotou, 1993). There are a limited number of studies investigating the relationship between premature deindustrialization and environmental pollution. These studies evaluate the subject within the framework of the EKC hypothesis. According to these studies, economies in the process of premature deindustrialization reach the climax of the Environmental Kuznets Curve earlier than industrialized economies (Du & Xie, 2019).

6. Conclusion

The importance of industrialization for economic growth is frequently emphasized in the development literature. In general, the industrial sector, in particular the manufacturing industry, is described as the engine or elevator of economic growth and development. In summary, manufacturing industry both ensures growth as the source of productivity increases in the economy and plays a transformative role in other sectors while undergoing continuous transformation. It is accepted that the production and productivity increases to be actualized in the manufacturing industry are potentially more effective than the increases in the agricultural and service sectors in terms of their effects on both the sector and the whole economy.

The structural transformations that occur during the economic growth process cause the weight of production and employment to shift first from the agricultural sector to the industrial sector and then from the industrial sector to the service sector. It is observed that during the economic growth, the share of the manufacturing industry in the gross domestic product (GDP) increases until a certain level of per capita income is reached and then begins to decrease. The decline in the share of the

manufacturing industry in GDP appears as a historically observed phenomenon in all developed countries. This situation, which emerges as a normal phase of the economic growth process, is called “deindustrialization.” The deindustrialization is indicated through the share of industry/manufacturing industry value added in GDP or the share of manufacturing industry employment in total employment in terms of production and employment.

A similar trend has started to be observed in developing countries in recent years. However, the downward trend in the share of manufacturing industry in GDP in developed countries is determined to start at much lower levels of per capita income in developing countries. Therefore, this phenomenon is called “premature deindustrialization”. Beside the globalization trends in the world, demand, technological progress, international trade and MIT are expressed as the factors leading to deindustrialization/premature deindustrialization.

Beginning of the shift of the weight of economic structure into the service sector before it gets mature enough in industrial production, which is the driving force of the economy, causes disruptions in high and persistent growth and employment creation process. All these adversities also negatively affect the capital accumulation processes and result in lower employment and lower income increases. Additionally, the effects of premature deindustrialization on income distribution and environmental quality are among the important topics investigated by economists.

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7

ANALYSIS OF THE COMPETITIVENESS OF OLIVE OIL EXPORT IN TURKEY

Esra KADANALI¹

1. Introduction

In this chapter, we explain olive oil which is a product of strategic importance in Turkey, production and competitiveness in the foreign trade. Olive is a perennial tree that grows in Mediterranean countries because of the climate. 90% of olive cultivation worldwide is in the Mediterranean basin and the rest of Latin American countries (Republic of Turkey Ministry of Customs and Trade, 2017). In terms of olive production, especially Spain, Italy, Greece, Turkey, Tunisia, Morocco are producer countries. Since olive is not consumed directly; should be processed in the form of oil and table olives (Tunalioglu et al., 2010). Olive oil is the most important product of olive fruit and is therefore consumed and sold much more than table olives.

Turkey is the one of the most important countries in olive and olive oil production in the world. Olives, which cannot be consumed raw, are expressed in terms of production amounts as oil and table olive (Tunalioglu, 2009). In Turkey, major olive produced regions are Aegean, Marmara, Mediterranean, Southeast Anatolia regions. 80% of the total olive produced in the Aegean region is processed for olive oil production. 20% of the total olive produced is table olives. Olive cultivation in the Mediterranean region is located between the coast and Taurus Mountains up to 850 m. Sixty-eight percent of the grown in olives consist of oil extraction and 32% of table olives (IOC, 2012). Hatay (Antakya), Icel, Adana

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and Antalya are the leading production areas in the Mediterranean region. Aydın, İzmir, Muğla, Balıkesir, Bursa, Manisa, Çanakkale, Gaziantep and Mersin are important provinces in olive production in Turkey. Considering the olive cultivated areas for table and oil in 2018, it is seen that 2 099 722 da and 6 544 561 da respectively. However, the production amounts of table olives and oil olives are 426 995 tons and 1 073 472 tons respectively (TÜİK, 2018). According to 2018 TurkStat data, it is seen that 29% of the total olive production amount is table olives and 71% is oil olive. The number of trees yielding fruit for table olives is 47 675 780 and 42 288 347 in 2017 and 2018, respectively (TurkStat, 2019). For oil olive, the number of trees that yield fruit in the same years is 100 587 005 and 108 781 087, respectively (TUIK, 2019). When the number of trees without fruit age is examined, it is seen that there are 8 552 278 and 8 681 448 in table olives in 2017 and 2018 respectively. For oil olive, in 2017 and 2018, the number of trees that do not yield fruit is 17 779 084 and 18 093 084 respectively (TUIK, 2019). In Turkey, existence of the olive tree is mentioned at the beginning of the 2000s was seen to be 100 million units in the 2017/18 season with the impact of the recent plantings have increased nearly about 174 million (Ministry of Customs and Trade, 2018). According to 2017 data, about 8% of world olive production area is located in Turkey (FAO, 2019). In 2017, Turkey's share in world olive production 19.4% (FAO, 2019). It is stated that olive harvesting is carried out in 10 604 658 ha area in the world in 2016 (FAO, 2019). Olive tree gives plenty of products for a year, while the rest of the year is almost rested and yield decreases. Therefore, fruitful harvest period can be named as "on-year", while the following unproductive harvest period named as off-year (Lavee, 2007). This is named periodicity. This situation is called among the public year of existence and year of disappearance (IOC, 2019). This feature of the olive tree can explain the differences in production according to years.

Turkey, when considered in conjunction with the volume of olive production in the world are among the most important olive oil-producing countries and has a great potential for olive oil production and

trade (Çukur et al., 2017). Turkey which is among the most important countries in the world in olive oil production, Spain, Italy, Greece and Tunisia ranks 5th after (IOC, 2019). When the literature on the olive oil is examined, it is seen that there are studies conducted in different production regions in order to determine the factors that affect the foreign trade, competitiveness and export of olive oil (Mili and Zúñiga, 2001; Mili, 2004; Zampounis, 2006; Carri and Sassi, 2007; Angulo et al., 2011; Pomarici and Vecchio, 2013; Tunalioglu et al., 2013; Yılmaz, 2013; Çukur et al., 2017).

This chapter consists of four section. After a general introduction to the information given for the olive and olive oil production in Turkey, in the second section olive and olive oil production of Turkey and world presented as of years. In the third section RCA, GL and TBI methods are explained, which are analysed by using olive oil export values from 2001 to 2017. In the last section, the study focused on interpreting the results of the indices by showing them in a single table.

2. Olive Oil Sector in The World and Turkey

Table 1 shows the production, consumption, import and export quantity of olive oil in the world for 6 production periods. World olive oil production is around 2.85 million tons according to the average of last six seasons. Leading olive oil producer countries are Spain, Italy, Greece, Portugal, Turkey, Tunisia. The share of EU countries in production is 68% on average and Spain ranks first among the EU countries, followed by Italy and Greece. Spain's share in EU olive oil production is around 64% (Republic of Turkey Ministry of Customs and Trade, 2017). Olive oil exports, considering the production, to take first place in the EU countries, these countries are followed by Tunisia and Turkey (Table 2).

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Table 1. World Olive Oil Data (1000 tons)

	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
Production Quantity	3 252,0	2 458,0	3 176,5	2 561,5	3 314,0	3 131,0
Consumption Quantity	3 075,5	2 916,0	2 979,5	2.726,0	3 008,5	2 950,5
Import	779,5	920,5	790,5	781,5	936,0	874,5
Export	785,0	929,0	788,5	782,5	945,5	844,5

Source: International Olive Council (IOC, 2019)

Table 2 shows the production volume of the countries which are leading countries in terms of olive oil production, periodically. Table 2 reveals that, in 2018/2019 production period, Turkey ranks fifth in olive oil production, after Spain, Italy, Greece and Morocco. Similarly, in the previous production period (2017/2018); it ranks fifth after Spain, Italy, Greece and Tunisia. On the other hand, it ranks fourth in the 2016/2017 production period and in the 2013/2014 production period Turkey ranks third behind Spain and Italy. Based on this information, Turkey can be accepted as one of the leading oil producer countries in the world. Due to the periodicity, there are fluctuations in olive oil production over the years. If the amount of olive oil produced in Turkey examined according to the production period, the results certifies this reality. While 150 000 tons of olive oil was produced in 2015/2016 production period, 178 000 tons was produced in 2016/2017 production period. Furthermore, 263 000 tons of olive oil was produced in 2017/2018 production period.

Table 2. The Important Countries of Production Quantity in Olive Oil Production (1000 tonnes)

Olive oil production quantity	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
Spain	1 781,5	842,2	1 403,3	1 290,6	1 260,1	1 598,9
Italy	463,7	222,0	474,6	182,3	428,9	265,0
Greece	132,0	300,0	320,0	195,0	346,0	225,0

Olive oil production quantity	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
Turkey	135,0	160,0	150,0	178,0	263,0	183,0
Tunisian	70,0	340,0	140,0	100,0	280,0	120,0
Portugal	91,6	61,0	109,1	69,4	134,8	115,0
Morocco	130,0	120,0	130,0	110,0	140,0	200,0
Algeria	44,0	69,5	82,0	63,0	82,5	76,5

Source: *International Olive Council (IOC, 2019)*

Turkey Olive Oil Sector

In Turkey, Aegean, Marmara, Mediterranean, Southeast Anatolia Region are important olive producing regions. The leading provinces where the olives produced in Turkey; Aydın, İzmir, Muğla, Balıkesir, Bursa, Manisa, Çanakkale, Gaziantep and Mersin. In table 3, it is showed olive oil production of these provinces and Turkey in total.

Table 3. Olive Oil Production Volume by Province in Turkey

Province	2013	2014	2015	2016	2017	2018
Aydın	273 908	222 396	243 778	209 656	392 196	168 904
İzmir	207 146	268 019	175 008	206 663	164 756	82 415
Muğla	87 180	171 280	147 627	181 919	196 180	38 700
Balıkesir	85 272	120 009	61 289	156 396	221 436	83 447
Bursa	-	-	-	-	51	44 604
Manisa	52 787	71 276	44 743	68 265	145 666	162 422
Çanakkale	67 513	93 861	66 618	105 830	61 722	36 538
Gaziantep	116 015	27 497	99 540	9 213	15 435	63 500
Mersin	100 675	78 694	119 832	99 837	105 478	58 993
Turkey Total	1 286 000	1 330 000	1 300 000	1 300 000	1 640 000	1 073 472

Source: *Turkish Statistical Institute (TÜİK, 2019)*

According to Table 3 we showed share of each province in total Turkey production quantity in Table 4. As can be seen from Table 4, Aydın has the highest rate in all years except 2014. When Table 4 is evaluated in general, Aydın is followed by İzmir, Muğla, Balıkesir and Manisa.

Table 4. Distribution of Olive Oil Production Share by Province in Turkey (%)

İller	2013	2014	2015	2016	2017	2018
Aydın	21.30	16.72	18.75	16.13	23.91	15.73
İzmir	16.11	20.15	13.46	15.90	10.05	7.68
Muğla	6.78	12.88	11.36	14.00	11.96	3.61
Balıkesir	6.63	9.02	4.71	12.03	13.50	7.77
Bursa	0	0	0	0	0.003	4.16
Manisa	4.10	5.36	3.44	5.25	8.90	15.13
Çanakkale	5.25	7.06	5.12	8.14	3.76	3.40
Gaziantep	9.02	2.10	7.66	0.71	0.94	5.92
Mersin	7.83	5.92	9.22	7.68	6.43	5.50
Turkey Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Turkish Statistical Institute (TÜİK, 2019)

Table 5 shows olive oil export quantity of Turkey and World from 2001 to 2017 in Turkey, data obtained from the International Olive and Olive Oil Council.

Table 5. Olive Oil Export Quantity of Turkey and World

Year	Turkey Export Quantity (tones)	World Export Quantity (tones)
2001/2002	28 000	3 945 000
2002/2003	74 000	4 830 000
2003/2004	46 000	6 575 000
2004/2005	93 500	6 335 000
2005/2006	73 000	6 035 000
2006/2007	45 000	6 620 000
2007/2008	15 000	5 625 000

Year	Turkey Export Quantity (tones)	World Export Quantity (tones)
2008/2009	31 000	6 085 000
2009/2010	29 500	6 530 000
2010/2011	12 000	6 955 000
2011/2012	20 000	8 030 000
2012/2013	92 000	8 430 000
2013/2014	35 000	7 850 000
2014/2015	30 000	9 290 000
2015/2016	15 000	7 885 000
2016/2017	45 000	7 825 000

Source: *International Olive Council (IOC, 2019)*

3. Material and Method

The raw data has been collected online from the International Trade Center (INTRACEN) database. The data structure is classified based on Harmonized Commodity Description and Coding System HS 4-digit product classification. According to this classification, the olive oil sector code number is HS 1509. In this study the data used is at this level covering oil olive industries belonging to HS 4 during the period from 2001 to 2017.

Revealed Comparative Advantage (RCA): In the literature, several studies (Bojnec and Fertő, 2007; Bashimov, 2016; Çukur et al., 2017; Terin et al., 2018) have used RCA analysis to determine for competitiveness in foreign trade developed by Balassa (1965). Several approaches are undertaken to study revealed comparative advantages (RCA), some of which use RCA to identify competitiveness of a specific sector's export to another country. Some of these studies have combined RCA with other methods and indexes to identify country's competitiveness against other competitors.

The revealed comparative advantage index (RCA) is proposed by Balassa (1965) to show whether a country has a comparative advantage in the production of a specific product and whether it has a comparative

advantage by comparing its share in domestic and international export volume (Paluš et al., 2015). The notion of RCA is based on non-traditional trade theory (Klonaris and Agiangkatzoglou, 2017).

In this study, the Revealed Comparative Advantage (RCA) index is used to demonstrate the competitiveness of olive oil exports. The notion of revealed comparative advantage is introduced by Liesner (1958) and then redefined and popularized by Balassa (1965 and 1977) (Bojnec and Fertő, 2015). Thus, the revealed comparative advantage index is also called the Balassa Index. The higher the index value, the greater the comparative advantage of the country in international trade (Paluš et al., 2015). The original RCA index formulated by Balassa (1965) is written as Formula 1:

$$RCA = \left(\frac{X_{ij}}{X_{it}} \right) / \left(\frac{X_{wj}}{X_{wt}} \right) \quad (1)$$

at Formul 1,

RCA_{ij}= Revealed Comparative Advantage Index (Here, i is the country and 'j' sector.)

X_{ij} = i 'country' j 'sector exports,

X_{it} = the total exports of country i,

X_{wj}= j sector's world exports

X_{wt}= total world exports.

In this paper, the RCA index is calculated at the World Customs Organization's Harmonized System (HS) at the four-digit level. If RCA> 1, a country's olive oil comparative advantage on the world market is revealed. Furthermore, in more detail, Hinloopen and Marrewijk (2013) state that the RCA coefficient of Balassa can be classified in 4 ways as follows to illustrate the power of competitiveness. According to this classification; 0 <RCA ≤ 1 means comparative advantage, 1 <RCA ≤ 2 indicates the presence of a weak comparative advantage, 2 <RCA ≤ 4 indicates a

moderate comparative advantage, and $4 < RCA$ indicates a strong comparative advantage.

Intra-industry Trade Index (Grubel-Lloyd Index): The other index used in the study is the Grubel- Lloyd (GL) index. Grubel and Lloyd (1971) describe intra-industry trade for the industry as the export value of an industry that corresponds to the import of the same industry at any level of aggregation (Grubel ve Lloyd, 1971:496). GL index is the ratio of the absolute value of differences in exports and imports to total trade of a specific industry or commodity group (Paluš et al., 2015). Intra-industry trade represents international trade within industries rather than between industries (Ruffin, 1999). The GL-index is calculated based on bilateral trade flows. In this study, the Grubel-Lloyd index (Grubel-Lloyd, 1975) underlines the olive oil trade structure of Turkey compared to the others. The formula used to calculate the index according to this expression is shown in Formula 2.

$$\frac{1}{2}X_{ij} - M_{ij} \quad (2)$$

$$GL = 1 - \frac{X_{ij} - M_{ij}}{X_{ij} + M_{ij}}$$

$$X_{ij} + M_{ij}$$

When Index approaches 1, olive oil exports are approximately equal to imports, or in other words, the olive oil trade structure of the analysed country is similar to the world trade structure. When the index approaches 0, olive oil trade flows consist only of imports or exports (Carri & Sassi, 2007).

Trade Balance Index (TBI): Another international specialization index is trade balance index. Trade Balance Index (TBI) is explained as the ratio between export and total traded goods (exports coupled imports) by Widodo (2009) and Lafay (1992). TBI is calculated at the product level indicate the net trading position of a country. TBI express if a country net exporter or net importer (Ma, 2013). Trade balance index considers imports as well as exports. Therefore, TBI is explained as a more accurate

measure of comparative advantage. Deardoff (1980) indicate about TBI is an ‘average’ indicator of true comparative advantage. That is, it is also known as an alternative revealed comparative advantage index and is calculated solely for the purpose of determining the country’s own commercial performance (Ozçalık and Okur, 2013). A positive value of the index indicates that the country is a net exporter of a good (Amighini, 2005; Terin and Yavuz, 2018). The calculation of the index is shown in Formula 3.

$$TBI_{ij} = (X_{ij} - M_{ij}) / (X_{ij} + M_{ij}) \quad (3)$$

Table 6. Data for RCA, GL ve TBI (US\$)

Year	Olive oil Export Turkey	Total export Turkey	Olive-oil export World	Totl export World	Olive oil import Turkey
2001	132 648	31 333 944	2 135 405	6 127 467 761	28
2002	46 145	35 761 981	2 525 504	6 424 391 781	3 453
2003	162 005	47 252 836	3 273 859	7 486 202 969	1 940
2004	133 034	63 120 949	4 471 519	9 099 996 891	90
2005	299 999	73 476 408	4 997 946	10 340 858 415	233
2006	179 388	85 534 676	5 714 255	11 956 256 558	60
2007	134 580	107 271 750	5 730 809	13 832 342 053	48
2008	71 066	132 027 196	6 080 854	15 978 251 440	16
2009	96 202	102 142 613	4 950 493	12 348 723 887	39
2010	64 169	113 883 219	5 247 699	15 094 845 771	24
2011	49 409	134 906 869	5 694 854	18 093 797 534	121
2012	76 500	152 461 737	5 551 733	18 388 255 328	150
2013	294 526	151 802 637	6 694 248	18 871 609 139	413
2014	87 850	157 610 158	7 091 589	18 888 329 060	515
2015	60 030	143 850 376	7 353 744	16 420 073 252	9,515
2016	69 625	142 529 584	7 390 992	15 898 104 800	4,842
2017	200 432	156 992 940	8 183 216	17 554 807 807	141

Kaynak: INTRACEN, 2019

In formula 3, TBI_{ij} represents the balance of trade index of country i for product j. X_{ij} shows the export of “i” country, “j” sector and M_{ij} “i”

country, “j” sector. The index value is between -1 and +1. When index equals +1 indicates that net exporter and the highest comparative advantage. If index equals -1 shows that, net importer and the highest disadvantage. When TBI value equals 0 implies balanced trade or maximum intra-industry trade (Amighini, 2005). Simply the index interpretation is; If value is positive this means a net exporter and when TBI is negative this means net importer.

Table 6 presents the data used for RCA, GL and TBI calculations in the study. In this study the calculation of the RCA index, we consider Turkey and the world olive oil export value and total export for all commodities value. When calculating the index of GL, we use olive oil import and export value of Turkey. Finally, for TBI we use exports and imports values of Turkey. However, export and import values including from 2001 to 2017 are shown in Table 6.

4. Findings

Table 7 indicates Revealed Comparative Advantage Index (RCA), Grubel-Lloyd index (GL) and Trade Balance Index (TBI) results for the olive oil trade in Turkey.

The results of the Revealed Comparative Advantage Index or Balassa Index shows RCA values are greater than 1 for all years between 2001 and 2017, except for 2015. According to Hinloopen and Marrewijk (2013) classification indexes greater than 4 except 2015. So, Turkey can be expressed as having a strong competitiveness in the export of olive oil. The results, in this case, tabulate that Turkey's olive oil trade has a revealed comparative advantage over World's olive oil trade. Çukur et al. (2017), in their study, they use Balassa and Vollrath indexes for international competitiveness of Turkey's olive oil sector. Similarly, they express that Turkey has important advantages in the global olive oil trade. Moreover, they calculate Turkey's openness to international competition as 0.10%. And they state that this rate is lower than that of other countries. However, as a result of their comparisons with other leading countries in the production

and export of olive oil, they stated that they do not have enough international competitive advantage.

Table 7. Olive oil trade in Turkey calculated for RCA, GL and TBI values

Yıllar	RCA	GL	NTI
2001	12.14749	0.000422	0.999578
2002	3.282366	0.139239	0.860761
2003	7.839749	0.023666	0.976334
2004	4.28919	0.001352	0.998648
2005	8.44767	0.001552	0.998448
2006	4.388204	0.000669	0.999331
2007	3.028133	0.000713	0.999287
2008	1.41437	0.00045	0.99955
2009	2.349366	0.00081	0.99919
2010	1.620785	0.000748	0.999252
2011	1.163641	0.004886	0.995114
2012	1.661929	0.003914	0.996086
2013	5.469548	0.002801	0.997199
2014	1.484593	0.011656	0.988344
2015	0.931803	0.273636	0.726364
2016	1.050758	0.130044	0.869956
2017	2.738792	0.001406	0.998594

Source: *Obtained from the calculations by the author.*

In their study Klonaris and Agiangkatzoglou (2018) use the revealed comparative advantage index to demonstrate that Greek extra virgin olive oil has a comparative advantage over other suppliers in the market (especially Italy and Spain). Carri and Sassi (2007) in their research indicate that Relative Competitive Advantage index (RCA) that provides a more accurate description of the olive oil sector importance for the international specialization of a country. Tasdogan et al. (2005) analyses market power in olive oil exports in the European Union (EU) market for the leader olive oil producers as Italy, Spain and Greece. As a result, they stated that Italy has a higher market power compared to Spain and Greece.

Grubel- Lloyd index shows that the level of intra-industry trade is particularly low (Table 7). GL index are examined it is seen that the values from 2001 to 2017 are less than 0.50. In other words, it indicates that Turkey's olive oil trade with the world is in the form of inter-industry trade in that period. This result is explained by the low level of intra-industry trade in olive oil trade. In addition, the index value approaching 1 intra-industry trade while the approach to 0 indicates inter-industry trade. Therefore, it is stated that there is inter-industry trade that is intra-industry trade is low.

Trade Balance Index values for olive oil trade are positive from 2001 to 2017 (Table 7). The TBIs are highest for Turkey's olive oil and this shows that Turkey is the country's largest net exports for olive oil. So, Turkey olive oil trade is a net exporter position from 2001 to 2017. Soyigıt and Yavuzaslan (2018) in their research they examine olive exports and the role of Turkey in the international market. Eventually they describe the importance of Turkey's olive trade increased after 2000 but started to decrease after 2011.

5. Results

World olive oil production is concentrated especially in Mediterranean countries. Being located in the region, Turkey is among the major producing countries. In this context, olive oil production in Turkey ranks 5th after Spain, Italy, Greece and Tunisia in the world.

The purpose of this chapter is that olive oil exports to reveal the relative position and competitiveness in Turkey. For this purpose, Revealed Comparative Advantage (RCA), Grubel- Lloyd (GL) and Trade Balance Indexes (TBI) are used in this study. The study tries to identify Turkey's competitiveness in the export of olive oil considering the value of Turkey and world exports. As a result of revealed comparative advantages index, it is seen that Turkey has a strong competitiveness in the export of olive oil. So, on the results obtained it is understood in Turkey's olive oil exports, competitiveness is high and advantageous. In the study, as a

result of the Grubel-Lloyd index used in the determination of intra-industry trade level in olive oil trade, it is determined that the intra-industry trade level is very low. This result can be interpreted as Turkey's olive oil trade is inter industry trade. As for the results of the trade balance index, the values are positive from 2001 to 2017. This means Turkey is net exporter country. However, global export values are taken into consideration in the study and no evaluation is made for other highly competitive countries. Similarly, Çukur et al. (2018) state that according to global olive oil exports comparative advantage criteria, Turkey has significant advantages in many respects. Yet, compared to the international leaders in the global export of olive oil in terms of competitive advantage, Turkey is still far behind. Abdikoğlu (2016) also state that Tunisia has the highest competitiveness when compared to the countries exporting olive oil and in this study that expresses Turkey's competition is that it has a lower capacity than other countries.

Turkey's export of olive oil, olives varies depending on changes in the quantity of production. Periodicity is also known to influence this change. As Abdikoğlu (2016) indicates in her study, it is thought that growing different varieties of olives can be effective in reducing the effect of periodicity. The high competitiveness of Turkey olive oil exports demonstrates that Turkey has export potential. However, comparative results of olive oil production, consumption and trade with higher competitive countries will allow for more specific assessments. Therefore, it is thought that, apart from global data, more specific results can be achieved through comparisons with highly competitive countries.

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SECTION **II**

**POLITICAL ECONOMY AND
ENVIRONMENTAL POLICY**

8

THE ECONOMY OF THE 21ST CENTURY AND TURKEY

Kerem KARABULUT¹

I. Industry Revolution and It's Stages

The concept of the industry can be described in narrow and broad terms. Industry in the narrow sense is the process of all the production activities that use raw materials and semi-finished products and of converting them into finished products by using labor and capital.

In the narrow sense, industrialization and manufacturing are synonymous. In the broad sense, industrialization includes the application of new production techniques to production, improving product quality, realizing production at diminishing costs and the changes that the country has undergone in economic and social fields. As is known, the Industrial Revolution emerged in England in the 18th century. Why did the industrial revolution begin in England, not France or China? This question can be answered with different arguments

Usually, two theses come to the fore (Yaroufakis, 201: 43). First; Britain, as an island country, has developed maritime trade, which has given it an advantage in terms of international trade, and its geographical separation has kept it away from the turbulent wars in Continental Europe.

Secondly, the revolution started on the island due to the richness of the natural resources like coal, the high population and the production of the wealth used by the slaves such as African slaves. The social pain experienced in this period is expressed as follows: (Yaroufakis, 201: 45).

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“Newspapers of the day reported ten-year-old children living and working chained to steam engines in England and Scotland. Pregnant women worked in tin mines in Cornwall located in south-west England, and some even had to give birth in tunnels on their own.” The social suffering experienced at the beginning of the industrial revolution is not less than the social suffering of today.

The industrial revolution began in 1765 when James Watt invented the steam engine and used it in industry. Mechanization based on coal and steam forces led to a specialization in the division of labor, and the resulting great industrial revolution took its place in the world economy. This process has shifted from muscle strength to mechanical force to digitalization today.

The developments so far have created controversy that four industrial revolutions have taken place, and even the fifth industrial revolution has begun. The history and processes of the four basic stages of the industrial revolution can be listed as follows:

The 1st Industrial Revolution began in 1765 with James Whatt inventing the steam engine and using it in the manufacturing process.

The 2nd Industrial Revolution began with the use of electrical energy in the 1870s.

The 3rd Industrial Revolution emerged with the development of electronic and information technologies in the late 1960s.

The 4th Industrial revolution is the start of a period of full digitalization called “industry 4.0” in the Post-2010.

In the first industrial revolution machines started to be produced, in the second industrial revolution more efficient use was developed and in the third industrial revolution, the computer and digital world were combined with the perfect current state of production. (Özdoğan, 2017: 13). From these stages, it is necessary to elaborate on the 4th Industrial Revolution.

For the first time, the term “Industry 4.0” was introduced at the Hannover Fair in Germany.

Some scholars call it “The 2nd Machine age”. 4th industrial revolution is characterized by a much more common and mobile internet, smaller and more powerful sensors and machine learning with artificial intelligence.

In this period, the period of “smart factories” stands out. Machines about to start talking to machines and machines almost run the whole factory or production process. This development reduces the need for human beings and can increase unemployment. However, productivity increases. In this period, in order to stay unemployed and keep up with the developments “innovation” and “inventionism” come into prominence. Since it is the person who carries out innovation and invention, the education system and method must be designed to cover this process and the future.

The most important difference that distinguishes the four 4th industrial revolution from the industrial revolutions that took place before is the fusion of technologies developed in different areas and their interaction in physical, digital and biological fields. On the other hand, one of the most important differences in this period is speed. For example, the spinning machine, the symbol of the first industrial revolution, took about 120 years to spread out of Europe, while the Internet took less than ten years to spread to the world (Schwab, 2016:17).

II. Issues throughout the 4th Industry Revolution

The following questions need to be emphasized in order to understand the fourth industrial revolution with its effects and interactions (Schwab, 2016:117).

- Contextual (reason) - how we understand and apply our knowledge
- Emotional (heart) - how we process and integrate our thoughts and feelings, and how we relate to ourselves and others
- Spiritual (spirit) - How we use our sense of individual and common purpose to influence change and to drive trust and other virtues towards the common good.

- Physical (body) - how we look and maintain the personal health and well-being of ourselves and those around us to be able to apply the energy required for both individual and systemic transformation

The right perception, the right policy, the rapid change, and the fast adaptation are the important issues in this period. The results of the fourth industrial revolution process will be based on the desire and ability of the leaders who manage societies to anticipate emerging trends and connect points, openness to change and cooperation, sharing information for the benefit of all humanity and dynamism. Governments led by leaders with these characteristics will develop faster and more. Others will have to depend on developing states. Therefore, the question that companies, managers, and governments should think and work on is; it is not the question of whether the firm will be exposed to the effects of the fourth industrial revolution, but when the impact will come, what form will it take, and how it will affect the organization and the country. While companies or governments with good perceptions and talents can keep pace with developments, others will be left out of the system.

The cost and method of production change with the fourth industrial revolution. For example; one unit of wealth can be achieved with much fewer workers than 10-15 years ago. This is due to the reduction of marginal costs through digitalization. Companies like Instagram or WhatsApp don't need a lot of funding to start the business. Thus the role of capital and the scaling sector changes in the context of the fourth industrial revolution.

With the fourth industrial revolution, there is also a return from the national and international economic structures to the global economic structure. This situation produces results as it is necessary to change the measurement methods of national incomes (Candemir, 2016: 31). For this reason, it is necessary to perceive the process as a process that requires rapid and radical changes in all social and economic fields and take precautions.

A tablet computer, which is also used to read, browse and communicate, can have the capacity of 5,000 desktop computers 30 years ago. Furthermore, the cost of information storage is approaching zero. These are all

indicators of what size and speed change and transformation are, and the importance of keeping up with this process.

In short, with the fourth industrial revolution; Smart weapons, unmanned aerial vehicles, robots tailor-made workshops, smart factories, robot soldiers instead of living soldiers, Apple's Siri'si to talk with computers such as artificial intelligence applications emerged in recent years. According to the current century, the economic structure and functioning of this process can be called "the economy of the 21st century". The economic characteristics of this period are given below.

III. The Economy of the 21st Century and Turkey

Development in the 21st century is achievable not by producing automobiles, textiles, petroleum, television and the like, but by developing new technologies, inventions, and methods.

What is meant by "the economy of the 21st century" is that the "production" and "consumption" aspects of the economy continue to be the same, whereas there are huge changes in the consumer goods and methods other than food products and production methods. In this economy, the basic input of production is "the skilled individual and the knowledge economy". Basic skills are technology, information and communication technologies, intelligence, imagination, curiosity, courage, internationalization, branding, invention, merit, and similar concepts and applications. Those who produce such goods and services will be the leading countries, other countries will stay as consumers.

The main difference between the economy of the 21st century and the previous economic system is that: The economic structure before the 21st century was like a "chess scene or game". In this economic structure, economic gains could be achieved by thinking a lot, thinking correctly and making the right moves. This structure can represent the system between the 1st Industrial Revolution and the 4th Industrial Revolution. However, in the 21st century, there is an economic structure in the form of "computer and information game". This model requires economic and social

moves to keep pace with speed. Those who keep up with this speed will be the ones who produce and others will consume. In other words, prior to the 21st century, there was a process of developing and improving an existing product or good, while, in the 21st century, the system requires the process of creating high added value by producing a product or service that is unknown or does not exist. WhatsApp is an example of the production of this century, for example, 53 people founded and sold it for about 20 billion dollars.

Briefly, bringing innovation and making it long-term is vital for today's production and business life. If governments, companies or managers are unable to follow the innovations, there is a great danger that their lives will be over. For instance, The Ottoman Empire collapsed because it could not adapt to the developments and changes that emerged with the 1st Industrial Revolution to its structure. Firms producing flashlights have become extinct if they did not change their production structures when the lantern feature appeared on their mobile phones.

Where is Turkey located in this kind of economic system?

Although Turkey has the potential to reach the economic production of such a structure, she has not yet reached this level. According to the Program for International Student Assessment (PISA) results, Turkey is not among the first 50 countries. Students can not even show the success of solving 1 question out of 100 in the fields of math and science. Also, according to a survey by the OECD, the proportion of young people capable of thinking at an advanced level in Turkey is 2.2%. the OECD average of this ratio is 12% and 28% in South Korea. This means roughly 2.2% of the population in Turkey produces innovation and rest consumes.

The industrial process in the 21st century in terms of developed economies is the 4th Industrial Revolution or the Industrial 4.0 period. Whereas Turkey's Industry is somewhere between 2.0 and 3.0 (Egilmez, 2018: 230). Table 1 tabulates the comparative indicators of GDP, export and population share of the same level countries.

Table 1: GDP, export and population shares of Turkey and other countries

1999	Number	GDP (%)	Export (%)	Population (%)
Total	184	100,0	100,0	100,0
Developed Economies	28	57,4	63,7	15,5
US		21,9	14,0	4,6
Euro Zone		15,8	39,3	6,3
Japan		7,6	6,7	2,1
Developing and Emerging Economies	156	42,6	36,3	84,5
China		11,2	3,1	21,1
India		4,6	0,7	16,6
Russia		2,4	1,3	2,5
Brasil		3,2	0,9	2,8
Turkey		1,3	0,6	1,1
2017	Number	GDP (%)	Export (%)	Population (%)
Total	193	100,0	100,0	100,0
Developed Economies	39	41,3	63,6	14,4
US		15,3	10,3	4,4
Euro Zone		11,6	26,3	4,6
Japan		4,3	3,9	1,7
Developing and Emerging Economies	154	58,7	36,4	85,6
China		18,2	10,7	18,8
India		7,4	2,2	17,9
Russia		3,2	1,8	2,0
Brasil		2,6	1,1	2,8
Turkey		1,7	1,0	1,1

Source: <http://www.mahfiegilmez.com/2018/04/kuresel-ekonomi-ve-turkiye-ekonomisi.html> as of 28.08.2019.

From the table, it is observable that while the shares of developed economies have decreased, the shares of developing economies have been increasing over the years. Although there is an increase in Turkey's share, it is at the bottom of all countries. It can be said that the increase in the shares of developing countries is due to the tendency towards industrial production and structural changes in this direction. Therefore, it is only possible for Turkey to get the desired level by rapidly changing its policy towards "high added-value technological production".

IV. What Must Turkey Do in This Period of the 21st Century?

In order to perceive the developments in the century and to apply appropriate policies, Turkey has to detect shortcomings of its history and reasons for the failure of ever developed. The main reasons for the failure to be a developed country for Turkey as follows:

- Falling behind the developments in the historical process (1st Industrial Revolution)
- Lack of savings
- Production structure dependent on the external world
- Wrong education system
- Deficiencies in legal regulation and incentive system
- Bureaucratic obstacles
- Failure to build a strong maritime fleet
- No creation of an inventive community class
- Macroeconomic instability
- Democracy and freedom to disseminate
- The problem of stability and trust, especially in relation to terrorism
- False cultural and religious beliefs that prevent work and production

It is possible to duplicate the above items. However, it is necessary to be content with these purposes.

As it is known, the Ottoman Empire experienced its economic collapse as it lagged behind the developments in the 1st Industrial Revolution. Therefore, the Republic of Turkey does not have the luxury of lagging behind the developments in the 4th industrial revolution. The key determinant of a society's development is the degree to which it embraces technological innovation. Therefore, efforts in Turkey must be towards providing technological innovation. To do this, along with the potential population in Turkey, young and skilled people from Azerbaijan and Central Asian Turkish Republics should be trained and educated to form a model that generates educated labor force into production.

The world receives 174 thousand terawatts of energy from the sun. Currently, humanity needs 15 terawatts. It is stated that this number will increase to 25 terawatts in 2050 (Demirtaş, 2017).

Investing in such areas is vital for Turkey for the future. For example, to produce innovations such as to produce a chip that determines the blood diseases will ensure not lagging behind the developments for countries such as Turkey. Therefore, there is a need to establish a producer class. In order to create this, the education model needs to be shaped accordingly.

Investments, in order to increase human capital, can be considered as investments for machinery. The return on such investments is measured by increased productivity and higher income generation (Dülgeroğlu; 1999: 89). Because poor countries with low average human capital prefer to produce poor quality manufacturing goods and therefore they have a relatively low growth rate (Fan; 2004; 272).

It is stated that countries that can allocate significant resources to physical capital investment and skills accumulation (educated human-human accumulation) are rich and those who cannot allocate resources are poor (Jones; 2001: 57). Nowadays, for every country that wants to break the vicious cycle of underdevelopment, it has become compulsory to invest in human capital (Taban and Kar; 2004: 280). Countries with strong social and human capital can be developed countries, and the way to develop

or create these two capitals is through education. However, insufficient resources are allocated to the education sector in Turkey. It is emphasized that today's students should have the following skills: (Morrison, 2010)

Learning and innovation: Critical thinking, problem-solving, creativity, and innovation

Digital literacy: Information, media and technology literacy

Life and career: Initiative and self-direction, leadership, adaptability, and accountability

The ratio of education spending to GDP in Turkey has increased regularly to 4.5% in 2016 from 3.8% in 2012, 3.5% in 2010, 2.8% in 2005, and 2.5% in 2000. Yet, these ratios still fall behind the average ratios of OECD (Ömür and Giray; 2016: 146).

Policies for faster economic growth are generally as follows (Şenses, 1996: 65-91).

- Promotion of savings,
- Supporting R & D,
- Targeting high-tech industrialization,
- Promotion of international trade,
- Supporting the right education.

Among these, supporting the right education can be considered as the most important factor that enables others to function well. Here, human capital to be created will provide technical change and transformation as the main locomotive of society within the framework of the model above.

Turkey, with its education system, has to cultivate generations “who dream and convert it to production “. The current education system in the country does not provide this. Both R & D are not sufficient and the education system is not generally designed for this purpose. For example, instead of banning mobile phones in schools, developments in this

century can only be achieved by educating young people who will produce the best mobile phone in the world. The main reason for the middle-income trap since 2007 in Turkey is the inability to raise individuals who will contribute to the production model of the century. In short, development can be realized or future can be saved by raising the generation for the production structure of this century, which can be called the “economy of technological innovation” or economic system that transforms dreams into production ”.

Learning depends on the following three elements (Şenses, 1996: 71); intelligence, talent, and impulse. Of these three factors, inadequacies in learning new technologies due to only institutional differences can lead to being behind the era. The other two factors are averagely the same for all people. The important thing is to establish a system, which is considered in the “impulse factor”, that can train and process these factors. Although Turkey is a country that has the power to do so, due to the inadequacy of the education system, it is very hard to train students who make inventions. The saying “Education has broad, inclusive and lasting effects on knowledge and the ability to receive information” (Şenses, 1996: 70) confirms mentioned idea. In this context, taking the idea of “a non-universal man can not provide national human benefit” into account, establishing an effective education model must be a priority for Turkey.

A strong Turkey’s development and future are possible with the newly established education system and with using it in the production process. For this, technological production with high added value should be taken as a basis for all sectors. Change in the production process can be exemplified as follows: Turkey produces about 80% of the world hazelnut production. An Italian company buys 25% of this hazelnut. The Italian company bought hazelnuts for about 800 million dollars. By adding technology, imagination, and branding, it can create an added value of approximately 14 billion dollars. This situation, which is foreseen for 21st-century agricultural production, will be possible for the country to catch up with the developments and internalize them.

Besides providing policies that support economic and social transformation in the 21st century, Turkey has to take measures for any possible age-specific problems. One of the most important problems to be experienced in this century is cyber attacks. Again, in this century, when globalization is becoming widespread, public health problems may be experienced. In other words, epidemic risks may increase in the global village. It is known that economic crises are global. Therefore, measures need to be taken to address the effects of global crises. The establishment or provision of infrastructure that will ensure the sustainability of economic and social changes can also be considered as measures to be taken. On the other hand, it is necessary to ensure the establishment and development of social security institutions that provide fair income distribution. Otherwise, social peace may deteriorate and the effectiveness of other policies might decrease.

V. Evaluation of the Future of World and Turkey in the 21st Century

There is a majority opinion that the globalization process, which gained momentum especially in the post-1980 period, increases the existing problems. As it is known, the main reason for the accelerated globalization after 1980 was the rapid development of the telecommunication system. When the Union of Soviet Socialist Republics (USSR) disintegrated in 1991, the world initially displayed a unipolar appearance. Later, the balance of technological and economic recovery of Russia changed. However, this time, economic policies began to be differentiated. For example, in recent years, China, a country with a centrally planned economic system before, has become more pro-globalizing and the US has become more conservative. The main factor that stands out here is the production advantages of the countries and the technologies they have.

The policies implemented and especially the political, military and economic races between the great powers seem to be able to turn the world back into a multi-polar structure in the future (Eğilmez, 2018: 229).

On the other hand, due to the reduced importance of labor in production with the technical advances by Industry 4.0, developed countries will turn to their own countries as production centers and these developments may cause changes in the countries' production policies, political, military and economic relations.

A process that can be experienced in the world may even be in the direction of changes in the maps of the countries. In particular, Great Power's, such as the US, Russia, and China, Middle East policies may create pressures to reshape the region in terms of its geographical and administrative forms. Large countries in the region such as Turkey and Iran might be forced to take measures and policies to protect themselves. Their future activities will be shaped according to their level of technical production and defense.

An important development that can be experienced in the future is the competition between countries to find a place to live in outer space. This competition, especially between the US and the Russian Federation, can create a grouping of colonization among countries, similar to the Cold War era. However, in order to experience this process, it is necessary to determine whether a habitable environment exists in space or new habitable space centers. Advances in technology will direct and shape the process.

The current situation seems not to be very bright for the future of Turkey. As it is somewhere between 2.0 and 3.0, Turkey has not yet reached the Industry 4.0 level. This situation has effects on the economy and society similar to those of the industrial revolution in the Ottoman period. However, Turkey is a country with goals and objectives to be effective in the future. Therefore, in the future, Turkey's most important effort would be to capture the required level of Industry 4.0.

In order not to lag behind the global level of production and technology, Turkey has to rapidly reform its education system and train new generations who can produce and use technology. For this, the education model shown above needs to be activated. That is, there is a need for a generation

who can read, think critically, apply their knowledge to the production process, and ultimately increase production and technology. For this purpose, if the efforts are started now, the results will only be in 15-20 years.

One of Turkey's most important concerns in the future will be shaping policies regarding the Middle East. For this purpose, the most appropriate strategy is to apply a supra-racial and supra-sectarian policy in line with the interests of the country. Otherwise, Turkey will find herself in the middle of the problems. The capacity and ability to develop strategic alliances in line with the interests of the country will be decisive in this regard.

Turkey has to work on ensuring economic, political, and social stability in the country in order to be active in issues both in the region and in the World. As it is known, crises are now global. For this reason, especially in the banking and finance sector, necessary regulations and policies should be implemented. Again, the recovery of the economy from the externally dependent production structure will be an important issue for future economic success. On the other hand, political problems such as the law on political parties, the election law, and the problem of the dam on the election threshold will be among the issues to be solved. In addition, there is a need for social practices that increase the satisfaction of all segments of society by activating the justice and merit system in the public sector.

VI. Conclusion

Technology and technological products will shape the future of countries and societies in the 21st. In this process, a country that introduces an innovation that is unknown or even unthinkable by others and puts it into the production process will become advantageous. The distance between the two important revolutions that affect the development and change of societies in the history of humanity, the agricultural and industrial revolution, is as far away as 10-12 thousand years. However, the distances between industrial revolutions are getting shorter. For example, Industry 5.0, can be brought to the agenda over Industry 4.0 which started after

2010. Developments show that the need for labor in the future will be greatly reduced. Production will be carried out entirely by technological means. Therefore, countries will be able to take their place in the world competition by raising a generation that can produce technology and apply it to production with the reforms they will make in education systems. These developments may also have a consequence that affects the members of society, such as the unemployment problem. Here, the countries that shape education, employment, production, research, and similar policies in line with the 21st century will be the leading countries and others will be behind the competition.

Turkey is among the countries that have to, taking into account its internal dynamics, initiate new efforts and transformations. To illustrate, as still an important agriculture country, Turkey needs "gene research" formation to ensure efficiency, innovation, and change in the sector. Or it will be meaningful to educate a generation that will provide the technological innovation and production required by Industry 4.0 and market it to the World in order to save the future.

The 21st century is a stage in which "dream is transformed into production". In this process, instead of the policies that provide the continuity of the existing structure, new insights about innovation and invention will advance societies. Therefore, Turkey can catch up with developments with a model of "read-think-discuss-producing" education system.

In addition to education reform, educating a generation that combines the "body sweat with mental sweat" by carrying out social and political reforms with a perception of "there is no production in the absence of freedom" would be useful for the future. In short, the perception required by the era is the understanding of "a non-universal human cannot provide national benefit". In other words, implementing only domestic-wise policies and practices are doomed to fail in this century. Therefore, training and educating generations, that grasp the world and the country simultaneously and make political, social, economic and technological innovations, stands out. Turkey has the potential to capture all the improvements

in the world, yet, she could not achieve the level. In this regard, the state needs to develop effective policies by taking developments and examples in the world into account. The most important solution area is the education system. With the implemented reforms in education system, transformations and developments in all other fields would be realized.

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9

DISTRIBUTION RATIO OF TAX REVENUES WITHIN THE BUDGET IN TURKEY AND THE REASONS OF SUCH DISTRIBUTION

Zeynep Fakirullahoglu²

Introduction

Taxes are the leading revenues of the state obtained upon using its sovereignty rights. In addition, debts, printing of money, financial monopolies, incomes arising from the application of fines and tax penalties are also revenues derived from the exercise of sovereignty rights. As can be seen, taxes on consumption, financial wealth, institutions and income declarations make up approximately 80% of public revenues. As a matter of fact, public expenditures are financed by taking these revenues into consideration in many countries of the world. In this context, the main purpose of collecting taxes and taxation is to perform public services, and to finance public goods and services.

Quite a few countries in the world collect taxes from their citizens in various statuses and under various names. However, no single international standard has been set for these taxes yet. This can be attributed to many factors such as the development level of countries, gross national product incomes, annual income per capita, and income and wage inequality etc. Tax systems have been studied for many years in our country and tax systems of developed countries have been taken as an example from time to time and certain reforms are made. Turkey is currently one of the countries with strong economic structure in the world. The main starting point of this success is the establishment of a qualified taxation system.

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Taxes are the core dynamics of a country and the vital point of its economy. If taxes are collected on a regular basis and economic supports are provided on time, the economic infrastructure will become considerably strong. From this point of view, in our study, the tax system of Turkey is explained and defined at first, then types of public revenues are defined and classified and finally the distribution of public revenues in the budget and the reasons for this distribution is analyzed.

Definition and Objectives of the Tax System in Turkey

The tax system concept can be defined as follows: “The entirety of the taxes imposed in a country”. Individual and social needs, technological developments and scientific studies present a continuous development depending on the welfare level. In a civilized and modernized state approach, meeting the public needs has been attributed as the duty of the state. However, the state has to use some financial resources in order to fulfill this responsibility and meet the needs. Taxes are the primary ones among these financial sources.

Akdoğan (2006: 157) emphasizes that certain basic tax principles should be established in order to use the taxes that the state collects in line with the purpose. Taxes are collected in order to cover the expenses that are required for meeting public needs and services, and the liabilities arising from public debts. The State collects taxes from individuals on the basis of its sovereignty power and as set forth by the laws. The taxes applied in Turkey is carried out in two manners; directly and indirectly.

Types and Classification of Public Revenues

Public Revenues

All public expenditures are covered by the financial resources of the public sector. Consumption and expenditures which take place in the private market economy are covered by special financing, while the public economy is based on budget financing principle.

When public expenditures and private market expenditures are compared, in other words, when budget financing and market financing are compared, it is seen that “there is no cause and effect relationship between cost coverage and service utilization” (Bulutoğlu, 2004: 415). As mentioned above, the state uses various sources of income to provide public services that it is obliged to fulfill and to finance the expenditures it makes. Public revenues can be analyzed by considering the nature and characteristics of the resource provided by each of them (Akdoğan, 2011: 105).

Taxes

States finance most of the income they need with taxes. This applies to all countries. In order for the state to be economically strong and to be able to carry out important functions, it needs to have efficient and functioning budget revenue. This undoubtedly increases the role of taxes. Everyone has an equal access right to goods and services provided by the state that are financed by taxes, and not based on the amount of tax they have paid. Therefore, taxes may be deemed as the consideration of national and all public services (Pehlivan, 2015: 85).

Charges

These are the economic assets collected for certain services of the state. In other words; “The amounts paid by the beneficiaries of services provided by public institutions” are called charges (Aksoy, 1997: 161). The difference between charges and taxes is that there is provision in duties. It is a type of public revenue collected as a result of getting special advantage from the services provided by the state to the benefit of the society.

Charges should not be deemed as the cost of the public service provided. This is because it is mandatory to pay the charge. The amounts collected as charges are well below the cost of the service provided. On the other hand, some charges are much higher than the cost of the service provided. Generally, services provided based on charges are services that can only be performed by the state.

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Duties

Duties are payments made in return for the power and authorization to carry out an activity or a job. Duties are in a way similar to charges and taxes. The only difference is that the amount of it is not always precise and clear.

Betterment Taxes

According to Pehlivan (2015; 87); “It is a kind of tax collected from real estate owners whose value increased due to public investments. The share of participation in expenditures collected by municipalities is a different type of public revenue”. Today, there is no longer any public revenue called betterment tax.

Parafiscal Revenues

These are fees collected from the members or beneficiaries of economic social and professional organizations established as public institutions for a specific purpose in return for the services they provide under various names (Orhaner, 2000: 120).

Borrowing Revenues

The state may generate income for itself by borrowing in case of inadequate budget revenues to provide services or in extraordinary circumstances as required by financial policies. The increase and diversification in the functions of the state have made borrowing a finance source that can be used frequently. In other words; “Borrowing loses its status as an extraordinary source of income day by day and it becomes a source of income which is applicable all the time” (Akdogan, 2011: 455).

Income Generated by Printing Money

The state, based on the principle of sovereignty, obtains public revenue by printing banknotes and coins. This income is called Seigniorage income.

This type of income shows its income generating effect in a very short time. However, considering the economic conditions of the country, it is not a resource that can be used all the time since it leads to certain consequences that may disrupt the economic balance.

Financial Monopolies

The state obtains a significant amount of public revenue by incorporating the production of certain goods and services into its own structure and setting the sales prices at a higher level. The purpose of financial monopolies is to provide revenue to the state. However, in recent years, private sector has also been carrying out activities in these areas in line with economic policies. The number of monopolies decreases as a result of privatization practices. Therefore, the income generated by the state through monopolization as a source of income is not of great importance. The state can obtain the income it wishes to generate from monopoly products by imposing an indirect tax on them or by setting a high price for them (Pehlivan, 2015: 89).

Property and Enterprise Revenues

Revenues generated from the sale and leasing of movable and immovable properties of the state are referred to as property revenues, and revenues from the activities of industrial and financial institutions are called enterprise revenues. Revenues obtained by the government by selling or leasing immovable properties and managing economic enterprises according to private laws constitute the property and enterprise revenues of the state (Edizdoğan, 1998: 15).

Fines and Tax Penalties

Generating revenue is not the purpose of fines and tax penalties. But rather, it is a practice established to ensure the compliance with the rules.

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Fines and tax penalties imposed on persons who do not act properly generate public revenue for the state.

Fund Revenues

According to Sağbaş (2007: 12); “Fund Revenues may be defined as special public accounts related to budget or completely non-budget, in which certain resources are collected and spent for the realization of a set of specific or similar objectives”. Public revenues provided under the title of funds are also considered as public revenues like taxes.

Distribution of Public Revenues within the Budget and the Reasons for such Distribution

The state budget appears as a legal process prepared by the legislative power by determining public revenues and expenditures. Tax revenues act as the most important factor that shape the formation phase of the public budget. Taxes on consumption, financial wealth, institutions and income declarations make up approximately 80% of public revenues. Figure 1 shows the distribution of tax revenues.

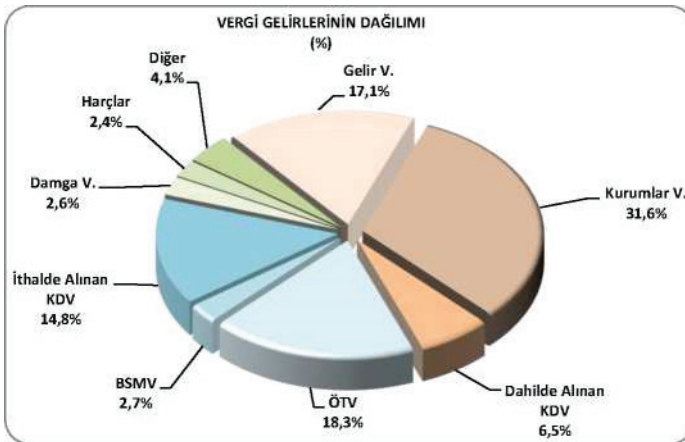


Figure 1: Distribution of Tax Revenues (<http://www.hmb.gov.tr>)

When the data in the above figure is examined, it is seen that the biggest share is the income tax and the taxes levied on expenditure. The fact that taxes such as income tax and VAT (Value Added Tax) and SCT (Special Consumption Tax) levied on expenditure have an important place in the budget is closely related to the economic development level of our country.

When the structure of income tax is examined, it appears as a tax levied on the gross revenues of real persons, consisting of seven income tax elements. The scope of the income tax is broad and it is collected over the gross revenues of real persons and this causes the income tax to be at the forefront of the budget revenues. When Turkey's economy is analyzed, it is seen that it is among the newly industrialized countries. Therefore, production activities are still carried out intensively by real persons and industrial production remains at lower rates. As a natural consequence of this, income tax appears as an important tax type in our country.

When we look at the elements of income tax, it is seen that it consists of commercial, agricultural, professional, wage, self-employment income, and moveable and immoveable property income. The Law addresses the scope of commercial income slightly broad and it is stated that the income generated from any commercial activity is commercial gain. In our country, the fact that both manufacturing industry and agricultural products manufacturing and import service sector is in the foreground, tourism revenues are high in certain regions, fresh - dry vegetables and fruit export wages and working class density are the main factors that ensure that income tax share has an important place in the budget.

Furthermore, when the industrialization rates of our country is analyzed, we see that it is concentrated in certain regions and this in turn causes that activities that are subject to income tax are carried out mostly in other provinces. Especially the development in the construction sector in recent years clearly shows this situation. Together with the construction sector, the service sector is also developing so that the sector enables itself and other sectors as well to move forward in an economic interaction. When the economic developments and the socio-cultural and

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economic situation in Turkey are analyzed as a whole, it explains why income tax ratio has an important place in the budget.

When Corporate Tax is examined, it can be seen that it has a significant place in the budget. Corporate tax mainly levies taxes on income of economic enterprises owned by public institutions and organizations, foundations, associations and companies with share capital, and business partnerships. As a result of this, any organization that will be defined as an economic enterprise will be evaluated within the scope of corporate tax. Transition to digital trade in our country in recent years has especially created an environment where countries can easily access the products produced in other countries in digital environment. The fact that buyers tend to trust institutional organizations much more in terms of both marketing and promotion of the products and expect supports constituting security such as guarantees for the products they purchase has made corporatization more important in digital trade. As a reflection of such situation, both the desire to enter into foreign markets and the desire to continue the trade within a more institutional structure lead to corporatization in our country as well.

Especially when the recent economic data is analyzed, it is seen that the increase in the number of Limited Liability Companies has reached to significant levels. The establishment of companies is facilitated with the support of the state. Particularly when establishing a company, the establishment of companies with share capital such as joint stock and limited liability companies with just a single person, lowering the minimum capital amount, and supporting companies with share capital through governmental supports and incentives are a reflection of the creation of an industrialized economic structure in an institutional sense. It is ensured that corporate tax has an important place in public revenues as a natural consequence of this, and thus its share in budget revenues is increased.

In Figure 1 above, another element of tax revenue, which has an important place in public revenues, is VAT and SCT, which are indirect taxes. As is known, VAT and SCT are taxes that are levied on expenditure.

Therefore, their scope is vast and applies to almost all segments of the society. In particular, since these taxes applies to society in broader sense, they are easy to collect and it is difficult to avoid them and since the rates are increased in recent years led such taxes to have a significant place in the budget. When we examine the VAT tax in general, it appears in almost all kinds of transactions since it is levied on goods delivery and service export. On the other hand, SCT is levied on the consumption elements that can be called luxury.

When we look at the VAT base, we see that SCT is included in the VAT base as well. Therefore, it would be fair to say that this leads to an increase in the ratio of SCT within the budget with each passing day. Increasing the SCT rates applied especially on automotive and GSM and first calculating VAT on the tax assessment of such products and then calculating SCT over the amount including VAT have carried the said tax in an important place in budget revenues.

When the other revenues in the budget are analyzed, we see that they do not have any significant share in the budget due to the fact that they are collected just for a few transactions, and their scope is not broad etc. The main issue that needs to be considered here is that the rate of the taxes collected based on declarations still remains at low levels within the budget. As mentioned above, especially indirect taxes, and especially VAT and SCT are prominent. The main problem here in our opinion is the structural problems in our country. Tax rates collected based on declarations are considerably low due to insufficient tax auditing, failure to conduct extensive intensive audits as required, the failure to fully adopt electronic declaration and bookkeeping system, and taxpayers perceive taxes as a burden. We think that, if it is desired to increase public revenues within the budget, structural reforms should be made, especially in the taxes collected based on statements such as Income and Corporate Tax.

It would be fair to say that the audit mechanism will work better if the taxes are more comprehensible and electronically followed. Tax penalties to be imposed as the result of the audits will reduce tax evasion which

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is the most important factor that harms the state treasury. In addition, if voluntary tax compliance is ensured as well, and if the tax payment is taught to be one of the most important duties towards the state and the nation, the said revenues will definitely increase. Tax is still seen as the most important burden in our country, and this is reflected in both tax rates and the collection of taxes.

Indirect taxes will always remain important to the public treasury unless tax revenues collected based on declarations are increased. This will lead to a continuous repercussion in society. When the recent economic data is analyzed, it is seen that there has been a significant increase in indirect tax rates and this caused repercussions in the society. When we look at the budget figures of 2019, we see the following results:

- “The budget, which posted a deficit of TRY 201 million in January-February 2018, recorded a deficit of 11.7 billion TL in January-February 2019.” (<http://www.tobb.org.tr>).
- “In January-February 2019, budget revenues amounted to TRY 163.9 billion which indicates an increase of 37.5 percent compared to the same period of the previous year. In January-February 2019, tax revenues are recorded as TRY 113.2 billion which indicates an increase of 8.2 percent compared to the same period of the previous year. Non-interest budget expenditures are increased by 43.9 percent to TRY 153.6 billion.” (<http://www.tobb.org.tr>).

When the budget realization report of the Ministry of Treasury and Finance is examined, we see that the budget deficit has decreased and the tax revenues have increased. Questions such as “What is the main reason of the increase in tax revenues in the budget recently? How have we been able to increase our tax revenues and reduce our budget deficit during the economic crisis?” may come into mind. At this point, it is necessary to clarify this matter a bit. The main reason for the decrease in our budget deficit while a global economic crisis is being experienced has been the savings measures taken in terms of expenditure items.

We can say that our budget deficit has decreased due to the fact that no public expenditures are made except for the ongoing projects, savings measures applied in public institutions and organizations, protectionist economic policy of the central bank and not spending any funds other than compulsory expenditures. Here, the following question comes to mind. So, how did public revenues increase within the budget when there was a global crisis and no new factories and facilities were established in our country? The answer to this, in fact, as we mentioned at the beginning of our book, is the increase in the VAT and SCT rates, which are the indirect taxes of the state.

As mentioned previously, VAT is charged for almost all kinds of goods delivery and import and export and since the price of goods sold by the seller is calculated on the amount including VAT, the consumer automatically pays this amount and this leads to an increase in the VAT rate within the budget. Just like VAT, charging SCT on certain consumed products and calculating the price of them on the amount including VAT base, and increasing the rate considerably caused in increase of tax revenues within the budget. The increase in the tax revenues here was actually caused by the increase in the tax burden on the general consumers and this is reflected in the budget figures.

Conclusion/Summary

In conclusion, taxes are the most important financial sources of a country. States use these income sources in order to survive, provide public services, and increase the welfare of their citizens. When the economic and tax systems in developed countries are examined, it is seen that a certain systematic is established and the taxation system is based on certain foundations. Our country is among the developing countries. It makes huge investments for the economy and tax systems in this context and makes intensive efforts in this regard.

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10

ACTORS IN THE PROCESS OF CREATING URBAN REGENERATION POLICIES IN TURKEY AND IN THE EUROPE

Vicdan Cevher Kılıç¹

Introduction

It is a fact that cities, where people live together, need a change and renewal over time. In this study, first of all, the concept of urban regeneration will be investigated with its history. After the research, it will be examined how the urban renewal policies in Europe and in Turkey are formed and which actors are involved in the formation of these policies. If there are actors who are not involved in the process of the implementation of urban regeneration policies in Turkey, they will be identified and questioned in terms of public administration.

Healthy and sustainable urban space production is of course manifested by different practices in each country. Regardless of whether it is urban regeneration or renewal, urban living spaces need to be rearranged.

Urban regeneration is a concept that has been frequently dwelt upon recently. First of all, the need for metropolitan transformation cannot be ignored. The cities have been stripped from their identities in the repulsiveness of economic, sociological and cultural factors. Urban identity refers to all the socio-cultural and historical ties of a city. The emergence of cities without identity leads to the breaking of cultural heritage ties and thus, in a way to the disidentification of the inhabitants of the city. When the physical pollution and the mistakes made in the protection of

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the historical heritage are added to the pollution of the metropolises, a conundrum emerges. The first thing that the mention of urban regeneration brings to mind is the restructuring of shantytowns. But what needs to be understood here is to enter a transformation without moving away from the physical environment and sociocultural factors.

Ankara has set an example for other cities in terms of urban regeneration projects and implementation. Therefore, Ankara Dikmen Valley Project, which is one of the urban regeneration projects implemented in Ankara, was examined in the study. The actors involved in the urban regeneration in the Ulus Historical Urban Renewal Area Project were investigated.

In order to understand the concept of urban regeneration in Turkey and to be able to examine the actors throughout the process of forming and implementing urban regeneration policies, Ankara Dikmen Valley Urban regeneration implementation project, which is among the contemporary projects and most of which have been completed, was studied. A detailed examination was conducted to know which organizations have been implementing especially the administrative and legal aspects of urban regeneration in Turkey.

Literature survey method was used in the study. In addition, a research was done on the institutions involved in the urban regeneration process and their organizational charts.

Urban regeneration

The concept of urban regeneration is a planning and implementation of this plan in order to create healthy and orderly living spaces and to increase the standard of living, in which socioeconomic wreckage areas in risky regions of cities are re-considered in social, economic and spatial terms.

Urban renewal policies are needed to realize the phenomenon of urban regeneration. The concept of urban regeneration has brought along the concepts of urban renewal, rehabilitation, regeneration, reconstruction,

urban revitalization and urban redevelopment. These sub-concepts are also means of urban regeneration.

The concept of urban regeneration is a concept that can also be defined with the words “urban renewal.” The economic, political, social and spatial transformations that took place at the beginning of the twenty-first century continue rapidly and in this context, urban regeneration becomes a holistic socio-economic transformation through the change of physical environment.

The concept of urban regeneration shaped by the Utopian tradition has undergone a new transformation after World War II. The efforts to reconstruct the cities in Europe affected by war and Keynesian welfare state practices of capitalist economies combined to lead to the implementation of urban regeneration projects.

Types of urban regeneration: the demolition and reconstruction of old urban fabric and collapse zones is urban renewal; the resettlement of emptied urban spaces is urban resettlement; the partial renewal of the old urban fabric and collapse zones and their being brought into use is urban rehabilitation; the reconstruction of certain urban areas with different understandings of planning and structuring conditions is urban redevelopment; the revitalization of the old fabric of the city and city centers is urban revitalization (Şahin, 2006: 91).

Along with the general objective of “creating livable healthy cities,” urban regeneration projects also include the goals of:

- transformation of slum areas,
- transformation of housing or other tenure areas, which are in the fields that might be adversely affected by natural disasters
- transformation of unqualified, unhealthy settlements remaining in the cities,

- the protection of the existing historical texture, the historical areas that have lost their function and the sites.

Conceptualization of Urban regeneration

Between 1830 and 1930, the three planners Howard, Wright and Corbusier sought to answer the question of how the ideal city of the 20th century could be. These three academics worked on hundreds of detailed models and drawings that explain every aspect of the new city, based on the general urban ground plan. Factories, workplaces, schools, parks were considered as the revolutionary aspects of urban form and they prepared detailed plans for the restructuring of cities. All three planners believed that the radical restructuring of cities would solve social crises as well (Fisman, 2002: 107,108). Thus, they led to the formation of these three socialist concepts of urban regeneration.

Howard argued that traditional cities completed their function and that it was necessary to move on to the next level. All three planners believed that social solidarity would develop in cities that brought people together, rather than separating inhabitants by race or class. Briefly, if the inhabitants are poor and have to live accordingly, even the most fascinating and creative housing design will fail. Good planning is important in creating social cohesion, but its importance will come to the fore only if it provides real rationality and justice in the structure of society. Howard ensured the formation of garden city, which is a plan for moderate decentralization (decentralization is everyone's way of life in a way that they choose on their own land) and cooperative socialism. He wanted to build new cities in the middle of the unspoiled countryside. He believed that the garden city, the size of which would be limited to 30 thousand inhabitants and which would be surrounded by an incessant green belt, would be healthy, robust, effective and beautiful. Thus, small-scale co-operation and direct democracy could flourish (Fisman, 2002: 113). Howard's garden city design he developed between the years 1889-1892 is based on three basic principles (Akkoyunlu, 2004: 13):

- 1- Collectivism should dominate instead of individuality.
- 2- Supervised growth should be provided and the population should be limited.
- 3- Human scale should be taken as a functional balance element.

In the first half of the 19th century, large European cities developed unhealthily into rural areas. Throughout the 19th century, the population of London reached from 900,000 to 4.5 million, and Chicago, which looked like a big village in 1840, had reached a population of 1.7 million by the end of the century. Cities lost their own growth power, instead chance and the power of profit, which determined the urban structure, resulted in profiteering (Fisman, 2002: 117). That the cities developed so rapidly, unhealthily and in an unplanned way brought along many problems. In order to regain these unhealthy structured cities, a transformation was necessary.

The History of the Urban regeneration Phenomenon in Europe and Turkey

When the history of urban regeneration in Europe and Turkey is examined, it is observed that the urban regeneration phenomenon developed soon after different needs. During the reconstruction process following the Second World War, Western European countries achieved great economic growth. In parallel with the increase in the welfare of people, housing also developed. People chose to live in larger and better houses. Besides, since agriculture became more mechanized, workers started to be employed in the production industry and service sector. Cities have been developing in the fields of industry, services, shopping and housing (Teixeira, 2010: 98).

Europe plays an important role in the emergence and development of the urban regeneration phenomenon. Especially Western European countries entered the process of urban structuring after the end of the Second World

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War. The restoration of cultural heritage that was damaged during the war was emphasized. However, in the 1950s, throughout the process in which the old cities were completely demolished and replaced with new cities, the idea of urban conservation was transformed into concepts such as reproduction, revitalization and rehabilitation (Özden, 2008: 23,24).

Actors affected by the post-war urban regeneration process in Europe were tenants, property owners, architects, workers, urban planners, city administrators, and regional and local politicians. Administrators had to solve many problems such as paying the cleaning costs of the ruins and meeting the costs of the materials and workers required for reconstruction (Özden, 2008: 51). However, this trend changed after 1973 and in 1979 when the oil crisis started. The rise in energy prices, the decrease in consumption, international recession and unemployment led to the increase in social problems. This poor economic trend was reflected in the society. As a result, physical and social infrastructures fell into decay and city centers turned into old urban areas. As local taxes decreased, there were problems in the transformation of these areas. These physical problems increased and brought along the problems of crime, poverty, social exclusion and racism in the cities (Teixeira, 2010: 98).

In Europe, which developed together with economic growth, the expansion of urban areas accelerated in the second half of the 20th century. Public and economic tools were traditionally located in the city. Due to the greater need for spatial areas, public and economic functions were moved to larger buildings in more accessible areas outside the cities. When the need for more competition of cities arose, urban branding became an important phenomenon. The unique identity of the city is indeed an important concept. Conservation of European local heritage is ensured by protecting the economic interests of local community participants in urban regenerations and the restoration expenses of cultural heritage are met by public and private funds (Vrijthoff, 2006: 61).

More cities in Europe have been changing rapidly after the 1980s. It is predicted that the economies of cities will not rely on production

economies anymore. The process of suburbanization has pushed many functions from the center to the periphery. Abandoned buildings, ports and factories increased in the center. This brought along unemployment, social problems and urban environmental degradation. Many families moved from the city centers to the periphery because the surrounding houses have more attractive, cheaper, new and better social facilities and infrastructure services. Urban regeneration plays a key role in the solving of problems in cities. European cities are built on the development in science, innovation, culture and reproduction (Teixeira, 2010: 98.99). After the 1980s, there have also been changes regarding public administration. Now the understanding is based on shrinking state and growing private sector. After the 1980s, a more autonomous period started in Europe within the scope of central-local management, but it was also a period in which the sources coming from the central government were reduced. The welfare policies of the social state were replaced by a structure focused on consumption where the private sector gained importance. For instance, during this period, urban development models in which private sector was predominant were adopted in England. There was a transition to real estate oriented transformation projects to solve this situation (Özdemir, 2010: 5-7).

One of the most important examples of urban regeneration in Europe is the Canary Wharf in Docklands, England because this project was started after the 1980's with the cooperation of public and private sector. It was realized during the Margaret Thatcher government period, with the aim of revitalizing the economy and job opportunities.

Emergence of the Concept of Urban Regeneration in Turkey

The concept of urbanization is one of the distinctive features of the present century. All over the world, regardless of how they are governed, all countries have encountered the consequences and effects of urbanization (Keleş, 2002: 24). Urban regeneration in the world was brought to the agenda in the 1970's. In Turkey, we have newly been encountering the

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concept of urban regeneration. Urban regeneration is a new concept in terms of Turkish planning experience. Urban regeneration was shown as an extension of the liberal policies of the 1980's. However, the reasons that necessitated urban regeneration emerged much earlier.

A planned population and development policy was not followed in Turkey. With five-year development programs, a sustainable urban development policy has not been established with regional and urban plans from upper scale to lower scale (Özden, 2008: 26). Unplanned urbanization brought about urban collapse. Urban collapse and distorted urbanization especially put the metropolitan cities in a very difficult situation. The collapse continued with increasing severity not only with lack of plans but also with zoning amnesty. When the vast majority of people who migrated to metropolitan areas built slums on certain areas to settle, these areas were declared slum areas. In this historical course that necessitates urban regeneration, new expansions shaped by neoliberal policies have been formed. In the Turkish urban planning literature, the implementation form of urban regeneration as an urban renewal model is mostly the reconstruction and acquisition of slum areas (Dündar, 2006: 66).

Ankara is an important model in terms of the implementation of urban regeneration projects. After the establishment of the Republic and the election of Ankara as the capital, in line with the zoning plan prepared by Herman Jansen, who was chosen as a result of an international competition, while the construction of places such as Yenimahalle and Amele District were started, the buildings of the National Assembly, Station House and Ankara Palace were emphasized in order to bring Republican values into the forefront (Şahin, 2006: 96). This application is considered the first application of urban regeneration. After the Democrat Party came to power in 1950 and liberal policies started to be implemented, new zoning movements came up and new construction activities were started in the cities. In this period, the urban renewal works, which are known as Menderes zoning, were started. However, in these applications, especially in Istanbul, historical buildings

were removed to enable vehicular traffic and the old urban texture was demolished and the construction of apartment buildings began (Şahin, 2006: 97). After the 1980s, there have been major changes regarding urban regeneration practices. With the “*Law No. 3194*” made in Özal era, the planning authorities were transferred to the municipalities and with the increase of the tax shares given to the municipalities, comprehensive urban regeneration activities were initiated in almost all big cities. In the periods of Altınsoy and Karayalçın, Ankara Metropolitan Municipality prepared urban regeneration projects for the transformation of historical texture and the transformation of collapse areas and centers (Şahin: 2006: 98). The most important of these projects is the Dikmen Valley Urban regeneration Project, the building of first three stages of which has been completed.

Dikmen was defined as the first and most central slum area of Ankara, which became a shanty town after the 1950s. This area is 800 meters far from the building of the Grand National Assembly of Turkey and extends along the valley for 5 km up to the Or-An neighborhood in the south.

The project was approved and put into practice in 1989. On this date, Ankara Metropolitan Municipality accepted the expectations and socio-economic conditions of the people living in the region as the starting point of the project. This project, which started between 1989 and 1993 was divided into five stages. The first three stages of this project have been completed and works are still being carried out on its other two stages.

It is possible to put Dikmen valley project apart from other urban regeneration projects. That is because the main purpose of this project is not only to clean the area from slums, but also to ensure urban regeneration in harmony. This project aimed at the implementation of a correctly constructed urban integrity. Dikmen valley projects have become an example for other municipalities.

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Figure 1. Dikmen Valley Urban regeneration Project Ankara,

Source: <https://www.ankara.bel.tr/galeriler/parklar/dikmen-vadisi>.

The project is financed by the municipality. The project provides its financial source from the construction companies with build-sell method regarding the workplaces and residences in the municipal areas (Mutlu, 2007: 94).

Urban regeneration Actors in Europe

In general, most of the urban renewal programs are implemented as public-private partnerships. However, there are a few cases where the public or private sector is the sole actor in the renewal of an area. In addition to the public and private sectors, non-governmental organizations also play a role in urban regeneration. Their roles differ according to the type of program, the participation processes used and the programming of the urban regeneration process (Keresztély , 2016).

The widespread adoption of the participatory approach in the process of urban regeneration took place after the 1980s. Within the framework of participatory approach, urban regeneration actors are central government, local government, private sector, non-governmental organizations and local people. However, urban regeneration projects need to be viewed from

a larger framework because when we consider urban regeneration with its financial dimension, the number of actors will increase. For example, global actors such as IMF, World Bank and the European Union also affect urban regeneration. Among these actors, we can include private sector investors who support international investors or representatives of local capital (Sönmez, 2005: 17,18). However, in many European countries urban regeneration is still also financed by special *national funds*. For example, the National Program for Urban Renewal in France, the Major Cities programs in the Netherlands and the Sozialestadt program in Germany are among these projects. (Keresztély, 2016)

In the partnership model that emerged in the UK, it was argued that effective urban regeneration based on a compromise between political interests will be between the public, private sector and the community.

Urban Renewal Actors in Turkey

Legal, administrative, financial and institutional mechanisms should be developed to implement a contemporary and sustainable urban regeneration project. Local governments, which are authorized to design and implement conservation and urban regeneration processes in the city to establish institutional mechanisms, have established an effective, competent unit to manage and supervise planning and implementation in their own organizations. These units are the Directorate of Urban regeneration in municipalities. In addition, depending on the central management, General Directorate of Infrastructure and Urban regeneration Services was established within the body of the Ministry of Environment² and Urbanization. Infrastructure and Urban Services Branch Directorates were established within the provincial organization of the central government. In Turkey, an institutional structuring in the framework of urban regeneration is concerned. However, it is also of great importance that the relevant institutions work in coordination.

2 Directorate was reorganized in the 19th article of the law no. 6306 concerning "The Transformation of Areas at Disaster Risk."

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KUDEB Unit application center, where all information is gathered in a single center, was established in Ankara within the scope of Ulus Historical Urban Renewal Area Project. In this center, the staff of the Ministry of Culture and the employees of the Ankara Metropolitan Municipality undertook the task of coordinating the activities. *In the KUDEBs, established with the "Regulation regarding the Establishment, Permission, Working Procedures and Principles of the Protection,"*³ Implementation and Inspection Offices, Project Offices and Training Units," people specialized in urban planning, engineering, art history and archaeology are employed. The qualifications and numbers of the experts are determined by considering the nature and intensity of immovable cultural and natural assets within the scope of KUDEB's duties. With the amendment made in 2004, KUDEBs' protection practice and supervision offices were established in municipalities and special provincial administrations to carry out transactions related to cultural assets. These offices supervise the practices carried out in the protected area and issue repair permits for immovable cultural properties. Today, not only experts in architecture, urban planning, engineering, art history and archaeology but also civil engineers work at KUDEBs.

Urban regeneration is essentially a multifaceted action plan that affects both the present and the future. Due to the size of the environment that will be affected by the urban regeneration, planning and implementation processes should be initiated with an extensive and large management team regarding the transformations that will shape such a society. The actors included in the urban regeneration in Turkey are public actors, central government (Ministry of Environment and Urbanization), designers (architects, city planners), local administrations (related affiliates of municipalities), TOKİ, private sector, local community such as those with slums to be destroyed in the area where urban regeneration will take place, non-governmental organizations, financial institutions such as Emlak Bank, İLBANK Inc. and legal regulations. In addition,

3 Regulation that entered into force after publication in the Official Gazette No. 25842 dated 11 June 2005.

universities, foundations and professional chambers should be actively involved in the process.

Evaluations

In Europe, the actors of urban regeneration are the central and local government, private sector, non-governmental organizations and local people, but when this transformation is evaluated within the context of the funding of projects, global actors such as IMF and the World Bank and European Union also play active roles. In Turkey, the financing of urban regeneration is provided through municipalities, institutions such as IL-BANK with the state budget or by private sector.

It is the common idea of everyone that there is an urban regeneration that should be experienced in cities. However, there are differences of opinion regarding the implementation part. Urban regeneration should be on a national, regional and urban scale. Urban regeneration should also include a socio-cultural transformation. In general, however, neither regional nor urban regeneration can be mentioned in practice. Implementations are often far from integrity. Implementations of urban regeneration projects in Ankara have spread to all other metropolises and cities in Turkey with all their negativity.

Despite all the negative practices, urban regeneration is a social and spatial need. As seen in the first urban regeneration practices, urban regeneration should aim to meet the needs of the society, not income distribution and liquidation.

The main actors of urban regeneration in Turkey are the municipalities, the central government and the private sector. It is seen that some important institutions are not actively involved in the urban regeneration process in Turkey. However, urban regeneration can only be achieved with the broad participation of the society. Universities, professional chambers, foundations and NGOs should be actively involved in the process.

In order to solve the problems related to urban regeneration, a comprehensive working unit should be established. Although KUDEBs seem to have emerged from this need in appearance, there should also be specialists in the fields of “Political Science and Public Administration”, “Law”, “Economy”, “Environment”, “Planning”, “Design”, “Landscape Architecture”, “Infrastructure Engineering”, “Real Estate Appraisal” etc. All relevant disciplines must achieve, together and in coordination, the same goal, which is (contemporary and sustainable) urban regeneration. However, the participation of the public and non-governmental organizations should be ensured. As a result, urban regeneration has become a necessity especially for our metropolitan cities. In parallel with this obligation, urban regeneration plans should first benefit the public.

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SECTION **III**

**FINANCE, ACCOUNTING,
AND SOCIAL RESPONSIBILITY**

11

MANAGEMENT ACCOUNTING IMPLEMENTATIONS REGARDING CLIMATE CHANGE EFFECTS

Utku ŞENDURUR¹

1. Introduction

In today's World, environmental problems become one of the most significant problems. Along with Solomon et al. (2011) and Subramaniam et al. (2015), climate change issues also might be the biggest problem among environmental problems. Climate change issues bring about many challenges. One of the most important challenges is uncertainty. Stern (2007), describes uncertainty as a basic component in most sides of climate change issues. Particularly due to the uncertainty, climate change could be a threat or opportunity for companies (Kumarasiri & Jubb, 2017). Thus, decision making in management accounting has become very important. Although there some studies about environmental accounting, triple bottom line reporting, sustainability reporting which provide information for managers to help them in decision making process such as, Davey (1982), Cowen et al. (1987), Pava and Krausz (1996), Stray and Ballantine (2000), Newson and Deegan (2002), Margolis and Walsh (2003), Montabon et al. (2007), Solomon et al. (2011), Suttipun (2012), Lee and Klassen (2015), Subramaniam et al. (2015) and Wahyuni (2015), far less is known about management accounting practices used in climate change issues enclosing carbon emissions (Kumarasiri & Jubb, 2017). According to Hartmann et al. (2013) and Kumarasiri and

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Jubb (2017), there is a lack of academic discussion and absence of clarity in this subject. Hence, this study contributes to filling this gap.

In this study, the data reported by Turkish firms that participated in the Carbon Disclosure Projects (CDP) 2018 survey is analyzed. There are four research questions:

1. How many firms are there in Turkey that participated in CDP 2018 survey and get scored?
2. Is there a relation between some variables and the climate change perceptions of firms?
3. How do firms perceive climate change in terms of opportunities or threats (Kumarasiri & Jubb, 2017)?
4. How do firms use management accounting practices when they are managing their carbon emissions (Kumarasiri & Jubb, 2017)?

First research question gives information about firms that participated in the CDP 2018 survey. Descriptive statistics show that how many firms responded CDP 2018 survey and what are their scores? The second research question is important because existing literature never argued about that. There are some studies which analyzed the relation between some variables such as firms profiles (high profile or low profile), country of origin (international or national firms), ownership structure (government sector or private sector), business type (family-controlled firms or non-family controlled firms) and environmental management accounting, triple bottom line reporting scores and sustainability reporting like Cowen et al. (1987), Roberts (1992), Adams et al. (1998), Choi (1999), Balal (2000), Kolk et al. (2001), Cormier and Gordon (2001), Raar (2002), Secci (2005), Ho and Taylor (2007), Joshi and Gao (2009) and Suttipun (2012), but none of them analyzed the relation between these variables and the climate change perceptions of firms. Third and fourth research questions are taken from a prior study of Kumarasiri and Jubb (2017). These research questions are also very important. Third research question indicates the type of perception of the firms about climate change

if it is an opportunity or a threat. According to Kahneman and Tversky (1979), firms can decide about management accounting issues better than uncertainty, if they exactly know that climate change is a threat or an opportunity. Fourth research question constitutes the basis of this study. It guides for accounting practices use in carbon emissions managements like planing and target setting, performance measurement and incentives (Hoffmann, Sprengel, Ziegler, Kolb, & Abegg, 2009). There has been not much study how firms use these practices (Kumarasiri & Jubb, 2017), much work is needed to comprehend the role of management accounting against to climate change issues (Hopwood, 2009). This study provides empirical evidence about variables which affect the climate change perceptions of firms, firms perceptions against climate change in terms of opportunities or threats and use of management accounting practices regarding climate change issues.

2. Theoretical Background And Hypothesis

Climate change issues bring out many challenges and the most important challenge is uncertainty for the firms. Turkey is a developing country and because of this, Turkey has been inclined to political uncertainty about climate change issues. Under uncertainty circumstances, decision making becomes more difficult and decision-makers can act differently. Prospect theory, which is related to giving decisions under uncertainty, proposes that how decisions are sashed and appeared brings about different decision outcomes (Kahneman & Tversky, 1979). If the decision-maker finds out a decision in terms of gains he/she prone to refrain risk, if the opposite, decision-maker is eager to take the risk. Prospect theory focuses on decision making at an individual level (Kumarasiri & Jubb, 2017), but some studies like Bromiley et al. (2001), Shimizu (2007) and Barberis (2013) have shown that it can be applied at the organizational level. Prospect theory has been used by many researchers such as Dutton and Jackson (1987), Chow et al. (2007) and Widener (2007) at the decision-making process in management accounting.

According to literature under uncertainty due to prospect theory, it can be claimed that accounting managers who understand climate change issues as a threat rather than opportunity are more willing to take risks and take action to use accounting practices. which prior studies such as Perez et al. (2007), Henri and Journeault (2010) and Kumarasiri and Christine (2017) emphasize, planning and target setting, performance measurement and incentives for carbon emissions management. Thus, with reference to third and fourth research questions following hypothesis is proposed:

H1: *“Firms that perceive climate change issues as threats rather than opportunities are more likely to use management accounting practices like planning and target setting, performance measurement, and incentives”*

There are several factors that could affect the decision-making process. According to prior literature, four of them come into prominence. These are compliance, cost (cost savings, cost increases, and efficiency), customer (customer demands and needs) and reputation (Kumarasiri & Jubb, 2017). I use these four factors to measure threats and opportunities by scoring them. A positive score indicates firms perception of more threats than opportunities regarding climate change issues. Therefore, it could be expected that positive scored firms are more likely to adopt a greater number of management accounting practices than a negative scored firms. As I mentioned before with regard to prior literature such studies as Cowen et al. (1987), Roberts (1992), Adams et al. (1998), Choi (1999), Balal (2000), Kolk et al. (2001), Cormier and Gordon (2001), Raar (2002), Secchi (2005), Ho and Taylor (2007), Joshi and Gao (2009) and Suttipun (2012), there could be a relation between some variables such as firms profiles (high profile or low profile), country of origin (international or national firms), ownership structure (government sector or private sector), business type (family-controlled firms or non-family controlled firms) and management accounting practices including carbon emissions management. Adams et al. (1992) and Kolk et al. (2001) found a relation between the country of origin and management accounting practices. According to the studies, international

firms are more likely to adopt a greater number of management accounting practices than national firms. Stray and Ballantine (2000), Newson and Deegan (2002) and Ho and Taylor (2007) also found a relation between different variable which is firms profiles and management accounting practices. In compliance with studies, high profile firms are more likely to adopt a greater number of management accounting practices than low profile firms. Balal (2000), Cormier and Gordon (2001) and Secchi (2005) found a relation between ownership structure and management accounting practices that government sector firms are more likely to adopt a greater number of management accounting practices than private-sector firms. Choi (1999) found a relation between business type and management accounting practices. According to the studies, non-family controlled firms are more likely to adopt a greater number of management accounting practices than family-controlled firms. According to prior literature, it is expected that high profile firms, international firms, government sector firms, and non-family controlled firms are more likely to adopt a greater number of management accounting practices than low profile firms, national firms, private sector firms, and family-controlled firms. Thus, in relation with the second research question, the following hypotheses are posed:

H2: *“High profile firms, are more likely to adopt a greater number of management accounting practices than low profile firms”*

H3: *“International firms are more likely to adopt a greater number of management accounting practices than national firms”*

H4: *“Government sector firms are more likely to adopt a greater number of management accounting practices than private-sector firms”*

H5: *“Non-family controlled firms are more likely to adopt a greater number of management accounting practices than family-controlled firms”*

3. Methodology

The method of this study was designed with inspiration from Kumarasiri and Jubb's (2017) studies. I added some new variables to investigate if there is a relation between these variables and the number of management accounting practices.

4. Data and Variables

There are 49 Turkish firms that respond to the CDP 2018 survey, but 7 of them fail to provide sufficient information and 2 of them are not the member of Public Disclosure Platform (PDP). PDP database is used for sector and shareholder structure data. Thus, the research sample consists of 40 Turkish firms that provide identifiable responses to CDP 2018 survey.

I used four factors that could influence decision making based on prior literature to partition as threats or opportunities. This four factors compliance, cost, customer and were used to measure perceived threats or opportunities by scoring each firm particularly (Kumarasiri & Jubb, 2017).

The other three variables are firms profiles (high profile or low profile), country of origin (international or national firms), ownership structure (government sector or private sector) and business type (non-family controlled or family-controlled) which thought to have a relation with firms number of accounting practices based on the prior literature. To define these variables more detailed:

Firms Profiles: When the previous studies in the literature are examined, it is seen that many studies such as Patten (1992), Hackston and Milne (1996), Choi (1999) and (Suttipun, 2012) separate firms into high profile and low profile firms. High profile firms are assumed to have more intense relations with the environment due to their sector and their core business (Stray & Ballantine, 2000; Ho & Taylor, 2007). High profile firms include utilities, production, manufacturing, electricity, gas and water, and mining and low profile firms include utilities, financial, technology,

wholesale and retail trade, hotels and restaurants, construction and public works and transportation, communication and storage. High profile firms coded as 1, low profile firms coded as 0.

Country of origin: Firms are divided into two as firms of national and international origin. International firms identified as firms established abroad but have an office in Turkey. National firms identified as firms both established and have an office in Turkey. International firms coded as 1, national firms coded as 0.

Ownership Structure: Firms are divided into two; as government sector firms and private sector firms. If the government owns or controls more than half the shares of the firm, it is a government sector firm; If not, it will be called a private sector firm. Government sector firms coded as 1, private sector firms coded as 0.

Business Type: Firms are divided into two as family-controlled firms and non-family controlled firms. If the family owns more than half of the shares of the business, it is a family-controlled firm; if not, it will be called a non-family controlled firm. Family controlled firms in Turkey are seen as a very common type of business. It can be said that except for major large enterprises, the rate of institutionalization is low. Non-family controlled firms coded as 1, family-controlled firms coded as 0.

I used accounting practices variables which were used at prior studies like Kumarasiri and Jubb (2017) such as planning and target setting (1), performance measurement (2) and incentives (3) to measure number of accounting practices that firms applied and to find out if there is a relation between these variables and number of accounting practices that firms applied to manage carbon emissions.

Coding is developed and tested twice by the author and an independent reviewer. Interrater reliability agreement actualized in proportion to 95(%).

Research Design

Climate change perceptions of firms are measured by using responses to six cases identified by Kumarasiri and Jubb (2017) of the CDP 2018 survey. First three cases are related to threats others are related to opportunities (Table-1).

Table-1: *Six Cases of Threats and Opportunities*

Threats	Opportunities
(1) Whether the firm is affected by regulatory risks related to climate change	(4) Whether regulatory needs on climate change provide opportunities to the firm
(2) Whether the firm is affected by physical risks related to climate change	(5) Whether physical changes resulting from climate change provide opportunities to the firm
(3) Whether the firm is affected by other risks related to climate change	(6) Whether any other opportunities exist from climate change for the firm

Source: *Kumarasiri and Jubb, 2017*

According to the answers of cases 1 to 3, the presence of the four factors (compliance, cost, customer and reputation) in the perception of climate change threats is coded “1”, and its absence “0”. According to the answers of cases cases 4 to 6, the presence of the four factors (compliance, cost, customer and reputation) in the perception of climate change opportunities is coded “1”, and its absence “0”. As a result, climate change perception variable was estimated by subtracting the number of threat fact from the number of opportunity fact. A positive score shows the perception of more threats than opportunities. The range of this variable may vary between -12 to 12. In addition to the study of Kumarasiri and Jubb (2017), I used these scores to measure if there is a significant difference between this scores and other three variables which are firms profiles, country of origin and ownership structure by using the independent t-test.

I also examine the relation between climate change perception of the firms and use of accounting practices from a different point of view by

looking at several cases generated from CDP survey as Kumarasiri and Jubb (2017) did (Table-2).

Table-2: *Use of Accounting Information Cases*

Planning and Target Setting	Performance Measurement	Incentives
Whether a firm has emissions and/or energy reduction plan and can explain why, if a firm has emissions and/or energy reduction targets and over what period do the targets extend	Whether a firm has criterion against emissions and/or energy reduction targets it sets	Whether a firm provides incentives for the achievements of emissions and/or energy reduction targets and if firm give monetary rewards to those people who gained achievement about reducing emissions and/or energy

Source: *Kumarasiri and Jubb, 2017*

After extensive research and reading of firms response from CDP survey related with these cases, the researcher decided, if the firm has plans and targets to reduce emissions and/or energy, if the firm has a good performance against emissions and/or energy and if the firm has incentives process. If it is considered affirmative for the company, it will be coded as Yes, if not, it will be coded as No. Coding is tested by twice the author and an independent reviewer. Interrater reliability agreement actualized in proportion to 90(%)

5. Results and Comments

Descriptive statistics are detailed in Table-3

Table-3: *Descriptive Statistics*

VARIABLES	NUMBER OF OBSERVATIONS	
Firms profiles	<i>High profiles</i>	22
	<i>Low profiles</i>	18
Country of origin	<i>International</i>	9
	<i>National</i>	31

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VARIABLES	NUMBER OF OBSERVATIONS	
Ownership structure	<i>Government</i>	3
	<i>Private</i>	37
Business Type	<i>Non-Family</i>	11
	<i>Family</i>	29
Planing and target setting	<i>Yes</i>	22
	<i>No</i>	18
Performance Measurement	<i>Yes</i>	20
	<i>No</i>	20
Incentives	<i>Yes</i>	26
	<i>No</i>	14

As reported in Table-3, in Turkey most of the firms are national (75%), private (93%) and family firms (72%) responded to the 2018 CDP survey. Because most of the government firms in Turkey are sold to the private sector due to privatization started after 1990, there is a huge difference between government and private sector firms. A smaller sample should give insufficient outcomes to detect a difference between the groups and it may lead to a type II error (Nayak, 2010). Thus, **H4** is rejected due to lack of sampling.

Table-4 reports firms perceptions of climate change issues. As seen in Table-4, firms perceive climate change issues as a threat (mean is 0.97, positive score). The results show that climate change perceptions of the two sectors, the high profile sector has a mean of 1.89, while for the low profile sector it is 0.34. While comparing four factors that could influence decision making to partition as threats or opportunities, it can be seen that customer issues manifested the most with 202 mentions, cost issues were second with 165 mentions, reputation issue was third with 110 mentions and compliance issues were fourth with 104 mentions. High profile firms scores are more than low profile firms scores at all four factors as compliance (HP:0.86, LP:05), cost (HP:1, LP:05), customer (HP:-0.33, LP:-0.44) and reputation (HP:0.36, LP:-0.22)

Table-4: Climate Changes Perceptions of Firms

Issue factors	High profile firms(HP) Number= 22 (55%)				Low profile firms(LP) Number= 18 (45%)				Full Sample Number=40 (100%)		Climate change perceptions (total threats-total opp/no of firms)			
	Total no (mentios)	Total therats	Total opp	Total	Total no (mentions)	Total therats	Total opp	Total	Total no (mentions)	Total therats	Total opp	HP	LP	Full sample
Compliance	65	42	23	28	47	28	19	104	67	45	0.86	0.5	0.55	
Cost	92	57	35	41	73	41	32	165	98	67	1	0.5	0.77	
Customer	120	51	69	37	82	37	45	202	88	114	-0.33	-0.44	-0.65	
Reputation	68	38	30	19	42	19	23	110	61	49	0.36	-0.22	0.3	
Mean Climate Change Perceptions											1.89	0.34	0.97	

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Table-5: *T-test Results*

Variables	Means	T-test (p-value)
Firms profile	HP: (2.40), LP: (-0.67)	0.00*
Country of origin	İnternaional: (-0.11), National: (1.35)	0.80**
Business type	Non-family: (0.63), Family: (1.17)	0.50**

Note: Test was conducted at 0.05 significance level. The values shown in the table are significance levels. “” means there is a significant difference between groups and “**” means there is no significant difference between groups*

Table-5 reports that there is a significant difference between the groups of firms profiles and firms climate change perception scores and there are no significant differences between the groups of firms, country of origin, firms business type and firms climate change perception scores. Thus, **H2** is accepted and **H3** and **H5** are rejected. **H4** was rejected due to insufficient sampling earlier above. These findings are compatible with Kumarasiri and Jubb (2017)’s findings as the high profile firms are under much higher use of accounting practices than low profile firms. For the rest of variables, all variables have almost the same responses, with different means which are not significant.

Table-6: *Use of Accounting Practices*

Accounting practices	High profile firms (N=22)			Low profile firms (N=18)			T-test (p-value)
	Yes	No	Mean	Yes	No	Mean	
Planning and target setting	18 (82%)	4 (18%)	0.81	9 (50%)	9 (50%)	0.50	0.033*
Performance measurement	15 (68%)	7 (32%)	0.68	6 (33%)	12 (67%)	0.33	0.028*
Incentives	12 (55%)	10 (45%)	0.51	4 (22%)	14 (78%)	0.22	0.035*

Note: Test was conducted at the 0.05 significance level. The values shown in the table are significance levels. “” means there is a significant difference between groups and “**” means there is no significant difference between groups*

As I mentioned before there were no significant differences between the groups of firms’ country of origin firms’ business type and firms’ ownership structure. Because of that, I only included firms profile variable

into this analysis. This analysis should have the same outputs with the analysis done before shown in table-5. Because the inputs are almost the same. As reported in table-6, all three accounting practices have similar results with significant mean differences. Thus, **H1** is accepted. In summary, we can say that firms that perceive climate change issues as a threat rather than an opportunity (HP firms) are more likely to use management accounting practices like planning and target setting, performance measurement, and incentives.

6. Conclusion And Limitations

The findings show that firms perceive climate change and carbon emission issues as a threat when trying to succeed in organizational objectives. Cost and customer factors are identified as the most effective factors that mentioned as the most threats and opportunities associated with climate change issues at the CDP 2018 Turkey survey. Thus, we can say that firms' perception of climate change threats and opportunities was driven firstly to protect their assets and investments.

According to the results of this study, it was seen also that, high profile firms are under much higher use of accounting practices than low profile firms and consistent with prospect theory arguments, there is a significant difference between perceptions of threats or opportunities and the accounting practices. Consequently, it could be said that firms that perceive climate change issues as threats rather than opportunities (HP firms with high climate perception scores) are more likely to use management accounting practices like planning and target setting, performance measurement, and incentives.

Although the scores of high profiles firms are higher than low profile firms (HP firms mean of 2.40 and LP firms mean of -0.67 seen in table-5), it is still low. Because the score ranges are between -12 to 12 and a firm can get scored up to 12. There is low use of accounting practices in managing climate change issues was determined, perhaps it is because of the lack of involvement of accounting professionals in climate change

issues. Accountants could have a crucial role in leading the operation of practices such as planning and target setting, performance measurement and incentives dispositions in managing emissions without any dispute.

The first limitation of the study is the time constraint. Because this study should be completed in a certain time period, no more detailed analysis could be implemented. Due to the time limit of the study, only 1-year (2018) CDP surveys of firms were examined and panel data method could not be applied. In further studies, the sample size can be augmented and the reliability of the study can be increased by using panel data method. The second limitation of the study is the variables. In line with the literature, 7 variables are used in the study. Although the number of these variables seems to be sufficient according to the literature, the variables that may emerge later according to the developing world circumstances may be added in future studies. Finally, according to Kolk et al. (2008) and Solomon et al. (2001), some firms can make unrealistic statements to make themselves idealized to their investors. This suggests a level of coherence between disclosed CDP responses and actual perceptions and accounting practices of firms (Kumarasiri & Jubb, 2017). Future studies could compare firms' CDP answers in the process of time with their real emissions performance if it is convenient.

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12

CORPORATE SOCIAL RESPONSIBILITY AND ACCOUNTING

Fatma TEMELLİ¹

1. Introduction

The growth and increasing numbers of organizations together with their expanding fields of activity have led to a number of material and humane problems in the society and further increased the responsibilities of organizations towards not only their owners but also other stakeholders (Cingöz and Akdoğan, 2012: 332). Today, organizations are not only operating for-profit, but also fulfilling their social responsibilities towards society, stakeholders, and the environment. The fulfillment of legal, moral, economic and voluntary responsibilities of organizations also increases social peace and prosperity (Demir, 2013: 225).

In the intense competition environment together with the globalization, enterprises have begun to determine some social goals towards society in order to survive and continue their existence, and thus, they have become more sensitive to environment and society. From this point on, the concept of Corporate Social Responsibility (CSR) has emerged and this concept has always maintained its importance and up-to-dateness.

It is not only the quality of the goods or services the organizations produce that makes organizations valuable or creates a difference, but the values they add or bring to society. For organizations, success can be achieved by fulfilling their duties and responsibilities towards the society

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they are living in, by protecting the interests of the employees, the interests of the community and the interests of the institutions, and balancing them. This can be achieved by bearing the spirit of social responsibility (Özgen, 2007: 1).

The financial condition of an organization is an important determinant in the fulfillment of responsibilities. Therefore, accounting plays a big role since it produces financial information and helps in decision making. Providing financial information about the organization to the public in a correct and reliable manner is of great importance in fulfilling corporate social responsibility. This further increases the importance of accounting for organizations (Demir, 2013: 226). Accordingly, it is possible to say that accounting is an important tool for businesses to fulfill their corporate social responsibilities. In this context, the aim of this study is to reveal the relationship between corporate social responsibility and accounting in theoretical terms.

2. The Concept Of Corporate Social Responsibility

The concept of corporate social responsibility was firstly mentioned in 1953 in Bowen's book, named *Social Responsibilities of the Businessman*. In his book, Bowen argued that businessmen should make decisions and operate activities that are based on values and objectives of the society. According to Bowen, businessmen or managers should not ignore their social goals while carrying out their economic activities, and they should operate activities that have benefits for the society. At this point, it is important not only to refrain from activities that harm the society, but also to protect and uphold the welfare of them. In other words, it will not be enough for organizations to only refrain from harming society or its stakeholders, but also to develop programs to improve the welfare of the society as an example of good corporate citizenship (Cingöz and Akdoğan, 2012: 333).

When the relevant literature covering the previous studies conducted since 1950 is examined, it is observed that there are many definitions including

different aspects of corporate social responsibility. Furthermore, there is no standard definition of corporate social responsibility that is valid at all times. It is difficult to make a general definition due to certain reasons such as values of the society, its rules, changing structure, needs, the operational priority of the organization and current events (Çalışkan and Ünüsan, 2011: 155). Another reason why a general definition of corporate social responsibility cannot be easily specified is that the responsibilities of organizations differ according to each social stakeholder (Gürel, 2010: 112).

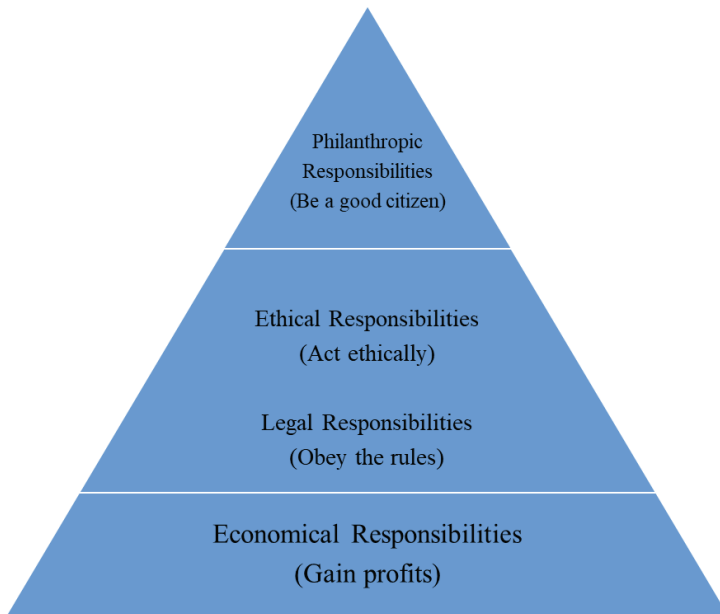
Social responsibility and corporate social responsibility are different concepts. Responsibility, in general terms, is bearing the consequences of certain actions of real persons and legal entities and the consequences of any event in their jurisdiction (Sevilengül, 2007: 23). As per the social responsibility, it is defined as the set of rules that an organization should follow to maintain its core value or the rules towards the society, while the corporate social responsibility is defined as the voluntary social projects of an organization (Çelik et al., 2012: 39). Therefore, based on these definitions, it can be said that the principle of volunteering differentiates the concepts of social responsibility and corporate social responsibility.

When the literature is examined, it is observed that there are many definitions related to corporate social responsibility. Corporate Social Responsibility refers to contributing to creation of a cleaner environment and a better society not only in economical terms, but also on a voluntary basis for the organizations (Carroll, 1999: 269-271). Including the economic, ethical, and legal responsibilities of institutions, the CSR is a set of practices envisaging that institutions should protect the interests and well-being of the society together with their own interests, and while carrying out their activities the institutions should assess their impacts on society (Peltekoğlu, 2007: 188).

Corporate Social Responsibility can also be defined as the fulfillment of economic, legal, ethical, and voluntary responsibilities of an organization towards its stakeholders (Maignan and Ferrell, 2000: 284). At this point,

Carroll (1991) stated that there are four basic dimensions of corporate social responsibility. These are: (1) Economic responsibility, (2) Legal responsibility, (3) Ethical responsibility, (4) Voluntary responsibility (Carroll, 1991: 40-41). The pyramid of corporate social responsibility developed by Carroll (1991) is seen below in Figure 1.

Figure 1: Corporate Social Responsibility Pyramid



Source: *Carroll, 1991:42.*

Economic responsibility defends that an organization cannot fulfil other responsibilities without fulfilling its economic responsibilities. One of the main objectives of the existence of an organization is to make a profit by producing goods and services. Organizations have to produce goods and services to meet the needs and desires of their customers (Özalp et al., 2008: 73). Economic responsibility consists of the following elements (Carroll, 1991: 40):

- The organization should demonstrate a consistent performance to maximize earnings per share,
- The organization should be committed to gain as much profit as possible,
- The organization should maintain a strong competitive position,
- The organization should maintain a high level of operational efficiency,
- A successful organization should be defined as a consistent/continuous winning organization.

Legal responsibility refers to compliance with legal regulations that encompass the most basic ethical values while continuing the activities of organizations (İlic, 2010: 309). These include ethics, process, and structural legal regulations (Özalp et al., 2008: 73). Legal responsibility consists of the following elements (Carroll, 1991: 40):

- The activities of organization should be operated in accordance with managerial/public and legal expectations,
- The activities of organization should be in accordance with the requirements of national and local official legislation,
- The organization should be a legal entity that operates in accordance with the law,
- A successful organization should be defined as a business that fulfils its legal obligations,
- The organization should provide products and services that meet at least minimum legal requirements.

Ethical responsibility discusses whether the objectives of the organizations and the ways and methods they have chosen to achieve these objectives are carried out without harming the political, economic, social and cultural welfare of the society (Yönet, 2005: 247). Ethical responsibility requires that institutions act in accordance with the moral values that are not defined by the law but adopted by society (Özdemir, 2009: 59). Ethical responsibility consists of the following elements (Carroll, 1991: 41):

- The organization should operate its activities in accordance with the social habits and ethical values and expectations of the society,
- The organization should accept and respect the new or evolving ethical values adopted by the society,
- The organization should prevent risking ethical values in order to achieve corporate goals,
- The good corporate citizenship should be defined as fulfilling ethical or moral expectations,
- It should be acknowledged that corporate integrity and ethical conduct are not only being in compliance with the laws and regulations.

Voluntary responsibility involves services provided to stakeholders other than the above-mentioned responsibilities (İlic, 2010: 309). The purpose of the organization is, as a good corporate citizen, to ensure engaging in activities that are beneficial to the country, the society, and the whole world (Özalp et al., 2008: 72). It is voluntary responsibility for the organization to devote some of its resources to educational, artistic and social projects (Özdemir, 2009: 60). Voluntary responsibility consists of the following elements (Carroll, 1991: 41):

- The organization should operate its activities in accordance with the philanthropic and humane expectations of the community,
- The organization should support fine arts and performing arts,
- Managers and employees of the organization should participate in voluntary and philanthropic activities in their local communities,
- The organization should support public and private educational institutions,
- The organization should volunteer to support the projects that improve the quality of life in the society.

The awareness of organizations concerning the corporate social responsibility provides the following opportunities (Özkol et al., 2006: 138):

- The brand values and market values of the organizations increase,
- Provides the opportunity to attract, motivate and retain more qualified personnel,
- Increases the potential for corporate learning and creativity,
- Provides important opportunities to enter new markets and ensure customer loyalty,
- Provides delivery of better quality goods and services,
- Risk management becomes more effective,
- It ensures that the society and the rule-makers pay attention to the opinions of the organization.

Today, corporate social responsibility is an important issue on the agendas of organization. Corporate social responsibility should not only be used as a synonym for charity, but should be addressed to cover much more than that. Corporate social responsibility should be adopted as a much broader management approach.

3. Social Responsibility of Accounting

Accounting is an information system, which produces information explaining the formation of an organization's resources, the way these resources are used, the increases and decreases in these resources as a result of the organization's operations, and the financial status of the business, and which shares the information with relevant individuals or corporations (Sevilengül, 2007: 9).

One of the basic concepts of accounting, the concept of social responsibility, indicates the responsibility of accounting in performing its function and demonstrates the scope, meaning, and purpose of accounting. Within the organization of accounting, the execution of accounting practices, and the arrangement and presentation of financial statements, the concept of social responsibility expresses the need to consider the interests of the whole community, not specific individuals or groups, and therefore

to act accurately, impartially and honestly in the production of information (Yükçü, 2014: 180).

The increasing value of information as a result of financial scandals has led to profound changes in the accounting process as well as in all business functions. Moreover, a growing number of organizations are witnessing that quality information plays an important role in success. In order to provide effective management, organizations must act in accordance with certain principles and rules and shape their activities within the framework of these rules. This approach is a key element in the emergence of corporate governance understanding. The main element of corporate governance understanding is information. The location and importance of appropriate, relevant, and timely information, which is particularly reliable, accurate, transparent, accountable, fair and responsible, is extremely important in business management. Qualified information needed in organization management can only be obtained through accounting information system in an organization, where corporate management understanding and principles are in use (Dinç and Abdioğlu, 2009: 158).

It is a well-known fact that accounting is a function that is responsible for providing information to various individuals and institutions, and the accounting professional must fulfill this obligation in an accurate, impartial and fair manner. This obligation, which is expected from the accounting function and the accounting professional, will only be fulfilled by the adoption of the concept of social responsibility. Rational decisions taken by the relevant individuals, who make the right judgments based on qualified information, will allow the organization to continue its activities in a way that is most beneficial to society and to be long-living (Aslantaş Ateş and Senal, 2012: 75).

The social responsibility of accounting is not limited to a specific point of the accounting process, but it manifests itself in the establishment and presentation phases of organization of accounting, briefly in all stages of the accounting process (Erol et al., 2010: 62).

4. The Relationship between Corporate Social Responsibility and Accounting

In a business where corporate social responsibility principles and practices apply, it is clear that the accounting information system and the generated financial information will be positively affected by these principles and practices. On the other hand, when looking at the principles taken into account in the process of establishing the accounting information system in an organization and considering the principles of corporate social responsibility, it is clear that there are parallels between the two. There is mutual cooperation between the accounting information system and corporate governance on the basis of principles such as “disclosure and transparency, accountability, reliability” (Daştan, 2010: 10; Dinç and Abdioglu, 2009: 165).

Corporate social responsibility is the most important application area that brings social issues and accounting closer. Because the idea of observing the interests of the whole society in the execution of accounting practices necessitated the integration of the concept of corporate social responsibility, which involves the whole society, with the accounting information system, this integration provided a fast interaction between the accounting information system and the corporate social responsibility (Bengü and Can, 2009: 158).

The concept of corporate social responsibility and the concept of social responsibility of accounting are in a unity of purpose. On the focal point of both the social responsibility of accounting and corporate social responsibility are the society and the business-related stakeholders in the society. The common objectives of both concepts can be specified as keeping the interests of the community above the business interests, making accurate statements, and considering the understanding of transparency and accountability as the prerequisite of accounting transactions. Reporting the activities of an organization within the scope of corporate social responsibility is carried out through accounting (Daştan and Bellikli, 2015: 186).

Accounting fulfills a broader responsibility than legal responsibility in carrying out its social responsibility duty and acts as a necessary tool for achieving the objectives of the social environment. Although accounting produces and reports financial information for organizations, it has implications for all segments of the society in terms of the financial results. Corporate responsibility is the main guiding factor for the accounting to completely fulfil this responsibility (Yılmaz and Alkan, 2006: 732).

Traditional accounting has ignored the effects coming from the external environment by focusing solely on the activities of organizations. However, this is consistent with the task of traditional accounting and generally accepted accounting principles. However, based on the idea that the organization is also responsible towards the society as a result of its transparency and accountability, social responsibility accounting has included the community and all stakeholders to the scope of reporting. Therefore, in order to survive and to ensure their continuity, businesses should adopt the concept of social responsibility accounting instead of the traditional understanding of accounting (Daştan and Bellikli, 2015: 186-187).

Corporate social responsibility areas of organizations are listed as economic, legal, ethical, and voluntary responsibility areas. Accounting is of vital importance in fulfilling the economic, legal, ethical, and voluntary responsibilities of enterprises. In order to explain the contributions of accounting to corporate social responsibility more systematically, it is possible to collect these contributions under four headings (Demir, 2013: 229-230; Daştan and Bellikli, 2015: 187):

- The contribution of accounting to the economic responsibilities of the organization,
- The contribution of accounting to the legal responsibilities of the organization,
- The contribution of accounting to the ethical responsibilities of the organization,

- The contribution of accounting to the voluntary responsibilities of the organization.

Contribution of Accounting to Economic Responsibilities: Organizations have economic responsibilities such as producing the goods and services needed by the society, using resources efficiently, making profits and making strategic decisions. The pieces of information obtained from accounting is very important in fulfilling these responsibilities and making the right decisions (Demir, 2013: 229). The development created by globalization, particularly in economic terms, has affected accounting and required the accounting standards to be characterized in international terms. The purpose of accounting standards is to facilitate economic growth and international trade by collecting financial information from organizations in different countries. Along with the developments in economics and business life, in order to make the concept of social responsibility effective, responsibility needs to be expressed and measured in numbers. The social responsibility of accounting plays a more active role in particularly fulfillment of the economic responsibilities of the organization (Özkol et al., 2005: 140-141).

Contribution of Accounting to Legal Responsibilities: Organizations are obliged to act within the framework of the rights and obligations established by law in all their activities, from the establishment to the termination phase of their activities. The aforementioned laws cover a wide area ranging from the tax, debt, trade, commercial papers, social insurance, to environmental laws. Accounting provides the greatest support to the management information system of the organization in implementing the provisions of the law. Financial accounting, among the accounting types, collects all the data from original sources to demonstrate the economic and financial structure of the organization and presents it to the relevant individuals; as per the tax accounting, it prepares reports of declaration, form, notification, approval etc. about tax related issues emerging from the regulations, and presents them to the relevant state units or managements (Özkol et al., 2005: 141). Accounting

professionals should know very well the legal legislation that will be the basis for their practices, should follow the changes to ensure up-to-date-ness of their practices, and should conduct their practices based on the regulations (Doğan, 2018: 105).

Contribution of Accounting to Ethical Responsibilities: Professional ethics in accounting is a general expression of independence, self-control, and ethical integrity. In other words, to serve the state, society and other relevant parties with values established with high ethical standards (Selimoğlu, 2006: 442). Accounting professionals, whose main task is to serve the society and protect its interests, must have high ethical standards in order to gain the trust of the society (Biçer et al., 2017: 202). Within the scope of the accounting process, from the point of accounting service objectives and functions, accounting professionals are the experts, who, beyond bookkeeping, guide and control the work of bookkeepers, ensure the accounting system to produce accurate, reliable, and timely information, and who are responsible for the functioning of the system with conceptual understanding and analytical mastery. Accounting, which is one of the functions of the organization, plays an important role in establishing trust-based communication between the organization and the relevant parties. The information generated as a result of accounting practices reflects the economic and financial structure of the business. Therefore, while producing the information, the accounting professionals should have high ethical standards in their relations with the relevant parties and they should act with the responsibility and awareness of protecting these values (Özkol et al., 2005: 142-143).

Contribution of Accounting to Voluntary Responsibilities: The activities that will be voluntarily held by the organizations in certain areas such as environment, education, health, arts, culture, and sports provide reputation and respect as well as causing additional costs. Accordingly, accounting should employ cost-benefit analysis in order to prefer the least costly voluntary projects among the alternatives (Doğan, 2018: 105). Certain voluntary responsibilities fulfilled by organizations will often increase

their market value by providing commercial reputation and respect. At this point, the cost and return of a voluntary responsibility for the organization is calculated by accounting and it helps to record the voluntary activities of the organization (Özkoç, et al., 2005: 144). The participation of organizations in social responsibility projects depends on good economic conditions. Reports demonstrating the economic status of organizations will be produced by the accounting information system (Demir, 2013: 230).

5. Conclusion

Today, organizations are not only operating for-profit, but also fulfilling their social responsibilities towards society, stakeholders, and the environment. The approach that focuses not only on the profits of organizations but also on the interests of the society is expressed as "Corporate Social Responsibility". For the organizations, Corporate Social Responsibility is the process of contributing to a cleaner environment and a better society, not only in economical terms, but also on a voluntary basis. Corporate social responsibility has four basic dimensions as economic, legal, ethical, and voluntary. Organizations with a sense of corporate social responsibility should achieve objectives that will benefit society and improve the quality of life of the society beyond making a profit. This can be accomplished by integrating economic, legal, ethical, and voluntary responsibilities and conducting them simultaneously.

Within the organization of accounting, the execution of accounting practices, and the arrangement and presentation of financial statements, the concept of social responsibility expresses the need to consider the interests of the whole community, not specific individuals or groups, and therefore to act accurately, impartially and honestly in the production of information. In order for organizations to fulfill their social responsibilities, they need to be aware of the social responsibility of accounting.

As the conclusion, the organizations, which adopt the concept of corporate social responsibility and reflect this understanding to accounting

practices, and which support and develop the corporate social responsibility approach with accounting, will bring significant benefits to the society, all stakeholders, and the environment; thus, they will gain reputation and respect. Moreover, it is important to adopt the corporate social responsibility, which is vital not only for organizations but also for the society, by organizations and to provide more information to organizations in order to ensure that they are sensitive on this issue.

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13

A RESEARCH ON FACTORS THAT AFFECTING SUSTAINABLE ENVIRONMENTAL COSTS: PANEL DATA ANALYSIS

Bekir Gerekan¹ Ercan Keser²

1. Introduction

“Sustainability” is defined as the ability of today’s needs to be met without consuming the resources that future generations will need (WCED, 1987: 43). In this context, sustainable development as a global concept is based on three basic principles. These are: “environmental integrity”, “economic welfare” and “social equality”. Accordingly, for a sustainable development, environmental and social problems should be taken into consideration as well as economic difficulties (Hahn & Figge, 2011: 326).

Until recently, while the survival of firms is only related to their financial success, nowadays such successes are not sufficient in terms of continuity. This situation makes it compulsory for firms to develop strategies that include social and environmental factors as well as financial indicators in order to obtain sustainable competitive advantage.

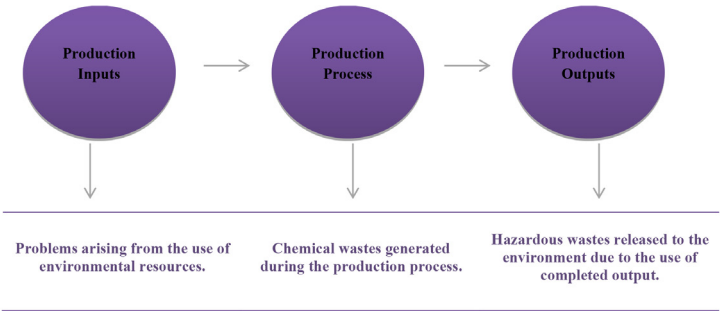
There are two theories in the literature that question how the activities carried out in the name of sustainability affect the financial performance of firms. These are: Value Creation and Value Destroying (Yu & Zhao, 2014:292). Value creation theory; theoretically demonstrates that operational risk is decreased with the espousal of environmental and social responsibilities. On the other hand, the theory of value destroying suggests that firms that are sensitive in the fields of environmental and

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social responsibility do not give enough importance to profitability (Alshehhi et al. 2018: 25).

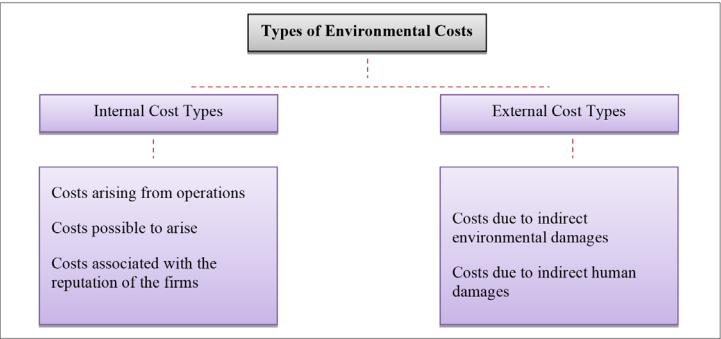
Figure1. Environmental Problems Caused by Firms



Source: Kırlioğlu & Can, 1998: 38.

In Figure 1, environmental damage caused by the main activities of the firms is shown under three headings. These headings; input, production process and output stages. Accordingly, in order to minimize these damages, firms have to bear a number of costs, which are called environmental costs (Environmental Protection Agency, 1995).

Figure 2. Types of Environmental Costs



Source: De Beer & Friend, 2006: 550.

Figure 2 shows the internal and external cost types categorized under environmental cost types. Internal costs in generally consist of, resulting from operating activities; traditional costs, hidden costs and contingent costs. External costs generally consist of costs arising from environmental degradation, in which firms are not legally responsible (De Beer & Friend, 2006: 550).

In this study, the environmental dimension was emphasized and the factors affecting the environmental costs incurred by the firms in terms of sustainability were examined. In the following sections, firstly the literature studies related to the subject were examined, then the methodology of the research was explained and the panel regression results were interpreted and the study was finalized.

2. Literature Review

In general, when the relevant literature is considered, it is not possible to say that the studies carried out in the field of sustainability have reached the level of maturity yet. Most of the findings of these studies suggest that environmental performance increases financial performance, while the rest suggest that the relationship between these variables is neutral or negative (Albertini, 2013: 431). However, the number of studies on the impact of sustainability activities on firms' performance and the impact of specific factors on sustainability outcomes is quite scarce. In the following, some of the literature studies are summarized in chronological order.

Gallego-Alvarez et al. (2010) examined the impact of corporate social responsibility (CSR) practices carried out by European companies on business reputation and shareholder value. Accordingly, they found that these practices had a positive effect on shareholder value and did not have a significant effect on business reputation.

Jacobs et al. (2010) investigated the effect of environmental announcements on the stock market. According to the analyzes, the impact of the announcement of environmental charity activities and having ISO 14001

certificates on the stock exchange is statistically significant and positive. However, the impact of voluntary emission reductions on the stock market is statistically significant and negative.

Surroca et al. (2010) examined the role of intangible assets in the relationship between corporate responsibility and financial performance with a total of 599 firms data operating in 28 countries. As a result of the study, it is seen that intangible assets indirectly affect this relationship.

Crisostomo et al. (2011) examined the relationship between CSR and firm value and financial performance. As a result of the econometric estimations, they found that CSR practices had a negative effect on firm value, but did not have a statistically significant effect on financial performance.

Albertini (2013) analyzed the relationship between corporate environmental performance and financial performance. According to this; it was stated that the size of the firms, the geographical position of the firms, the industrial sector and the number of employees affect the relationship between environmental management and financial performance.

Lech (2013) examined the effects of CSR practices on financial performance. In the first part of the study, selected economic theories that can justify the positive relationship between CSR practices and profitability are analyzed. It was tried to be explained that these practices could positively increase the economic performance from the perspective of stakeholders. In the second part of the study, the relationship between index data developed within the scope of CSR practices and financial performance was examined. Accordingly, statistically insignificant results were found among these variables.

Simionescu and Gherghina (2014) examined the relationship between CSR and corporate performance using indicators based on accounting (return on assets, return on equity and return on sales) and indicators market value based (market to book value ratio, earnings per share, etc.). As a result of the analysis, they concluded that there is a negative

relationship between CSR and profitability of sales and a positive relationship between CSR and earnings per share.

Kounetas et al. (2016) examined the relationship between environmental and financial performance in Greek manufacturing firms. As a result of empirical findings, they found that there is a statistically significant relationship between environmental and financial performance independent of a certain activity sector. Besides, they also concluded that business-specific and market-related characteristics significantly affected this relationship and that firms with superior financial performance achieved better environmental performance than their competitors.

In addition, the relationship between environmental performance and financial performance has been discussed in many studies (Jaggi & Freedman (1992), Freedman & Patten (2004), Goh Eng et al. (2006), Aragon-Correa & Rubio-Lopez (2007), Berrone & Meija (2009), Wu et al. (2010), Walls et al. (2011), Bush & Hoffmann (2011), Tippayawong et al. (2015), Geng et al. (2017) and Rokhmawati et al. (2017)).

3. Methodology Of Research

3.1. Purpose of the Research

In this study, it is aimed to investigate the factors that affect the environmental costs of firms within the scope of environmental sustainability which is one of the basic building blocks of sustainability. The indicators that are taken as basis for determining the factors affecting the level of occurrence of environmental costs have been determined by examining the studies in domestic and foreign literature.

3.2. Method, Sample and Limitations of the Research

In this study, panel data analysis method was used to examine the factors affecting environmental costs in firms. However, in the process of carrying out the analyses, STATA 14. 2 was utilized.

The first of the data sets required for the analyzes constituting the application part of the study was formed from the data of the sustainability reports published in 2014 – 2017 by 62 firms included in the BIST Sustainability Index in 2019. These data were obtained from the official internet addresses of the firms.

However, this study has some limitations. The first of these limitations is that the findings of the study can only be interpreted for firms registered in the BIST Sustainability Index. Another limitation is the use of data for 2014-2017. Finally, 25 of the companies included in the BIST Sustainability Index were analyzed this is another limitation of the research.

3.3. Variables and Model of Research

In the application part of the study, a total of seven variables, one dependent variable and six independent variables, were used. Detailed descriptions of these variables are given below

Table 1. The Dependent Variable

Type of Variable	Name of Variable	Resource	Calculation Method	Symbol
Dependent Variable	Environmental Costs	Sustainability Report	Logarithm of Environmental Costs	Ln_Çevre

Data on environmental costs used in the study as the dependent variable were obtained from the sustainability reports of the firms. These costs were included in the panel regression analysis by taking their logarithms.

The independent variables of the study are shown in Table 2. Among these variables, data sets on fixed assets, current assets and total liabilities are obtained from annual reports published by firms. On the other hand, the data on the number of employees, the number of male employees and the number of female employees are obtained from the sustainability reports of the firms. The values of these variables are included in the panel regression analysis, which is performed by taking logarithms.

Table 2. The Independent Variables

Type of Variable	Name of Variable	Resource	Calculation Method	Symbol
Independent Variable	Fixed Assets	Annual Report	Logarithm of Fixed Assets	Ln_Dur_Var
	Current Assets	Annual Report	Logarithm of Current Assets	Ln_Dön_Var
	Total Number of Employees	Sustainability Report	Logarithm of Total Number of Employees	Ln_Töp_ÇS
	Total Number of Male Employees	Sustainability Report	Logarithm of The Number of Male Employees	Ln_Bay_ÇS
	Total Number of Female Employees	Sustainability Report	Logarithm of The Number of Female Employees	Ln_Bayan_ÇS
	Total Liabilities	Annual Report	Logarithm of Total Liabilities	Ln_Töp_Yük

The model and equation representation of the research are as follows:

$$\text{Ln}_\text{Çevre}_{it} = \beta_0 + \beta_1 \text{Ln_Dur_Var}_{it} + \beta_2 \text{Ln_Dön_Var}_{it} + \beta_3 \text{Ln_Töp_ÇS}_{it} + \beta_4 \text{Ln_Bay_ÇS}_{it} + \beta_5 \text{Ln_Bayan_ÇS}_{it} + \beta_6 \text{Ln_Töp_Yük}_{it} + \varepsilon_{it}$$

Above is the panel data model used in the research. In this model;

$i = 1, 2, \dots, N$; number of firms,

$t = 1, 2, 3, \dots, T$; time periods,

$N \times T$; the number of observations.

Figure 3. Model of Research

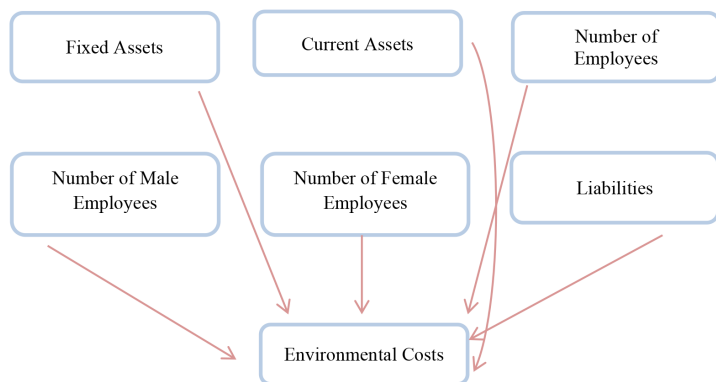


Figure 3 shows the model of the research. According to this; the effects of fixed assets, current assets, number of employees, number of male employees, number of female employees and liabilities on the environmental costs of firms will be examined in the next stage by panel regression method.

4. Data Analysis

In this section; general statistical information, correlation status and results of unit root tests are shown. In addition to this, the tests performed to determine the method to be used in the estimation of the model, tests related to the assumptions of the panel data model (cross sectional dependence, autocorrelation and heteroscedasticity) and finally the results of panel regression analysis are also included in this section.

4.1. Descriptive Statistics

The descriptive statistics table and its comments are shown below.

Table 3. Descriptive Statistics Table

Variables	Observation	Mean	Std. Err.	Min.	Max.
Ln_Çevre	100	15.419	1.720	11.512	19.661
Ln_Dur_Var	100	21.921	1.476	18.906	25.973
Ln_Dön_Var	100	21.677	1.336	5.2670	25.820
Ln_Top_ÇS	100	8.3000	1.268	5.0300	11.004
Ln_Bay_ÇS	100	8.0430	1.238	3.3670	10.933
Ln_Bayan_ÇS	100	6.2220	1.781	18.979	10.575
Ln_Top_Yük	100	21.997	1.451	19.255	26.434

According to the descriptive statistical values in Table 3; The highest mean and maximum value is Ln_Top_Yük and lowest mean and maximum value is Ln_Bayan_ÇS. However, when Table 3 is examined, it has the highest minimum value Ln_Top_Yük and the lowest maximum value Ln_Bay_ÇS among the variables.

4.2. Unit Root Test

In order to prevent the false regression problem that may arise as a result of the use of non-stationary variables in the panel data analysis to be performed, the stationarity of the variables must be investigated before the model is estimated. Therefore, unit root tests are important in order to prevent this problem (Kaya, 2014: 297).

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Table 4. Unit Root Test

Variables	Harris-Tzavilis Test	
	Constant (p - value)	Constant&Trend (p - value)
Ln_Çevre	0.000*	0.001*
Ln_Dur_Var	0.99	0.00*
Ln_Dön_Var	0.89	0.10
D. Ln_Dön_Var	0.00*	0.00*
Ln_Top_ÇS	0.00*	0.87
Ln_Bay_ÇS	0.00*	0.00*
Ln_Bayan_ÇS	0.00*	0.00*
Ln_Top_Yük	0.99	0.00*
$p \leq 0.001^*, P \leq 0.05; **, p \leq 0.01; ***$		

According to the values in Table 5, it is seen that the variables within the model are generally stationary and in other words do not contain unit roots. It is determined that only the current assets variable is stationary in the first difference. Therefore, the first difference value of this variable will be used in the regression analysis.

4.3. Hausman Test

Hausman test is determine which of the models; “fixed effect model” or “random effect model” will used in the regression analysis (Ayaydin, 2012: 138).

Table 6. Hausman Test

Name of Model	Probability Value
Model 1	0.435

The probability value of Model 1 is statistically insignificant. Therefore, it is concluded that the random effects estimator is suitable for this model.

4.4. Assumption Tests of Panel Data Analysis

If the regression model has cross sectional dependence, autocorrelation and heteroscedasticity problems, this problems will lead to erroneous results about the model to be predicted. For this reason, it is necessary to examine these assumptions related to the random effects model before proceeding to regression analysis.

Table 7. Assumption Tests

Breusch and Pagan Lagrangian Multiplier Test for Random Effects
Prob > chibar2 = 0.000
Modified Bhargava et al. Durbin-Watson Test For Autocorrelation
2.003
Pesaran's Test of Cross Sectional Independence
Prob = 0.4613

As seen in Table 7, it was found that there was heteroscedasticity problem in the regression model. However, autocorrelation and cross sectional dependence problems were not found in the model.

4.5. Panel Data Analysis Results

In the case of econometric problems expressed as cross sectional dependence, autocorrelation and heteroscedasticity problems in regression models, the effectiveness of these models is questioned. In case of such problems, robust estimators are used in order to ensure consistent analysis results (Tatoğlu, 2016: 251-252). Since there is heteroscedasticity problem in Model 1, it was decided to use Driscoll and Kraay robust estimator.

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Table 8. Results of Analysis

Dependent Variable: Ln_Çevre Time Period: 2014 – 2017 Number of Firms: 25				
Variables	Coef.	Drisc/Kraay Std. Err.	t	P> t
Ln_Dur_Var	0.726	0.229	3.18	0.08***
Ln_Dön_Var	0.753	0.554	6.02	0.30
Ln_Top_ÇS	0.815	0.135	0.19	0.02**
Ln_Bay_ÇS	0.072	0.389	-3.60	0.87
Ln_Bayan_ÇS	-0.559	0.155	1.36	0.06**
Ln_Top_Yük	-0.484	0.195	-2.48	0.13
Constant	6.079	2.021	3.01	0.09
R² = 0.38 Prob > F = 0.01				
<i>p</i> ≤ 0.001*, <i>p</i> ≤ 0.05; **, <i>p</i> ≤ 0.01; ***				

Table 8 shows the results of the regression analysis using the Driscoll and Kraay estimator. Accordingly, the R2 value of the model was 0.38. However, the fact that the p value of the F statistic is 0.01 ($p \leq 0.01$), it is shows that the model has a significant and sufficient level of explanatory power with 99% reliability.

The regression equation of Model 1 is as follows:

$$\text{Ln_Çevre}_{it} = 6.079 + 0.726\text{Ln_Dur_Var}_{it} + 0.753\text{Ln_Dön_Var}_{it} + 0.815\text{Ln_Top_ÇS}_{it} + 0.072\text{Ln_Bay_ÇS}_{it} - 0.559\text{Ln_Bayan_ÇS}_{it} - 0.484\text{Ln_Top_Yük}_{it} + \varepsilon_{it}$$

When the regression results are analyzed, it is seen that the asset variable (Ln_Dur_Var) has statistically significant and positive effect on environmental costs (Ln_Çevre) at a significance level of 10%. According to empirical results, 1% increase in fixed assets will cause an increase of 0.726% in environmental costs.

However, according to the results, it was found that the number of employees (Ln_Top_ÇS) had a positive and statistically significant effect on

environmental costs at a significance level of 5%. Accordingly, it can be said that a 1% increase in the number of employees will lead to an increase of 0.815% in environmental costs.

On the other hand, the number of female employees ($\text{Ln_Bayan_}\zeta\text{S}$) has a negative and statistically significant effect on environmental costs at a 5% significance level. In this case, it is possible to state that a 1% increase in the total number of female employees will result in a 0.559% decrease in environmental costs.

Although current assets, number of male employees and liabilities have a positive effect on environmental costs, the effect is not statistically significant.

5. Conclusion

It is possible to say that the developments in the field of CSR in today's global world, where intense competition conflicts are experienced, is one of important subjects affecting the performance of the firms. Therefore, firms should not remain indifferent to these developments. However, in order to ensure sustainable competitive advantage, the transformation of knowledge into outputs that provide added value is another important issue.

In this study the factors affecting the environmental costs of 25 firms listed in BIST Sustainability Index in 2014-2017 were examined. These factors are; current assets, fixed assets, number of employees, number of male employees, number of female employees and liabilities. Panel regression method was used to examine the effects between these variables. In addition, correlation analysis was used to determine the relationship direction between the variables.

It was found that fixed assets, number of employees and number of female employees had a statistically significant effect on environmental costs as a result of regression analysis.

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14

THE EFFECT OF PSYCHOLOGICAL CAPITAL ON INDIVIDUAL CREATIVITY

Mustafa Genc¹

1. Introduction

Positive organizational science enables to understand the effects of employee behavior on organizational strategies and the reasons why successful strategies achieve their success (Cameron et al., 2003). Positive psychology examines the processes and conditions that contribute to the functioning of organizations (Gable & Haidt, 2005: 103). Traditional physical, technological and financial capitals are no longer thought as sufficient for sustainable competition. However, human, social and positive psychological capital, which emphasizes the human factor, gains importance (Luthans & Youssef, 2004). The concept of psychological capital arises from the theories and researches in positive psychology (Çetin & Basım, 2012: 122).

Psychological capital is a psychological condition that focuses on positivity (Luthans et al., 2004). There is no fixed structure such as personality or central self-assessment. On the contrary, it can develop through experience or training. It is argued that the components of the psychological capital structure are hope, psychological resilience, optimism and self-efficacy (Luthans & Youssef, 2007).

Hope is a type of goal-oriented thinking in which individuals have the ability to produce and use the ways of achieving their goals continuously (Snyder, 2002). Staats & Stassen (1985), on the other hand, define hope as the prediction of an individual's positive future over negative future

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expectations. Individuals with high hopes have more goals in their lives and can develop more strategies to achieve these goals. Such individuals can find the power to be safe, lively, energetic, willing and able to cope with difficulties, when they face difficulties, they focus on their goals (Snyder, et al., 1991).

Resilience is a positive psychological capacity that allows individuals to successfully overcome the conditions of difficulty and change. This capacity can be improved with the effect of various factors over time (Stewart, et al., 1997: 22). It is a personality trait that is a source of resistance in a stressful life (Terzi, 2008: 2). An individual with psychological resilience has the power to recover and perform with higher motivation in such events as failure or increased responsibility (Luthans, 2002; Bitmiş, et al., 2013: 29).

Optimism is the tendency to expect that everything will continue positively despite the difficulties in life (Scheier & Carver, 1992). Optimism is not only related to a particular event, but also a positive view of all events. This is a result of self-efficacy belief (Gillham & Reivich, 2004).

Self-efficacy beliefs help individuals determine how much they can struggle with difficulties and how they can recover themselves (Bandura, 1977:194). Unlike self-confidence, self-efficacy is related to a particular action / area. A person with a strong belief in self-efficacy in one area may have a weak self-efficacy belief in another area (Cassidy & Eachus, 2002).

Creativity can be defined as a cognitive ability that has emerged as a new product or has not yet turned into a product, a unique problem-solving process, creating a new ground or idea and bringing innovation to the previous practices and using the intelligence elements individually. (Glover, et al., 1989: 233; Aslan, 2001: 20). The viewpoints of the creative individuals and their thinking structures are different from the others. Such individuals approach the problems systematically (Aslan, 2001: 18).

Individual creativity is critical for the organization to adapt to change, to be innovative and competitive, and to survive in the industry (Hirst et al., 2011: 624; Martinaityte & Sacramento, 2013: 974; Rodrigues & Veloso, 2013: 549; Janssen & Giebels, 2013: 574).

Initially, it was emphasized that creativity is an individual act (İraz, 2010: 48). In the following years, it has been accepted that creativity is a talent for organizations (Çavuş & Akgemci, 2008: 233). Organizational managers should ensure to transform creativity at the individual level into the organizational level with such methods as empowering personnel, joining management and suggestion systems. (Akin, 2010: 213). Today, organizations engage in creativity to create differences and value their customers (Karcioğlu & Kaygın, 2013: 101).

The Relation of Psychological Capital and Individual Creativity

In a study questioning the relationship between creativity and personality, it was found that creative people are open to criticism, encouraging criticism, looking at events from different angles, having high tolerance to complexity and uncertainty, liking to take risks and having internal motivation (Burke, 1994: 8). In another study, it was seen that fear of wrongdoing impedes the creativity of individuals. If there is fear of wrongdoing in an organization, it is not possible to produce new ideas (Gurteen, 1998: 9).

By producing high-will power and alternative ways, those with high hopes tend to strive more and produce mental strategies for creative problem solving (Sweetman, et al., 2011: 6). Psychological resilience can prepare the necessary infrastructure for change and creative problem-solving needs (Luthans, et al., 2007). Therefore, psychological resilience may allow people to benefit from the hidden powers of their individual potential and continue their creative work (Sweetman, et al., 2011: 7).

The Aim of The Study

The aim of this study, is to examine the effects of psychological capital on individual creativity of academic managers working in a medium-sized university located in the Eastern Anatolia Region of Turkey. In addition, whether psychological capitals and individual creativity of managers may vary according to age, title, duty are going to be investigated.

2. METHODOLOGY

In this study, 55 academic administrators, who are vice dean, head of department, director and vice director, have been reached in the 2018-2019 academic year at a medium-sized university in eastern Anatolia in Turkey. The collected data were analyzed with SPSS 20 program.

Research Model and Hypothesis

The model used in the research is to investigate the effect of psychological capital to individual creativity of academicians working in a medium-sized university in administrative positions in Eastern Anatolia region of Turkey. In addition, it was examined whether the variables used in the model differ significantly in terms of some demographic characteristics. The hypotheses generated accordingly are as follows.

H₁: The psychological capital and individual creativity of the managers differ significantly in terms of their ages.

H₂: Psychological capital and individual creativity of managers differ significantly in terms of their titles.

H₃: Psychological capital and individual creativity of managers differ significantly in terms of their duties.

H₄: The psychological capital of managers has an impact on individual creativity.

Data Collection Tools

In this research, questionnaire form was used. In the first part, there is demographic information about the participants. In the second part, there are 40 expressions in 6-point Likert type to measure the managers' psychological capital and individual creativity. In order to measure the psychological capital of the managers, 24-item psychological capital scale, which was adapted by Çetin & Basim (2012) from Luthans et al. (2007), was used. In addition, the individual dimension of the organizational creativity scale was used to measure the individual creativity of the managers (Balay, 2010).

Demographic Information of Participants

The age ranges, titles and duties of the participants are given in Table 1.

Table 1. Demographic Information of Participants

Age	f	%
31-40	44	80
41-50	4	7,3
50 years and older	7	12,7
Title	f	%
Lecturer	17	30,9
Asst. Prof. Dr.	21	38,2
Assoc. Prof. Dr.	12	21,8
Prof. Dr.	5	9,1
Duty	f	%
Vice Dean	8	14,5
Head of Department	28	50,9
President	8	14,5
Vice President	11	20

According to Table 1, the majority of the participants were between the ages of 31-40. The minimum number of participants is professors. The

highest number of participants in terms of their duties is the department chair with 28 people.

Reliability Analysis

Alpha Model (Cronbach's Alpha Coefficient) was used for reliability analysis. The Cronbach's Alpha coefficient of the 24-items Psychological Capital scale was 91.1%, Alpha Model (Cronbach's Alpha Coefficient) was used for reliability analysis. The Cronbach's Alpha coefficient of the 16-items Individual Creativity scale was 90.9% and the Cronbach's Alpha coefficient of the 40-items in the questionnaire was 94.4%. According to these results, it can be said that the scales are very reliable.

3. FINDINGS

Testing Hypotheses

One-way ANOVA analysis was performed to determine whether there was a significant difference in the psychological capital and individual creativity of the academic managers participating in the study in terms of age, title and duties. In addition, the effect of psychological capital of participant managers on individual creativity was determined by Regression Analysis.

Table 2. Psychological capital and individual creativity differences in terms of demographic characteristics of participants

Variable	Age	N	X	Std. Deviation	P	Significant Difference
Psychological Capital	31-40	44	4,71	0,086	0,176	(31-40)- (41-50)
	41-50	4	5,03	0,172		
	50 years and older	7	5,07	0,134		
Individual Creativity	31-40	44	4,68	0,630	0,027	-
	41-50	4	5,40	0,062		
	50 years and older	7	5,10	0,420		
Variable	Title	N	Mean	Std. Deviation	P	Significant Difference
Psychological Capital	Lecturer	17	4,84	0,308	0,566	-
	Asst. Prof. Dr.	21	4,85	0,486		
	Assoc. Prof. Dr.	12	4,61	0,813		
	Prof. Dr.	5	4,63	0,707		
Individual Creativity	Lecturer	17	4,98	0,399	0,513	-
	Asst. Prof. Dr.	21	4,72	0,481		
	Assoc. Prof. Dr.	12	4,68	0,999		
	Prof. Dr.	5	4,68	0,665		
Variable	Duty	N	Mean	Std. Deviation	P	Significant Difference
Psychological Capital	Vice Dean	8	5,02	0,434	0,528	-
	Head of Department	28	4,71	0,620		
	President	8	4,86	0,547		
	Vice President	11	4,70	0,410		
Individual Creativity	Vice Dean	8	4,97	0,646	0,483	-
	Head of Department	28	4,68	0,707		
	President	8	5,00	0,552		
	Vice President	11	4,76	0,364		

Table 2, the psychological capital and individual creativity of the participants in terms of their titles and duties do not differ significantly. At the same time, the psychological capital of the managers in terms of their age does not differ significantly ($p > 0.05$). However, the individual creativity

of the managers participating in the research differed significantly in terms of their ages ($p < 0.05$). LSD Test was performed to determine the source of this difference. According to the results, it was seen that the difference was between 31-40 years and 41-50 years.

Simple linear regression analysis was used to examine the effect of academic managers' psychological capital on their individual creativity.

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,823 ^a	0,678	0,672	0,35615

a. Predictors: (Constant), PsyCapAverage

The value of R^2 in Table 3 was found to be 0.678. According to this result, the 67.8% change in the dependent variable is explained by the independent variable included in the model. In other words, 67.8% of the change in managers' individual creativity is explained by the change in their psychological capital.

Table 4. Anova^a

	Model	Sum of Squares	df	Mean Square	F	P
1	Regression	14,131	1	14,131	111,401	,000^b
	Residual	6,723	53	,127		
	Total	20,853	54			

a. Dependent Variable: IndCreaAverage

b. Predictors: (Constant), PsyCapAverage

Since the F value is significant in Table 4 ($p(0,000) < 0,050$), it can be concluded that the model is completely statistically significant. The model in which the individual creativity of academic managers is explained by their psychological capital is a meaningful model.

Table 5. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficient	T	P
		B	Std. Error			
1	(Constant)	,321	,426		,753	,455
	PsyCapAverage	,935	,089	,823	10,555	,000

a. Dependent Variable: IndCreaAverage

According to Table 5, 1 unit increase in managers' psychological capital will increase their individual creativity by 0.935 units. Since the t value of this coefficient is significant at all levels (p: 0.000), the psychological capital coefficient is statistically significant.

4. CONCLUSION

In this study, the effect of psychological capital on individual creativity is discussed theoretically and the findings of the research conducted for the academicians in the administrative staff were put forward.

The aim of this study is to investigate the effect of academic managers' psychological capital on individual creativity. In addition, it was examined whether there was a significant difference between the participants' psychological capital and individual creativity in terms of age, title and duties.

55 academic managers participated in the study. As a result of the reliability analysis of the scales used, Cronbach Alpha coefficient was found to be quite high. The psychological capitals and individual creativity of the academic managers who participated in the research were above the average. The psychological capital and individual creativity of the participants in terms of their demographic features do not differ significantly. Only a significant difference was found in their individual creativity in terms of age. Differentiation is between 31-40 and 41-50 age group. As a result of the regression analysis, it was observed that the psychological capital of the participants had a high level effect on the individual creativity.

While trying to develop all the opportunities that organizations have among technology, material and intangible assets, communication, etc., most importantly human resource should be in the first place. (Aydoğan & Kara, 2015: 85). It can be said that developed psychological capital increases employees' commitment to their organizations and may also reduce their turnover. In addition, it was observed that psychological capital contributes to psychological well-being by reducing stress and burnout levels of employees (Bankacı, 2016: 75). Psychological capital should be developed not only for the desired change of attitudes and behaviors and to increase performance, but also for more creativity (Sweetman, et al., 2011: 11).

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15

A RESEARCH ON MEASUREMENT OF ACCOUNTING KNOWLEDGE LEVELS OF MANAGERS IN SMALL AND MEDIUM SIZED ENTERPRISES (SME): THE CASE OF ERZURUM 1ST ORGANIZED INDUSTRIAL ZONE

Hakan YILMAZ¹

I. Introduction

In our era, there is fierce competition as a result of globalization. The enterprises that can adapt to this competition continue to exist and those who cannot comply are being erased from the market. Recently, the need for numerical data in enterprises has increased, and timely and accurate acquisition of these data has been the basis of successful business management. The main source of these above mentioned data is information on accounting. The most basic need of a successful manager to make the necessary planning and controls in an enterprise is accounting data. The more accurate the accounting data are, the more effective the management decisions will be (Acar & Tetik, 2015, p. 6).

Accounting can be defined as “an information system that classifies, records, reports and interprets the events or transactions that can be specified in money and changes the assets and resources of enterprises” (Çonkar, Ulusan & Öztürk, 2006, p. 5). As a result of this system, information is transferred to individuals and institutions within and outside

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the enterprise. Thanks to the system, which can give information about the whole enterprise, managers can easily perform the planning and audit activities (Dızman, 2018, p. 4).

It is mandatory to use various knowledge and methods in order to be successful in the ever-growing and getting complex enterprises in today's conditions. It is impossible for managers to manage the enterprises successfully without using accounting data and making necessary interpretations. Management control, manufacturing, sales, financial planning and audits become possible with the use of accounting information. Accordingly, accounting is the source of information used for monitoring, controlling, taking measures and programming and is expressed as a "visual organ" of the management (Sevilengül, 2014, p. 10).

Accounting, which provides information about the financial position of the enterprise, is also called the business language. Accounting is an information system and the information acquired within this system is used in the preparation of the financial statements of the enterprise. Groups that are inside and outside the enterprise take decisions by making use of these tables. The accounting information must be accurate, reliable and concurrent in order for decision makers to take the right decisions (Küçüksavaş, 2016, p. 7).

Accounting Information System (AIS) is the oldest and most developed system among management information systems. The basis of accounting information system is composed of asset movements. System provides explanatory information regarding the acquisition, utilization, financial situation upon utilization and the structure of the enterprise (Büyükmirza, 2000, p. 27).

The main purpose of AISs is to provide information flow to management information systems run by the top management. Such information conveyed is used by the owners of the enterprise, managers, other departments and control mechanisms. From this point of view, the information

generated by AISs constitutes the basis of decisions taken on enterprises (Toth, 2012, p. 92).

AISs, which are all part of the entire information systems, play an important role for decision makers in making the right decisions in all units of the enterprise. The information provided by the AISs is conveyed to the managers through financial statements and reports (Dalabeeh & Alshbiel, 2012, p. 893).

AISs have various roles in the decision-making process of the managers. First of all, the managers' knowledge increases with the help of accounting information and their organizational decision-making abilities improve as well. This makes the quality of the decisions taken by the managers much better (Hall, 2007, p. 12). Another role is that accounting information facilitates managers' decision-making process. Accordingly, before the decision-making of managers, uncertainty about the situation is reduced and the areas of action are expanded, making decision-making much easier (Sprinkle, 2003, p. 302). The last role is that accounting knowledge is influential on the decisions of the managers.

This role is related to the use of accounting knowledge to motivate the employees of the enterprise. The role helps the manager to apply a more accurate audit on the employees by referring to accounting information especially in solving the control issues in the enterprise and enables effective decisions to be taken (Sprinkle, 2003, p. 290). In addition, the mentioned role enables the top management to direct the decisions of the lower level managers in the direction they wish by using accounting information. This is ensured by top management's performance assessment using accounting data and the influence of lower level managers' decisions (Göx & Wagenhofer, 2007, p. 2).

In this study, accounting knowledge levels of the managers of small and medium scaled enterprises were measured. First of all, the characteristics of the enterprises and managers evaluated were examined in the study. Then, perceptions of the managers of enterprises about accounting processes and

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their basic accounting knowledge levels were investigated. Finally, the significant differences between certain variables of the characteristics of the surveyed enterprises and managers and the perceptions of managers regarding accounting processes were examined with Anova test. In addition to the foregoing, the differences obtained as a result of the analysis were evaluated with the averages of participation of the managers of the enterprises to the statements and necessary interpretations were made. Accordingly, SMEs carrying out their activities in Erzurum 1st Organized Industrial Zone were evaluated. In this study, first of all, accounting information system and the effects of accounting information on management decisions are mentioned, afterwards, literature review was done and finally, survey and analysis are carried out on SMEs.

II. Literature

In the literature study, only studies that measure the level of accounting knowledge of managers are included.

Köse (2009) examined the status of managers' utilization of financial reports and their accounting knowledge level in SMEs carrying out their activities in Zonguldak province. As a result of the study, it is stated that the managers do not use accounting information only for legal transactions, but they use such information in making administrative decisions as well and especially in the management of operating expenses.

Kalmış and Dalgın (2010) examined whether the accounting information is effective in managerial decisions taken in manufacturing enterprises operating in Çanakkale province. As a result of the study, it is stated that strategic decisions are taken in the enterprises examined and the decisions are taken independent of accounting information.

Kaygusuzoğlu and Uluyol (2011) investigated the level of effectiveness of accounting information on management decisions in the manufacturing companies operating in the province of Adiyaman. As a result of the study, it is stated that managers use accounting information when making

decisions, but the information is not used in strategic decisions but used in decisions taken for ordinary works.

Mizrahi (2011) examined the degree of effectiveness of accounting information on decisions made by SME managers operating in İzmir. As a result of the study, it is stated that accounting information is not used effectively in managerial decisions and various suggestions are provided.

Akgün and Kılıç (2013) investigated in their study how effectively AIS is used by managers. "Simple linear regression analysis" was used in the study carried out on Tuz Gölü (Salt Lake) enterprises. As a result of the study, it is stated that managers benefited from AIS and the system had a positive effect on the enterprises.

Hatunoğlu, Akpınar and Çelik (2013) evaluated the importance of AIS on business management in SMEs carrying out activities in the provinces of Gaziantep and Kahramanmaraş. As a result of the study, it is stated that AIS is used by managers effectively in planning and that AIS is mostly used in the finance department.

Bayraktaroğlu, Sarıtaş and Kalkan (2015) investigated the extent to which the managers of SMEs operating in the province of Burdur benefits from the reports obtained from the AIS. As a result of the study, it is stated that the managers use accounting information effectively in business management, investment and audit decisions.

In their study, Öz and Yavuz (2015) examined whether AIS is used effectively in management decisions taken in SMEs operating in the province of Bartın and the benefits of AIS for enterprises. As a result of the study, it is stated that AIS was not being used effectively and AIS was only used for tax and investment matters.

Arslan, Aldemir and Dağ (2016) carried out their study on enterprises operating in the province of Tokat. In this study, it is tried to determine the level of knowledge of the managers of enterprises on accounting and tax transactions. As a result of the study, significant differences were sought between various variables and it is stated that there was a significant difference between age and experience.

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In his study, Ercan (2017) examined SMEs operating in the province of Kilis. In this study, accounting knowledge levels of managers of enterprises were investigated. As a result of the study, it is stated that most of the managers used accounting information in their decisions and that they used AIS effectively.

III. Methodology of the Research

A. Purpose of the Research

Small and medium-scaled enterprises hold an important place economically in today's world, and in Turkey. Since the success of SMEs, which make up 98% of the enterprises operating within the economic and financial structure, contributes directly to national and international economic development and growth, these enterprises and their management have become a matter to be emphasized. Successful enterprises are structures with successful management and managers. One of the most important factors in the success of managers is the managerial decisions. Accordingly, the ability of managers to make effective and efficient decisions is related to their level of accounting knowledge. The study carried out for this reason is based on the examination of accounting knowledge levels of managers of enterprises.

The purpose of this study created in line with the foregoing is to determine and measure the characteristics of SME managers, their perceptions about accounting processes and their accounting knowledge levels. In addition, it is aimed to investigate whether there are significant differences between the perceptions of managers about accounting processes and their accounting knowledge levels and certain variables of business and manager characteristics.

B. Scope of the Research

The scope of the research consists of SMEs carrying out their activities in the 1st Organized Industrial Zone of Erzurum province.

C. Main Population of the Research and Sampling Process

84 enterprises were selected by random sampling method among 97 enterprises operating in the 1st Organized Industrial Zone of Erzurum as of 03.10.2018, and a survey was conducted with these enterprises.

D. Preliminary Study

A pre-survey was conducted with 35 enterprises to represent the research before the survey was conducted for all enterprises and the final questionnaire was prepared and data collection was initiated. In this way, it was evaluated whether the survey questions are understandable and suitable for the intended purpose. As a result of this pre-survey study carried out, necessary corrections were made and the questionnaire was finalized.

E. Data Collection Method and Tool

Field research method was used in this study. The survey which was conducted on 84 selected enterprises according to random sampling method consists of 25 questions. All surveys were conducted face to face with the enterprises. The data obtained as a result of the survey was analyzed using frequency analysis and Anova tests with SPSS Statistic 20.0 program according to 5% significance level. The results of the analysis were prepared in the form of tables and presented in the study. The questionnaire used in the study consists of three parts. In the first part, there are 5 questions aimed to determine the characteristics of the enterprise, in the second part there are 5 questions aimed to determine the characteristics of the manager and in the third part there are 15 questions aimed to measure the perceptions of the managers about the accounting processes and their basic accounting knowledge. A 5-point Likert scale was used to measure the perceptions of the managers about accounting processes and their basic accounting knowledge.

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Questionnaires were taken from the study “An Analysis on the Accounting Literacy Levels of Managers in SMEs: The Case of Kilis Organized Industrial Zone” (Ercan, 2017).

F. Reliability and Validity of the Survey

Cronbach's alpha coefficient was found to be 0.85 as a result of the reliability analysis conducted to determine the reliability of the survey study. Cronbach's alpha coefficient is between 0.80 - 1.00, indicating that the survey is very reliable (Nakip, 2006, p. 146).

G. Analysis of Data

1. General information regarding the characteristics of the surveyed enterprises is shown in Table 1:

Table 1: General Information about the Characteristics of Enterprises

QUESTIONS	OPTIONS	FREQUENCY	%
Fields of Activity of the Enterprises	Food	19	22.6
	Textile	3	3.6
	Plastics	12	14.3
	Furniture	18	21.4
	Other	32	38.1
	Total	84	100
Legal Structure of the Enterprises	Joint Stock Company	18	21.4
	Limited Company	60	71.4
	Private Company	6	7.1
	Total	84	100
Duration of Activity of the Enterprises	0-5 years	18	21.4
	6-10 years	36	42.9
	11-20 years	23	27.4
	21 and above	7	8.3
	Total	84	100

QUESTIONS	OPTIONS	FREQUENCY	%
Number of Employees in the Enterprises	1 to 10 persons	39	46.4
	11 to 20 persons	3	3.6
	21 to 30 persons	11	13.1
	31 to 40 persons	8	9.5
	41 to 50 persons	10	11.9
	51 and above	13	15.5
	Total	84	100
Place of Accounting Books	Within the Enterprise	18	21.4
	Accounting Office	66	78.6
	Total	84	100

General Information about the Characteristics of Enterprises is shown in Table 1 collectively and can be listed as follows:

- Analyzing the field of activity of the surveyed enterprises, 19 enterprises out of 84 (22.6%) stated that they operate within the food industry, 3 (3.6%) of them in textile, 12 (14.3%) of them in plastics, 18 (21.4%) of them in the furniture sector and 32 (38.1%) of them stated that they operate within other sectors.
- Analyzing the legal structures of the surveyed enterprises, 18 (21.4%) of them stated that they were joint stock companies, 60 (71.4%) of them were limited companies and 6 (7.1%) were private companies.
- 18 (21.4%) of the surveyed enterprises stated that they had been carrying out their activities between 0-5 years, 36 (42.9%) of them between 6-10 years, 23 (27.4%) of them between 11-20 years and 7 (8.3%) of them stated that they had been carrying out their activities for 21 years and above.
- 39 (46.4%) of the surveyed enterprises stated that they employed between 1-10 persons, 3 (3.6%) of them between 11-20 persons, 11 (13.1%) of them between 21-30 persons, 8 (9.5%) of them between 31-40 persons, 10 (11.9%) of them between 41-50 persons and 13 (15.5%) of them stated that they employed 51 and above persons.

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- Analyzing the place where the surveyed enterprises kept their accounting books, 18 (21.4%) of them stated that they kept their records within the enterprise and 66 (78.6%) of them stated that they kept their records in the accounting office.

2. Information regarding the characteristics of the managers of the surveyed enterprises is shown in Table 2:

Table 2: *Characteristics of the Managers of the Enterprises*

QUESTIONS	OPTIONS	FREQUENCY	%
Gender of the Manager	Female	30	35.7
	Male	54	64.3
	Total	84	100
Level of Education of the Managers	High School	18	21.4
	Associate Degree	12	14.3
	Bachelor's Degree	42	50
	Post-Graduate Degree	12	14.3
	Total	84	100
Age of the Managers	18-25	6	7.1
	26-33	14	16.7
	34-41	10	11.9
	42-49	24	28.6
	50-57	17	20.2
	58 and above	13	15.5
	Total	84	100
Managers' Position within the Enterprise	Enterprise Owner	50	59.5
	Professional Manager	34	40.5
	Total	84	100
Business Experience of the Managers	0-5 years	29	34.5
	6-10 years	12	14.3
	11-15 years	24	28.6
	16 year and above	19	22.6
	Total	84	100

Information regarding the characteristics of the managers of the enterprises is shown in Table 2 collectively and can be listed as follows:

- 30 (35.7%) of the managers of the enterprises who participated in the survey were female and 54 (64.3%) were male.
- 18 (21.4%) of the managers of the enterprises who participated in the survey stated that they graduated from high school, 12 (14.3%) of them stated that they had an associate degree, 42 (50%) of them stated that they had a bachelor's degree and 12 (14.3%) of them stated that they had a postgraduate degree.
- 6 (7.1%) of the managers of the enterprises who participated in the survey stated that they were between 18-25 years old, 14 (16.7%) of them were between 26-33 years old, 10 (11.9%) of them were between 34-41 years old, 24 (28.6%) of them were between 42-49 years old, 17 (20.2%) of them were between 50-57 years old and 13 (15.5%) of them were 58 and above.
- 50 (59.5%) of the managers of the enterprises who participated in the survey stated that they were the owners of the enterprise and 34 (40.5%) stated that they were working as professional managers.
- 29 (34.5%) of the managers of the enterprises who participated in the survey stated that they had between 0-5 years of work experience, 12 (14.3%) of them had between 6-10 years of work experience, 24 (28.6%) of them had between 11-15 years of work experience and 19 (22.6%) of them stated that they had 16 years of work experience.

3. Information about the perceptions of the managers of the enterprises about the accounting processes are shown in Table 3:

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Table 3: Accounting Process Perceptions of the Managers of the Enterprises

QUESTIONS		1	2	3	4	5	Total
Accounting Records are kept Due to Legal Obligation.	Frequency	37	47	-	-	-	84
	%	44	56	-	-	-	100
There is no need for accounting information in management decisions.	Frequency	7	12	5	24	36	84
	%	8.3	14.3	6	28.6	42.9	100
Accounting Department provides all the information needed.	Frequency	7	30	31	12	4	84
	%	8.3	35.7	36.9	14.3	4.8	100
Managers have information about the accounting system of the enterprise.	Frequency	14	21	12	31	6	84
	%	16.7	25	14.3	36.9	7.1	100
Managers have information about the books kept in the enterprise.	Frequency	24	31	18	7	4	84
	%	28.6	36.9	21.4	8.3	4.8	100
Managers know which financial statements are prepared in the enterprise.	Frequency	31	26	14	7	6	84
	%	36.9	31	16.7	8.3	7.1	100
Managers know when to prepare the financial statements of the enterprise.	Frequency	17	31	19	12	5	84
	%	20.2	36.9	22.6	14.3	6	100
Managers have knowledge about the contents of the prepared financial statements.	Frequency	11	19	24	18	12	84
	%	13.1	22.6	28.6	21.4	14.3	100
Managers know when to file the tax returns.	Frequency	30	25	17	6	6	84
	%	35.7	29.8	20.2	7.1	7.1	100
Managers know which documents will be issued for which transactions.	Frequency	7	29	36	6	6	84
	%	8.3	34.5	42.9	7.1	7.1	100
Managers know in how many days the documents are to be entered in the books.	Frequency	18	20	30	10	6	84
	%	21.4	23.8	35.7	11.9	7.1	100
Managers can monitor the current accounts of the sellers and customers.	Frequency	46	16	21	1	-	84
	%	54.8	19	25	1.2	-	100
Managers know how to calculate net wages of the staff.	Frequency	7	23	24	18	12	84
	%	8.3	27.4	28.6	21.4	14.3	100
Managers should have a basic level of knowledge regarding accounting processes.	Frequency	36	24	11	13	-	84
	%	42.9	28.6	13.1	15.5	-	100
Managers want to improve their accounting knowledge.	Frequency	33	25	12	6	8	84
	%	39.3	29.8	14.3	7.1	9.5	100

** In table 3, the scoring is as follows; 1- Strongly Agree, 2- Agree, 3- Neither Agree nor Disagree, 4- Disagree and 5- Strongly Disagree.*

The perceptions of the managers of the enterprises about the accounting processes are shown in Table 3 collectively and can be listed as follows:

- According to the results, the majority of the managers of the enterprises (56%) stated that they keep accounting records due to legal obligation.
- According to the results obtained, the majority of the managers of the enterprises (42.9%) stated that they strongly did not agree with the statement “I do not need accounting information in management decisions” and that 14.3% of them agreed with the statement. Thus, it can be said that the majority of managers take accounting information into account when making decisions.
- According to the results obtained, 36.9% of the managers of the enterprises stated that they neither agreed nor disagreed with the statement “accounting department provides all the information needed”, 35.7% of them agreed and 14.3% disagreed with the statement. Based on the results, it can be said that accounting data is very important for managers but does not meet all their needs.
- According to the results obtained, 36.9% of the managers of the enterprises did not agree with the statement that “they had information about the accounting system”, 25% of them agreed and 14.3% of them neither agreed nor disagreed. Based on the results, it can be said that the majority of managers think that they did not have enough information about accounting.
- According to the results obtained, 36.9% of the managers of the enterprises agree with the statement that “they know about the books kept within the enterprise”, 21.4% of them were indecisive and 8.3% of them did not agree. Based on the results, it can be said that the majority of managers had information about financial books.
- According to the results obtained, 36.9% of the managers of the enterprises strongly agreed with the statement that “they know which financial statements are prepared within the enterprise”, 16.7% of them neither agreed nor disagreed and 8.3% of them did not agree. Based

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on the results, it can be said that the majority of managers had information about the financial statements.

- According to the results obtained, 36.9% of the managers of the enterprises agreed with the statement that “they know when the financial statements are prepared within the enterprise”, 22.6% of them neither agreed nor disagreed and 14.3% of them did not agree. Based on the results, it can be said that the majority of managers know when the financial statements are prepared.
- According to the results obtained, 28.6% of the managers of the enterprises were indecisive regarding the statement that “they know about the content of the financial statements, 22.6% of them agree with the statement and 21.4% of them did not agree. Based on the results, it can be said that the majority of managers had information about the content of financial statements but it wasn’t adequate.
- According to the results obtained, 35.7% of the managers of the enterprises strongly agreed with the statement that “they know when to file the tax returns”, 20.2% of them neither agreed nor disagreed and 7.1% of them did not agree. Based on the results, it can be said that the majority of managers know when to file the tax returns.
- According to the results obtained, 42.9% of the managers of the enterprises neither agreed nor disagreed with the statement that “they know which documents are to be prepared for which transactions”, 34.5% of them agreed and 7.1% of them did not agree. Based on the results, it can be said that the majority of managers were undecided about the subject matter but most of them had knowledge.
- According to the results obtained, 35.7% of the managers of the enterprises stated that they neither agreed nor disagreed with the statement that “they know within how many days the documents are to be entered in the books”, 23.8% of them agreed and 11.9% of them did not agree. Based on the results, it can be said that the majority of managers were undecided about the subject matter but most of them had knowledge.

- According to the results obtained, 54.8% of the managers of the enterprises stated that they strongly agreed with the statement that “they can monitor the current accounts of customers and sellers”, 25% of them neither agreed nor disagreed and 1.2% of them did not agree. Based on the results, it can be said that the majority of managers had information about the monitoring of the said accounts.
- According to the results obtained, 28.6% of the managers of the enterprises stated that they neither agreed nor disagreed with the statement that “they know how to calculate the wages of the employees”, 27.4% of them agreed and 21.4% of them did not agree. Based on the results, it can be said that the majority of managers were undecided about calculation of wages but most of them had knowledge.
- According to the results obtained, 42.9% of the managers of the enterprises stated that they strongly agree with the statement that “they should have basic knowledge about accounting processes”, 15.5% of them stated that they did not agree and 13.1% of them stated that they neither agreed nor disagreed. Based on the results, it can be said that the majority of managers think that they should have knowledge about the accounting processes.
- According to the results obtained, 39.3% of the managers of the enterprises strongly agreed with the statement that “they want to improve their accounting knowledge”, 14.3% of them neither agreed nor disagreed and 7.1% of them did not agree. Based on the results, it can be said that the majority of managers want to improve their accounting knowledge.

4. In this part, the significant differences between certain variables of the characteristics of the surveyed enterprises and managers and the perceptions of managers regarding accounting processes were examined with Anova test. In addition to the foregoing, the differences obtained as a result of the analysis were evaluated with the averages of participation of the managers of the enterprises to the statements and presented below:

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Table 4: *The Relationship Between Not Needing Any Accounting Information in Managerial Decisions and the Educational Level of Managers*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	85.440	3	28.480	35.475	0.000
Within Groups	64.226	80	0.803		
Total	149.667	83			

As a result of the analysis, a significant difference was found between the education level of the managers and not needing any accounting information in the managerial decisions ($0.000 < 0.05$). When the averages of the groups are analyzed, it is seen that the statement “I do not need accounting information in managerial decisions” is agreed by the managers who are high school graduates with an average of (3.67), Bachelor’s Degree graduates with an average of (4.31) and managers with post-graduate degree with an average of (4.75). From this point of view, it is understood that managers with post-graduate degree use other information besides accounting information in management decisions.

Table 5: *Relationship between Keeping Accounting Records Due to Legal Obligation and Education Level of Managers*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3.976	3	1.325	6.339	0.001
Within Groups	16.726	80	0.209		
Total	20.702	83			

As a result of the analysis, a significant difference was found between the education level of the managers and keeping the accounting records due to legal obligation ($0.001 < 0.05$). When the averages of the groups are analyzed, it is seen that the statement “We keep accounting records due to legal obligation” is agreed by the managers who are high school graduates with an average of (1.33), Bachelor’s Degree graduates with an average of (1.48) and managers with post-graduate degree with an average

of (1.75). Thus, it can be stated that the higher the level of education, the higher was the rate of keeping accounting records for legal reasons.

Table 6: *The Relationship Between Having Information about the Accounting System of the Enterprise and the Place the Accounting Books are Kept*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6.672	1	6.672	4.381	0.039
Within Groups	124.899	82	1.523		
Total	131.571	83			

As a result of the analysis, a significant difference was obtained between the place where the accounting books are kept and having information about the accounting system of the enterprise ($0.039 < 0.05$). When the averages of the groups are analyzed, it is seen that the statement “I know the accounting system of the enterprise” is agreed by the managers who keep their books within the enterprise with an average of (2.39), and who keep their books in the accounting office with an average of (3.08). From this point of view, it is understood that the managers who keep their books in the accounting office stated that they had more information about the accounting system.

Table 7: *The Relationship Between Knowing Which Documents To Be Issued For Which Transactions and the Place the Accounting Books Are Kept*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	24.575	1	24.575	36.649	0.000
Within Groups	54.985	82	0.671		
Total	79.560	83			

As a result of the analysis, a significant difference was obtained between the place where the accounting books were kept and knowing which documents were to be issued for which transactions ($0.000 < 0.05$). When the averages of the groups are analyzed, it is seen that the statement “I know which documents are to be issued for which transactions”

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is agreed by the managers who keep their books within the enterprise with an average of (1.67), and who keep their books in the accounting office with an average of (2.98). From this point of view, it is understood that the managers who keep their books in the accounting office stated that they knew more about which documents to be issued for which transactions.

Table 8: Relationship Between Knowing When to Prepare Financial Statements and Place the Accounting Books are kept

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	30.549	1	30.549	31.935	0.000
Within Groups	78.439	82	0.957		
Total	108.988	83			

As a result of the analysis, a significant difference was obtained between the place where the accounting books were kept and knowing when to prepare financial statements ($0.000 < 0.05$). When the averages of the groups are analyzed, it is seen that the statement "I know when to prepare the financial statements" is agreed by the managers who keep their books within the enterprise with an average of (1.33), and who keep their books in the accounting office with an average of (2.80). From this point of view, it is understood that the managers who keep their books in the accounting office stated that they had more knowledge about when to prepare the financial statements.

Table 9: The Relationship Between Having Information about the content of the Financial Statements and the Place the Accounting Books are Kept

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	41.458	1	41.458	38.838	0.000
Within Groups	87.530	82	1.067		
Total	128.988	83			

As a result of the analysis, a significant difference was obtained between the place where the accounting books are kept and having information about the content of the financial statements ($0.000 < 0.05$). When the averages of the groups are analyzed, it is seen that the statement “I know the content of financial statements” is agreed by the managers who keep their books within the enterprise with an average of (1.67), and who keep their books in the accounting office with an average of (3.38). From this point of view, it is understood that the managers who keep their books in the accounting office stated that they had more knowledge about the content of financial statements.

Table 10: *The Relationship Between Knowing When to Prepare Financial Statements and the Number of Employees within the Enterprise*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	40.866	5	8.173	9.358	0.000
Within Groups	68.122	78	0.873		
Total	108.988	83			

As a result of the analysis, a significant difference was obtained between the number of employees of the enterprise and knowing when to prepare financial statements ($0.000 < 0.05$). When the averages of the groups are analyzed, it is seen that the statement “I know when to prepare the financial statements” is agreed by the managers who have 1 to 10 employees with the average of (2.95), who have 11 to 20 employees with an average of (3.33) and who have 41 to 50 employees with an average of (3.20). From this point of view, it is understood that the managers who have 11-20 employees stated that they had more knowledge about when to prepare the financial statements.

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Table 11: *The Relationship Between Having Information about the Accounting System of the Enterprise and the Managers' Position within the Enterprise*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7.809	1	7.809	5.174	0.026
Within Groups	123.762	82	1.509		
Total	131.571	83			

As a result of the analysis, a significant difference is seen between the managers' position in the enterprise and having information about the accounting system of the enterprise ($0.026 < 0.05$). When the averages of the groups are analyzed, it is seen that the statement "I know the accounting system of the enterprise" is agreed by the managers who are the owners of the enterprise with an average of (3.18), and who are not the owners of the enterprise with an average of (2.56). From this point of view, it is understood that the managers who are the owners of the enterprise stated that they had more information about the accounting system of the enterprise.

Table 12: *Relationship between the Accounting Department's Supply of All Information Needed and the Legal Structure of the Enterprise*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	31.743	2	15.871	27.122	0.000
Within Groups	47.400	81	0.585		
Total	79.143	83			

As a result of the analysis, a significant difference is found between the legal structure of the enterprise and the accounting department providing all the information needed ($0.000 < 0.05$). When the averages of the groups are examined, it is seen that "the accounting department provides all the information I need" statement is agreed by the managers of the enterprises with a legal structure of joint stock companies with an average of (1.67), limited companies with an average of (2.90) and private

companies with an average of (4.00). From this perspective, it is understood that the managers of enterprises with a legal structure of limited and joint stock companies need and use information from other departments as well besides accounting, compared to private companies.

Table 13: *The Relationship Between the Desire to Improve Accounting Knowledge Level and Ages of the Managers*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	22.283	5	4.457	2.996	0.016
Within Groups	116.039	78	1.448		
Total	138.321	83			

As a result of the analysis, there was a significant difference between the ages of managers and the desire to improve their accounting knowledge level ($0.016 < 0.05$). When the averages of the group are analyzed, it is seen that managers aged between 26-33 years (2.79) agreed upon the statement "I want to improve my accounting knowledge" with the highest average.

IV. Conclusion and Suggestions

As a result of the globalization effect, SMEs have become indispensable elements of national and international economies. Their contribution to employment and growth, their flexible and innovative structures are among the fundamental dynamics of economic and social development. The management and solving the problems of SMEs, which have a very important place in our country as well as in the world economies, has become increasingly difficult and the information needs of managers have increased considerably. Among the information that managers use in business management and in making managerial decisions, accounting information comes first.

Accounting knowledge of managers is an important factor in the success of managers and enterprises. This study, which was created in line with

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the aforementioned issues, aims to determine the accounting knowledge level of the managers.

As a result of the survey conducted, it is determined that the majority of the enterprises examined were limited companies that have been operating between 6-10 years, with 1 to 10 employees and have their books kept in the accounting office. In addition to the foregoing, it is understood that the majority of the managers of enterprises examined were male, had a bachelor's degree, were between the ages of 42-49, were the owners of the enterprises and had 11-15 years of experience.

According to the data obtained as a result of the research conducted on the managers' accounting knowledge levels and their perception of accounting processes;

It is understood that most of the managers keep their accounting records for legal reasons, they need accounting information when making managerial decisions, accounting department provides most of the information they need, they do not have enough information about the accounting system of the enterprise, have information about the financial books issued in the enterprise, know which financial statements are prepared in the enterprise, know when to prepare these financial statements, have knowledge of the contents of the financial statements, although not enough, know when to file tax returns, have knowledge about which documents to issue for which transactions, although not enough, and that they can follow up the seller and customer accounts and know the calculation of personnel wages, although not enough. In addition, it is seen that the managers think that they should have general information about accounting information system and processes and they want to increase their accounting knowledge levels.

The significant differences between certain variables of the characteristics of the surveyed enterprises and managers and the knowledge level and perceptions of managers regarding accounting processes were examined with Anova test. According to the data obtained as a result of the analysis;

Significant differences are seen between the education level of managers and the fact that accounting information is not needed in the decisions taken by management and that accounting records are kept for legal reasons. Accordingly, it is understood that managers with post-graduate degree take into account other information besides accounting information in management decisions. It is also determined that the higher the level of education, the higher was the rate of keeping accounting records for legal reasons.

Significant differences are obtained between the place where the accounting books of the enterprise are kept and having knowledge on the accounting system of the enterprise, foreseeing which documents to be prepared for which transactions, knowing when to prepare the financial statements and knowing the content of the financial statements. Accordingly, it is understood that the managers who keep their books in the accounting office had more information about the accounting system. Then, it is determined that the managers who keep their books in the accounting office knew more about which documents to be issued for which transactions. Afterwards, it is understood that the managers who keep their books in the accounting office had more information about when to prepare the financial statements. Finally, it is determined that the managers who keep their books in the accounting office had more information about the content of the financial statements.

There was a significant difference between the number of employees working in the enterprise and knowing when to prepare the financial statements. In this respect, it is understood that managers with 11-20 employees have more knowledge about when to prepare financial statements.

A significant difference is seen between the managers' position in the enterprise and having information about the accounting system of the enterprise. Accordingly, it is determined that the managers who also own the enterprise have more information about the accounting system of the enterprise.

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A significant difference is found between the legal structure of the enterprise and the accounting department providing all the information needed. In this respect, it is understood that the managers of enterprises with a legal structure of limited and joint stock companies need information from other departments as well besides accounting, compared to private companies.

There was a significant difference between the ages of managers and the desire to improve their accounting knowledge level. Accordingly, it is seen that managers aged between 26-33 years agreed upon the statement “I want to improve my accounting knowledge” with the highest average.

Based on the results of the study, it is suggested to increase the accounting knowledge level of the managers of enterprises, and to specify the ways they can use their accounting information in terms of management and that it is required to maintain an attitude related to accounting information system when making managerial decisions.

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PREFERENCES OF INSTITUTIONAL INVESTORS

Emine Kaya¹

1. Introduction

Institutional investors are specialized financial institutions that manage savings for collectively designated purposes on behalf of small investors. Institutional investors are classified as all kinds of Mutual Funds, Private Pension Funds, Investment Trusts, Life Insurance Firms, Real Estate Investment Trusts, Venture Capital Investment Trusts established and operating within the authority of the Capital Markets Board ([tkyd.org.tr/home/about us](http://tkyd.org.tr/home/about-us), Accessed Date, 05.08.2019).

Institutional investors exhibit some behavior when investing. The view that the investment behavior of institutional investors is different from other investors which are dominant in the literature. The studies examining institutional investor preferences in various dimensions are conducted for developed and developing countries (Kandır, 2009; Jain, 2007; Ng & Wu, 2006; Oak & Dalbor, 2008; Badrinath, Kale, & Ryan, 1996; Clay, 2001; Yuan, Xiao, & Zou, 2008; Ko, Kim, & Cho, 2007; Thomsen & Pedersen, 2000; Deb, 2018).

Determining institutional investor preferences is important for financial literature because individual investors can determine whether institutional investors are acting the fiduciary ownership principle, examining their portfolio contents. Again, individual investors can pursue a more successful investment strategy testing the portfolio preferences of institutional

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investors. We determine the organization of the study in line with Kandir (2009). Within the scope of this study, we investigate the institutional investor preferences of firms operating in BIST 100 index for 2017 year. As a method, we use correlation, portfolio and cross-sectional analyses. Our findings indicate that institutional investors prefer firms that are large-scale, high return on assets, low leverage and high cumulative returns.

This study has some contributions to the exist literature. This study is one of the few studies examining the factors affecting institutional investor preferences over Turkish capital markets. Therefore, the findings of this study may be useful for studies examining institutional investor preferences, and this original aspect of the study may fill an important gap in the literature. Another contribution of the study to the literature is that it contains important information for capital market investors because capital market investors can benefit from the results of this study. In fact, individual investors can see from the findings of this study whether the institutional investors whom they entrust their funds behave accordingly to the fiduciary ownership principle and the effect of institutional investors on the capital markets. This work consists of four sections. In the following section, we introduce the data and method, then give the findings. We complete the study with the results section.

1.1. Institutional Investors

Institutional investors that have an important place in the capital markets is discussed in the financial literature. Institutional investors are positively influencing capital markets by balancing the dominant position in the banking sector, balancing financial developments, accelerating the modernization process of capital markets, increasing information transparency, supporting competition, increasing the depth and liquidity of the market and finally making capital market regulations (Kandir, 2009).

Investor behaviors and investment strategies used by institutional investors are placed in specific patterns. These behaviors are overreaction, low reaction, positive feedback, herding behavior and inverse investment

strategies with momentum investment strategies determined in accordance with these behavior patterns.

Table 1 gives summary of institutional investor portfolio size in Turkish capital markets for 2017 year and shows that Mutual Funds have the highest portfolio size for Turkish capital markets in 2017.

Tablo 1. Summary of Institutional Investors Portfolio Size in 2017

Institutional Investors (Million Turkish Liras)	Means
Mutual Funds	52848
Private Pension Funds	70440
Investment Trusts	338
Real Estate Investment Trusts	26020
Venture Capital Firms	1687
Total	151333

Reference: Türkiye Sermaye Piyasaları Birliği, Sermaye Piyasası Özet Verileri (2011-2019), Retrieved from <https://www.tspb.org.tr/tr/veriler/> (Accessed Date, 04.08.2019).

There are some common features that bring institutional investors together. These features are listed below:

- Institutional investors create a better risk-return alternative than they can do on their own, offering a pool of risk to savings owners
- The presence of institutional investors increases the liquidity opportunities for small savings owners.
- Institutional investors are able to process information at a fast pace and have advantages compared to other investors.
- Institutional investors align assets and liabilities in terms of maturity.
- Institutional investors are large-scale investors.
- Institutional investors are more likely to intervene in the market than individual investors due to their large scale.

Institutional investors have different characteristics compared to other investors, and their preferences differ from other investors. There are three sources of differentiation of institutional investor preferences. These resources are market anomalies, agency theory and fiduciary ownership principle.

According to the agency theory, institutional investors invest as agents of other investors. Individual investors can only control the investment preferences of institutional investors after they give their decision-making powers to the institutional investors. In addition, it is difficult to transfer the funds given to one institutional investor to the other institutional investor; changes in the portfolio result in some transaction costs and additional tax payments. For these reasons, although institutional investors may be controlled by individual investors, there are some problems in the functioning of the control mechanism. In addition to the control mechanism problem, the fact that the incentive mechanisms of institutional and individual investors are different results in preference differences for institutional and individual investors (Gompers & Metrick, 2001). One of the factors affecting the investment preferences of institutional investors is market anomalies. Institutional investors observe past yields and price movements and make decisions based on these observations (Gompers & Metrick, 2001).

On the basis of fiduciary ownership principle, which is another factor that causes the differentiation of institutional investor preferences, institutional investors have faith in the funds entrusted to them by savings owners. Savers, on the other hand, transfer the funds to institutional investors through a contract. Institutional investors are obliged to manage the funds they take over in accordance with the contract and without violating the rights of the owners.

In fact, the principle of fiduciary ownership principle is the principle of managing the funds entrusted to the institutional investor by a prudent, discreet and intelligent person by showing common sense and diligence. Institutional investors are required to keep the interests of the holders on their personal interests (Droms, 1992). While institutional investors

make their choices, they focus on liquid, stable and large stocks in order to correctly perform their investment activities. This shows that institutional investors want to make choices that are based on fiduciary ownership principle.

2. Data and Method

This study covers firms operating in BIST 100 index for Borsa Istanbul as of 2017. However, we do not include financial sector firms because, as Fama & French (1992) state, leverage ratios of financial sector firms are high. We collect the financial statements of the firms from the six-month tables such as Kandır (2009) to match the financial statement date and institutional investor data. In addition, we do not include firms that have not traded for more than three months in a year, similar to Chui and Wei (1998). The number of firms operating in the BIST 100 index and included in the analysis is sixty-nine.

In order to determine institutional investor preferences, we use the institutional ownership structure of firms such as Kandır (2009) as a dependent variable; market value, stock returns, leverage and firm performance as independent variables similar to Jain (2007), Ng and Wu (2006), Oak and Dalbor (2008), Badrinath et al. (1996), Deb (2018) and Clay (2001). There is a considerable consensus in the literature for the institutional investor ownership data, and in this study, following the literature (Kandır, 2009; Yuan, et al., 2008; Gompers & Metrick, 2001), we calculate this data with the formula $IOR_i = \frac{IISN_i}{OSN_i}$. In the formula, $IISN_i$ represents the institutional investor ownership rate for i 's stocks; OSN_i is the number of shares of firm i owned by institutional investors; IOR_i is the number of outstanding shares of firm i . We take the logarithm of the market value (MV) and we obtain this data by multiplying the number of shares of the firms and the stock price in the relevant month. We calculate the stock returns with the formula in Equation (1).

$$R_{it} = \left(\frac{p_{it}}{p_{it-1}} - 1 \right) \quad (1)$$

In Equation (1), R_{it} represents the stock return of firm i for period t ; p_t represents the share price of firm i in period t . Stock returns are cumulative returns adjusted for the stock's dividends, stock splits and new stock offerings. The formula that we calculate cumulative returns is below.

$$CR_i = [\prod_{t=1}^{12}(1 + R_{it})] - 1 \quad (2)$$

In Equation (2), CR_i is the twelve-month cumulative return of i . We measure the leverage ratios (LR) of firms by debt/asset. Finally, we use asset profitability data to represent firm performance (FP). We obtain data from the Thomson Reuters Datastream database², Central Registry Foundation (CRF) and Public Disclosure Platform (KAP).

While examining institutional investor preferences for firms operating in BIST 100 index, we use cross-section regression analysis, which is the basic method in the literature (Kandır, 2009). For regression estimations, we make the White General Heteroscedasticity test and the Breusch-Godfrey test to determine whether there is varying variance and autocorrelation problem. We use correlation and portfolio analyses as well as regression estimations. The mathematical representation of the cross-sectional regression analysis which we estimate in the scope of the study is as follows:

$$IOR_i = \alpha_0 + \beta_1 R_i + \beta_2 LR_i + \beta_3 FP_i + \beta_4 MV_i + \epsilon_i \quad (3)$$

The purpose of our portfolio analysis is to determine whether there is a difference between the groups of firms that we create according to the institutional ownership structure in terms of firm characteristics. Within this scope, our operations are as follows.

According to institutional ownership ratio, we divide firms into five portfolios: IOR1, IOR2, IOR3, IOR4 and IOR5. IOR1 is the portfolio of firms with the lowest institutional ownership ratio in the 20% percentile; IOR5 is the portfolio of firms with the highest institutional ownership

2 I would like to thanks Research Assistant Emre Bulut for helping me obtain data from Thomson Reuters database.

ratio in the 20% percentile for the firms operating in BIST 100 index. We use the t-test to determine whether the averages of the portfolios we create are different from each other. We use correlation analysis to determine whether there is a multicollinearity problem between independent variables and with this correlation analysis we determine the correlation coefficients between independent variables.

3. Empirical Findings and Discussion

In this part of the study, we investigate institutional investor preferences. First, we examine the summary statistics of the variables included in the analyses. We then examine institutional investors through portfolio, correlation and cross-sectional regression analyses. Table 2 gives summary statistics.

Table 2. Sample Summary Statistics

Variables	Mean	Standard Deviation	Percentiles				
			1st	25th	Median	75th	99th
IOR	0.29	0.25	0.0009	0.06	0.24	0.43	0.75
CR	0.68	0.87	-0.23	0.14	0.4	0.97	4.38
FP	6.05	18.19	-53.66	-0.34	5.65	12.15	101.67
LR	0.72	0.6	0.09	0.46	0.62	0.83	4.29
MV	3.39	0.63	2.26	2.91	3.37	3.83	4.54

The summary statistics in Table 2 for standard deviations show that CR, IOR, CR and LR are stable and FP varies greatly. Also summary statistics show that some firms have almost no institutional investor ownership; the highest institutional investor ownership ratio is 0.75. There are significant differences in the annual cumulative return variable for firms. The earnings of the most winning stock exceed 400%; the loss of the most losing stock is close to 200%. The leverage ratio variable indicates that there are firms with low borrowing rates, as well as firms that are fully borrowed. The firm performance variable proves that there are very low-performing firms and that there are extremely high-performing firms

in 2017, as well as very high-performing firms. After reviewing summary statistics, we conduct portfolio analysis to determine institutional investor preferences. Table 3 presents the portfolio analysis.

Table 3. *t*-Test Results for Differences in Portfolio Averages

Portfolios	Averages Difference	Test Statistic	Probability
IOR1-IOR5	0.35**	5.24	0.00
CR1-CR5	0.61**	3.29	0.03
FP1-FP5	7.09	1.27	0.22
LR1-LR5	0.82**	4.47	0.00
MV1-MV5	3.43**	18.16	0.00

** denotes significance at the 0.05

The t-test results in Table 3 show that there are differences between the portfolios with the lowest and highest institutional ownership. This results are evidence that institutional investors prefer large-scale firms with low leverage and high returns. On the other hand, institutional investors do not have a clear preference for firm performance with insignificant statistics. After portfolio analysis, we apply correlation analysis to determine the direction of the relationship between the variables. We report the results of the correlation analysis in Table 4.

Table 4. *Correlation Analysis Results*

	IOR	CR	LR	FP	MV
IOR	1	0.7*	-0.7*	-0.39**	0.6**
CR	0.07*	1	-0.11**	0.4*	0.21**
LR	-0.7**	-0.01**	1	-0.54*	0.15**
FP	0.4*	0.4*	-0.6*	1	0.4*
MV	0.05**	0.21**	-0.15**	0.37*	1

* denotes significance at the 0.01

** denotes significance at the 0.05

The findings in Table 4 indicate that IOR is significantly associated with other variables at a level of 1% and 5%. Thus, IOR is negatively associated

with LR and positively associated with CR, FP and MV. These findings prove that institutional investors prioritize the large-scale firms with high firm performance, low leverage and high cumulative returns. Finally, we estimate regression analysis in our study to determine institutional investor preferences. Regression estimations are given in Table 5.

Table 5. Regression Analysis

Dependent Variable=IOR	Coefficient	Probability	t-Statistic
Constant	-0.59	0.00	-4.47
CR	0.04	0.00	2.13
LR	-0.054	0.00	-3.41
FP	0.01	0.00	2.99
MV	0.28	0.00	7.68
F Test	16.23	0.00	
Breusch-Godfrey Test	7.81	0.00	
White General Heteroscedasticity Test	1.56	0.12	
Adjustment R^2 =0.55			

The Breusch-Godfrey Test result in Table 5 shows that there is an auto-correlation problem in regression estimation. In order to eliminate auto-correlation problem, we make the Newey-West correction and report the t-statistics as corrected to Newey-West.

The findings in Table 5 indicate that LR, CR, FP and FP are important risk factors that significantly affect IOR. In this case, institutional investors prefer firms with low leverage, high market value, high cumulative returns and high firm performance. In the regression analysis, the most important factor affecting institutional investor preferences is market value variable. These results coincide with theoretical expectations and the findings of correlation and portfolio analysis. As a matter of fact, these findings are in line with Kandır (2009) Badrinath, Gay and Kale (1989), Yang (2002), Eakins, Stansell and Wertheim (1998) and Deb (2018).

4. Conclusion

Institutional investors are specialized financial institutions that manage savings for small investors. The impact of institutional investors, which are important for capital markets, on capital markets and firms is often discussed. Institutional investors have different characteristics compared to individual investors, the investment strategies they follow and their investment behaviors may differ from individual investors.

The difference in investment preferences of institutional investors from other investors is a matter of debate in the literature for developed and developing countries. The sources of this difference are seen as market anomalies, the principle of fiduciary ownership principle and agency theory.

The purpose of this study is to determine the factors that affect the preferences of institutional investors for firms operating in Borsa Istanbul. We use the institutional ownership structure of firms as a dependent variable and market value, stock return, leverage ratio and firm performance as independent variables. For 2017 year, we calculate the cross-sectional regression, which is the basic method in determining the institutional investors preferences with correlation and portfolio analyses.

The results of the analyses show that the institutional investors operating in Borsa Istanbul invest on the basis of fiduciary ownership principle. In 2017, institutional investors prefer large-scale firms with high return on assets, low leverage and high cumulative returns.

It is considered that the findings to be obtained by examining the preferences of institutional investment firms for financial sector firms, extending the research period, and examining the effect of different risk factors such as firm age and dividend splits on institutional investor preferences in future studies may be beneficial for Turkish capital markets.

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SECTION **IV**

**QUANTITATIVE METHODS,
OPTIMIZATION, AND ESTIMATION**

17

MULTIPLE CRITERIA APPROACHES IN DECISION MAKING: TOPSIS, VIKOR, MULTIMOORA

Feyyaz Cengiz Dikmen¹

1. Decision Making

Management is a process used to achieve specific goals or objectives through the use of resources (people, capital, energy, materials, time, etc.). The resources used constitute the inputs and the level of achievement of the objectives are the outputs of the process. Organizationally the managers and individually the people are concerned with the decision-making process, which is a continuous process for the efficient and effective use of the resources they own. In this context, decision-making and decision are important issues that need to be examined in order to achieve institutional or individual goals.

There are various definitions for decision action; in the strict sense decision-making is defined as the act of choosing one of several options. In another definition, the following statement is made for the decision: “a decision is the consequence of choosing between available two or more alternative course of action to achieve a goal or objectives, made by a person or group. This process is called decision making (Turban & Meredith, 1991). According to the definitions of decision-making stated above, a decision problem comprises the elements such as decision-maker, goal or outcome, decision criteria, options, events and outcome. In all definitions of decision-making, it can be seen that there should be goals or objectives for decision-making. Nevertheless, a true decision problem cannot be mentioned in the case the objective of the decision problem is

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single or there is a single decision criterion and the decision problem is determined with all its elements. In such a case, making the best decision means finding the most appropriate one among the options (eg minimizing costs), which is nothing more than a mechanical optimization effort. In a multi-objective decision problem, how much a single option meets all criteria does not make any sense. According to this approach, it is assumed that not all criteria can be optimized by a single option, and this is often the case in decision problems. Today, in a complex environment, the decision-maker is striving to achieve as much as possible all of its objectives in an environment of conflicting interests, incomplete information and limited resources. The reliability of the decision-making is measured by the decision taken and the degree of objectives achieved. Therefore, setting goals is the basis of decision-making. In addition, the decisions to be taken are limited to environmental conditions such as public interest, legal order and long-term effects of the decision such as environmental pollution and quality of life. In this context, it requires a detailed examination of multiple and often conflicting objectives in order to choose the best action plan among the decision options. As a result, the most important and difficult aspect of any decision problem is to balance the multiple and conflicting objectives of the components of the decision problem.

2. Decision Making Methods

Multi-objective decision making is one of the problem areas that has grown rapidly in the last three decades. Decision-making environments have changed from single-person to group decision making according to the decision maker and from single-criteria decision to multi-objective decision-making environments according to its number of goals . Since the 1960s, a number of theoretical methods have been proposed and developed to solve such problems. According to the continuity and discontinuity (discrete) characteristics of the decision variables in the problem, two theoretical approaches can be mentioned in the solution of multi-objective

problems. Within the framework of these two streams, all of the methods developed are called multi-objective decision making methods.

The first approach is the Objective Multi Objective Decision Making Methods (MODM), which makes the assumption that the problem decision variables are continuous variables and thus the solution space is continuous. These methods assume that the problem to be solved can be modelled as a mathematical programming model and try to determine appropriate compromise solutions. Multi-objective decision-making problems are problems with a large number of feasible alternatives defined by the use of decision variables, where goals and constraints are functionally related to decision variables. Multi-objective decision making problems are problems in which multiple objectives are dealt simultaneously within the framework of mathematical programming. It was founded by Pareto (1896). Multi-objective programming problems are generally expressed as follows:

$$\text{Maximize } f(x) = [f_1(x), f_2(x), \dots, f_n(x)]$$

s.t.

$$g_j(x) \leq 0, j = 1, 2, \dots, n$$

Objectives can be conflicting due to their structure. Therefore, any solution found for \mathbf{x} decision variables in the problem may not optimize all objectives simultaneously. Instead, solutions that can be considered good for some objectives and bad for some objective can be achieved. Therefore, the solution of such problems can often result in a “compromise best solution” or “satisfactory solution”.

The second theoretical approach makes the assumption of discrete decision space in which the problem decision variables take discrete values and there are a finite number of choices. These methods basically use discrete mathematics approaches. In the literature of operations research, these methods are called Attribute Multi-Attribute Decision Making (MADM) methods (Triantaphyllou, 2000). These methods are the ones that select the most appropriate decision option according to various criteria through

MULTIPLE CRITERIA APPROACHES IN DECISION MAKING: TOPSIS, VIKOR, MULTIMOORA

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various rating and ranking procedures or choose the most suitable decision among the available decision options. There are four types of discrete problems: Choice Problem, Sorting Problem, Sorting Alternatives from Best to Worst (Ranking Problem), or Identifying Alternatives (Description Problem) (Roy, 1981).

In Operational Research literature, the terms MADM and MCDM are often used to express the same type of problem models.

Multi criteria (attribute) decision problems generally include the following elements:

- a. Objectives, goals to be achieved or retrieved,
- b. Restrictions and requirements that affect decisions to be made,
- c. Decision choices or alternatives,
- d. Decision environment,
- e. Expertise of decision maker/makers.

In case of any decision, there are many players involved. *A decision-maker is a single person or a group of multiple persons who are authorized to decide or approve the outcome. The decision making process begins when the decision maker detects a problem or has to make a complex choice.* When the problem arises, a diagnosis is made for the current situation, and general wishes and objectives are expressed. Once the objectives have been identified or determined, the performance measures or attributes associated with each objective are clearly defined in the next step. An attribute is a measurable amount that reflects the degree to which a particular goal is achieved. With the determination of performance measures, relevant candidate alternatives are determined which can achieve the objectives. The next step is to solve and evaluate the problem. Each alternative is compared to another according to a predefined decision rule. There are many methods in the evaluation and the analysis step for the decision-making process. Which of these methods will be applied depends on the data obtained for the problem and the type of problem.

Multi-attribute decision problems are the problems which generally have **n** number of finite alternatives and relatively **p** number of attributes. The first steps to solve such problems were taken by Churchman and Ackoff (1954). The goal in these problems;

- a. Assisting the decision maker in choosing the best alternative or choice,
- b. Helping to rank the “good” ones from the set of alternatives,
- c. To rank alternatives in descending order of preference.

In solving multi-attribute decision problems, first of all, it is necessary to select the appropriate attributes to be used in evaluating the alternatives. The problem may have many attributes and the significance of each attribute may not be equal in terms of decision maker. In this case, the decision maker should determine the weight of each attribute. There is no ideal number of attributes for these problems. It may be important to consider the following aspects when determining the appropriate number of attributes. Identifying a small number of attributes may indicate that some important attributes are not included in the problem. Conversely, identifying a large number of attributes may mean that too many details are involved. Accordingly, it may be more rational to exclude qualities that do not have a significant impact on the choice of alternatives (Mol-laghasemi & Pet-Edwards, 1997).

According to Keeney and Raiffa (Keeney & Raiffa, 1976), the following features should be taken into account when determining attributes for alternatives. The main and sub-attributes are limited to the number of seven (Miller, 1956).

- i. Attributes must be comprehensible and measurable. The value of the attribute should be indicative of the extent to which the objective has been met.
- ii. All attributes related to the problem must be complete.
- iii. It should not be unnecessary.

iv. Must be minimal; in other words, the same problem should not be explained with fewer attributes.

There are some basic concepts and notations common to almost all the methods in order to better understand multi-attribute decision-making methods. It should be mentioned briefly.

i. Alternatives. Alternatives are different strategies for achieving objectives. Each alternative has at least one or more expected results. In such problems, it is assumed that the decision maker will choose $A_i, i = 1, 2, \dots, m$ from a finite number of alternatives and this set of alternatives is named $A' = \{A_1, A_2, \dots, A_m\}$.

ii. Attributes. Each multi-criterion decision problem encompasses a large number of attributes that concern all of the alternatives. Attributes are also referred to as decision criteria or objectives. Attributes refers to the values that the decision maker associates with an objective reality. These values are measured independently of the decision maker's desires and expressed as the mathematical function of decision variables (Ballesterro & Romero, 1998). Different scales are used to evaluate the attributes. Attributes indicate different dimensions in which alternatives can be evaluated. For example, in the problem of buying a house, the neighbourhood where the house is located, the price, the exterior paint, the direction, the project, the presence of a garage, the proximity to the shopping centre or subway are different dimensions related to the house. In cases where the number of criteria or attributes is too much, the criteria are arranged in a hierarchical structure. In other words, some criteria may be more basic when compared to other criteria. In this case, the basic or higher level criteria are associated with various lower level criteria in a hierarchical structure. It is generally assumed that there are a finite number of criteria, C_1, C_2, \dots, C_n .

iii. Objective. Objectives express the direction of development of attributes. The direction of development is interpreted as "more is better" or "less is better". In other words, the objectives express the decision-maker's desire for more or less of any attribute. The desire to be more about

an attribute corresponds to the process of “maximization” and the desire to be less to “minimization”. Mathematically, the objectives are written as **Max** $f(\mathbf{x})$ or **Min** $f(\mathbf{x})$, where \mathbf{x} is the vector of decision variables.

iv. *Pareto Optimal (Nondominated or Efficient) solution.* If \mathbf{x} is a set of feasible solutions, the $\mathbf{x}^* \in X$ is a feasible effective solution. Such that, for each objective there is no solution that is better or same than the \mathbf{x}^* solution. That is to say, there is no other feasible solution where $f_i(x) \geq f_i(x^*)$, $i = 1, 2, \dots, p$.

v. *Superior solution.* The superior solution \mathbf{x}^0 , is a solution that maximizes all objectives simultaneously. Since the objectives in the problem are conflicting, there is rarely a super solution.

vi. *Compromise solution.* The compromise solution is an effective solution chosen as the final solution based on the decision maker's overall choice function.

vii. *Trade-off, marginal rate of substitution.* The marginal substitution ratio at a certain point between the objectives f_1 and f_2 is the point $(\partial u / \partial f_1) / (\partial u / \partial f_2) = r$ at which the decision maker is indifferent to a unit decrease in f_1 as long as there is r units increase in f_2 .

viii. *Aspiration level, goal.* An aspiration level is a specific value that defines the desired level of an objective. The goal is the result of using an objective together with a desired value. For instance, if a decision maker wants to make a profit of 1000, her/his aspiration level is 1000 and the desire to reach that level is her/his clearly stated goal.

ix. *Decision Matrix.* A decision matrix \mathbf{A} is formed to assess different attributes or criteria. The decision matrix is also called the performance table. Each row of the matrix \mathbf{A} indicates the performance of the i . alternative according to the n . attribute. In a decision problem where there are m alternatives and n attributes, $a_{ij}, i = 1, 2, \dots, m$ are being the alternatives and $c_j, j = 1, 2, \dots, n$ are being the criteria the decision matrix \mathbf{A} is a $m \times n$ dimensional matrix. It is assumed that the decision maker

determines the weights $w_j, j = 1, 2, \dots, n$, which indicate the relative importance of the decision criteria.

3. VIKOR Method

The so-called VIKOR with the abbreviation of the Serbian words “Vlse-Kriterijumska Optimizacija I Kompromisno Resenje - Multicriteria Optimization and Compromise Solution”, which means multi-criteria optimization and compromise solution, seeking a solution close to an ideal solution or an acceptable solution is a multi-attribute decision method (MADM). Compromising, philosophically, Ludwig Erhard says that, is the art of cutting a cake in which everyone thinks he has the biggest piece. According to this analogy, a good compromise means that everyone gets a little more than they expected to receive. The compromise is based on the assumption that the pie is smaller than claimed. Technically compromise is an effort to approach the ideal solution as much as possible. The “goodness” of any compromise is measured by its proximity to the ideal solution or its distance from the anti-ideal solution (Zeleny, 1980).

The VIKOR method has been developed to solve the decision problem described below.

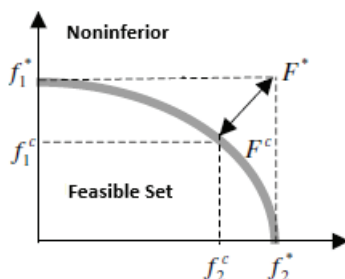
$$mco_i\{f_{ij}(A_i), i = 1, \dots, m), j = 1, \dots, n\}$$

In this equation, m is the number of feasible alternatives; $A_i = \{x_1, x_2, \dots\}$ i. alternative; f_{ij} , criteria value of j . criteria for the A_i alternative; n , number of criteria and mco , is the processor used to select the most appropriate alternative. The L_p -criterion developed from the compromise programming method forms the basis of the compromise sequence (Yu, 1973; Zeleny, 1982).

$$L_{p,j} = \{\sum_{i=1}^n [w_i (f_i^* - f_{ij}) / (f_i^* - f_i^-)]^p\}^{1/p}, 1 \leq p \leq \infty; j = 1, 2, \dots, J$$

The $L_{p,j}$ criterion shows the distance of the alternative A_i to the ideal solution F^* . The compromise solution $F^c = (f_1^c, f_2^c, \dots, f_n^c)$ is the most feasible solution to the ideal solution F^* (Opricovic & Tzeng, 2007).

Figure 1 Ideal and compromise solutions.



In the VIKOR method, as in other multi attribute decision-making models, the decision matrix, A , is created first. The decision matrix, X , for a decision problem with $j = 1, 2, \dots, n$, n number of criterion functions and $i = 1, 2, \dots, m$, m number of alternatives can be shown as:

$$X = \begin{bmatrix} x_{11} & \cdots & x_{1n} \\ \vdots & \ddots & \vdots \\ x_{m1} & \cdots & x_{mn} \end{bmatrix}$$

The VIKOR compromise ranking algorithm consists of the following steps: (Opricovic & Tzeng, 2004)

a) *Determination of the best and worst criterion values.*

For the criterion function $j = 1, 2, \dots, n$, the best f_j^* and worst f_j^- values are determined.

If criterion function is the benefit criterion: $f_j^* = \max_i x_{ij}$ and $f_j^- = \min_i x_{ij}$

if criterion function is a cost function : $f_j^* = \min_i x_{ij}$ ve $f_j^- = \max_i x_{ij}$

Obtaining the normalization decision matrix by normalization.

In order to add criterion values with different scale units, it is necessary to convert these values to the same unit. Normalization is applied to make it independent of the unit of measure in order to compare criteria that may have different units of measure. The decision matrix \mathbf{X} is normalized to obtain the normalized \mathbf{R} matrix. Linear normalization is used in VIKOR method.

$$r_{ij} = \frac{f_j^* - x_{ij}}{f_j^* - f_j^-}$$

This operation results in a normalized decision matrix \mathbf{R} .

$$R = \begin{bmatrix} r_{11} & \cdots & r_{1n} \\ \vdots & \ddots & \vdots \\ r_{m1} & \cdots & r_{mn} \end{bmatrix}$$

Obtaining weighted normalized decision matrix.

Methods for solving multi-attribute decision-making problems require to weight each criterion or to specify their degree of significance. Criterion weights indicate the relative importance of that criterion in decision-making. Since each criterion will have different importance for the decision-maker, the criterion weights in the problem cannot be expected to be of equal importance. There are two general approaches to determine the criteria weights: subjective and objective weights. Subjective weights are entirely based on the decision makers preference or his/her decision. The methods used to determine weights objectively (entropy method, multi objective programming, etc.) determine weights automatically by solving mathematical models regardless of the judgment of the decision maker. Shannon's concept of entropy is the most widely used one of the objective weighting methods that researchers propose and use (Shannon & Weaver, 1947). Shannon's concept of entropy is a measure of uncertainty formulated by probability theory. Entropy weight is a parameter that tries to explain how different alternatives approach each other according to a certain criterion. The larger the entropy value, the smaller the entropy weight, and the lesser the information provided by this criterion, the less important it will be in the decision-making process. (Wang &

Lee, 2009). w_j indicating the criterion weights ($\sum_{j=1}^n w_j = 1$), the elements of the weighted normalized decision V can be computed as $v_{ij} = r_{ij} \cdot w_j$.

$$V = \begin{bmatrix} v_{11} & \cdots & v_{1n} \\ \vdots & \ddots & \vdots \\ v_{m1} & \cdots & v_{mn} \end{bmatrix}$$

b) *Computation of S_i and R_i values.* S_i and R_i values indicates respectively the mean and worst group scores for i . alternative.

$$S_i = \sum_{j=1}^n v_{ij}$$

$$R_i = \max_j v_{ij}$$

c) *Computation of Q_i value.* For the computation of Q_i , firstly it is necessary to compute S^* , S , R^* , R parameters.

$$S^* = \min_i S_i$$

$$S^- = \max_i S_i$$

$$R^* = \min_i R_i$$

$$R^- = \max_i R_i$$

The q parameter used to calculate Q_i represents the weight of the majority of the criteria (maximum group benefit), and $(1-q)$ the weight of the minimum regret of the opponents. Compromise can be achieved by “majority vote q ($q > 0.5$)”, “consensus” by ($q = 0.5$) or “veto” by ($q < 0.5$).

$$Q_i = q \frac{(S_i - S^*)}{S^- - S^*} + (1 - q) \frac{(R_i - R^*)}{R^- - R^*}$$

d) *Ranking alternatives and checking conditions.* Alternatives are ordered in descending order according to S_i , R_i , and Q_i values. In consequence, three ranking list is obtained. The alternative $A^{(1)}$ with the best Q_i (minimum) value at the end of the sequence is considered to be the compromise solution when both conditions below are met.

K_1 : *Acceptable Advantage*:

$Q(A^{(2)}) - Q(A^{(1)}) \geq DQ$ The second alternative in the order of Q_i values; DQ is calculated as follows depending on the number of alternatives (n): $DQ = 1/(n - 1)$

K_2 : *Acceptable stability in decision-making*: Alternative $A^{(1)}$ is necessarily the best (having the minimum value) alternative in the order of S_i and / or R_i . This compromise solution is stable in the decision-making process.

If one of the conditions cannot be met, the following can be suggested as a set of compromise solutions:

- Only if K_2 condition cannot be met, then $A^{(1)}$ and $A^{(2)}$ alternatives may be proposed as the compromise solution set.
- If K_1 condition cannot be met, then the alternatives $A^{(1)}, A^{(2)}, \dots, A^{(m)}$ constitute the best compromise solution set. The $A^{(m)}$ alternative is determined according to the $Q(A^{(m)}) - Q(A^{(1)}) < DQ$ relation.

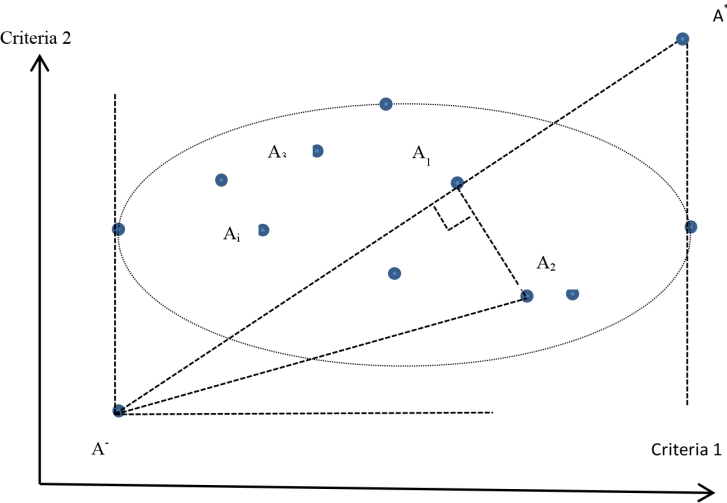
The best alternative ranked by Q_i values is the alternative with the minimum Q_i value (Opricovic & Tzeng, 2007).

4. TOPSIS Method

Among the many multi-criteria decision-making methods developed to solve real-life problems, TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) is a widely used method alone or used integrated with other methods. The method originally proposed by Hwang and Yoon (Hwang & Yoon, 1981) helps the decision-maker choose the best alternative based on a finite number of criteria. The basic principle of the TOPSIS method is the approach of simultaneously selecting alternatives with the shortest distance from the positive ideal solution and the farthest distance from the negative ideal solution. The positive ideal solution maximizes the benefit criterion while minimizing the cost criterion. On the other hand, the negative ideal solution maximizes the cost criterion while

minimizing the utility criterion. The application of the method requires that the criterion values have numerical, monotonous increasing or decreasing and having the same scale. (Behzadian, vd., 2012). The Euclidean distance approach is recommended to evaluate the relative proximity of alternatives to the ideal solution (Triantaphyllou, 2000). A MADM problem with m alternatives and n criteria can be considered as a m -point geometric system in an n -dimensional space. The distance of the selected alternative to the positive ideal solution and the negative ideal solution is shown in Figure 2. Here x_j^* is being the best value of the criterion j in all alternatives the positive ideal solution is $A^* = (x_1^*, x_2^*, \dots, x_j^*, \dots, x_n^*)$ and x_j^- is being the worst value of the criterion j negative ideal solution can be computed as $A^- = (x_1^-, x_2^-, \dots, x_j^-, \dots, x_n^-)$.

Figure 2 Euclidean distance to positive and negative ideal solution in two a dimensional space (Source: Hwang and Yoon, 1981)



TOPSIS combines a proximity to a positive ideal solution and a distance to a negative ideal solution to identify a similarity or relative proximity indicator to a positive ideal solution. The method selects the alternative

with the maximum indication of similarity to the positive ideal solution. Since TOPSIS assumes that the criteria have uniformly increasing or decreasing benefits, the greater the value of the criterion, the greater the preference for beneficiary criteria, the smaller the preference for cost-specific criteria. (Yoon &Hwang, 1995)

The TOPSIS method implementation algorithm consists of the following steps: (Opricovic & Tzeng, 2004)

a) Formation of Decision Matrix. In TOPSIS method, as in other multi attribute decision making models, decision matrix is created first. The decision matrix, \mathbf{X} , for a decision problem with $j = 1, 2, \dots, n$, n number of criterion functions and $i = 1, 2, \dots, m$, m number of alternatives can be shown as:

$$X = \begin{bmatrix} x_{11} & \cdots & x_{1n} \\ \vdots & \ddots & \vdots \\ x_{m1} & \cdots & x_{mn} \end{bmatrix}$$

In this notation, x_{ij} is the performance measure of alternative i according to criteria j .

b) Computation of normalized decision matrix. As with the VIKOR method, performance measures should be made independent of the unit of measurement and normalized. The elements of the normalized matrix \mathbf{R} are calculated as follows:

$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^m x_{ij}^2}}$$

c) Computation of weighted normalized decision matrix.

w_j is being the criterion weight ($\sum_{j=1}^n w_j = 1$), the elements of the weighted normalized decision matrix \mathbf{V} can be computed with the equation $v_{ij} = r_{ij} \cdot w_j$.

$$V = \begin{bmatrix} v_{11} & \cdots & v_{1n} \\ \vdots & \ddots & \vdots \\ v_{m1} & \cdots & v_{mn} \end{bmatrix}$$

d) *Determination of positive and negative ideal solutions.*

$$A^* = (v_1^*, v_2^*, \dots, v_j^*, \dots, v_n^*) = \left\{ \left(\min_j v_{ij} \mid j \in J_1 \right), \left(\max_j v_{ij} \mid j \in J_2 \right) \mid j = 1, 2, \dots, n \right\}$$

In these equations, J_1 is a set of benefit criteria and J_2 is a set of cost criteria.

e) *Calculation of distance to positive and negative ideal solution points.* Distance to positive and negative ideal solution points is calculated by Euclidean distance:

$$d_{ij} = \sqrt{\sum_{k=1}^p (x_{ik} - x_{jk})^2}$$

Distances of each alternative from the positive ideal solution A^* :

$$S_i^* = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^*)^2}, i = 1, 2, \dots, m$$

Distances of each alternative from the negative ideal solution A^- :

$$S_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^-)^2}, i = 1, 2, \dots, m$$

f) *Calculation of similarity (relative distance) indicator to positive ideal solution.* For each alternative, S_i^* and S_i^- values are used to calculate the similarity indicator C_i^* to the positive ideal solution.

$$C_i^* = S_i^- / (S_i^* + S_i^-), i = 1, 2, \dots, m$$

Note: $0 \leq C_i^* \leq 1$. When $A_i = A^-$ then $C_i^* = 0$ and when $A_i = A^*$ then $C_i^* = 1$.

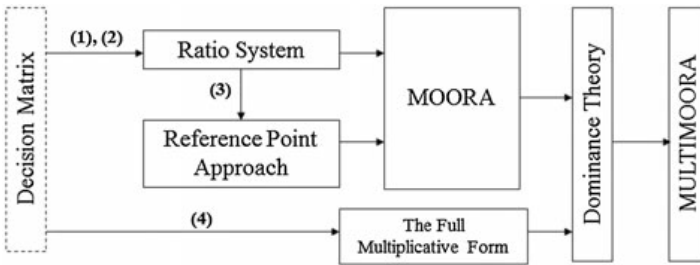
g) *Ranking alternatives in order of preference.* The best alternative is the alternative with the maximum value of C_i^* . Alternatives are ordered in order of preference from large to small according to C_i^* .

5. MULTIMOORA Method

The MOORA method (Multi-objective optimization by ratio analysis) was originally introduced by Brauers and Zavadkas (Brauers & Zavadkas, 2006) in a research paper and later developed by adding the full multiplicative form to the model and was named as MULTIMOORA (Balezantis et al., 2013).

The structure of the MULTIMOORA method can be shown in the figure below.:

Figure 3 The structure of MULTIMOORA



As can be seen in Figure 3, MOORA is a synthesis of two methods: Ratio System and Reference Point Approach which form the basis of MOORA method (Brauer & Zavadskas, 2012).

Generally, a decision-making process starts with the establishment of the decision matrix \mathbf{X} , which shows the performance value of the \mathbf{m} alternatives, $i = 1, \dots, m$, according to \mathbf{n} number of criteria. The MOORA method begins with the establishment of the decision matrix.

$$X = \begin{bmatrix} x_{11} & x_{12} & \dots & x_{1n} \\ x_{21} & x_{22} & \dots & x_{2n} \\ \dots & \dots & \dots & \dots \\ x_{m1} & x_{m2} & \dots & x_{mn} \end{bmatrix}$$

5.1 Ratio System

The MOORA method starts with the Ratio System and is normalized to make the **X** decision matrix performance values dimensionless and comparable. The purpose of normalization is to eliminate the effect of different physical dimensions on decision-making results. In the normalization process, Brauers and Zavadkas (Brauers & Zavadkas, 2006) benefit from the square root of the sum of the squares of the performance indicator values in the denominator.

$$x_{ij}^* = \frac{x_{ij}}{\sqrt{\sum_{i=1}^m x_{ij}^2}}, j = 1, \dots, n \quad [1]$$

Here, x_{ij} is the performance value of the alternative i according to the criterion j , and x_{ij}^* is the normalized value. Normalized values are in the range $[0; 1]$. In some cases, however, the normalized value may also be in the range $[-1; 1]$. Brauers and Zavadkas (Brauers & Zavadskas, 2010) give an example of a decline in growth rates in some countries and regions. In the second step of the ratio system, for a holistic rating of alternatives, the sum of the criteria that are expected to receive the lowest value is subtracted from the sum of the normalized values of the criteria that are expected to receive the highest value.

$$y_i^* = \sum_{j=1}^g x_{ij}^* - \sum_{j=g+1}^n x_{ij}^*, i = 1, \dots, m \quad [2]$$

Here, $j = 1, \dots, g$ are the criteria expected to take the highest values; $j = g+1, \dots, n$ are the criteria expected to take the lowest values and y_i^* is the indicator of normalized assessment of the alternative **I** for all criteria. The final step of the method gives the final rating of the alternatives. The higher this indicator, the higher the degree. The ratio system assumes that the criteria are of equal importance unless otherwise stated. However, criteria weights may be desirable to participate in the solution. In such a case, the evaluation indicators can be calculated by multiplying the obtained ratios with the criteria weights (Brauers et al., 2012). s_j is being the weight of criteria **n**, **2**. equation takes the following form.

$$y_i^* = \sum_{j=1}^g s_j x_{ij}^* - \sum_{j=g+1}^n s_j x_{ij}^*, i = 1, \dots, m [3]$$

$$A_{RatioSystem}^* = \{A_i \mid \max_i y_i^*\} [3]$$

The best alternative is the one with the greatest evaluation indicator.

The MOORA method and the updated version of this method named as MULTIMOORA methods are effective and simple to use (Hafezalkotob & Hafezalkotob, 2015). Compared to some MODM methods (MOORA, AHP, TOPSIS, VIKOR, ELECTRE, PROMETHEE), Brauers and Zavadskas concluded that MOORA method requires less computational time and requires less mathematical processing and have easier usage than the others (Brauer & Zavadskas, 2012).

5.2 Reference Point Approach

The second component of the MOORA method is the reference point approach. The method is based on normalized values calculated by the equation [1] in the ratio system. In the process of applying the method, the vectors of reference values are computed for the objectives that are expected to take the highest values and the lowest values. According to Brauers and Zavadkas (Brauers & Zavadkas, 2006) the reference points are determined as follows:

$$r_j = \{\max_i x_{ij}^* \text{ in case of maximization}\} [4]$$

$$r_j = \{\min_i x_{ij}^* \text{ in case of minimization}\}$$

Each element of this vector represents the corresponding minimum or maximum value of the criterion. The deviations of normalized values from these reference points are then calculated for each alternative and criterion, $(r_i - x_{ij}^*)$. The maximum absolute deviation values are then calculated for each alternative according to all criteria.

$$y_i^* = \max_i |r_j - x_{ij}^*| [5]$$

“Tchebycheff’s min-max Metric” is applied to obtain the final result (Brauers & Zavadskas, 2006). Alternatives are arranged in ascending order. The best alternative would be the alternative with the smallest A_{RefPoint}^* value.

$$A_{\text{RefPoint}}^* = \{A_i \mid \min y_i^*\} \quad [6]$$

5.3 The Full Multiplicative Form

The third part of the MULTIMOORA method creates a full multiplicative form developed by Brauers and Zavadskas (Brauers & Zavadskas, 2010). According to this form, alternatives are evaluated according to their degree of benefit. Normalized decision matrix is used in this evaluation.

$$U_i^* = \frac{\prod_{j=1}^g x_{ij}^*}{\prod_{j=g+1}^n x_{ij}^*} \quad [7]$$

Here, U_i^* is the degree of utility of the alternative i . The numerator of the equation is the product of the criteria that are expected to be large, and the denominator is the product of the criteria that are expected to be small. The point to consider in this calculation is to remove this criterion from the decision matrix X_* if there is incomplete information for any criterion of any alternative, $x_{ij}^* = 0$ (Karande & Chakraborty, 2012). The optimal alternative would be the alternative having the greatest degree of utility, U_i^* .

$$A_{\text{MultiForm}}^* = \{A_i \mid \max U_i^*\} \quad [8]$$

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18

MULTIVARIATE STATISTICAL TECHNIQUES

Ömer ÇINAR¹

1. Why Are Multivariate Statistical Techniques Necessary

Imagine a world in which everything is the same; people are identical in all respects. They have identical cloths; they eat the same food; they all go to the same school, they attend same courses of same teachers in equal conditions, they have the same occupation; they all live in doublet houses, etc. This world seems less realistic than we live. Hence, you need statistics. Because in a standardized world, statistics is unnecessary, but in a richly varying world it has to be used. Variability is a basic characteristic of life and the social world in which we live. The common quantity of variability has to be purified when trying to mention the world. The statistic is used for inference of variability (Howitt & Cramer, 2011, p. 4). *Statistics* means, “numerical descriptions” to most people. Statistical techniques conduct two main functions. The first function, they have to summarise the information which we collect from various sources. The statistic is partly related to tabulating collected information or data as clearly and efficiently as possible. In this circumstance, it simply describes the information gathered. This is managed by using tables and graphics to summarise data, we may turn complex data into simple indexes. So, we show the main features of the data numerically. We call this aspect of statistics as *descriptive statistics* (Howitt & Cramer, 2011, p. 4). Descriptive statistics indicate numerical and graphical methods to search patterns, summarize, and give information about a set of data. The second function of statistics is inferential. *Inferential statistic* is used for estimates, predictions and generalizations as to a set of data from sample

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data. The budget of research effects this branch of statistic. While a descriptive statistic is used to develop numerical summaries of the business phenomenon, inferential statistics help the to make a decision of managers by using numerical summaries. Everyone in the country has not timed in order to collect information about people. We generalized a sample to the whole population by using inferential statistics. This concept gives more benefits in social and economic fields. For example; the consumer price index, monitoring the unemployment rate, monitoring the inflation rate, taste-preference scores for foods, studies of academicians, etc. Now, we will present some statistical concepts: *population* is a set of existing units (McClave & Benson, 1994, p. 6). The variable defines a population unit's quantity or property. *Sample* is a subset of the units of a population. We may use characteristic of inference statistics in a sample which represents the entire population.

The specified set of variables of the researcher test via empirical methods which contain *variate* – the variable's linear combination in multivariate technique. *Variable* is named regarding the particular characteristic of variate units in a population (McClave & Benson, 1994, p. 6). A variable can be measured and it varies. Variables are separate two-part. *Dependent variable* accepted as the effect of, or response against a change in the independent variable(s). *Independent variable* accepted as a cause of changes in the dependent variable.

Metric and nonmetric scales, which are two important concepts in determining and classification multivariate statistical techniques, are discussed under another title.

2. Metric and Nonmetric Scales

Measurement is the assignment of observation or unit values to specific numbers or symbols according to a predetermined procedure (age, gender, marital status, education level, income, etc.). In scientific research, scales are classified as metric and nonmetric scales.

In statistics, ratio scale variables are always preferred to interval scale variables, interval scale variables to ordinal scale variables, and ordinal scale variables to nominal scale variables. In other words, the loss of variables' information decreases from the nominal scale to ratio scale. Therefore, metric scales are more advantageous than scales in a more detailed examination of the properties of variables (Albayrak, 2006, p. 7).

Metric scales: Metric scales are divided into interval scale and ratio scale.

- *Interval Scale:* 0 has no meaning on the scale. Therefore, the ratio of the unit values of the variables to each other is insignificant (Başar & Oktay, 2013, p. 2). Using this scale, every non-proportional statistic related to variables can be calculated. Classification is made by dividing the value of a variable into certain intervals. Likert scales, which are the most commonly used in social sciences, can be given as examples.
- *Ratio Scale:* Ratio scale variables have an absolute 0 point. For these variables, weight, length and height can be given as examples. E.g. a unit weighing 100 kg is twice that of a unit weighing 50 kg. Thus, a unit having a weight of 0 has no weight at all.

Nonmetric scales: Nonmetric scales are divided into nominal scale and ordinal scale.

- *Nominal Scale:* Classified the unit values of the variable. Therefore, the size, sums, averages, differences or proportions of these values have no importance in the ranking. Variables using such scales are variables such as gender and marital status. What is meant here is not the supremacy of one sex over the other, but the classification of genders.
- *Ordinal Scale:* This scale is higher level than the nominal scale. The difference of this scale from the nominal scale is that the size and significance of the unit values of the variables have a meaning. Therefore, it is used to sort the categories of the variable (e.g. in sorting of organizations in the manufacturing industry as small, medium and large) (Albayrak, 2006, p. 8-9).

3. Assumptions of Multivariate Statistical Analysis

Although some multivariate statistical analysis has its own assumptions, multivariate statistical analysis is generally based on three basic assumptions:

3.1. Normality:

Multivariate normality is the normal distribution of all combinations of observations and variables in the sample. The fact that each variable verifies the assumption of univariate normality does not mean it provides multivariate normality. Mertler and Vannatta (2005) state that each variable has a normal distribution, that linear combinations of variables should show normal distribution, and that all binary combinations of variables should provide the assumption of bivariate normality.

When the assumption of multivariate normality is maintained, it is assumed that the residues are distributed normally and are independent of each other. Multivariate normality assumption is examined according to whether the variables are grouped or not. If the data is not grouped, the normality is assumed to be a normal distribution of each variable or their residues in the analysis. That is, each variable is considered to have a normal distribution and the relationships between pairs of variables are assumed to be linear and homogeneity. If the data is grouped, it is assumed that the sampling distribution of the means of the variables is normally distributed. The central limit theorem implies that the sampling is large enough and the distribution of the means is normally distributed regardless of the distribution of available variables (Tabachnick & Fidell, 2015, p. 78).

The normality of the variables is determined by statistical analysis or graphical methods. Elements of normality are skewness and kurtosis. Skewness is related to the symmetry of the distribution, whereas kurtosis is related to the focal point of the distribution. Skewness means right or left dispersion of deviates from the symmetry. The kurtosis is whether the focal point of distribution is too high or too low.

3.2. Linearity:

Linearity is the necessity of a linear relationship between two variables. The assumption of linearity is also important for multivariate analyses, because of multivariate analyses rely on underlying the linear combinations of variables (Tabachnic and Fidell, 1996).

3.3. Homogeneity:

Homogeneity is observing that in the scores of other variables of the change in the scores of a continuous variable. This assumption, which we call homogeneity of variance in univariate analysis, is also an assumption of multivariate analysis. The assumption of homogeneity is associated with the assumption of normality. Because the normality of the binary combinations of variables used in multivariate analysis requires their being homogeneity (Tabachnic and Fidell, 1996).

4. Classification and Choosing of Multivariate Statistical Techniques

Multivariate statistical techniques are used to facilitate the analysis of complex data sets (Çokluk et al., 2010, p. 1). With these techniques, data sets consisting of multiple independent and dependent variables can be analyzed. Mertler and Vannatta (2005), emphasize that the simultaneous examination of the relationships between all variables is an important advantage. Therefore, it is not possible to examine simultaneously these relationships by univariate statistical techniques.

Scientific studies are too complex to be explained by a single variable. There are, of course, many factors that affect the problem in solving a research problem, and the problem to be solved should be examined taking into account these many factors. Therefore, the limitation of univariate statistics led to multivariate statistical analyses. Thus, more objective and consistent results are obtained in researches, since the assumed constraints in univariate statistics are eliminated. The most important limitation of

univariate analyses is keeping under it which the experimental control of many factors in the event, and it is examine the effect of one factor at each time. In multivariate statistical analyses, no restrictive or feature is cannot be said except for some controlled trials. In multivariate statistical analyses, there are at least more than two variables, since the analysis of multiple properties is concerned. The most widely used multivariate analysis methods are; Structural equation modelling, canonical correlation analysis, multivariate analysis of variance and multivariate analysis of covariance, multiple regression analysis, conjoint analysis, multiple discriminant analysis, linear probability models, factor analysis (explanatory factor analysis and confirmatory factor analysis), cluster analysis, multidimensional scaling analysis and correspondence analysis.

The situations in which these methods are used, the structure of the variables contained in the analysis, their similarities or differences with other analyses, and the functions of the analyses are presented in **Figure 1**. In addition, these analyses are explained in detail in **Table 1**.

Selecting A Multivariate Technique

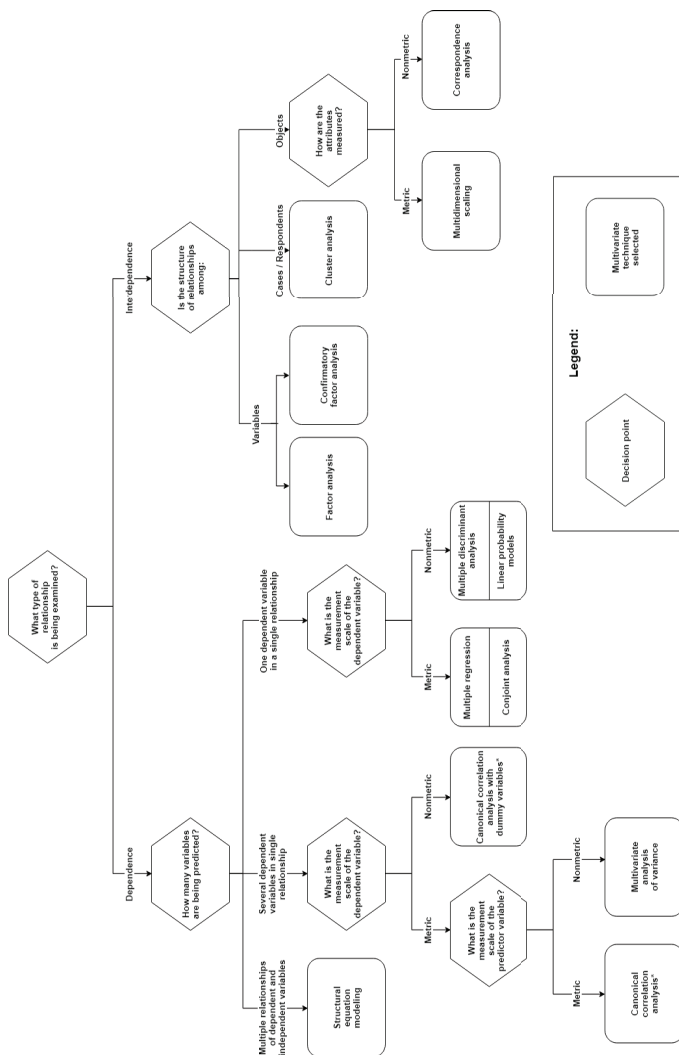


Table 1. *Main multivariate analysis methods*

Multivariate technique	When used	Function
Structural equation modeling*	Simultaneous estimation of multiple separate regression equations	Testing the measurement model (to measure each variable specifies one or more indicator) and the structural model (the model that relates dependent and independent variables), simultaneously.
Canonical correlation*	An extension of multiple regression analysis	Correlating a number of metric independent variables and dependent metric variables, simultaneously.
Multivariate analysis of variance (MANOVA)*	it is useful to test hypotheses concerning the variance in group response on two or more metric dependent variables	Exploring the correlation between a number of categorical independent variables (usually referred to as treatments) and two or more dependent metric variables, simultaneously.
Multivariate analysis of covariance (MANCOVA)*	which the researcher designs an experimental situation (manipulation of a few non-metric treatment variables)	
Multiple regression*	With a single metric dependent variable presumed to be related to one or more metric	To predict the changes in the dependent variable in response to changes in the several independent variables
Conjoint Analysis**	It used to determine the qualities of a new or revised product or service, to help create prices, to estimate the level of sale or use, to suggest a new product	To compare qualities as quantitative
Multiple discriminant analysis*	When the single dependent variable is dichotomous (e.g. male-female) or multidichotomous (e.g. high-medium-low) and therefore nonmetric	Understanding group differences and predict the probability that an entity (individual or object) will belong to a particular class or group based on several metric independent variables
Linear Probability Models**	When there are two or more dependent variables in the model	To explain the effect of changes in independent variables in dependent groups on dependent variables
Factor Analysis*	The researcher wishes to reduce the number of variables to manage or to find out the underlying factors when a number of several metric variables are under analysis.	Analyzing interrelationships among a large number of variables and explaining these variables in terms of their common underlying dimensions (factors)

Multivariate technique	When used	Function
Cluster analysis*	When metric variables are present and the researcher wishes to group entities	Classifying a sample of entities (individuals or objects) into a smaller number of mutually exclusive subgroups based on the similarities among the entities
Multidimensional Scaling**	When behavioral data such as personal preferences, attitudes, trends, beliefs and expectations are analyzed	To reveal the structure of objects in as close size as possible to the original shape
Correspondence Analysis**	It is particularly suitable for the analysis of categorical data. The graphical output of the analysis has rich information that can be used to decide	To present the relationships that cannot be explained in the tables visually by depicting interspecific variables on a map

*: Main multivariate analysis methods (Forza, 2002, p. 186).

**:: Added to the table by the author.

The multivariate statistical techniques presented in **Table 1.** are briefly described below:

4.1. Structure equation model:

Structural Equation Models (SEM) is a statistical approach based on the definition of measurable variables and latent variables as causal and relational (correlation-based). In the basis of SEM, there is the analysis of hypothesis testing of theoretically constructed structural models. These structural models are based on causality relationships between variables. Causality relationships are defined by equations in the form of regression equations. Causal equations can be made more understandable and conceptual with schematic representations.

Structural Equation Model (SEM), which is used by many disciplines such as social sciences, behavioral sciences, educational sciences, economics, marketing and health sciences, is a statistical method which based on the definition of observable and unobservable variables in a causal and relational (Raykov & Marcoulides, 2000, p.1). The most important reason for the popular use of SEM today is that the direct and indirect effects

between observable and unobservable variables can be tested in a single model (Bryne, 2010, p. 3). The most important reason for the popular use of SEM today is can be tested that the direct and indirect effects between observable and unobservable variables in a single model. SEM which in this form can also be considered multiple regression analysis.

The reasons are used which SEM modeling is widely used in many disciplines: to be a member of the linear model family, modeling complex systems where simultaneous and interrelated relationships can be demonstrated, has the ability to model relationships between non-observable variables. SEM deal on causal relationships between variables. Therefore, it is widely used in social and behavioral sciences (Pang, 1996, p. 67).

SEM can be used to describe hypothetical or meaningful information about a situation being studied by a model. Models are usually based on existing or hypothetical theories (Raykov & Marcoulides, 2000, p. 6-7). These theories explain and describe the situations in the research. SEM is unique in that it provides a clear modeling of measurement errors. After the theory has been developed about an explored situation, the theory which using SEM can be tested by experimental data. This testing process is called as validation form in SEM applications. A similar use of structural models is also constructed validity. In these applications, researchers basically evaluate the size of an unobservable variable measured by a measurement tool that provides their assumptions (Bollen, 1989; Fox, 2006; Raykov & Marcoulides, 2000, p. 6-8).

SEM is also used to develop theory. In theory development, repeated applications of SEM are done with the same data set to the explain possible relationships between variables which often interested (Timm, 2002; Raykov & Marcoulides, 2000, p. 8).

The application stages of SEM are respectively: (1) Development of a theoretical model, (2) Drawing of the path diagram showing the causal relationships for the developed model, (3) Separation of the structural and measurement model using the path diagram, (4) Obtaining the estimates

of the proposed model, (5) Structural model and overall evaluation of the model, (6) Evaluation of the suitability of the model and interpretation of the results (Yılmaz & Çelik, 2009, p. 8).

4.2. Canonical correlation:

Canonical correlation is the form of a logical extension of multiple regression analysis. Multiple regression included many metric independent variables and one metric dependent variable. In canonical correlation analysis, there may be many metric independent variables and many metric dependent variables (Tatlidil, 1992).

4.3. Multivariate analysis of variance (MANOVA) & Multivariate analysis of covariance (MANCOVA):

Multivariate analysis of variance (MANOVA) is a method that can reveal the relationships between two or more metric dependent variables and many categorical independent variables simultaneously. This analysis is an extended version of the variance analysis of one variable. Multivariate covariance analysis (MANCOVA) can be used in the last part of the multivariate analysis of variance to eliminate the effect of the uncontrolled metric independent variable on the dependent variable after the experiment. This is like removing the effect of the third variable on the bivariate correlation (Köksal, 1998). It is used to test the established hypotheses of data sets showing normal distribution with two or more variables which the data structure including common variables (Ünlükaplan, 2008).

4.4. Multiple regression:

In multiple regression analysis, there are one dependent variable and multiple independent variables that is thought to affect this dependent variable. Briefly, multiple regression analysis can be considered as an extended version of simple linear regression (Alpar, 2001, p. 132). The purpose of multiple regression is to estimate the changes in dependent variables

caused by changes in independent variables. This method is very useful if the researcher wants to find the amount of the dependent variable. For example, a researcher can estimate a company's sales (dependent variable) by advertising spending, the number of salespeople, and the number of branches (independent variables) (Yener, 2007, p. 74).

4.5. Conjoint analysis:

Composite analysis is a new method used to evaluate new products, services or ideas. Market research on some options rather than all new products is a statement that explains this type of analysis. For example, in case a new product has three attributes (such as price, quality and color) and all three colors (such as red, yellow and blue), it may be an application of compound analysis that a subset of this (9 or more) is presented to the customer appreciation, rather than all options ($3 * 3 * 3 = 27$) will be tried. Customer evaluation results can be used in the product design stage (Köksal, 1998).

4.6. Multiple discriminant analysis:

Discriminant analysis is a type of multivariate analysis which is the extension of single factor multivariate analysis of variance. After rejecting the H_0 hypothesis that there is no difference between groups, it is concluded that there is a difference between the groups. The main reasons for this difference are revealed by discriminant analysis technique (Alpar, 2001).

The aim of discriminant analysis can be divided into two groups: 1. To determine the most influential discriminant variables between groups. 2. To determine the group to which an unknown unit from which group comes from. The analysis for the first purpose is called descriptive analysis. The analysis for the second purpose is called decision-aimed analysis (Tatlıdil, 1992).

4.7. Linear probability models:

The linear probability model is a mixture of multiple regression and multiple discriminant analysis. This method has many independent variables to estimate a dependent variable, as in multiple regression. This analysis differs from multiple regression because the dependent variable is not metric, and similar to discriminant analysis. This analysis is similar to the multiple regression method except for the difference mentioned. After determined the nonmetric scale of the dependent variable it can be evaluated like multiple regression. This analysis can have both metric and nonmetric independent variables unlike discriminant analysis. But discriminant analysis is suitable for models with two or more dependent variables (Tatlıdil, 1992).

4.8. Factor analysis:

Factor analysis is a method that converts related data structures to a smaller number of new and independent data structures. It is a method used to reveal common factors by grouping the variables that are assumed to explain an occurrence or cause (Exploratory factor analysis). Factor analysis is a method used to group variables that affect a formation. It is one of the most widely used methods to test the structural validity of a scale (Confirmatory factor analysis) (Özdamar, 2002). Factor analysis is a type of multivariate statistical analysis which is widely used in reducing the number of variables in marketing research, developing scale and data transformation (Kinnear & Taylor, 1996).

In factor analysis, it is possible to create general variables called factors by the method of bringing together a set of variables with a high correlation between them. These objectives are: reducing the number of variables and to classify variables by discovering the structure in the relationships between variables (Kalaycı, 2010, p. 321).

4.9. Cluster analysis:

Cluster analysis is a multivariate statistical method used to identify similar units and collect them in clusters. The purpose of clustering is explaining and divide the units into subclasses according to their similarities. In other words, based on the similarities between individuals or objects, taking into account all variables, gathering similar individuals in the same groups or clusters and estimating which group a new individual belongs to is the basis of the cluster analysis. The cluster analysis has three stages. The first step is to determine the similarities between the variables to determine how many groups are in the sample. The second stage is the division of variables into clusters. The last step is to define grouped variables (Yener, 2007, p. 77-78).

4.10. Multidimensional scaling:

This method is an alternative to factor analysis. This method helps the researcher to explain similarities or differences between the observed units or objects. This method is a method using to reveal the meaningful structures underlying the dimensions. Factor analysis uses variables and correlations between variables. However, multidimensional scaling analysis graphically describes objects of lesser size using similarities or differences between units (Arici, 2001).

4.11. Correspondence analysis:

In the most basic way, correspondence analysis expresses two categorical variables in the form of a cross-table. It then converts the nonmetric data to the metric. Then it does variable reduction (similar to factor analysis) and conceptual shape creation (similar to multidimensional analysis). For example, customers' brand preferences and demographic information (gender, income groups, business, etc.) are first expressed as a cross table. Via correspondence analysis, the similarity and discriminative features between brands are expressed in two or three-dimensional forms. Similar brands are drawn close to each other. Likewise, the discriminative

features of customer brand perception are determined by the distance of the demographic variable to the brand. Similarity analysis is a multivariate analysis method suitable for models with nonmetric variables that cannot be measured by other methods (Yener, 2007, p. 79).

5. Results

In this section, which is a theoretical study, it was stated that real-life events are not constant and therefore statistics and especially multivariate analysis of statistics are needed in the interpretation of indicators obtained from events. Firstly, the basic concepts used in statistics (Statistics, Descriptive Statistics, Interpretative Statistics, Population, Sample, Variability, Variable, etc.) were presented. The scales used in multivariate statistical techniques (Metric and Nonmetric) and scale types (Nominal, Ordinal, Interval and Ratio) were explained. The basic assumptions of multivariate statistical techniques such as normality, linearity and homogeneity were explained. The classification of multivariate statistical techniques was shown in Figure 1. The functions of these analyses and where they are used were presented in Table 1. Finally, all analysis methods were explained individually. It is hoped that this study will be a useful resource for researchers and academicians.

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19

ESTIMATING ELECTRICITY DEMAND FOR TURKEY WITH ARDL AND ARIMA METHODS

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1. Introduction

Electrical energy is a form of energy that is used at a high rate because it is a quality, efficient and rapidly transmissible resource. For this reason, it has wide use areas in every area of everyday life but electricity is a non-storable product and the electricity generated must be consumed instantaneously. Because of that, the electrical energy should be produced as much as the current demand. Even a short blockage of electricity, especially in industrial areas, might cause substantial damages to a country's economy. Therefore, forecasting electricity demand accurately is crucial to use resources efficiently and avoid any electricity shortage.

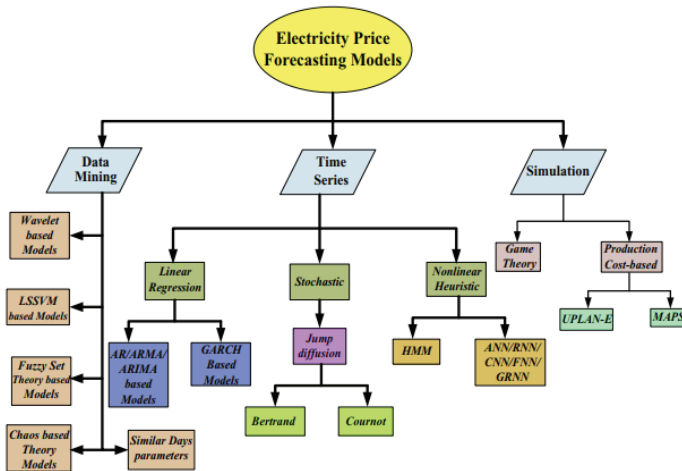
With a growing population and GDP in 2000s, the Republic of Turkey (hereafter Turkey) has experienced huge demand growth in electricity. As a result, many researchers and official authorities have focused on electricity demand forecasting and projections.

In the literature forecasting, electricity demand has drawn so much attention since electricity has become a major power source in the world. Scholars have been trying to forecast electricity demand in order to keep the sustainability of electricity supply and balance the budget allocated to energy.

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There are mainly three categories of estimation methods to estimate electricity demand in the literature. These categories are Data Mining, Time Series and Simulation. Figure 1 represents the sub-categories of estimation models. Among these models time series linear regression models are the most popular ones. Comparatively, Simulation models and data mining and nonlinear models are new. Although, many researchers conducted a single method in their analysis, recently, scholars have started to compare the efficiency of models to detect and apply the most feasible one.



Source: Singh N., S. R. Mohanty and R. D. Shukla, Short term electricity price forecast based on environmentally adapted generalized neuron,(2017), *Energy Journal*,v:125, pp:127-139

(Peng Zhou, 2006) combine conventional grey model GM (1,1) and residual alteration technique and finally apply the trigonometric grey prediction model. This approach enhances the efficiency of the Grey Model (1,1) and results in a suitable interval.

(Erdoğan, 2007) attempts to estimate and forecast electricity demand for the Turkish Electricity Market between 1984 and 2004. He has a sample of 84 quarterly observations. By applying cointegration and ARIMA

modeling, the scholar compares official reports and his own model of electricity demand in Turkey. The cointegration test disseminates the movements between GDP and price. The study suggests that changes in income and price barely impact the demand and official reports overestimate. Thus, there is a need for revision of electricity demand models in the official reports.

(Ediger, Akar, & Uğurlu, 2006) apply ARIMA, seasonal ARIMA (SARIMA) and regression model to forecast fossil fuel (oil, natural gas, hard coal, asphaltite, and lignite) production of Turkey. They use different forecasting models for each type of fuel type. They get the best result for oil since the definition of reserve classification of oil is clearer than others. They conclude that fossil fuel production will continuously decrease until 2038 and contrarily, the consumption will steadily increase.

(Ediger & Akar, 2007) estimate primary energy demand of Turkey between 2005 and 2020 by applying ARIMA and seasonal ARIMA. They find that ARIMA works for estimating both individual energy resource demand and aggregate demand. However, the model performs better in estimating the aggregate level.

(Dilaver & Hunt, 2011) examines the interaction between Turkish electricity consumption, GDP and electricity prices to forecast electricity demand. They apply a structural times series model between 1960 and 2008. Their sample consists of 48 yearly observations. The scholar finds that GDP, price and an underlying energy demand trend are significant factors of Turkish electricity demand.

(Ringwood, Bofelli, & Murray, 2001) applied artificial neural network methods for forecasting short medium and long-term electricity demand in Ireland. They find that The ANN has some superiority on traditional models while it has disadvantages

(Kaytez, Taplamacioglu, Cam, & Hardalac, 2015) compare least squares support vector machines(LS-SVM), traditional regression analysis and artificial

neural network (ANN) methods for forecasting electricity consumption. Their sample period is from 1970 to 2009. In the models, the independent variables are total electricity generation, installed capacity, total subscribership, and population. The results show that as a newer model the LS-SVM is more accurate and quickly applicable than the other models.

Finally, (Barak & Sadegh, 2015) conduct ARIMA and Adaptive Neuro-Fuzzy Inference System (ANFIS) models to estimate Iran's future energy consumption. Their findings show that hybrid patterns increase the veracity of single ARIMA and ANFIS models.

This study contributes to literature by comparing ARIMA and ARDL methods in forecasting electricity demand. Although the previous literature used many methods, the ARDL method has never been used in forecasting electricity demand. The only study we come across in forecasting demand by ARDL is (Mohd Fahmi Abdul Hamid, 2017) s palm oil consumption demand forecasting study.

2. Data and Methodology

The data used in the estimation process is yearly time series data on gross electricity consumption for the period 1970-2015, a total of 45 observations. Also, real GDP and real electricity prices were used as determinant of electricity demand in this study. The data are respectively obtained from and the "Turkish Electricity Transmission Company" (TEIAS), Turkish Statistical Institute (TUIK) and IEA Time series models are used extensively in many areas such as medicine, engineering, business, economics, and finance, with the aim of making forecasts for the future with the help of observation values for past periods.

i. ARIMA

The Box and Jenkins method is one of the most widely used forecasting approaches for the analysis of time-series data. (Box & Jenkins, 1976) first introduced ARIMA models, the term deriving from:

AR= Autoregressive

I= Integrated

MA= Moving Average

The general representation of the models is ARIMA (p, d, q). Where p and q the autoregressive (AR) model and the moving average (MA) model and d is the difference. The general ARIMA (p, d, q) model is formulated as follows:

$$Z_t = \Phi_1 Z_{t-1} + \Phi_2 Z_{t-2} + \dots + \Phi_p Z_{t-p} + \delta - \Theta_1 \alpha_{t-1} - \Theta_2 \alpha_{t-2} \dots - \Theta_q \alpha_{t-q} \quad (1)$$

Equality shows $Z_t, Z_{t-1}, \dots, Z_{t-p}$ d, $\Phi_1, \Phi_2, \dots, \Phi_p$ are the coefficients for observation values differentiated by d, δ constant values, $\alpha_t, \alpha_{t-1}, \dots, \alpha_{t-q}$ error terms and error terms $\Theta_1, \Theta_2, \dots, \Theta_q$ the corresponding coefficients.

ARIMA models are models that are applied to the series that are not static but converted to stationary by the difference taking process. The basic steps in the Box Jenkins methodology consist of the following five steps:

- I. Differencing to achieve stationary
- II. Identification of tentative model
- III. Estimation of the model
- IV. Diagnostic checking
- V. Forecasting

ii. ARDL

In our study, the ARDL Boundary test method developed by (Pesaran, Shin, & Smith, 2001) was used as the second method. The ARDL method does not require variables to be stationary at the same level in order to predict the cointegration relationship between the series. The cointegration test can be applied even if the series has different stationary levels³.

3 It is stable at the level or the first level of the series, which is meant by the level of different stationary. If the series are stationary at the second level, the cointegration test is not performed.

The ARDL model provides reliable results in small samples and is also an important advantage of integrating short and long term balance without losing long-term information with the error correction model. The following process can be followed to explain the ARDL model;

$$Y_t = \alpha + \sum_{j=1}^k \alpha_j Y_{t-j} + \sum_{j=0}^k \beta_j X_{t-j} + \varepsilon_t \quad (2)$$

The number of delays to be added to Equation 1 is determined by the help of criteria such as AIC, SIC, and LM, especially the significance of delays. In the steady-state long-run equilibrium, the variables are assumed to take the same values for all time periods. In other words;

$$Y_t = Y_{t-1} = Y_{t-2} = \dots = Y_{t-k} = Y^* \text{ ve } X_t = X_{t-1} = X_{t-2} = \dots = X_{t-k} = X^* \quad (3)$$

For this reason, the long-term stationary relationship will be as follows:

$$Y^* = \frac{\alpha}{1 - \sum_{j=1}^k \alpha_j} + \frac{\sum_{j=0}^k \beta_j}{1 - \sum_{j=1}^k \alpha_j} X^* = \alpha^* + \beta^* X^* \quad (4)$$

The long term solution here depends on the condition that $\sum_{j=1}^k \alpha_j < 1$ (Dasterio). The cointegration vector is defined as $[1 - \alpha^* - \beta^*]$. After the equation is estimated, the error term residuals showing the deviation from the equilibrium are found in the following equation.

$$\varepsilon^* = Y^* - \hat{\alpha}^* - \hat{\beta}^* X^* \quad (5)$$

3. Performance Criterion

To compare the models, we apply in the study, our performance criterion are as follows:

- 1- Mean Absolute Percentage Error (MAPE): $100 \times \frac{\sum_{k=1}^N \left| \frac{y_r - y_f}{y_r} \right|}{N}$
- 2- Mean Square Error (MSE): $\frac{1}{N} \sum_{k=1}^N (y_r - y_f)^2$

Where y_r , the realized demand values, y_f is the forecasted values for k th year and N is the number of years.

4. Empirical Results

A key concept of the underlying time series process is stationarity. Stationarity is vital because all typical results of classical regression analysis are not valid if series is non-stationary. Therefore, regression with non-stationary series may have no meaning which leads to spurious regression.

In Table 1, the ADF unit root test results for the series are given. The results indicate that all series are non-stationary when the variable is defined at levels. Though, when we take the first difference of the series non-stationary disappears in all cases and null hypothesis of non-stationary is clearly rejected at the %5 level significance level.

Table 1: ADF Unit Root Test Results

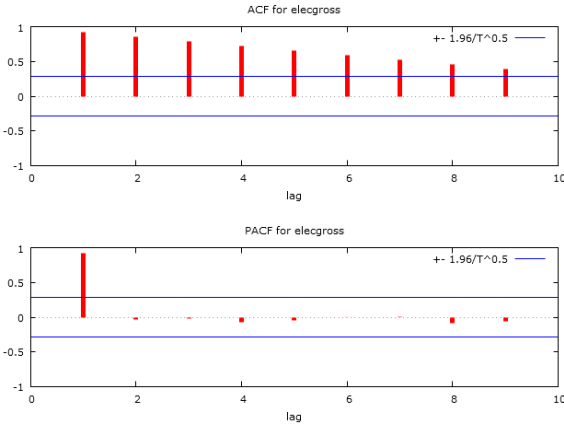
Variables	<i>At a Level of</i>		<i>First Difference</i>	
	Fixed	Trended	Fixed	Trended
LED	-2.447 (0.131)	-1.145 (0,9091)	-3.951 (0.003)***	-4.746 (0.002)***
LGDP	0,119 (0.963)	-2.573 (0.2939)	-6.375 (0.00)***	-6.323 (0.000)***
LPRICE	-2.736 (0.075)*	0.449 (0.998)	-3.964 (0.003)***	-4.559 (0.003)***

*** Indicating a level of significance of %1 *Indicating a level of significance of 10%.

i. ARIMA

As we mentioned before, ARIMA modeling consists of five steps. First, we compute the ACF and PACF of raw data. From Figure 1 we can see that ACF dies down slowly while there is only one spike in the PACF which vanishes rapidly thereafter.

Figure 2: Correlogram of Gross Electricity Demand Data



As the data is not stationary, it needs to be modified. These results clearly suggest that the series are integrated and logarithms and the first difference of the series should be applied to the data. The figures 2 and 3 below show the Correlogram of the first and second differenced data up to 10 lags.

Figure 3: Correlogram of First Difference in Gross Electricity Demand

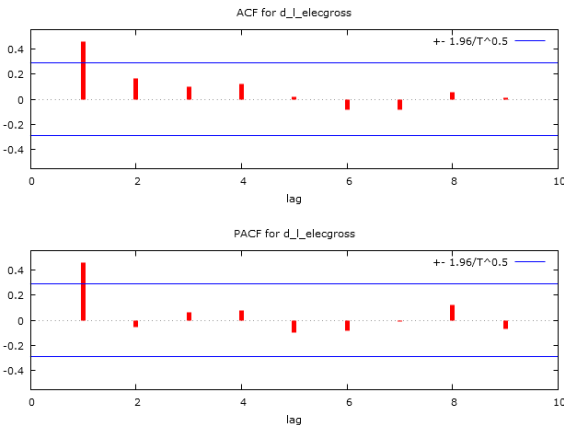
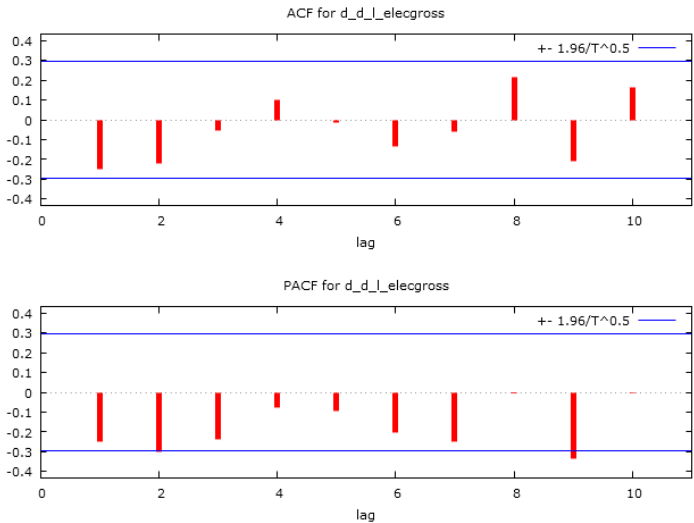


Figure 4: Correlogram of Second Difference in Gross Electricity Demand



We obtain the ACF and PACF of DLED (first difference) and DDLED (second difference), provided in Figures 2 and 3. From the first correlogram we can see that there is one spike on the ACF while there is also one spike in the PACF. The second correlogram tabulates that there is only PACF has one spike. These results suggest that we might have up to MA (2) and AR (1) speciation. So, the possible models are the ARIMA (1, 1, 1), ARIMA (1,1,2) or ARIMA (0,2,2). Table 2 shows other possible models have been estimated in Eviews by using OLS.

Table 2: Possible ARIMA models for Electric Demand

Model	LogL	AIC*	BIC	HQ
(0,2)(0,0	123.6766	-5.20333	-5.04432	-5.14376
(1,1)(0,0)	123.3445	-5.18889	-5.02988	-5.12933
(2,2)(0,0)	125.0345	-5.17541	-4.9369	-5.08606
(2,3)(0,0)	125.8201	-5.16609	-4.88782	-5.06185
(2,1)(0,0)	123.7733	-5.16406	-4.96529	-5.0896
(0,3)(0,0)	123.6875	-5.16033	-4.96156	-5.08587
(1,2)(0,0)	123.6841	-5.16018	-4.96141	-5.08572
(1,3)(0,0)	124.6809	-5.16004	-4.92152	-5.07069
(3,3)(0,0)	126.2845	-5.1428	-4.82478	-5.02367
(2,4)(0,0)	126.2444	-5.14106	-4.82304	-5.02193

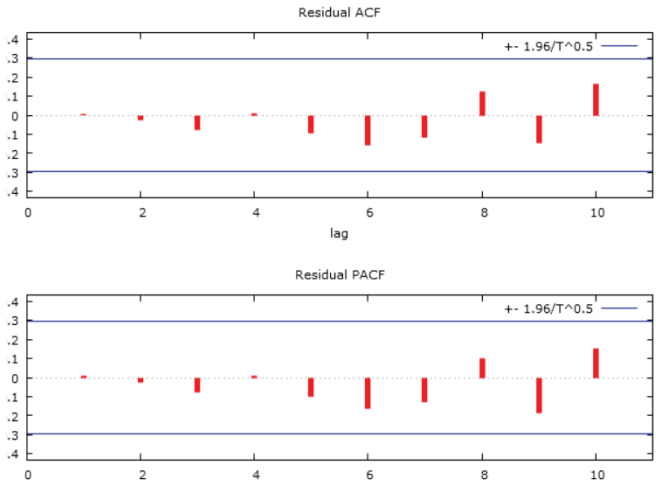
Finally, we have to check the diagnostic of the best model to see the model is appropriate. Summarized results of ARIMA (0, 2, 2) speciation are provided in table 3, from which we see that in terms of significance of estimated coefficients and the model is appropriate. ARIMA (0, 2, 2) model has three significant coefficients. To check that the ARIMA (0,2,2) model is a reasonable fit for the data we obtain residuals from ARIMA model (0,2,2) and get the ACF and PACF of these residuals up to lag 10. Figure 4 tabulates that autocorrelations and partial correlations are not statistically significant. That is, residuals of regression (0, 2, 2) are random.

Table 3: Regression Result of ARIMA (0,2,2) Model

	Coefficients	Std.Error	Z	P-value
Constant***	-0.0015	0.0004	-3.243	0.0012
Theta 1***	-0.6531	0.1478	-4.416	0.0001
Theta 2**	-0.346	0.1357	-2.556	0.0106

*** Indicating a level of significance of %1 *Indicating a level of significance of %5

Figure 5: Correlogram of Residual



ii. ARDL

The ARDL test consists of 4 steps. The first step is the unit root tests. In Table 1, the ADF unit root test results for the series are given. Accordingly, all the series are integrated at the first difference, i.e. $I(1)$.

The next part after we have determined the static levels of the series is to determine the appropriate delay length for our model. In Table 3, the appropriate delay time for the boundary test is based on the AIC algorithm and the maximum number of lags is automatically selected by the stata. The null hypothesis for Bound Testing is that no cointegration among the variables tested. According to the results, the appropriate delay length of our model is ARDL (2, 1, 0). The F statistic for the model we selected according to the appropriate delay length is 7,471. It is determined that there is a cointegration relation between the series because the calculated F-statistic exceeds the upper critical value⁴ of Pesaran.

4 The critical values are taken from Table CI (V) in Pesaran et al. (2001: 300) and the lower limit is 3.79 at the 5% significance level and the upper limit is 4.76.

Table 3: Summary of Model Selection and Bound Test

Model	LogL	AIC*	BIC	HQ	Adj. R-sq	Specification
1	136.1379	-6.197041	-5.9488	-6.10605	0.999324	ARDL(2, 1, 0)
2	136.4586	-6.164697	-5.87509	-6.05854	0.999315	ARDL(2, 1, 1)
3	137.3067	-6.15746	-5.82648	-6.03614	0.999323	ARDL(2, 1, 2)
4	136.2657	-6.155509	-5.8659	-6.04936	0.999309	ARDL(3, 1, 0)
5	137.1782	-6.151342	-5.82036	-6.03002	0.999319	ARDL(1, 4, 0)
6	136.1516	-6.150078	-5.86047	-6.04392	0.999305	ARDL(2, 2, 0)

Table 3 shows the results of the most appropriate delay time for the selected model. According to the coefficients in this table, our model is as follows:

$$LED_t = -0.2167 + 1.107LED_{t-1} - 0.214LED_{t-2} + 0.549 LOGGDP_t + 0.483LOGGDP_{t-1} + 0.015 LOGPRICE_t$$

Both in the table and as seen in the above equation, the coefficient of the electricity price is positive. This means electricity consumption is increasing even though the price of electricity increases. Our results show that we apply the ARDL method the output is significant however the coefficient of price is positive which does not make sense theoretically. We explain this fact as follows: elasticity factor is 0.015; consumer demand is barely affected by price changes. So, the positive coefficient of the price in the regression is a sign of lows elasticity of electricity demand which means that consumers' demand still stays strong even in a price increase.

Table 4: Model Selection Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LED(-1)	1.1073	0.125554	8.819301	0
LED(-2)	-0.21401	0.102136	-2.09535	0.0429
LOGGDP	0.549826	0.085031	6.466151	0
LOGGDP(-1)	0.48362	0.109879	-4.40139	0.0001
LOGPRICE	0.015185	0.006438	2.358622	0.0236
C	-0.2167	0.539462	-0.40169	0.6902
R-squared = 0.999 Adj R-squared = 0.9992 Root MSE = 3.187e+06 Prob > F = 0.0000				

The next step after selecting the appropriate delay length is the determination of the long-term relationship. The test results of the long-term relationship of ARDL estimated according to the delay length determined in Table 5 are reflected. The abbreviations BG 2 χ , FFF, 2 (2) χ NORM and FHET indicate the Breusch-Goldfrey consecutive dependency LM test, the Ramsey functional form test, the LM test for the normal distribution of the error term, and the White varying variance test. The diagnostic test results of the model, in which the ARDL (2,1,0) long term equation is estimated, indicate the existence of a long-term relationship between electrical demand. On the other hand, the existence of a long-term relationship between the income level and the demand for electricity has been established only if a critical level of 10 percent is considered.

Table 5: ARDL Long-Term Results

Variable	Coefficient	Std. Error	T	P>t
Logprice L1.	0,1422	0,0353	4,02	0***
Loggdp L1.	0,6204	0,342	0,078	0.0788*

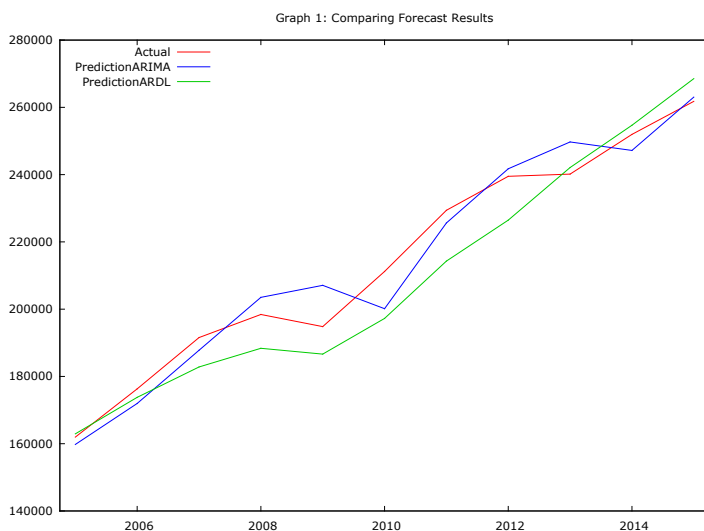
*** Indicating a level of significance of %1 *Indicating a level of significance of 10%.

iii. Forecast

Electrical demand was estimated to cover the years 2005-2015 in order to compare the two techniques we use for estimation. MAPE and RMSE calculations are used to measure the performance of the two techniques. As shown in Table 6, the ARIMA model has lower values of MAPE however, ARDL performs better based on RMSE. This shows us that based on different criteria two models' performance differs. In other words, there is no superiority of a model. The graph of the electricity demand predicted by two techniques is shown in the following graph 1.

Table 6: Summary Of Forecasting Performance

Model	MAPE	RMSE
ARIMA (0.2.2)	0.0115	0.0136
ARDL (2.1.0)	0.0157	0.0018



5. Conclusion

In this study, we predict Turkey's electricity demand between the years 1970-2015 using two different techniques. The first technique, ARIMA model, which is among the most popular techniques used to forecast electricity demand, makes time-series predictions. The second technique ARDL method investigates the long, short-run relationship between price and GDP, which affects electrical demand. After determining the existence of the long and short term relationship, we estimate the electrical demand with the ARDL method. Finally, we compare the two techniques and find that based on different criteria, two models perform differently. In addition, our results show that when we apply the ARDL method the output is significant however the coefficient of price is positive which does not make sense theoretically. We explain this fact as follows: elasticity factor is 0.015; consumer demand is barely affected by price changes.

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20

A COMPARISON BETWEEN SHOPPING MALLS AND STREET STORE: A RESEARCH IN ERZURUM CITY CENTER

İbrahim Kadir DEMİR¹

I-Introduction

Consumption concept which is identified as meeting the needs of human is not only an economic phenomenon but also a social phenomenon which may alter in terms of conditions of period and social and cultural elements of different countries and societies. Customer behaviors is a subpart of human behaviors and to understand that it needs to be evaluated with individual's interaction with the environment (Pekgüleç, 2003). In the lights of literature survey individuals' consumption behavior could be identified as the decision process of individuals' consumption of product and services behavior (Tek, 1999). It is seen that there are some characteristics of individual's behavior such as motivated behaviors, formations of varied activities, complexness, changings in time periods, intimate relationships with the environmental stimulants and a dynamic process (Odabaşı ve Bariş, 2002).

Site of establishment is one of the most important factors for retail enterprises in providing a product or a service to the final customer. Enterprises must make a great research on human-environment relationships and evaluate the results closely to run themselves with high performance (Bayar, 2005. S.19). Enterprises need to make a good selection about their

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site of establishment. It should be a place which provides them the technical and financial opportunities they need and makes them successful.

Elements that affect the selection of site of establishment could be classified in two groups as physical and non-physical factors: Physical factors: involves the countable factors such as expenses of activity, labor force and transportation etc. Non-physical factors: are the uncountable factors but they could be evaluated comparatively and they involve the factors like extent of unionization, existence of public services, and attitude of climate type society and life opportunities. There are 3 options that the entrepreneurs should evaluate for the site of their establishments. In the lights of these options, entrepreneurs can position in a thoroughfare, in a shopping mall or in a smaller district (Aydın, 2007. S139). Street stores affect the customer behaviors in a good way with their customer portfolio that was built up over years and shopping malls also affect it in a good way too by providing physical conveniences and extensiveness of social opportunities. Therefore the selection of the site of establishment is vital for the entrepreneurs in both sides. Scientific researches are very significant to avoid mistakes in making this decision (David, 2007: 73).

II-Concepts Of Street Stores And Shopping Malls

There are 3 options that the entrepreneurs should evaluate for the site of their establishments. In the lights of these options, entrepreneurs can position in a thoroughfare, in a shopping mall or in a smaller district (Aydın, 2007. S139). Shopping as one of the core activities of humanity was a social concept occurred in city centers before (Birol, 2005, 63-75). Shops that are positioned on the streets are called street shops in this study. Aydın (2007: 139), referred the statement “District Trade Center” for this establishments whereas Karamychev and Reeve used the term “Conventional Retails”. Brand new shops with showcases and counters have emerged in Turkey since 1830s. With the Industrial Revolution in Europe the demand in new type products of industry has increased so that the street stores became more prevalent since 1850s (Üstün and Tural,

2008, s.268). Today, in some particular districts there is a dense population because of the constructions of urbanization with their aspect of centrality and this kinds of districts are called “Çarşı” (Bazaar) in smaller cities and towns and counties. There is a heavy pedestrian and car traffic in those districts because they position on transportation routes (Vesley, vd., 2006). Shops should position in a district which is used intensively by customers or on a route where is suitable to meet the needs of customers easily. For this reason, districts used densely by customers directly affect the selection of sites of establishments of entrepreneurs (Karamychev and Reeven, 2009:277).

This implementation of city centers has verged to giant shops and passages which are the essentials of shopping centers in the late 19th century (White 2001, 65-80). Consumption behavior of humanity altered in time with the differences in social life, cultural change and increased income. The time spent in shopping has decreased day by day and the shopping malls which meet the needs of humanity in one place and one time has gained a significance in our lives (Ekinici, vd., 1999: 110). So the shopping constructions have been eluded from the cities and moved into the passages far from cities. Shopping behavior of humanity has changed and window shopping and physical shopping have become spare time activities (Backes. 1997, 1-17). Different authors have made different specifications. With this specifications a shopping mall can be defined as a planned and developed complex conducted as one property which involves retails of all size and has around 5000-300.000 meter square space (Alkibay vd., 2007: 2). In the results of literature search, today shopping centers differs with conventional shopping centers in terms of their centralized management method within one property and serving a consumption opportunity in which the customer doesn't get affected by climate conditions and feel him/herself secure and the rights of customer are more likely to be preserved. Therefore the complexes which aim to meet the needs of customer with a modern perception in a systematic structure are called modern shopping centers. Modern shopping centers are the planning, development, appropriation and management of a

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group of retails and varied commercial units in one property (Levy and Weitz, 2004:218). The essential though that shape the mall designing is to be the choice of the potential customer and then making customer to spend money by keeping him/her there as long as possible (Önbilgin and Uzun, 2002:23). For this, anything customer could need has to be provided before h/she leaves the place. For instance; nursery rooms are one of the basic needs of mothers with infants (Azhari vd., 2012). Malls are the places that provide the opportunity to reach at the shops, groceries, banks, patisseries, cafeterias, cinemas, security and parking lot at the same time (Altunışık and Mert, 2007). Malls that give the opportunity to meet the varied needs at the same time are the places where the consumption is always possible because they sustain the time they fictionalize by using reflecting surfaces and artificial lightning techniques in interior designs (Süer and Sayar, 2002, s.39). The things that impel people to consume are both needing the meet and the personal and social motives yet in the selection process of customers there are lots of vital elements such as range of products, quality of service etc (Arslan, 2004). Malls have become something else than a place to do shopping for people and undertaken a more socio-cultural mission. Although they are able to pick different places to do shopping, customers who prefer to do their shopping in malls either they spend money or not have undertaken a lot of missions such as self-proving, status determination, indulging and etc. Street stores affect the customer behaviors in a good way with their customer portfolio that was built up over years and shopping malls also affect it in a good way too by providing physical conveniences and extensiveness of social opportunities. Therefore the selection of the site of establishment is vital for the entrepreneurs in both sides. Scientific researches are very significant to avoid mistakes in making this decision (David,2007: 73).

III- A Research In Erzurum City Center

III.I- Research's Goal and Scope

This study aims to determine the advantages of the sites of establishments of street stores and shopping centers and it also aims to specify the swot

analysis in comparison. Research scope consists of shopping mall and street store managers in Erzurum city.

III.II Method Of Research

Survey method which is an initial data collecting method was conducted and this is an illustrative study in terms of design. The survey was conducted among 120 tradesmen in total who run their business in Forum Mall, Palerium Mall and on street stores in Erzurum. Survey form had two parts. Demographical features took in the first part and in the second part there was the cinque Likert scale. The data in result were subjected to logistic regression test via SPSS packaged software and findings were analyzed and commentated.

III-III Findings and Interpretation

Owners of shopping centers in Forum and Palerium malls and the owners of street stores in Erzurum participated in the survey. There were 58 participants for shopping malls and 62 for street stores and 120 in total. A detailed information about the demographical features of participants is given in the table 1.

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Table 1: Frequency analysis table of tradesmen

		Frequency	Percent
Location	Street	62	51,7
	Mall	58	48,3
Age	21-30	65	54,2
	31-40	34	28,3
	41-50	17	14,2
	51-60	2	1,7
	61+	2	1,7
Gender	Male	85	70,8
	Female	35	29,2
Duty Term	1-5 years	72	60,0
	6-10 years	24	20,0
	11-15 years	13	10,8
	16+ years	11	9,2
Educational Background	Primary School	6	5,0
	Secondary School	12	10,0
	High School	55	45,8
	Bachelor's Degree	46	38,3
	Postgraduate/Doctorate	1	,8
Number of Staff in the Enterprise	1-5 persons	78	65,0
	6-10 persons	25	20,8
	11-15 persons	9	7,5
	16-20 persons	2	1,7
	21+ persons	6	5,0
Total Years of Activity	1-3 years	36	30,0
	4-6 years	22	18,3
	7-9 years	17	14,2
	10+ years	45	37,5
Total		120	100,0

The highest percentage of tradesmen (%54, 2) are between 21-30 years old and while 70, 8 percent of them is male the duty term of 60 percent is between 1 - 5 years. Most of the answerers (%46) are high school

graduates and 65 percent of them employs 1 to 5 workers. Duty term of the 37, 5 percent of enterprises is about 10 years or more whereas the 30 percent of enterprises is between 1-3 years.

Table 2: Dependent Variable Encoding

Original Value	Internal Value
street	0
mall	1

Reference place was the street as the site of establishment in the interpretations.

Table 3: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	59,724 ^a	,588	,785

a. Estimation terminated at iteration number 8 because parameter estimates changed by less than, .001.

Independent variables clarify the 79 percent of alteration of dependent variables.

Table 4: Classification Table

	Observed		Predicted		
			Location		Percentage Correct
			street	mall	
Step	Location	street	58	4	93,5
		mall	6	52	89,7
	Overall Percentage				91,7

a. The cut value is ,500

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Our model was classified with 92 percent accuracy. As it can be seen from the Table 4 that regarding their level of significance, 5 percent of meaningful variables of logistic regression analysis has been indicated as “*” and the 10 percent is shown as “**”. Sig values are to be evaluated by determining the “Exp. (B)” which is the parameter of meaningful variables in shopping mall ratio and the aspect of relationship is to be revealed through “B” value by analyzing the criteria of being greater than 1 or not.

Tablo 5: Logistic Regression Analysis

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	Duty Term	-1,164	,579	4,048	1	,044*	,312
	Educational Background	1,068	,610	3,067	1	0,080**	2,911
	Rental Cost	1,836	,605	9,222	1	0,002*	6,271
	Competitive advantages of location	,966	,498	3,763	1	0,052*	2,628
	Suitability of Enterprises location in the market	-1,131	,544	4,319	1	0,038*	,323
	No Parking lot problem	1,072	,355	9,118	1	0,003*	2,922
	Sense of confidence in the location	-1,368	,564	5,882	1	0,015*	,255
	Qualified Product Sales	-1,771	,789	5,038	1	0,025*	,170
	Varied and branded products	,883	,479	3,402	1	0,065**	2,419
	Constant	-4,357	4,252	1,050	1	0,306*	,013

“ * ” %5 level of significance

“ ** ” %10 level of significance

The increase in duty term has 0.3 times reduced the possibility of enterprise to position in shopping malls whereas the increase in educational background enhanced it by 2, 9 times. The rise in rental costs has 6,3 times increased the possibility of enterprise to position in shopping malls while the rise in the competitive advantages of location decreased it by 2,6 times. Suitability of enterprise's location in the market has 0, 3 times lowered the possibility of enterprise to position in shopping malls. Parking lot opportunity has 2,9 times increased the possibility of enterprise

to position in shopping malls yet the increase in sense of confidence in location 0,2 times decreased the possibility of enterprise to position in shopping malls approximately. The increase of qualified product sales has 0, 2 times reduced the possibility of enterprise to position in shopping malls approximately. Lastly, the increase of product range and the increase in the number of branded products have 2, 4 times reduced the possibility of enterprise to position in shopping malls.

Conclusions and Suggestions

Shopping is one of the basic needs of humanity that was a concept happened in city centers back in the day. By the time the factors such as the differences in social life, incremental revenue, cultural changings and the absence of time in meeting the needs have addressed people and enterprises to the shopping malls in which the retails are controlled from one center. The most significant asset of enterprises is not the profit they make but the data which helps them to make predictions about customers' needs and expectations in these conditions of increased competition. Street stores' competitive capacity has reduced against the escalating number of shopping centers and almost lost their superiority in terms of site of establishment.

The reasons why customers prefer the shopping centers were surveyed and the proximity of their answers were compared.

In addition, by making a separate assessment in the enterprise dimension, advantages of the establishment location of street and shopping center stores were determined and what kind of strong and weak aspects they have with respect to each other respectively were defined.

From the evaluation of the relationship between customers and shopping malls it is seen that in customers' preferences, malls should meet the needs and expectations of customers such as "nursery rooms for the parents with infants", "playgrounds for the parents with kids", "frequency of shopping mall going and being easily accessible" physically. Also we can conclude that shopping malls ought to preserve their natural privilege in terms of the crowd population on the days that people

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go there along with the altering socio-cultural structure. However it is determined that street stores have strong and weak sides against shopping malls which are given below:

“The rise in rental costs has 6, 3 times increased the possibility of enterprise to position in shopping malls. Parking lot opportunity has 2, 9 times increased the possibility of enterprise to position in shopping malls. The increase in sense of confidence in location 0, 2 times decreased the possibility of enterprise to position in shopping malls approximately.”

After revising the relationship between street stores and shopping centers it is detected that both are superior and inferior to one another in terms of different factors and what kind of a method they need to use in competing each other was forecasted. Also with the results of surveys conducted among customers the relationship of the reasons why customers prefer shopping malls were presented and the preference criteria were literally revealed.

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SECTION **V**

**ECONOMICAL-CULTURAL HISTORY
AND ELECTION SYSTEMS**

21

EVALUATION OF ELECTORAL SYSTEMS THROUGH CONSTITUTIONALISM: THE CASES OF UK, USA AND TURKEY

Yasin ERKAN¹

1. Introduction

Elections that determine who will rule the country or political power, also determine the composition of the majority that will make or change constitutions and laws. According to Tuncer (1996: 113), it is possible to say that electoral systems are as important as constitutions. The function to determine the power has made the electoral systems debatable.

There are many different electoral systems and combinations so the election systems in certain countries have been examined considering the limitations of the study. In the study, the UK as it is the cradle of the parliamentary system, the USA as it has contributions on presidential government system to be known as worldwide and **Turkey** were selected as several electoral systems have been applied for years. Moreover, the fact that the UK and

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the United States have advanced democracy as developed countries, Turkey to set an example to the developing countries are among some reasons to prefer these countries. Since the parliamentary system is implemented, the parliamentary elections in the UK (House of Commons), due to the implementation of the presidential government system, presidential elections in the USA, as parliamentary election system had been applied until 2017 in Turkey, parliamentary elections will be the subject of this study. ²

The issue of electoral systems and constitutionalism has been handled independently from each other. On electoral systems, Güvenir (1982), Li-jphart (1991, 1994), Özbudun (1995), Yüzbaşıoğlu (1996) and Tuncer (1996, 2006); In terms of constitutionalism, Sartori (1997), Arslan (2003, 2005), Hakyemez (2004), Sarıbay (2008), Gülener (2017) have important academic studies. This issue was considered worthy of investigation as there is not any study to examine the relation between the electoral systems and constitutionalism in Turkey. In this context, firstly the idea of constitutionalism and election systems will be explained and then the relationship between the two will be put forward.

2. The Idea of Constitutionalism

The discussions on how to draw the sovereignty of the state form the basis of the idea of constitutionalism. Due to the difficulty of determining the area of freedom of the individual, it becomes important to draw the limits of sovereignty. Because constitutionalism has emerged as the result of an individual-oriented thought that focuses on the value of individual. As the state expanded its sovereignty area, it became stronger against the individual, and when this border was narrowed, it lost power against the individual (Gülener, 2017: 23-24).

One of the basic concepts of constitutionalism is the concept of sovereignty. This concept, which has undergone many changes in the historical

2 Considering the scope and limitation of the study, the elections and electoral systems that can be related to the idea of constitutionalism were examined.

process, was first used by Jean Bodin. Bodin defines sovereignty as “the highest, absolute and most permanent power” on citizens. According to Hobbes, sovereignty is established by contract but not a party to the contract, not bound by any rules, and it is “absolute,” “superior,” “continuous” and “indivisible”. Hobbes asserted that there should be only one single point of objection to the sovereignty in the issue of the protection of life. Accordingly, the right to disobedience and resistance arises when the individual’s right to life is compromised. Taking the concept of sovereignty from another perspective, Rousseau redefined sovereignty in democratic terms, stated that sovereignty was the sovereignty of the people and explained this situation with the concept of general will that he aimed at the public interest with this term (Hakyemez, 2004: 30-39).

In the modern era, concepts such as democracy, human rights and the rule of law have eroded the concept of sovereignty: thus, the concept of limited sovereignty was started to be used with the idea that the individual should be protected against the state (Hakyemez, 2004: 104). From the perspective of this unstable understanding, the essence of the idea of constitutionalism resulted from the idea that power must be limited in order to protect individual freedom. In this respect, constitutionalism “includes all kinds of ideas, tools, methods, rules and institutions that aim to limit political power (Arslan, 2003: 385).

3. Electoral Systems

Election; it is a process in which people delegate the authority of administration by choosing among the many candidates for the use of political power, in the next period, people evaluate and control the ruler’s use of political power (Karamustafaoglu, 1970: 15). In representative democracies, elections are the source of governance and the basis of legitimacy. Indeed, this understanding is expressed in the Universal Declaration of Human Rights with the following provision: “The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal

suffrage and shall be held by secret vote or by equivalent free voting procedures” (article 21/3).

The importance of election in modern democratic societies is an indisputable fact. The selection process, which provides representation of the governed, also requires some technical regulations. Determination of the electoral system is the foremost of these technical arrangements. According to Lijphart, electoral systems are the method of converting the votes of citizens into the seats of representatives (Lijphart, 1994: 10). Electoral systems, which are formed around the main principles of “Stability in Governance and Justice in Representation “ differ among countries. Some countries prioritize the principle of justice in representation and regulate their electoral systems according to this principle, while others determine their electoral systems within the framework of the principle of stability in governance.

The principles of justice in representation and stability in governance actually represent two opposing concepts. If one is provided, the other is hard to realize. There is no doubt that these two principles are positive at first glance, but it is a fact that these two principles are two conflicting principles, and in this context, there are continuous problems in practice (Hakyemez, 2007: 24).

Plurality Systems

Plurality systems, which are the first system used in the history of elections, are based on a simple idea and the system is as easy to implement. According to this system, the party or candidate who receives the majority of the valid ballots cast in an election is entitled to receive the representative or all the representatives in that election (Yavaşgel, 2014: 83). Therefore, stability in governance is at the forefront in plurality systems. In general, coalitions are not common in this system. This system gives advantage to large parties and facilitates single party power by allowing a limited number of parties to enter parliament.

In order to win the election in the plurality systems, the party list or candidate must be able to provide the majority of the votes cast (Tunç, 1999: 139). In a *single-turn single-member district* electoral system, the country is divided into small electoral quarters, where a single candidate is elected from each constituency. The candidate with the highest number of votes is elected for each election. This system is known as the UK's electoral system. It is applied in 43 member countries of the British Commonwealth, especially in the UK and the USA. In a *single-turn wide district* electoral system, lists of at least two names compete in a constituency. This electoral system was implemented in the period between 1946-1960 in Turkey. In *two-turn single-member district system*, elections take place in two rounds. In order to be elected in the first round, a candidate must exceed 50% of the vote. If this rate cannot be achieved, second round elections are held among the candidates exceeding a certain percentage of votes in the first round and the candidate providing the majority is elected. Two-turn narrow district plurality system is also known as French system (Gurbuz, 1997: 15).

Proportional Representation

The primary objective in this system is to represent the political parties in the parliament in proportion to the votes they receive. Political views in society will be reflected to the parliament in proportion to their powers. Therefore, the proportional representation system is a system that places fair representation at the centre. (Yuzbasioglu, 1996: 111). The greatest virtue of proportional representation systems is justice in representation. The criticized part of this system is that it leads to excessive party fragmentation (Sartori, 1997: 84).

In the *system of proportional representation at national level*, the whole country is considered as an electoral environment and the parties nominate as many candidates as the total number of deputies in the parliament and parties nominate deputies according to the percentage of votes they have received (Gözler, 2004: 138). In the *proportional representation system at the electoral level*, the country is divided into electoral circles, the parties

elect deputies from each electoral circle according to the rate of votes. *The biggest residual procedure* is the system of distribution of the votes according to the number of votes received by the parties to the parties receiving the most residual votes in order of size (Çam, 1990: 255). In the national remnant system, at the country level all residual votes and deselected parliamentary deputies are gathered at a single centre. At the country level, the total number of residual votes is divided by the total number of deputies and national election quota is found. Each party's total of residual votes divided by quota and how many deputies will be given to the parties from the national residue is determined (Özbudun, 2009: 263). In the *D'Hondt procedure*, votes and deputies are no longer left in the process of sharing votes in the electoral environment. In this system, the names of the political parties participating in the elections are written one by one and the number of valid votes they receive is written in front of them. The number of votes of political parties is divided into one, then two, then three, then four, ... until to reach the number of deputies to be elected from the area. The shares obtained are distributed from the highest to the smallest without distinction and the deputies are distributed (Gözler, 2011: 731).

4. Electoral Systems and Constitutionalism Relations: UK, US and Turkey

In the UK, a single-turn wide district plurality system is implemented. In the UK, which is the cradle of this system, the parliament (the House of Commons) is formed according to this system. This system is also called "first past the post" system in the UK (Lijphart, 1991: 16). In this system, the country is divided into as many electoral circles as the number of representatives in the parliament and the candidate who gets the most votes in each election circle wins the election.

The single-member district system can lead to unfair results in practice. In this system, sometimes the party that obtains a minority of votes can take over the majority of the parliament, that is, the power. In the 1945

elections in the UK, the Labour Party received 48% of the votes, the number of deputies won in the parliament with a representation of 62% was 393, while the Conservative Party, which received 39.6%, was able to win 210 deputies (Güvenir, 1982: 224). Again in the 2015 elections, the Conservative Party won a 51% representation with 37% of the vote. As can be seen in these two examples, parties can have the will to use power by being entitled to a representation far above the votes they have received.

As another example of unfair election results, the Labour Party won 39.3% of the votes in the 1974 elections and won the majority of the parliament with 319 deputies, while the Liberal Democrats, which received 18.6% of the vote, could only get 13 deputies. The Labour Party was able to be represented about 25 times more than the Liberal Democrats, who had received half of the votes. Thus, the Liberal Democrats demanded the transition to a system of proportional representation, while the Conservative and Labour Parties favoured plurality system (Lijphart, 1991: 20). The party, which seized power with a higher representation than the votes it had received, wanted to continue and consolidate its power by demanding the continuation of the electoral system which had unfair consequences.

In the UK, due to the unequal number of voters in the electoral circles and the characteristics of the distribution of votes, it was observed that in some general elections, the party with the highest number of votes was represented less in the parliament. In the UK general elections held in 2010, the Democratic Union Party won 0.6% of the votes and 8 representatives; the United Kingdom Independence Party, which received 3.1% of the vote, failed to appoint any representative. In the 2015 general elections, the UK Independence Party received 12.6% of the votes, but it was able to get one deputy, and the Scottish National Party had 56 representatives with 4.7%. In the 2017 elections, the Scottish National Party won 35 MPs with 3%, the Liberal Democrats won 12 MPs with 7.4% and the Democratic Union Party won 10 MPs with 0.9% (electionresources.org). Therefore, the votes that are not represented in the parliament may be more than the votes represented. In this system, small

parties have little chance in elections. Voters who are aware of this situation usually vote for one of the two big parties in order not to waste their votes (Lijphart, 1991: 20). The injustice of the narrow regional plurality system in the UK is increasing due to “bipartisanship”. Bipartisanship refers to a political environment in which two political parties exist. Although more than two political parties participate in the elections, they are used to describe a political environment in which the power shifts like “a clock pendulum” between the two major parties. In Anglo-Saxon countries where plurality systems are applied, two-party political systems are generally seen (Teziç, 2013: 370). This situation is expressed by the “Cube Law”. According to the Cube Law, if the ratio of the votes cast to two parties is A / B , the ratio of the seats won will be A^3/B^3 (Schrodt, 1981: 43). For example, if the votes of party A are 50% and party B is 40%, according to the Cube Law, the representation rates of these parties in parliament are not $5/4$ but $5^3/4^3=125/64$. As a matter of fact, the recent UK general elections held in 2017 confirm this law. In this election, the Conservative Party won 317 representatives with 42.3%, while the Labour Party won 262 representatives with 40%. According to the Cube Law, the ratio of $42.33 / 403 = 317/262$ is realized with a very low deviation (0.02). The constant change of power between two parties is contrary to the idea of constitutionalism. This situation provides a very serious advantage to the powerful parties at the stage of political power. In addition, there is an indirect intervention in the party preferences of the individuals who are left in the choice between the two parties with the plurality system.

In the US Presidential Elections, a single-member district system is applied. Similar to the case of the UK, a candidate who obtained a minority of votes many times seems to be elected president. This is due to the fact that the number of voters in the electoral circles is unequal and the characteristics of the distribution of votes, as in the UK. Although the Democratic Party candidate Tilden received 51% of the votes in the 1876 Presidential Elections, the candidate of the Republican Party, Hayes, received 4,036,298 votes and was elected to the presidency with 48%. A

similar situation arose in 1888 when Republican party candidate Harrison was elected to the presidency by 47.8% with 5,439,953 votes despite the Cleveland's candidate for the Democratic Party, with 5,540,329 votes, 48.6%. (Güvenir, 1982: 225).

There was a similar situation in the election of George W. Bush in 2000. Although Al Gore received 48.4% of the vote with 50,999,897 votes, George W. Bush was elected president with 50,456,002 votes and 47.9% of the vote. Lastly, Donald Trump got 46.1% with 62,979,636 votes and elected as president in the 2016 United States presidential election, although Hillary Clinton got 48.2% with 65,844,610 votes (britannica.com).

It is possible to increase these examples. As can be seen, the single-member district system applied in the UK parliamentary elections and the US presidential elections may produce unfair results. This system, designed to ensure stability in management, seriously undermines the principle of justice in representation.

Judging by the example of Turkey, a rich electoral system emerges in the historical process. Turkey has experienced three election periods between 1950, the year is accepted as the turning point of the multiparty life and 1960 which the military coup took place in. In this period, a single-turn large-plurality system was implemented in order to ensure stability in the administration and all three election periods resulted in the power of the Democratic Party (DP) alone. The "overrepresentation ratio", which represents the difference between the party's vote rate and the seats in parliament, reached 35.2 percent in favour of the DP, especially in the 1954 elections. Although the DP received 57.6% of the votes in this election, it gained a very serious 92.8% representation in the parliament. It is stated that this overrepresentation encourages some of the practices of the DP, which are described as anti-democratic and subsequently criticized too much (Aydemir, 1987: 70). Had the proportional representation been applied instead of the list majority in the elections, the difference between the DP and the Republican People's Party (CHP) would

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have been considerably reduced, so that political tension and the flow of events would have been possible to change (Kili, 1976: 128).

According to Güvenir (1982: 237-238), the interesting point is that the CHP, which predicted that it would remain in power before the 1950 elections, rejected the opposition's proposal for a proportional representation system, but when it achieved a low 14% representation in parliament, the CHP stated that the plurality system did not include a fair and just representation; a party dictatorship could be used with this system; therefore, the plurality system should be abandoned and the system of proportional representation should be accepted. The DP, which was in opposition before 1950 and demanded the transition from the ruling party to a system of proportional representation, never mentioned the name of this system and preferred the way of consolidating its power by being satisfied with the plurality system. In other words, it used the election system as an important tool in maintaining its power.

As in the case of the British Labour Party, DP and CHP wanted to take advantage of the electoral system. As can be seen, the opposition party advocates a system of proportional representation that provides fair results, and when it seizes power, it gives up its defence and uses the plurality system as a means of consolidating its power. It is not possible to reconcile this with the idea of constitutionalism. There was no mechanism for limiting the power in Turkey until 1960, as a result arbitrary practices of the governments could be in question. As a result of this situation, the Constitutional Court was established with the 1961 Constitution and at the same time, due to the unfair consequences and the reactions in the society, the electoral system was changed and a proportional representation system was adopted instead of the plurality system. Therefore, to limit the power, the constitutional judiciary was established and the electoral system was changed in this direction (Tuncer, 2006: 169). Since 1961, various forms of proportional representation have been applied in Turkey.

The Republican Senate elections held in 1961 are another example of injustice in representation. The CHP received 36.1% of the vote with

3,734,285 votes and the Justice Party (AP) received 34.5% of the vote with 3,560,675 votes. Nevertheless, AP won 71 and CHP won 36 senators.³ Among all the elections held in Turkey in its election period, the 1965 elections represented the highest degree of justice. In the 1965 elections held according to the national remnant system, the votes received by the parties and the representation rates in the parliament are almost equal. The differences between these ratios vary between 0.1% and 1.1%. (Tuncer, 1996: 111). In this respect, the national remnant system gives the fairest results in the representation of individuals' voting preferences in parliament. Moreover, in the elections in question and again in the 1969 elections, where the d'Hondt system without election threshold, which prioritized justice was applied, the AP seized the majority that could be ruling alone (Tuncer, 2006: 171). Therefore, the national balance and the d'Hondt systems without election threshold provide advantage to small parties in terms of representation and enable the emergence of power alone. These systems not only provide justice in representation, but also ensure stability in management. With these features, it can be said that the national balance and the d'Hondt systems without election threshold are in line with the idea of constitutionalism.

According to Yüzbaşıoğlu (1996: 116), at that time in Turkey, it was aimed to prevent AP to become power alone by adopting the national remnant system. The AP, which was the sole ruling party in the 1965 elections, to maintain its power alone, amended the Election Law and adopted the d'Hondt system with election threshold. However, Labour Party appealed to the Constitutional Court of Turkey for annulment, the provision concerning the election threshold was revoked as unconstitutional. In this decision, the Constitutional Court stated that "*the election system with the election threshold is contrary to the principle of a democratic state of law, since it can lead the representatives of minority voters to take over the leadership of the country by providing a majority in the Parliament.*" Moreover, "*it informs the electorate in advance that if the votes cast in the same*

3 With the subsequent amendment, the proportional representation system was applied in the senate elections.

direction do not fill a certain number, all of these votes will not be taken into consideration, the electorate is initially under spiritual pressure and puts hesitation into it. Therefore, it is contrary to the principle of free voting". (Constitutional Court, E.N. 1968/15). The Court found the election threshold application to be in violation of the principles of freedom of elections and multi-party political order, and thus deprived the right to elect and be elected and favoured fair representation. In the 1973 and 1977 elections, the CHP ranked first, but as a result of the d'Hondt system without election threshold that worked in favour of small parties, it failed to secure a majority in parliament. Had the list-based majority system or the d'Hondt system with the election threshold been implemented, the CHP would have been the ruling party in the 1973 and 1977 elections. Thus, for the first time the experience of power alone of a party on the left of the political spectrum would have been tried (Tuncer, 1996: 111). Since 1995, %10 country threshold d'Hondt system has been implemented in Turkey. The height of the country threshold is a problem here. The most obvious example of this is the 2002 elections. It is a serious situation that around 45%⁴ of the votes were never represented in these elections. The Justice and Development Party (AK Party) gained 66.3% representation in the parliament with over 31.7% representation with 34.3% of the vote, and the CHP had a 32.5% representation with 19.4% (ysk.gov.tr). As in this example, the fact that proportional representation systems contain a high threshold makes the system away from the principle of justice in representation, which is its main feature, and brings it closer to the principle of stability in management.

5. Results

It is possible to read election systems through constitutionalism. As can be seen in England, the single-member district system sometimes gives a party a larger majority in parliament than it does in the country. Likewise, candidates with fewer votes in the United States can be elected president.

4 The votes of the parties that did not pass the threshold: DYP 9.52%, MHP 8.35%, GP 7.24%, DEHAP 6.13%, ANAP 5.12%, OTHER 8.84%.

This causes great injustices. Similarly, in Turkey in the wide district plurality system, even if there is only one difference between the majority and the minority, everything is finished for the minority. With this nature, the plurality system abolishes the right of the minority in classical democracy to be protected and the minority to express their opinions.

Electoral systems can be considered as a new tool for constitutionalism. Electoral systems have been used by the ruling party many times as a means of preserving and consolidating power. At this point, the problem of power change appears. The electoral system, which is used as an advantage for the ruling party, constitutes a handicap on behalf of the opposition parties and makes it difficult for the opposition parties to come to power.

Plurality and d'Hondt systems with threshold reduce the number of parties entering parliament and facilitate single party power, while d'Hondt system without threshold and national remnant system make single party power difficult. In a sense, electoral systems can play an important role in gaining or losing power. In the 1973-1977 elections in Turkey, highly voted CHP was hampered by the current electoral system not to be the power alone that day. In the 2002 election, in the AK Party case, although it could not get enough majority votes, it was able to rule by itself thanks to the advantage of the electoral system.

If the proportional representation system was applied to the examples in the study, it would not be possible to elect the president who received fewer votes in the USA, and the candidates with the most votes would win the presidential election. A coalition would have to be formed in the parliamentary elections. In terms of the idea of constitutionalism, it can be said that the coalition is more appropriate than the power alone. Because, in one aspect, the coalition serves to limit power. Plurality electoral systems, in other words, the winner takes all, are seen to be the systems that provide the power to be strengthened aside from limiting power in parliament and administration.

The idea of constitutionalism is not a priority of ensuring stability in administration. The idea of constitutionalism is basically aimed at strengthening individual rights in the face of state power. The right to vote, one of the fundamental rights and freedoms, is damaged in the plurality system. As can be seen from the examples in different countries, voter will is not fully reflected in this system. In addition, plurality systems aim to strengthen power. For these reasons, it can be said that the proportional representation system is a more appropriate system in the context of constitutionalism. The fact that this system contains a high country threshold causes similar problems. In both plurality systems and proportional representation systems, the corruptive danger of power should not be ignored. As Lord Acton also stated, “power corrupts, absolute power corrupts absolutely”.

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EVALUATION OF 2019 LOCAL GOVERNMENT ELECTIONS IN TURKEY WITHIN THE FRAMEWORK OF POLITICAL BUSINESS CYCLE THEORIES

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1.INTRODUCTION

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The aim of almost all struggles in the process beginning from the appearance of humanity is based on obtaining power and rulership. From the point of view of democracies that are accepted as the best form of governance compared to others, the fact that the voter is the one who gives the power to rulership necessitates to get the vote with persuading and satisfying the voter.

It has always been an object of curiosity how politics affects economic decision-makers and decisions. Especially with globalization, we can feel the economic consequences of every political move. Thus, politicians are expected to convince voters, particularly in economic areas, by using the instruments in their jurisdictions to be elected. This expectation was first introduced into the literature by Kalecki in 1943 and became popular with Nordhaus's study in 1975. Thus, Political Economy was directly related to market behavior towards the end of the 20th century. Political economy is an area that examines the rules of economics and politics and explains the place, decisions and politics of the state regarding the economy. (Savaş, 2008: 2). In almost every aspect of economics and politics, it does not seem possible to ignore the relationship between economic behaviors and political decisions.

All processes in our economic life are influenced by the decisions of the rulers. The political preferences of the electorate and those elected will affect the capital, natural resource stock and consumption decisions of both us and future generations (Nordhaus, 1997a: 232-233). It examines the relationships and interactions between political economic fluctuations, political systems and economic decisions. In other words, the literature of political economic fluctuations fundamentally examines the relationships between politicians who want to be elected, and the voters who will vote based on their economic concerns (Nordhaus, 1997b: 40).

2. POLITICAL-ECONOMICAL FLUCTUATIONS

2.1. Definition and History of Political-Economical Fluctuations

The literature on political economical-fluctuations examines the effects of elections, a requirement of democracy, on the economy. Political-economical fluctuations in the narrow sense are the effects of elections and their results on macro variables in the economy. (Amacher and Boyes, 1978: 7). In broad terms, they are defined as the fact that politicians who manage the economy and want to be re-elected in order to obtain various economic and political advantages (Paldam, 1997: 343) cause some short-term and long-term cyclical effects on macro-economic variables through a number of expansionary economic policies (Cameron, 1978: 72). There are short and long periods in political-economical fluctuations. The short period covers 1 pre- or post-electoral year and/or the election year, while the long period covers 4 years from one election to the next (Aktan, 1997: 150).

The place of political-economic fluctuations in literature is based on Classical Economics which is the view that state does not intervene in economy, Neo Classical Economics School, which is an extension of Classical Economics in 1960s, Constitutional Economics School and Public Choice Theory (Onur, 2001: 159). Until the 1970s, various effects on macroeconomic variables were presumably caused by unintentional economic policies of well-intentioned politicians. In the studies conducted after the 1970s, it was revealed that the economy was deliberately manipulated by governments in order to gain political superiority in the short term. Studies on political-economical fluctuations have also gained importance especially after this period (Morgan and Shackleton, 1990: 105).

In 1943, Kalecki first raised the issue of politicians trying to increase their chances of being elected again by using the tools they had in their power. Kalecki focused on political-economic fluctuations in the form of a power struggle according to Marxist theory. According to this study, there is a constant conflict between the companies and the government. Governments want to reduce unemployment during election periods in order to gain votes, thus increasing the wages and inflation as a result of the decrease in employers' effectiveness in the labor market. The economy is

exposed to overheating due to the decrease in entrepreneurs' profit share, inflation and productivity reduction. When economic depressions become permanent, political-economical fluctuations emerge (Varım, 1997: 6).

The Public Choice Theory, the foundations of which were laid in the early 1960s, is called Economic Theory of Politics or New Political Economy. The Public Choice Theory developed in the period following World War II and this development intensified in the 1950s and 1960s in the United States, and in the 1970s in Europe and Japan (Buchanan, 1999: 45-46). One of the most important reasons for the development of Public Choice Theory in those years is the fact that the neo-classical schools known as Social Welfare Theory and Theory of Public Goods had failed to explain and solve the problems that arise. The second reason is the problems posed by the practices of Keynesian policy. The main issue that the Public Choice and Constitutional Economics approach emphasizes is the distribution of total economic resources between the public sector and the private sector and the argument that composition of the public is determined by political processes and political actors (Hepaksaz, 2007: 90-91).

The Vote Maximization Model put forward by Downs has an important place in the literature of public choice and in the literature of political-economical fluctuations. According to Downs, in reality politicians in power do not directly take into account the welfare of individuals and are primarily concerned with the votes of individuals. Politicians, like other individuals, consider to maximize their personal benefits. According to this idea, social welfare is not the aim but the result of the behavior of politicians and bureaucrats (Downs, 1957: 18).

In 1975, Nordhaus introduced a model of opportunistic political-economical fluctuations. The model includes non-rational voters with adapted expectations and non-rational politicians who want to be re-elected. According to Nordhaus's model, non-rational voters only take into account their past economic experiences when voting. The model assumes that there are two political parties, the economic performance of political power can be measured by inflation and unemployment, and the political power is

constrained by these two macro variables. (Nordhaus, 1975: 170). According to Nordhaus, a stable Phillips Curve is valid in the economic field. According to these assumptions, increases in inflation continuously reduce unemployment and thus increase growth. However, due to the adaptation of expectations, it is concluded that economic life is influenced by de facto inflation with a certain delay (Alesina, 1987: 147).

Nordhaus's work in 1975 was later developed by C.D. MacRae in 1977 and named NM theory. The political economic fluctuation model in NM Theory is based on the assumption that politicians administer expansionary economic policies in order to increase their chances of re-election in election periods. It is emphasized that voters and politicians act based on myopic political and economic purposes (Nordhaus, 1989: 57).

Edward Tufte's Election Economics Cycle Model also assumed that economic actors adapted the expectations and tried to explain the Phillips Curve within the framework of political-economical fluctuations. The ruling politicians implement loose monetary and fiscal policies during election periods, increasing real usable income, reducing unemployment and tax revenues, and increasing transfer spending (Tufte, 1978: 93).

Economists who adopted the logic of rational expectations that emerged in the 1970s did not favor the assumption of change between inflation and unemployment in the short-term Phillips Curve, which was accepted during the election periods, and which could be used by politicians. The literature, which is based on the assumption that political-economical fluctuations arise with partisan effects and that economic actors have rational expectations, consists of Hibbs' Party Control Model and Alesina-Kohen-Roubini's Rational Partisan Theory of Macro Policy (Chapell and Keech, 1986: 15).

In his study, Hibbs stated that different political parties have different economic views and preferences. He pointed out that the left-wing parties are more focused on fighting unemployment while the right-wing parties are more focused on fighting inflation. With the displacement of

the parties holding power, economic decisions will also change over time and fluctuations will accordingly occur in the economy. In other words, the ideological aims of the ruling party will change the economic policies to be implemented (Hibbs, 1994: 1470). According to Hibbs, political parties are divided into three groups as conservative, socialist and centre according to their ideological aims. Conservative parties, aim to reduce high inflation, adjust the payments balance, achieve economic growth, full employment and justice in income distribution respectively. Socialist parties, aim at full employment, justice in income distribution, price stability, economic growth and adjustment in the balance of payments respectively. The centre parties, on the other hand, aim to achieve price stability, economic growth, full employment, balance in income distribution and balance of payments (Hibbs, 1977: 18).

The study of Alesina-Kohen-Roubini revealed that due to the partisanship of the governments, left-wing parties caused demand expansion and inflation increase with the policies aimed at lowering the unemployment rates in the election years. The study emphasizes the fluctuations in macroeconomic variables by identifying the right-wing parties as the ones that focus on lowering inflation and the left-wing parties as non-unemployment parties (Alesina, Cohen & Roubini, 1991: 25).

Chappel and Keech have contributed greatly to the study of Alesina-Kohen-Roubini. According to Chappel and Keech, voters have rational expectations and voters are aware of inflationary and deflationary pressures in the economy. Voters' predictions of the future are based on rational expectations. This study emphasized that partisanship was seen at the beginning of the election period and that the economic policies implemented by the governments during this period caused fluctuations in the economy (Chappel and Keech, 1986: 315).

The study of Rogoff and Sibert (1988) and the study of Rogoff (1990) emerged under the influence of rational expectations. In these studies, the assumption that voters have asymmetric information is brought to the agenda instead of the assumption that the voters are myopic. Voters

with rational expectations observe and question the efficiency of politicians. Governments also try to prove their efficiency to voters by applying expansionary fiscal policies during election periods (Savaşan and Durşun, 2006: 195).

Beck (1982) examined the relationship between politicians' monetary policy and elections as the Leader-Oriented Approach and Voter-Oriented Approach. When the political party chairman and party discipline are taken into consideration during the election periods, the Leader-Oriented Approach appears while the Voter-Oriented Approach is taken into consideration when the voters voting are considered. What these two approaches have in common is that they are motivated by the election and how the elections will affect monetary policy. In the Voter-Oriented Approach, voters make nonspecific estimates of the most appropriate monetary policy to be implemented. Politicians' efficiency to govern the economy and their future performances can have the greatest impact on voting decisions of voters. In the Leader-Oriented Approach, the political leader can convince voters that economic policies that are painful in the short run can be healthy in the long run. A good political leader will be able to convince voters by making an optimal choice between the short-term benefits of monetary expansion and the long-term characteristics of tight monetary policies (Beck, 1988: 372). In this context, the fact that politicians act only to be elected leads to an increase in expenditures with expansionary economic policies during the election periods. The increase in pre-election expenditures may cause permanent economic problems after the election (Kılıçbay, 1994: 37).

Loose economic policies implemented before and during the election period bring about the problems to be solved in the post-election period. In the post-election period, these problems are dealt with by implementing strict monetary and fiscal policies and increasing tax revenues. Cyclical fluctuations are experienced in the economy due to these economic policy differences before and after the elections (Mitchell, 1988: 81).

2.2. Recent Contributions to the Literature

Looking at the studies conducted in various countries in the world literature, Akhmedov and Zhuravskaya (2003) tested the presence of opportunistic political fluctuations in Russia and found opportunistic political cyclical fluctuations in Russia's budget expenditures between 1996 and 2003.

Verstyuk (2004) analyzed the financial policy data of 27 regions in Ukraine between 1998 and 2001 in order to test the existence and magnitude of political cyclical fluctuations. It has been concluded that there are election economics implementations.

Chappel made estimates based on popularity and election results as to whether macroeconomic factors affect voter preferences in the United States. According to his results, voting behavior is affected by Gross National Product and inflation. The effects of unemployment remained relatively low (Sezgin, 2010: 258).

Alfano and Baraldi (2012) investigated the effect of the election system in Italy on public consumption expenditures and reached results with positive effect in their study.

Bengtsson (2004) conducted analyzes on 21 Western European countries using a total of 266 elections held after 1950. As a result of his study, he determined that one of the most important factors affecting the chance of the election of the government and the voting behavior of the voters is the economic factors.

Feris and Winer (2006) tested the existence of political budget fluctuations in Canada by combining economic and political variables for the years 1870–2000. They investigated the effects of fiscal policy instruments (budget deficits, taxes and public primary expenditures) on political factors and reached positive results.

2.3. Common Points of Political Economic Fluctuations Models

Politicians are aware of the importance of the economic conditions in which voters are in order to succeed in the elections. Therefore, they use the macro-economic tools at their disposal to ensure appropriate economic conditions for voters during election periods (Musgrave and Musgrave, 1989: 105).

The questions that lead to the introduction of the models for political-economical fluctuations and that make us wonder about the effects of elections on the economy are very important for the literature in question.

Parties: What are the motivations of political parties and party leaders? Do political parties act as opportunists or ideologically to increase their chances of being re-elected?

Voters: Do economic policies lead to confusion among voters? Do voters act on rational expectations or on adapted expectations?

Economic structure: Do political parties' political decisions affect the economic order? What political tools are available? Who has the authority to use these tools?

Shocks: What are the economic and political shocks? Do these shocks arise internally or externally?

Efficiency: Do the political parties act for the purposes with which they persuade the voter? Are the economic conditions for voters satisfying or are the parties acting according to their own ideology?

Studies on political-economical fluctuations have addressed the above questions in different ways. The first two groups of questions concern the rationality of voters and the behavior of political parties. Fluctuations in the economy will also be different if voters have rational expectations about political parties and elections. If voters rationally vote, they will use all the information they can obtain and evaluate the future performance of political parties (Bakırtaş, 1998, 50-51).

Another question of political-economic fluctuations concerns whether political parties are opportunistic and ideological. If political parties are turning to economic policies that will maximize their votes without considering the past process, then political parties are called opportunistic. If political parties pursue policies to achieve their socio-economic goals, regardless of their political popularity or coming into power, they are ideological. Many studies in this area assume that voters vote retrospectively rather than looking forward and have little knowledge of politicians and elections (Nordhaus, 1997b: 42).

2.4. Elements Limiting Political-Economical Fluctuations Models and Criticisms of Models

There are a number of elements that limit the validity of models of political economic fluctuations. These elements can be explained as follows:

- i) Since there are elections in the interregnums, politicians may not use the tools to create economic fluctuations.
- ii) The political party or parties may not dare to use the policy tools that could cause a contraction or expansion in the economy without hesitation for fear that they would receive public reaction.
- iii) Due to external factors such as wars or global economic shocks, the prepared policies may not be implemented.
- iv) Political powers cannot control all financial and monetary tools.
- v) If voters act in accordance with the rational expectations theory, the expansionary economic policies adapted to elections will only cause inflation and will be far from the expected real effects (Dornbusch and Fischer, 1990: 584).
- vi) Several systematic criticisms have been expressed for the literature of political- economical fluctuations, especially by the Liberals. First, they criticize the view that voters are focusing on marginal effects, not on the

overall benefit of public activities. They also oppose the assumption that pressure groups in society will ensure the continuous public interest. The liberals emphasized the organization costs of pressure groups. While pressure groups can be more easily organized for the sake of intense common interests, they are not easily organized in the case of common interests. Negotiations between the pressure groups with each other and political actors may even come to the point that is damaging the public interest. (Kovancılar, 1997: 213).

Again, according to the Liberals, the government's secret conduct of various activities may not be evidence of political fraud, but evidence of growth and empowerment, and even of a management staff trying to turn the administration into an imperial presidency (Robertson, 1994: 157).

3. POLITICAL-ECONOMICAL FLUCTUATIONS AND TURKEY

When we look at the basic economical fluctuations related to political studies in Turkey,

Ergun (2000) states that Turkish governments experienced political cyclical fluctuations during the 1987-1999 period, as in industrialized countries (Parlaktuna and Bahçe, 2006: 8)

Onur (2001) examined political business cycles between 1950 and 2000 and used monetary growth, taxes, transfers and government expenditures as variables in the tests. He detected that general parliamentary elections had a major impact on budget deficits without delay.

Asutay (2004) found out traces referring to the fact that political economic fluctuations occur on monetary fiscal policy in Turkey.

Berksoy and Demir (2004) determined that political authorities tried to manipulate elections by using tax burden as a tool.

Özatay (2005) compared public sector prices with private sector prices for the period between 1987 and 2003. According to the study, political powers are putting pressure on public prices to keep them relatively low in order to increase the possibility of being elected.

Savaşan and Dursun (2006) evaluated the changes in the expenditure rates over 3 election periods (1983-1998) covering 67 provinces with econometric analyzes in order to determine whether local governments made changes in their expenditures during election periods. As a result of the study, the existence of political-economical fluctuations has been found. Bakırtaş (1998) examined the local government elections of 1984-1989-1994 and obtained findings on the existence of political-economical fluctuations in local governments.

Sezgin (2007) conducted an econometric analysis of the election periods in Turkey in the 1950-2003 period, found out that economic growth was adversely affected by the elections and that the budget deficits and public expenditures increased due to elections during the period in question.

Considering the recent history of Turkey's economy, three important economic crises, namely April 1994 crisis, November 2000 crisis and February 2001 crisis, shook the country's economy. After these crises, various economic policies have been implemented but no results have been achieved. Then, in 2001, "Transition to Strong Economy Program" was prepared and with the support of the International Monetary Fund (IMF), it was aimed to improve macroeconomic variables. The main approach in the program was to reduce inflation rapidly, to eliminate the deterioration in public finances and to ensure economic growth through structural reforms (Kol and Karaçor, 2012: 381).

Due to these developments in the recent economic history of Turkey, the availability of budgets data regarding local governments and the municipalities since 2006, and the global economic crisis in 2008, 2 elections at local level will be discussed in reviewing whether there are traces of the political economic fluctuations in the study. These are March 30, 2014

Local Administrations Elections and March 31, 2019 Local Administrations Elections. As of the current period, investigation for the March 31, 2019 Local Administrations Elections covers only the pre-election period.

When the relevant models mentioned in the previous sections are considered, the main variables to be used will be budget-related variables. We will discuss whether there are findings about the political-economical fluctuations with the help of the tables related to the central government budget, local administrations budgets and the total values of municipal budgets. As stated in the aforementioned models, it is expected that the taxes, which are one of the income items of the budgets, will decrease before and during the election period and there will be increases in the post-election periods. Increases in investment expenditures, transfer expenditures and personnel expenditures should be observed during election periods, and decrease or slight increase should be observed in post-election periods. According to the political-economical fluctuations models, budget deficits and borrowing requirement values should increase during election periods and should show slight increases or decreases in post-election periods.

It would be appropriate to give the results of the above-mentioned elections. According to the results of the March 30, 2014 Local Administrations Elections, “Adalet & Kalkınma Party” won 800 of the 1397 municipalities, “Cumhuriyet Halk Party” 226 and the “Milliyetçi Hareket Party” 166. As a result of the March 31, 2019 Local Administrations Elections, People’s Alliance formed by the “Adalet & Kalkınma Party” and “Milliyetçi Hareket Party” won 1021 out of a total of 1389 municipalities and the Nation Alliance formed by the “Cumhuriyet Halk Party” and “İyi Party” 228 (www.ysk.gov.tr).

3.1. Political-Economical Fluctuations and Municipalities

The public administration system is organized in two ways: centralization and decentralization. In accordance with the public services, the centralization refers to carrying out the decisions and activities to be taken by the

central and sub-central public institutions and organizations. Local governments are a form of democratic organization outside the central government, organized to meet the needs of local communities, and decision-making bodies chosen by people in the geography (Eryilmaz, 2013: 106). Considering the constitutional order, there are three types of local government organization in Turkey. These are municipalities, provincial private administrations and villages (Topal, 2014: 119).

As of 2019, there are 30 metropolitan municipalities, 51 provincial municipalities, 519 metropolitan sub-provincial municipalities, 403 district municipalities and 386 towns municipalities as total of 1389 municipalities in Turkey (www.icisleri.gov.tr). Municipal services are carried out in two different ways. The first one is the municipalities operating under the Law No. 5393 while the second one is the metropolitan municipalities that operate in accordance with the Law for Metropolitan Municipalities No. 6360. Law no. 6360, which abolished the legal entity of many municipalities and villages since 2012, provided metropolitan identity to 13 provincial municipalities in addition to the existing metropolises, abolished the legal entity of provincial private administrations in existing and new metropolitan municipalities and introduced a new regulation in the local administration system, has been implemented since 2014 (Cicek, Dikmen and Arslan, 2015: 61). According to these laws, municipal revenues consist of the following; i) Municipal taxes, duties, fees and shares, ii) Shares allocated of the general budget tax revenues, iii) Payments made by the general and private budget administrations, iv) Revenues obtained from the rental, sale and other uses of movable and immovable properties, v) Fees for services according to tariffs determined by the municipal council, vi) Income from interest and penalties, vii) Donations, viii) Income from enterprises, participation and activities ix) Other income (Ipek, 2018: 3). Since 2006, analytical budget classification has been used in municipalities. According to this classification, the economic expenditures of the municipality are; personnel expenses and government premium payments to social security institutions, expenditures on the purchase of goods and services, interest expenditures,

current transfer expenditures, capital expenditures, capital transfers, lending and reserves (Ulusoy & Akdemir, 2012: 79).

Municipalities are much more limited in terms of political economic fluctuations at the local level compared to the central government, and the authority of municipalities is very limited in terms of revenues and especially expenditures. Municipalities mostly use state aid during the election periods. It is up to the central authority to determine whether and to what extent the aid will be provided. Another factor that municipalities can use to generate political economic fluctuations in election periods is employment expenditures. Local governments have only a certain level of administrative and financial independence. Central government bodies and their representatives retain certain supervisory powers in the financial decisions and practices of local governments and in the recruitment of personnel. Nevertheless, the municipalities may increase their expenditure items during the election periods or change the composition of their expenditure items in order to be elected again. (Savasan and Dursun, 2006: 196). Another income item that municipalities can apply for is borrowing. Since the past, municipalities have been borrowing in order to fulfill their promises in election periods. Municipalities may resort to Iller Bank as their main source for borrowing, borrow from banks and private individuals through bond issuance, or make external borrowing through treasury guarantee (Meric & Sakal, 2001: 224).

3.2. Monitoring and Evaluation of Political Economic Fluctuations

The monitoring of political-economical fluctuations will be carried out through the central government budget and in particular the municipalities budget. Evaluations will be performed on various income and expenditure items in these budget items. In addition, the shares transferred from the general budget tax revenues to local administrations and funds will be monitored and evaluated over the years.

EVALUATION OF 2019 LOCAL GOVERNMENT ELECTIONS IN TURKEY WITHIN THE FRAMEWORK OF POLITICAL BUSINESS CYCLE THEORIES

Ömer Vehbi Issi

Table 3.1: Central Government Budget (2006-2019, In Thousands of Turkish Lira)

(In Thousands of TL)	2006	2007	2008	2009	2010	2011
Expenditures	178.126.033	204.067.683	227.030.562	268.219.185	294.358.724	314.606.792
1-Non-Interest Expenditures	132.163.324	155.314.792	176.369.257	215.018.291	246.059.962	272.375.234
Personnel	37.812.207	43.568.839	48.856.322	55.946.887	62.315.338	72.914.142
Social Security Instution Premium	5.075.096	5.804.535	6.407.540	7.208.283	11.062.515	12.849.764
Purchase of Goods and Services	19.001.460	22.257.921	24.411.518	29.798.912	29.184.905	32.797.259
Current Transfers	49.851.206	63.291.858	70.360.437	91.975.805	101.857.081	110.498.851
Capital Expenditures	12.097.713	13.003.480	18.515.893	20.071.509	26.010.306	30.905.295
Capital Transfers	2.637.015	3.542.364	3.173.794	4.319.248	6.772.643	6.738.618
Lendings	5.688.627	3.845.795	4.643.753	5.697.647	8.857.174	5.671.305
Reserve Appropriations	0	0	0	0	0	0
2-Interest Payments	45.962.709	48.752.891	50.661.305	53.200.894	48.298.762	42.231.558
Revenues	173.483.430	190.359.773	209.598.472	215.458.341	254.277.435	296.823.602
1-General Budget Revenues	168.546.745	184.802.653	203.026.914	208.610.436	246.051.496	286.554.013
Tax Revenues	137.480.292	152.835.111	168.108.960	172.440.423	210.560.388	253.809.179
Enterprises and Properties	7.530.999	8.239.102	7.422.167	9.948.230	9.804.032	9.063.090
Donation, Aid and Special Revenues	2.254.982	1.844.605	849.596	807.329	965.516	1.068.362
Interests, Dividends and Fines	19.439.351	15.706.237	17.125.849	23.057.791	21.114.218	19.739.446
Capital Revenues	1.841.121	6.079.990	9.113.751	2.044.436	3.375.554	2.529.671
Debt Recovery	-	97.608	406.591	312.227	231.788	344.265
2-Special Budgeted Administrations Self-Incomes	3.529.663	3.971.935	4.824.938	5.036.830	6.333.187	8.174.114
3-Regulatory and Supervisory Authorities Revenues	1.407.022	1.585.185	1.746.620	1.811.075	1.892.752	2.095.475
Budget Balance	-4.642.603	-13.707.910	-17.432.090	-52.760.844	-40.081.289	-17.783.190
Primary Balance	41.320.106	35.044.981	33.229.215	440.050	8.217.473	24.448.368

Source: Turkish Republic Ministry Of Treasury And Finance, <https://mhuhesat.bmb.gov.tr/merkez-yonetim-butce-istatistikleri> (Date Accessed: 16.08.2019)

Continuation of Table 3.1

(In Thousands of TL)	2013	2014	2015	2016	2017	2018	2019*
Expenditures	408.224.560	448.752.337	506.305.093	584.071.431	678.269.193	830.809.401	960.975.683
1-Non-Interest Expenditures	358.238.510	398.839.020	453.300.854	533.824.894	621.557.390	756.848.189	843.658.683
Personnel	96.235.367	110.370.088	125.051.412	148.864.123	162.145.555	200.903.304	247.302.546
Social Security Insurance Premium	16.306.461	18.928.941	21.044.781	24.699.191	27.272.452	34.379.008	43.375.018
Purchase of Goods and Services	36.386.232	40.800.579	45.563.391	54.100.121	63.600.358	71.946.003	67.550.825
Current Transfers	148.742.593	162.282.182	182.671.028	224.847.098	270.924.366	322.878.869	391.337.230
Capital Expenditures	43.767.278	48.200.817	57.199.129	59.676.903	70.982.601	88.323.551	54.432.026
Capital Transfers	7.665.522	7.706.603	10.438.226	8.881.418	13.341.541	16.745.533	10.045.697
Lendings	9.135.057	10.549.810	11.332.887	12.756.040	13.290.517	21.671.921	21.749.451
Reserve Appropriations	0	0	0	0	0	0	7.865.890
2-Interest Payments	49.986.050	49.913.317	53.004.239	50.246.537	56.711.803	73.961.212	117.317.000
Revenues	389.681.985	425.382.787	482.779.900	554.139.502	630.489.857	757.996.435	880.359.379
1-General Budget Revenues	375.563.758	408.675.837	464.187.530	533.202.564	607.137.658	729.062.720	862.759.188
Tax Revenues	326.169.164	352.514.457	407.818.455	459.001.741	536.617.206	621.536.356	756.494.735
Enterprises and Properties	14.311.681	16.125.358	19.662.165	23.747.644	19.762.105	26.128.462	33.977.562
Donation, Aid and Special Revenues	1.095.571	1.281.115	1.240.649	1.121.939	1.373.120	1.190.266	3.430.610
Interests, Dividends and Fines	23.651.345	28.301.735	26.559.583	34.909.844	35.560.027	71.847.656	54.584.379
Capital Revenues	10.105.296	9.548.532	7.933.030	12.827.655	11.680.027	7.809.275	13.513.460
Debt Recovery	230.701	904.640	973.648	1.593.741	2.145.173	550.705	758.442
2-Special Budgeted Administrations Self-Incomes	11.445.166	13.524.159	15.083.319	17.011.998	19.148.319	23.760.620	11.179.800
3-Regulatory and Supervisory Authorities Revenues	2.673.061	3.182.791	3.509.051	3.924.940	4.203.880	5.173.095	6.420.391
Budget Balance	-18.542.575	-23.369.550	-23.525.193	-29.931.929	-47.779.336	-72.812.966	-80.616.304
Primary Balance	31.443.475	26.543.767	29.479.046	20.314.608	8.932.467	1.148.246	36.700.696

Source: Turkish Republic Ministry Of Treasury And Finance, <https://mhasebat.hmb.gov.tr/merkezi-yonetim-butce-istatistikleri> (Date Accessed: 16.08.2019)

(*) These Are The Targets Predicted By The 2019 Budgetary Law.

According to Table 3.1, when we compared 2013 and 2014, the period before the 2014 local administrations election, total central government expenditures increased by 10% in 2014 compared to 2013. In 2013, total expenditures increased by 14% compared to 2012. When 2015 and 2014 are compared, total expenditures increased by 13% in 2015 compared to 2014. When the personnel expenditures, which are one of the total central government expenditure items, are analyzed, there has been an ongoing increase since 2006. Personnel expenditures in 2013 were approximately 11% higher than 2012, and 15% less compared to 2014. In 2015, personnel expenditures increased by 13% compared to 2014. When the current transfer expenditures are analyzed, it is observed that there is an increase of 15% in 2013 compared to 2012. In the 2014 election year, there was an overall increase of 9.1% compared to 2013. In 2015, there was an increase of approximately 13% compared to 2014.

In terms of incomes, tax revenues, which are the most important revenue items, were 17% higher in 2013 than 2012 and 8.1% less than 2013. In 2015, tax revenues increased by 14% compared to 2014.

When the budget balance is analyzed, it is seen that there have been continuous budget deficits since 2006. Within the context of the 2014 Local Administrations Elections, the budget deficit for 2014 was approximately 27% higher than 2013. In 2013, a decrease of 11% is observed when compared to 2012. In 2015, the budget deficit did not change significantly compared to the 2014 election year. In 2016, there was an increase of approximately 26% compared to 2015.

When the Central Administration Budget is evaluated according to the 2014 Local Administrations Elections within the framework of political-economical fluctuations, it can be seen that no clear findings can be obtained. According to the models of political-economical fluctuations, expenditures are expected to increase in pre-election period and in election period while in the post-election period, expenditures are expected to be reduced or slightly increased. On the other hand, tax revenues are expected to decrease in pre-election and election periods and increase in post-election period. It

can be said that the 2014 Local Administrations Elections do not comply with these models in terms of Central Administration Budget.

According to the table above, the estimated budget expenditures in 2019 election year are expected to increase by 15% compared to 2018 total budget expenditures. The total budget expenditures in 2018 increased by 22% compared to 2017. The total budget expenditures in 2016 are approximately 16% less than in 2017. It can be said that the 22% increase in 2018 is a sign of political economic fluctuations. When the personnel expenses are analyzed, it is observed that the expenditures planned for 2019 have increased by 23% compared to 2018. In 2018, however, there was an increase of approximately 23% compared to 2017. In 2017, there was an increase of approximately 10% compared to 2016. In terms of personnel expenses, proportionally larger increases were observed in the election period. This may be a sign of the existence of political-economical fluctuations. On the other hand, current transfer expenditures are expected to increase by 21% in 2019 compared to 2018. Compared to 2018 and 2017, current transfer expenditures for 2018 increased by 19%. In 2017, there is an increase of approximately 20% compared to 2016. It can be said that there are no findings regarding political-economical fluctuations in terms of current transfer expenditures. That's because there are no obvious differences for the election period proportionally.

When tax revenues are analyzed, it is observed that total tax revenues planned for 2019 increased by 21% compared to 2018. In 2018, there was an increase of 15% compared to the previous year. Compared to 2017 and 2016, an increase of approximately 16% was observed in 2017 compared to the previous year. These changes in tax revenues do not comply with the political-economical fluctuations and election economics models.

When budget balance is evaluated, the budget deficit planned for 2019 increased by 11% compared to 2018. In 2018, there was a 53% increase compared to the previous year. In 2017, there was an increase of 62% compared to the previous period. It is difficult to say that the budget deficits have increased for the election. That's because the budget had a large deficit in previous years before the election.

EVALUATION OF 2019 LOCAL GOVERNMENT ELECTIONS IN TURKEY WITHIN THE FRAMEWORK OF POLITICAL BUSINESS CYCLE THEORIES

Ömer Vehbi Issi

Table 3.2: Municipalities Budget Balance (2006-2018, In Thousands of Turkish Lira)

(Thousands of TL)	2007	2008	2009	2010	2011	2012
Expenditures	25.832.553	30.959.084	31.012.132	34.474.935	41.132.755	46.988.113
Personnel	5.072.880	5.944.940	6.429.912	6.961.389	7.579.178	8.212.752
Social Security İnstution Premium	748.204	831.219	978.137	1.191.385	1.289.262	1.329.199
Purchase Of Goods and Services	8.239.236	10.565.757	10.486.169	12.247.627	15.296.432	18.552.457
Interest Payments	434.574	631.434	1.004.952	1.043.586	1.074.701	1.189.199
Current Transfers	1.294.659	1.493.257	1.619.737	1.967.553	1.887.236	1.861.478
Capital Expenditures	9.587.781	11.000.982	8.650.100	9.548.125	11.398.589	13.849.438
Capital Transfers	137.925	136.729	519.968	115.196	849.903	527.250
Lendings	317.294	354.766	1.323.157	1.400.074	1.757.454	1.466.340
Revenues	23.648.122	25.736.012	26.844.961	34.233.863	40.740.227	45.131.525
Tax Revenues	3.678.464	4.077.274	3.631.028	5.854.566	6.878.140	7.232.437
Enterprise and Property Revenues	3.742.518	3.751.749	4.123.985	4.824.058	5.365.883	6.505.295
Donation, Aid and Special Revenues	578.895	496.871	375.120	444.597	626.713	645.662
Interests, Dividends and Fines	13.687.222	15.709.413	16.787.113	20.408.332	24.391.216	27.437.036
Capital Revenues	1.897.844	1.664.835	1.243.331	2.533.815	3.351.272	2.988.174
Debt Recovery	63.179	35.870	684.384	168.495	127.003	322.921

(Thousands of TL)	2007		2008		2009		2010		2011		2012	
	-2.184.431		-5.223.072		-4.167.171		-241.072		-392.528		-1.856.588	
Budget Balance												
(Thousands of TL)	2013	2014	2015	2016	2017	2018						
Expenditures	59.964.440	63.266.220	73.756.957	91.269.961	112.048.078	132.004.672						
Personnel	9.083.774	9.895.429	10.879.060	12.290.220	12.917.332	14.716.990						
Social Security Institution Premium	1.465.719	1.611.617	1.742.152	1.970.590	2.076.175	2.354.457						
Purchase Of Goods and Services	22.969.162	24.852.967	31.665.780	38.479.212	46.216.373	54.482.804						
Interest Payments	1.129.888	1.497.643	1.663.875	1.949.798	2.896.520	4.512.640						
Current Transfers	2.269.259	2.650.298	3.118.339	3.721.403	4.249.003	5.222.562						
Capital Expenditures	20.346.776	20.478.879	22.299.065	29.635.313	40.858.656	47.690.453						
Capital Transfers	671.802	849.497	1.012.287	933.785	1.121.681	1.268.845						
Lendings	2.028.060	1.429.890	1.376.399	2.289.640	1.712.338	1.755.921						
Revenues	53.931.284	62.544.796	72.159.838	80.994.408	97.148.981	110.933.045						
Tax Revenues	8.196.251	9.283.644	10.839.017	12.225.548	13.217.357	14.484.934						
Enterprise and Property Revenues	7.997.458	6.739.057	7.474.956	8.426.757	11.585.675	11.636.306						
Donation, Aid and Special Revenues	817.549	1.109.552	1.475.922	1.621.091	1.981.842	1.949.520						
Interests, Dividends and Fines	31.879.490	38.709.149	47.302.390	52.173.000	62.144.191	72.031.314						
Capital Revenues	4.954.769	3.448.302	4.908.445	5.838.798	7.879.786	10.359.567						
Debt Recovery	85.767	3.255.092	159.108	709.214	340.130	471.404						
Budget Balance	-6.033.156	-721.424	-1.597.119	-10.275.553	-14.899.097	-21.071.627						

Source: Turkish Republic Ministry of Treasury and Finance, <https://muhasebat.hmb.gov.tr/muhalli-idareler-butce-istatistikleri> (Date Accessed: 17.08.2019).

It is useful to briefly define the expenditure items in the municipal budgets before proceeding with the assessment.

Personnel Expenses: They consist of payments made on the basis of payroll to the concerned persons in accordance with the legislation, although they are not civil servants and public personnel.

State Premium Expenses for Social Security Institutions: They consist of the insurance premiums paid by the State to the Social Security Institution as an employer.

Purchasing Expenses of Goods and Services: They include postpaid payments for goods and services.

Interest Expenses: They include interest payments on government debts.

Current Transfers: Uncovered payments made to finance the purchase of goods and services of current nature which do not aim at accumulating capital.

Capital Expenses: Raising of capital for purchases of goods and services with a normal life expectancy of more than one year and for the acquisition of fixed capital and acquisition of intangible assets, expenses exceeding the minimum value determined by the budget preparation guidelines and budget laws.

Capital Transfers: These are the uncovered payments made to finance capital goods and services aiming to accumulate capital outside the budget.

Lending: Covers payments that result in a financial right or participation in a state-owned share. (Turkish Republic Ministry Of Treasury And Finance (www.hmb.gov.tr)).

When Table 3.2 is analyzed, total municipal expenditures increased by approximately 6% in 2014, the election year, compared to 2013. In 2015,

there was an increase of approximately 15% compared to 2014. It can be said that there are no political economic fluctuations at the level of municipalities over total expenditures. When the personnel expenses are analyzed, there is no obvious increase in 2014 election year compared to 2013. When we look at 2015, we see an increase of about 10% compared to the election year. In 2014, current transfer expenditures increased by 16% compared to the previous year. In 2013, there was an increase of approximately 22% compared to 2012. In the post-election period, current transfer expenditures increased by 17% in 2015 compared to the election year. When the current transfer expenditures and personnel expenditures are analyzed, it can be said that there are no signs of political-economical fluctuations and election economy in 2014 Local Administrations Elections.

When tax revenues are analyzed in Table 3.2, total municipal tax revenues increased by 13% in 2014 election year compared to 2013. The same rate of increase was observed in 2013 compared to the previous year. In 2015, tax revenues increased by 15% compared to the election year. In 2016, municipal tax revenues continued to increase. It does not seem possible to talk about the existence of the election economy in terms of tax revenues.

The budget balance shows a significant decrease in the 2014 election year compared to 2013. The main reason for this is the fact that the municipalities collect their receivables. In 2013, there was an increase of approximately 225% compared to the previous year. The major reason for this increase seems to be the large increases in capital expenditures. In 2015, an increase of more than 100% is observed compared to the election year. When the budget balance and tax revenues are analyzed, it is not possible to make definitive judgments about political-economical fluctuations in the 2014 Local Administrations Elections.

If we look at the table for the 2019 Local Administrations Elections, total expenditures of municipalities increased by 17% in the pre-election

period of 2018 compared to 2017. In 2017, total expenditures increased by 23% compared to the previous year. In 2018, personnel expenditures increased by 13% compared to the previous year. In 2017, personnel expenditures increased by 5% compared to 2016. In 2018, current transfer expenditures increased by 22% compared to the previous year. In 2017, there is an increase of approximately 14% compared to the previous year. The largest increase in total expenditures is observed in capital expenditures. When total expenditures, personnel expenses and current transfer expenditures are evaluated, it is not possible to obtain obvious signs for the election economy.

When the total tax revenues of the municipalities are analyzed, it is seen that there is an increase of 10% in 2018 compared to 2017. In 2017, there was an increase of approximately 8% compared to the previous year. It can be said that there is no elections economy and political-economical fluctuations in terms of tax revenues.

As for the budget balance, budget deficit increased by 41% in 2018 compared to 2017. In 2017, the deficit in municipal budgets increased by 45% compared to 2016. The main reason for this is capital expenditures and purchases of goods and services. It is not possible to analyze the effect of these expenditure items on the election economy. In this context, it can be said that it is very difficult to find signs about the election economy by looking at the budget balance in the 2019 Local Administrations Elections.

Table 3.3: Transferred Shares From General Budget Tax Revenues To Local Administrations (2011-2018, In Thousands of Turkish Lira)

(Thousands of TL)	2011*	2012*	2013*	2014*
Sum of Iller Bank	16.497.595	18.120.754	21.200.997	22.912.411
Sum of Metropolitan Municipalities	8.613.324	9.929.272	11.574.128	16.518.060
(Thousands of TL)	2015	2016	2017	2018
Sum of Iller Bank	26.507.107	29.833.607	34.877.776	40.463.523
Non-Metropolitan Municipalities	6.117.025	6.884.680	8.048.718	9.337.736
Provincial Special Administration	2.039.008	2.294.893	2.682.906	3.112.579
Metropolitan District Municipalities	18.351.074	20.654.034	24.146.152	28.013.208
Sum of Metropolitan Municipalities	20.057.996	22.766.041	26.704.371	31.906.780

Source: *Turkish Republic Ministry Of Treasury And Finance*, <https://muhasebat.hmb.gov.tr/mahalli-idareler-butce-istatistikleri> (Date Accessed: 10.08.2019).

(*) Data can be achieved before 2015 is sum of Iller Bank and Sum of Metropolitan Municipalities.

It has already been stated that the tools that municipalities can use at election times are much more limited than the central government. Within this framework, information on the political-economical fluctuations and the existence of the election economy can be obtained by looking at the shares transferred from the general budget to the municipalities. Looking at the table above, the shares transferred to local administrations in the election year 2014 increased by 8% on the basis of Iller Bank and by 42% on the basis of Metropolitan Municipalities. The effect of Law No. 6360, which entered into force after the March 2014 elections and added new ones to existing metropolitan municipalities, should not be ignored in the increase in the shares transferred to metropolitan municipalities. In 2013, compared to the previous year, there is an increase of approximately 16% in metropolitan municipalities and approximately 8% in

Provincial Bank. In 2015, there was an increase of 15% on the basis of Iller Bank and an increase of 21% on the basis of metropolitan municipalities. Shares allocated to local administrations continued to increase in 2016 as well. Political-economical fluctuations and the existence of electoral economies cannot be referred with the present findings. That's because in order to observe the election economy, it is expected that the increase will be very low or a decrease happening in the period following the election. Besides, in 2014, there are no obvious leaps except the shares transferred to the metropolitan municipalities. The increase in the number of new metropolitan municipalities with the Law No. 6360 is a major factor for this increase in 2014. Therefore, it will be difficult to say that this increase is caused by the election economy.

Within the context of the 2019 Local Administrations Elections, the shares transferred to the local administrations increased in 2018 compared to the previous year by 16% on the basis of Iller Bank, 14% on the basis of metropolitan municipalities and 14% on the basis of metropolitan municipalities. In 2017, there is an increase compared to 2016 of 16% on the basis of Iller Bank, 17% on the basis of metropolitan municipalities and 16% on the basis of municipalities other than metropolitan municipalities. When 2016 and 2015 are compared, the shares transferred to local administrations in 2016 compared to the previous year increased by 12% on the basis of Iller Bank, by 13% on the basis of metropolitan municipalities and by 12% on the basis of non-metropolitan municipalities. In the context of the electoral economy and political-economical fluctuations, it can be said that the rates obtained do not contain any signs of these models.

4. CONCLUSION AND EVALUATION

Municipalities' tools are very limited compared to the instruments in the hands of the central government in order to create political economic fluctuations at the local level. In this context, it is more difficult for municipalities to increase their expenditures and decrease their revenues in the

election periods compared to the central administration. Therefore, the central government budget was also evaluated in the study.

According to the models of political-economical fluctuations, expenditures are expected to increase in pre-election period and in election period while in the post-election period, expenditures are expected to be reduced or slightly increased. On the other hand, tax revenues are expected to decrease in pre-election and election period and increase in post-election period.

Within the framework of political-economical fluctuations, the 2014 Local Administrations Elections were evaluated according to the Central Administration Budget and no clear signs of the election economy were observed. It can be said that the 2014 Local Administrations Elections are not compatible with these models in terms of Central Administration Budget. When the total expenditures of municipalities, current transfer expenditures and personnel expenditures are analyzed, we can say that there are no signs of political economic fluctuations and election economy in 2014 Local Administrations Elections. When the budget balance and tax revenues are analyzed, it is not possible to make definitive judgments about the presence of political-economical fluctuations in the 2014 Local Administrations Elections. When the shares transferred from the General Budget Tax Revenues to the Local Administrations are evaluated according to 2014 local elections, there are no obvious leaps except for the shares transferred to metropolitan municipalities in 2014. The increase in the number of metropolitan municipalities with the Law No. 6360 is a major factor for this increase in 2014. Therefore, it will be difficult to say that this increase is caused by the election economy.

Looking at the 2019 Local Administrations Elections, post-election data are not available as of the current period. Therefore, only the pre-election period was examined. In the pre-election period, only signs of political-economical fluctuations can be seen in terms of central government total expenditures and personnel expenditures. However, it would not be accurate to make clear statements because there is no comparison with the

post-election period. Within total municipal expenditures, it is possible to obtain some signs of the election economy in terms of personnel expenditures and current transfers. It can be said that there is no elections economy and political-economical fluctuations in terms of tax revenues for the pre-election period. When the shares transferred from the General Budget Tax Revenues to the Local Administrations are evaluated in the context of the election economy and political-economical fluctuations, it can be said that they do not fit these models for the pre-election period.

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23

AK PARTY AND THE RISE OF POLITICAL IN TURKEY

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Introduction

It is not easy to understand the dynamics of Turkish political life as it is seen. Also, researchers have several problems, when they choose which kind of methods they need to use when they approach a specific issue. For this reason, it is very important to get insight into the historical background of “society” or social relations and figure out a convenient method to explain political and social practices in a society. Turkey is a country having passed through process of modernism. Thus people living in Anatolia have experienced violent social upheaval since the beginning of the 18 century. As a result, forming and constructing new society, order and objectivity became a central part of the political life in Turkey. The antagonisms between the different social groups are mostly stemming from not the rational interests but symbolic values determining who they are and who they are not. For this reason struggle for establishing hegemony over the other groups was seen as an important political means. The rescript of Gülhane (1839), First constitutional period (1876), Second constitutional period (1908), the proclamation of Republic (1923) were initiatives committed to create new objectivity. In this context, this successive process brings about breaks as well as continuities. It could be seen, also, all the military coups (1960-1972-1980-1998) as part of this process. In other words, while each period takes something from the previous period, it also abandons something and aims to build order by trying to define society. That’s why it can be argued all the conflicts

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and antagonism originated from the desire to establish a new reality on the ontolojik ground.

However, the aforementioned political practices have a very important common ground that they share. This means that these movements establish their understanding of politics on metaphysical foundations and aim to realize the social dream they believe on these foundations. Thus, these movements are essentialist, exclusionary, uncompromising values and closed to change. However, this style of politics tends to permanently close society and to fix the meanings precisely. In fact, they have the aim of controlling the order with the self-confidence of having seized the truth. In this sense, metaphysics and theory form the basis of this type of movement's political understanding.

Regardless of the circumstances that brought the AK Party to power in 2002, the year 2002 has ushered a new era of political understanding for Turkish political life. The most fundamental and distinctive feature of this new understanding is that it does not see "change" as a defect. This can be seen as a very simple proposition, but as we examine it deeply, we find ourselves in an ancient debate whose origins are very old. It is a controversy that goes becoming versus being as far as Dionysos's versus Apollon. In late modern times, this debate, which was again on the agenda by Nietzsche and Heidegger with his distinction between ontic and ontological, gained a new dimension with Laclau and Mouffe's transfer of this discussion to Political theory. This time, separation was between politics and political and concluded with the idea of the impossibility of society. (Marchart, 2007, p 135)

For this reason, this study aims to find a new view by making use of post-foundationalist framework. Especially, one of the Post foundationalist political theorists Laclau, and his concepts of hegemony and discourse theory, in addition logic of Populism - could be the best guides to get insights into Ak Party's as a political movement. In this sense, the main argument of the study is that rather than being an ordinary political party in Turkish political life, Ak Party is a political movement trying

to form a new society and truth by developing democracy and by being integrated into it. Most of Ak Party's discourse should be discussed in the light of political ontology as a discourse theory.

It does not mean that AK party is forming policies based on the certain truth relying on metaphysics. The greatest motivation of AK Party policies that are based on the difference between politics and the political is to generate a "ground without ground" by maintaining a distinction between "us and others" in their political discourses. These are points the unique logic for 'political' in the exact sense. Thus, the political became observable with the reign of the AK Party.

Undoubtedly, with the incorporation of the concept of "change", "becoming" and "contingency", into the political theory by Laclau and Mouffe, hegemony and discourse gained a central position in the formation of the social, subject and identity. To avoid misunderstandings here, let us first focus on the concept of hegemony. When we say hegemony, we do not mean domination and oppression; on the contrary, it is a chain of equivalence formed by different social groups coming together. Laclau and Mouffe call it articulation. In other words, a bloc formed by unmet social demands by articulating each other. In this sense Hegemony as type of political strategy is open-ended and aims to expand its coverage and reach all segments of society. On the other hand, this hegemonic structure is established by the way of overdetermination. A hegemonic formation is subject to the logic of symbols rather than rational logic. Discourse is the most important tool of this. Discourse forms the basis of this hegemony, or a chain of equivalence (Martilla,2015,p 58).

In this sense, we witness that the AK Party adopts a Hegemonic style of politics. However, hegemony is merely an integral part of politics and believes in the indestructibility of antagonisms. This also means that the AK Party acts according to the logic of the political. Because hegemony is established by political and political means the moment of establishment of society, the determination of social interests, and even a reference to what is meaning (Mouffe,2005,p.17, Marchart, 2007,p. 8). The distinction

between politics and politics forms the basis of criticism against post-political thought. In this context, inspired by Heidegger's ontic and ontological distinction, Mouffe emphasizes that politics refers to the ontic level and that the political belongs to the ontological field (Mouffe,2005,p.8).

In this sense, the AK Party's political discourse has always been constructed on the separation of us and them. However, in this conflict, for a long time, others were seen as military and civil bureaucracy under the name of tutelage regime. As a result, the AK Party brought a post -foundationalist understanding of hegemony and identity to Turkish political life. He understood the logic of the political more realistically. In this sense, the political subject and identities have been built in accordance with the distinction between us and them and will have different meanings in different periods.

UNCHANGE CHANGE

One of the biggest debates of the ancient Greek philosophy was between Heraklitos and Parmanides. The main axis of the discussion takes place between the being and the becoming. Heraclitus claimed that everything was relative and relative, reducing the being to becoming. Herakleitos, who concludes that moral and aesthetic values cannot be definite and absolute, can be regarded as a kind of teacher of the Sophists in the period Plato lived. On the other hand, since Parmenides aims to explain the being, it reduces becoming to being and tries to fix it. Thus there is being and can not be claimed otherwise. The concepts of change and becoming are not accepted by Parmenides since they contain both existence and non-existence. Thinking that the being is unstable also means its absence. For this reason, being is, in fact, unchanging, eternal, indivisible, and continuous. (Tuncay, 2018,p 1516)

The origins of this discussion take place in ancient Greek mythology. Undoubtedly, Apollon and Dioynosos are two separate gods in conflict with each other that shape daily life. The Apollo represented logic, rationality and consequently order. On the contrary, Dioynosos has a chaotic

and irrational mystical character. In other words, Apollo assures the order on the basis of a truth with constant emphasis on the existence of being, Dianoyosos constantly threatens this order. Because, Dianoyosos favors the term 'becoming', as 'logic' is inadequate to explain (Kucukalp, 2006, pp.549-551).

Let us now briefly summarize the point we have reached in this discussion and examine its reflections on political philosophy. Heraclitus and Diogenes, in a sense, draw us out of certainties and absolutes by emphasizing the unattainable nature of the truth of being. Parmenides and Apollo, on the contrary, adhere to the fact that the existence is constant and the principle of invariance. In ancient Greek, Plato defends Apollo against Dianoyosos in his book Republic. In other words, they laid the foundations of metaphysics by reducing becoming to being. Thus, all philosophical systems from that time to the present day - including the classical, medieval and modern times - and science developed within this perspective. This is where Nietzsche and Heidegger come up with a fundamental critique against the history of western philosophy (Kucukalp, 2008: 34).

As it is known, Plato carries out all his philosophical struggles against the Sophists. The main reason for this is that Athens was in a very chaotic state at that time. For this reason; Plato devotes his entire struggle to the search for an eternal, unchanging essence and foundation. Because there is truth and we can attain it. In this way, we can establish social order. Thus, Plato developed an ideal understanding of the state and society, which led to the articulation of politics and philosophy. The ideal state and society, on which Plato laid the foundations, led to the articulation of philosophy and politics. However, it is a philosophy based on philosophy and truth. But this is a political based on philosophy and truth. Thus, politics remains an effort to ensure social order, eliminate conflicts and prevent change.

Although this logic has not changed during the modern era, there have been some changes in method and theory. Modern philosophy, which is a scene of a struggle between rationalism and empiricism, has evaluated the

political knowledge in the light of the definite information obtained as a result of these methods. Descartes built the apriori foundations on the thinking subject. In contrast, Locke proclaimed empiricism as a method of absolute truth, claiming that the mind was an empty “*tabula rasa*”. On the other hand, Kant’s reintegration by associating these two methods with each other is a manifestation of his efforts to attain a certain truth.

As a result, the modern subject was accepted as a foundation, the mind was absolutized as the sole revealer of the truth, and the subject-object agreement was accepted in whatever direction. Afterwards, by applying this subject-object relationship on the individual and society, the understanding that society is a comprehensible structure and that they agree with the laws of nature has developed. In this context, Hobbes can be seen as the starting point of modern political philosophy, since it examines political theory with a scientific method. As it is known, Hobbes tried to take the political from the logic of Aristotle and treat politics with a scientific approach. According to Hobbes, an epistemological agreement is needed for the human being to become a society. Taking advantage of geometry, in this sense, Hobbes uses a broad consensus on some premise propositions as a foundation, against the realm of Plato’s underlying ideals for constructing social reality. Thus, reality is reduced to a conceptual compromise between individuals running in pursuit of their own interests. However, since an agreement cannot be achieved between subjects on a conceptual level, the crisis is overcome by transferring this warrant to a higher authority. (Sunar, 2008, p.63)

Henceforth, political philosophy is based on a given subject that exists outside society and history. It has been claimed that it is possible to obtain certain Knowledge. Furthermore, with the rise of positivism, determinism and empiricism have been seen as methods of obtaining certain knowledge. In a sense, this was seen as the end of intellectual differences. It is to claim that the exact limits of the social can be determined and society could be constructed in a correct way. In fact, if we consider this process as a pendulum, it is a kind of rejection of the world of ideals on

which Plato bases his political system and the world of objects has come to the fore as a new space in which the absolute foundations of the new world order will be built. It is the end of all political debates, class conflicts, democracy and differences in society. Positivism, another epistemological system which Andrew M. Koch describes as an “Inductive Universalism”, is the sharpest moment of the emergence of truth-based political perception (Koch, 2005, p.13).

Meanwhile, epistemological superiority and domination have long been criticized by various thinkers, therefore epistemological truth and epistemological methods have faced a strong challenge. Thomas Khun’s concept of paradigm emphasise on the historicity of scientific knowledge. Wilhelm Dilthey criticizes a subject outside history and society. Hermeneutic approaches argue that meaning is historical, so there is no absolute meaning and that meaning appears and disappears in the process. As a result, all these developments in the field of philosophy have led to the shaking of the epistemological truth.

Post Foundational Political Understanding

Laclau and Mouffe present a powerful critique of Marxism in their book *Hegemony and Socialist Strategy*. They put forward a new strategy articulated to liberal values such as democracy and freedom. In doing so, they shake the foundations of modern political concepts like necessity, determinism and certainty. In this sense, although their main critiques are directed to Marxist principles, some liberal principles like individualism, rationalism and universalism takes their share from these critics in this sense. As a result, the authors put forward a systematic theory. However, this does not mean that the exact truths have been achieved or attained, on the contrary, with this theory the relationship between political and truth is reversed. Briefly, this theory changes our perception of political from a political understanding determined by truth to a political understanding that determines and establishes truth. Marchart, 2007, pp.147)

Modern political theory was constructed based on universal and certain imperative laws. For example, while liberalism places the rational individual at the center of the theory, Marxism treats the working class as a universal subject carrying out the revolution in the future. While anarchism claims that human nature is indisputably good, but it emphasizes the fact that the state contaminates this clean subject and destroys its nature (Newman, 2001: 38). All these modern ideologies have been built on a particular understanding of epistemology. This is why Nietzsche, Heidegger and Derrida criticize this modern system of thought, and the target of these criticisms is precisely these epistemological foundations. Nietzsche criticized the reduction of becoming to being, and Heidegger opposed the reduction of the being to presence. They claim that all western history of philosophy has followed this wrong path ending up with nihilism. In this sense, western philosophy does not give worth that thought deserves. Derrida, in addition, asserts that the signifier does not have a definite and absolute meaning in the system of differences, because "Derrida shown how an identity's constitution is always based on excluding something and establishing a violent hierarchy between the two poles- form -matter, essence- accident, black- white, man- women etc." (Laclau,1990.p.32)

Thus Laclau and Mouffe criticize Marxism's acceptance of class as a universal subject and oppose the analysis of history over the relations between infrastructure and superstructure. Additionally, thinkers problematize the emphasis of the liberal thought on the rational individual. Another problem with liberalism is that liberalism ignores the collective identities and tries to dissolve social conflicts (Mouffe, 1993, p. 33).

Hegemony and Discourse

Hegemony and discourse can be said to be the two most important components of the post-fundamentalist thought system. In addition, hegemony and discourse are the two most important instruments of politics. Mouffe defines the main question of politics as how to organize people to live together (Mouffe, 2000, p.62). However an objective social order can only

be established through the existence of ‘another’ and this objectivity can only be established through power. This power is not a struggle between given social identities but for the creation of these identities themselves. Political determines who we are and what we are not, draws the boundaries of social objectivity and displace them (Mouffe, 2000; p.11, 21, 99).

Therefore, the public sphere must always be open to hegemonic struggles, because the groups in the struggle for hegemony aim to fill the public space with their own symbols. Meanwhile, in this process, floating signifiers are fixed in a certain meaning. Hegemony, in addition, has a contingent character and establishes society without a rational basis (Mouffe, 2005, p.17). Political does not rationally approach problems, and it is not the work of the bureaucrat or the technicians. It is an act of decision making among political alternatives. For this reason, all social orders are temporary. Social order is a product of social practices established with the logic of articulation (Mouffe, 2005, p.18).

That is why the concept of hegemony opens up a new perspective for us. With this concept, we understand the ‘*differentia specifica*’ of politics. With the concept of hegemony, we move from the field of objectivity and necessity to the field of political and contingency. Thus, society is no longer a mechanical and objective structure with definite limits and functioning like a clock. Society has open-ended boundaries. In this sense, the meanings become variable and antagonisms become legitimate. Thus, historicity and contingency become the primary perspective.

The four distinctive features of hegemonic political style are illustrated in this way.

1-hegemonic politics is an attacking and aggressive style of politics, as far as emphasizing the specificity of the political sphere.

2-Hegemonic politics is a style of politics that emphasizes the importance of strategy against ideological, utopic, aesthetic and moral politics.

3-hegemonic politics is a style of politics directed towards establishing totality which has both negative and positive direction.

4-Since hegemonic politics acts with the logic of articulation, it is a political style that contains pluralism and different colors (Ozkazanc, Kozakli, 2000, p. 12).

When we talk about hegemony politics, we mean a struggle against an existing hegemony. In this sense, it is an indisputable fact that it has an aggressive dimension. The struggle for hegemony tries to disrupt the magic of a kind of counter hegemonic power. So the new hegemony movement tries to create a new magic. The most important internal logic of the hegemonic style of politics is the attacking rather than being defensive in the struggle against currently hegemonic power (Ozkazanc, Kozakli, 2000, p.14). As an example of this, we can argue that the AK Party has adopted a hegemonic style of politics, while the National Vision Movement acts with an essential political understanding under the control of the Necmettin Erbakan. In this way, we can say that the AK Party has succeeded in incorporating the disintegrated elements into its own chain by following a policy of dissolving the moments of the Kemalist hegemony. However, this certainly does not mean that the AK Party is diametrically opposed to the Kemalist ideology as National Vision Movement is. It should not be overlooked that AK Party continued this struggle by articulating some Kemalist values like secularism, democracy and national sovereignty with discourse of it.

In addition, the strategy is one of the most important means of hegemonic politics. A hegemonic style of politics read society realistically and makes realistic strategies. He avoids being marginal and always advocates multi-culturalism, because the basic logic underlying the formation of Hegemony is articulation. The articulation is formed by stabilizing the meaning of the elements, by transforming them into moments. The movements of the elements during the articulation are contingent and have no chance of forming a definite unity, in this sense they are open to new changes and have a negative essence. (Ozkazanc, Kozakli, 2000, p.15)

AK Party as a Political Movement

The AK Party has won every election since 2002, except for the last local elections in 2019. The AK Party has always increased its votes in this period. Thus, AK party has been in power alone. Between the years 2002-2007, Erdogan tried to get as much public support as he could and established himself as a party for everyone. Between 2007 and 2015, it adopted a more aggressive policy and destroyed the tutelage system. Between 2007 and 2015, it adopted a more aggressive policy and abolished the tutelage system. The fall of the hegemonic power that the AK Party fights against, was announced with slogans like “new Turkey” or “2023 Vision”.

Ak Party defines itself as a movement “seeking change in continuity, protecting differences within unity, trusting in the dynamism of society, aiming to make dominant political understanding that is open the development and innovations in the world, democrat, conservative, reformer” in AK Party election declaration in 2002. In this sense, Kemalist hegemony plays a major role in understanding the AK Party as a political movement.

Kemalism has emerged as a result of a hegemonic struggle in the discursive field where a new understanding of homeland, state and society is aimed. In this sense, Kemalism aims to create a secular modern and western a national identity. In this Hegemonic struggle, Kurds, leftis and the Islamic groups were excluded from the official discourse. Kemalism has maintained its hegemony as long as it is the common language of social demands. (Celik, 2002, pp.75-76)

The 1980 and 1960 coups were carried out to remove the crisis in which the Kemalist hegemony was. However, every attempt to rebuild the Kemalist hegemony has deepened the crisis further. As a result, in the 1990s, it was witnessed that the social reconciliation was broken and that Kemalist hegemony did not provide order. Kemalist hegemony had lost the ability to control and articulate new and flowing signifiers. In another words Kemalisim lost its position as center that keep the society together. (Celik, 2000, pp.193- 203)

Especially February 28 military intervention was the reason for Turkey to enter an organic crisis. Democracy, human rights and justice become a nodal point in this process and AK Party did not hesitate to articulate these floating signifiers into its discourse. In addition, identity crisis was strongly visible. In response, AK Party built its own discourse around a conservative democratic identity. It was quite successful in this process. On February 28, a hegemonic articulation process began and this took its final form in the 2002 elections.

AK Party and Hegemony

Ak Parti completed the hegemonic formation between 2002 -20015. In this period, it can be claimed that the AK Party reached the widest borders within the social structure, in other words, AK Party reach all the social segments as much as it could. In this period, human rights, democracy, fundamental rights and freedoms became the main axis of the AK party discourse. Economic success and development have created the myth of the AK party. In addition, steps taken for EU membership and zero problem policy with neighbors in foreign policy, Ak Parti has carried the it's hegemonic political style beyond the borders of the country.

However, all hegemonic political movements have to determine and fix the boundaries of social formation at a certain point. This is the moment of the formation of political identities and subject positions. It is important for the institutionalization and continuity of all political movement. In this context, the conservative democratic subject and identity were chosen and created as a foundation.

In 2013, AK party adopted the strategy of closing social formation. In this sense, it is an attempt to fix and close the definition of concepts. In this point, political has been crystallized until today's. This process was announced in 2013 by Istanbul AK Party's Istanbul branch head Aziz Babuşcu. He says: "In our 10 years of power, those who have been stakeholders with us in one way or another will not become stakeholders with us in the next 10 years. Because in the past 10 years, there was a

elimination process. Liberal segments have somehow become stakeholders in this process, but the future is the construction period. The construction period will not be as they desire.”

The main theme that should be emphasised in this statement is ‘the future construction’ as a new period. Following this process, the center of the AK party discourse has been started to dominate by signifiers like single state, single nation, stability, Turkey’s perpetuity problem, domestic and national politics ect... In addition, “continuing the sacred march” and “2023 aims” become the mistichal elements articulated into AK Party discourse.

The AK Party’s emphasis on stability in the 2015 general elections was marked by a single state and one nation slogan and ‘vote for stability’. As predicted, stability constitutes a discourse against the disintegration of the hegemonic formation. In the June 2015 general elections, the AK Party lost the chance to come to power alone. With the renewal of the elections in November 2015, the government re-established itself. AK Party came to power alone one more time. However, the extreme emphasis on unity and solidarity that started with this period shows that the AK Party aims to protect rather than expand its hegemonic discourse.

This is a hegemonic style of politics. Because contents of the AK party campaign were “single nation” and “one flag” discourses has not been filled in a definite and essentialist approach. In Diyarbakır Erdogan said that “We call it one nation, beware, we are not saying Turkish nation”. “We are an Islamic nation”, Erdogan said. On the other hand Erdogan addresses several time Turkish Nation when he talks about nation for example, in 2017 National Defense Academy Graduation. “As the Turkish nation, we have not said the last word to the world” in december 2017, “As the Turkish Nation, we have made these lands homeland by kneading with our blood” in February 2018. Tayyip Erdogan’s attention on the Turkish nation is more remarkable after 2015.

However, it is important that Tayyip Erdogan avoids establishing the concept of notion over a clear and precise meaning. In fact, it is clear that the

hegemonic formation that Erdogan refers to is the nation itself. In this sense, “nation” certainly does not have an essence out of time and history. It could be Turkish Nation, Muslim Nation or both of them at the same time. Because as an empty signifier, Turkish Nation, has been separated from the secular Kemalist hegemonic formation. It has become a part of an Islamic hegemonic discourse.

In fact, one of the most important indicators of the AK Party’s hegemonic political style is the presidential government system the presidential government system has opened the field of politics to hegemonic struggles. The presidential system ensures that the head of state, equipped with broad powers, is directly elected by popular vote. To win the election, it is enough to get more than half of the total votes. However, no candidate or party was able to provide this requirement alone in Turkey. Therefore, a system of alliances between parties is necessarily required. Thus, parties have to open their doors to other parties with different and opposing views. This means that the parties in the political arena have to get rid of their essentialist and strict identities, world views. Thus, all parties must be chemically disrupted and constantly open to new hegemonic formation styles. Thus, all parties must be chemically disrupted and constantly open to new hegemonic formation styles. For example, an alliance named as “Nation” between the CHP, the İYİ Party, SP and the DP was officially formed on 5 May 2018. On the other hand, a “Republic Alliance” was established between the MHP and the AK Party in February 2018. Those who closely follow Turkish political life know that there are deep ideological differences between the SP and the CHP. On the other hand, the MHP is the Turkish nationalist party that has criticized the AK Party until 2015, which clashes fundamentally with the AK Party’s basic world view. More interestingly, the HDP has supported the Nation Alliance informally.

In this sense, the AK Party, as a political movement has launched its own mystical discourse like 2023 aims, and continuing the sacred march. During this period especially one nation, one flag and one country become

indispensable and famous slogan of AK Party. AK party got closer to the MHP. In the past, these two quarreling political parties became alliances in the 2018 presidential elections. Erdogan emphasized Turkey's perpetuity problem for the first time in a speech he made for system change. "The system that we discuss is the most accurate way of solving the ongoing Turkey's perpetuity problem of the Turkish nation for centuries, this is a matter".

AK Party and the Change of Political Paradigm in Turkey

What is the most important sign of the hegemonic success of the AK Party, or has AK party been successful in this strategy? In fact, between the years 2002-2019, the Turkish political life has been the scene of the struggle to size empty signifiers and transform them into the moments. This is the logic of hegemony, as told above. In this sense, we need to examine the strategies of the opposition party CHP. AK Party has retained traditional and religious symbols since its establishment. These symbols played an important role in the construction of the conservative democratic identity. However, the CHP as a secular party aims to keep these symbols out of politics in principle, even in the early period CHP campaigned against these symbols.

Ekmeldiin Ihsanoglu as a candidate for the presidency of the Republican was presented by CHP- MHP alliance. We can say that it is a very important breaking point because Ihsanoglu is an Islamic scholar and his father left Turkey due to the pressure of CHP during the 1920's. This is perceived and discussed as a development beyond the political discourse represented by the CHP. However, in terms of the hegemonic style of politics, the CHP has targeted the masses by expanding its field of discourse. In addition, with this strategy, CHP acknowledged the hegemonic superiority of AK Party.

The second important point is that the CHP's justice march is aimed at disarticulating AK party hegemony. This march was named as the march of justice. Justice and development are actually two important pillars on

which the AK Party hegemony and myth were built. The myth of development evokes the myth of modernization of the Kemalist hegemony. The AK Party emphasized development rather than modernism. In this sense, the goal of westernization was separated from progress and development was seen as a priority goal. Justice and narrative of victimhood is the most important part of the AK party' identity. In this sense, the symbolic meaning expressed by a walk aims to shake the foundations of the AK Party Hegemony.

As a third development, in fact, Muharrem Ince's presidential candidacy may be a good example, but in this context, Ekrem Imamoglu as CHP candidate for Istanbul is a more critical example in terms of exemplifying the success of the AK Party's hegemonic politics. The success of the Imamoglu, he became the mayor of Istanbul by following a hegemonic political strategy in the local elections of 2019, is in fact related to his ability to articulate into the AK party's hegemonic formation established in the symbolic field. It could be argued that Imamoglu, in fact, has a campaign with a conservative democratic identity. He just after the terrorist act against the mosque in New Zealand read a passage from the Quran at Eyup Sultan Mosque .Although his wife's head is uncovered; he did not hesitate to appear together with his head-covered mother during the elections.

Erdogan and Populism

Populism is a political concept that has become quite fashionable since the beginning of the 2000s. Although it is used to define the political style of leftist leaders in Latin America, the same term is used for the political understanding of right-wing leaders in Europe. (Mudde, Kaltwasser, 2017; 1) Therefore, there are many different definitions and approaches about the term. This study will be based on the approach of Laclau's population, because this study claims that AK Party followed the post a foundational understanding of politics and tries institutionalizing this mode of politics.

According to Laclau, populism is the most important tool in understanding the ontological constitution of political (Laclau, 2007, p. 67). According to him, populist reason means political reason. For this reason, Laclau emphasizes that populism is not an ideological movement involving the limited segment of a social (Laclau, 2007, p. 117). In this context, populism is the establishment of the logic of equivalence through rhetorical and social demands. Already rhetoric is the constituent element of all political actions. When we talk about populist discourse, what should come to our mind is a style of expression that opposes the current system. The populist discourse points to the exact political dimension of social relations. The populist discourse aims the division of society into two opposing camps, the formation of collective identities, the separation of 'we' and 'them', and the starting of the hegemonic struggle. (Howarth, 2015,p.13)

Laclau's approach to populism can be summarized in four main items. First of all, populism addresses the masses and places the mass in the center. Populist discourse aims to give the masses a new political identity. Then the second feature, the populist discourse positions itself against the power elites. In this way, a bond of equivalence between different social identities is established. In the third stage, thanks to this established chain of equivalence, social demands become universal. Lastly empty signifiers are fixed in the identity of a certain political leader in order to close the society for a while. (Howarth, 2015, pp. 13, 14)

As a result, if features of populism mentioned above are considered, it will be seen that AK Party is a populist hegemonic movement within the logic of political. No doubt, the AK Party was born as a large coalition party led by Erdogan. This is why the AK party has always targeted the masses and AK party gave an identity to these masses in time. Since the beginning, the AK Party's struggle against the elites has continued under the name of tutelage system. In this way, the AK Party's discourse has been established on the separation between 'we' and 'they' and gained a political identity. Since 2015, empty signifiers have been fixed in Erdogan's

charismatic personality, and social sphere has been tried to transform the hemogenic society.

CONCLUSION

The AK Party is an important turning point in Turkish political life, or rather in the understanding of politics. In this sense, political and social developments around the world politics play an important role. In this sense, Turkish political understanding has experienced a great split during the transition process from the monarchy to the republic. We are observing a similar process with the AK Party today. However, this transition occurs in a paradigm that is different from all other fractures. The most important element of this difference is the post- foundational political understanding.

In this sense, the AK Party led to the institutionalization of political domain in post- foundational sense in Turkey. In the post-paradigm, populism refers to political logic itself. Hegemony and discourse are the most important elements of this political understanding. Hegemony refers to the establishment of a chain of equivalence through articulation and discourse certainly has no ideological meaning. Discourse establishes 'we' and 'they' and determines the border of the political identities. These borders are not fixed and unchanging and do not have a metaphysical basis. The change of these borders is a political act. Therefore, politics, antagonisms, hegemonic struggles can never be ignored. Only through democratic means we can achieve smoother struggles than deadly conflicts. In this sense, AK Party has demonstrated its ability to change political identities and political borders. The AK Party has institutionalized this political style with its presidential system.

Thus, populism changed the perspective of CHP that is one of the most essential parties in Turkish political life. The CHP has always tried to avoid populism, so the logic of the political was never acceptable to CHP. Although CHP founded Turkish Republic in 1923 as the result of hegemonic struggle, this struggle was on the essentialist philosophical foundation.

For this reason, the CHP has always kept distance between the Party and the people that is why the hegemonic articulation could not go beyond being a block between the intellectuals, army and the bureaucrats. However, as mentioned above, the nature of politics has been changed by AK Party and populism has inevitably been included in Turkish political life. CHP had to adopt populism.

In conclusion, post Foundational Political thought could be the best way to get insight into AK Party as a political movement. The most important feature of post-foundational thought is that it makes us feel the existence of the political with the help of concepts like hegemony, discourse and populism. In this sense, AK Party's understanding of politics can be examined clearly, because the AK Party has succeeded in changing the paradigm of politics in Turkey. Turkish politics, which has shifted from foundationalism to post-foundationalism, can now be evaluated within this understanding.

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31 MARCH 2019 ANALYSIS OF THE TWITTER USAGE OF METROPOLITAN MAYOR CANDIDATES IN THE PROCESS OF LOCAL ELECTIONS

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1. Introduction

Developments in information and communication technologies (ICT) have changed the understanding of the web after 2004. Web publishing in Web 1.0, which was not suitable for producing content and was one-way communication, has been replaced by social media which is participant, in which content can be produced with different users and can be shared (O'Reilly, 2007) and which enables two way communication (Bayraktutan, Binark, Çomu, Doğu, Islamoglu & Aydemir, 2014; Akyol, 2015). It can be stated that these developments in ICTs brought about social and economic changes and caused voters and representatives to have new opportunities, diversification of communication channels and interest in these platforms (Akyol, 2015, Tosyalı & Sütçü, 2019).

The development of social media tools and the fact that they have millions of users have led to the fact that political parties and political party leaders have turned to this field and taken into consideration this field. Political parties and political party leaders have transformed social media into an area where they can explain the programs, aims and promotional activities of their parties (Söğüt, 2014; Çakır & Tufan, 2016). In other words, voters on social media, which allow two-way communication and

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interaction, can easily communicate with political parties and party leaders and they can deliver their positive / negative views to political actors. However, the structure of social media that allows two-way communication is ignored by political parties and candidates, and limited communication with voters is preferred (Bayraktutan et al., 2014). The main reasons why political parties have started to use Web 2.0 tools that allow user-centered content production to be shared and expanded, to introduce themselves and discourses of political parties and leaders, to inform the voter audience about the party activities through regular flow of information and to compile the views of the voters on certain issues (Bayraktutan, Binark, Çomu, Doğu, İslamoğlu & Aydemir, 2012).

This study consists of four chapters. In the first part, the theoretical framework related to the use of social media by political actors is presented. In the next section, methodology and research findings are presented. Methodology and research findings are followed by discussion and conclusion sections.

2. Conceptual Background

The use of social media by political actors and voters has brought researchers' interest in this field. Kurt and Karaduman (2012), in their thematic analysis of the discourse of political party leaders, examined the frequency of Twitter usage and stated that the party leaders could not understand and internalize the active use of Twitter in politics. It is stated that political party leaders' Twitter accounts are closed to messages, the number of accounts they follow is quite low and political leaders see Twitter as a platform where they share their thoughts and ideas.

Bayraktutan et al. (2014) concluded in their study on the General Elections that they used Twitter as a one-way notice board, which is suitable for bi-directional interaction, that they never contacted the voters, or that they contacted the voters in a very limited way and did not follow the policy to ensure the political participation of the voters. On the other hand, it is stated that political parties or candidates are mostly used

the social media in the form of publicizing their individual programs and transferring the discourses of the party or party leader from top to down.

In the study conducted by Yolbulan-Okan, Topcu and Akyüz (2014) on the 2014 Local Elections, they observed that political parties used Facebook, Twitter and Youtube applications to communicate with voters. The fact that political parties use social media only for advertising purposes and do not communicate with voters states that political parties cannot achieve the results they want to achieve. Akay (2014) analyzed the social media accounts of CHP Istanbul Metropolitan Municipality candidate Mustafa Sarıgül regarding the 2014 Local Elections. He stated that he used many social media applications to express his thoughts during the election campaign and shared similar results among these social media tools, and used Twitter more among these tools. On the other hand, he states that Sarıgül interacts with the voters by retweeting the posts of the citizens through his Twitter account and this is a different behavior compared to the previous elections. Söğüt (2014) tried to evaluate the materials used by political parties on social media for the purpose of propaganda in the 2014 Local Elections through a focus group study. According to the findings obtained from the participants of the focus group study, Justice and Development Party (AKP) used a more successful rhetoric than the Republican People's Party (CHP). Söğüt (2014) recommends that political parties evaluate this area well and use it in a way that will positively affect the election results as individuals follow social media more closely in the election process. Biswas, Ingle and Roy (2014), in their research within the framework of the 16th Lok Sabha elections, state that people in India use social media platforms to follow political developments and learn political developments first hand. In the research, it was found that Youtube videos are an important source of information for people and affect the decisions to vote by gender. Political figures actively involved in the digital environment have been found to be successful in influencing communities and attracting voters to their side. In the analysis of 28 metropolitan mayor candidates for Twitter accounts in the 2014 Local Elections, İlkiz, Sobacı, Yavuz, and Karkın (2014) stated that metropolitan mayor

candidates increased Twitter usage as the elections approached, and they stated that the place and content posts were decreased in the tweets they posted, they shared messages within the framework of the election campaign and that the candidates were hesitant to contact the citizens directly.

Onat and Okmeydan (2015), in their study within the framework of the 2014 Local Elections and the Presidential elections, found that some candidates who actively use social media make propaganda using traditional methods. On the other hand, the researchers observed that in both elections the candidates did not communicate with the citizens in any way, even though they received comments from their followers on social media. Çakır and Tufan (2016), in their study on the Instagram use of the political party leaders Ahmet Davutoğlu and Devlet Bahçeli, found that the two political leaders are not indifferent to social media, but they do not use social media at the desired level. In the study, it is stated that leaders use social media as a unilateral communication tool and they cannot reveal the interactive aspect of social media.

Cárdenas, Ballesteros and Jara (2017) state that in the elections held in Spain, Mexico and Chile, social media cannot prevent traditional media in the election process and that propaganda with traditional methods is supported by social media. Jaidkaa, Ahmed, Skoric and Hilbert (2018), in their comparative study conducted in Malaysia, India and Pakistan, stated that although social media data are important source of data in terms of election forecasting of in India and Pakistan, election forecasting based on social media data are misleading for Malaysia. Researchers have found that users on social media cannot express themselves fully because they do not feel safe in their selection process and they do not share their position in tweets. They argue that analyzes in an environment where citizens feel safe will reflect more realistic results. Bruns and Moon (2018) in their study on the use of social media between the Australian Federal Elections held in 2013-2016 showed that there was a high increase between the tweets and retweets of the two parties that participated in the elections in 2016 compared to 2013 and that both parties developed a

strategy on social media in terms of election strategy. Researchers also state that Twitter acts as an arsenal for the parties in the election campaigns and this finding confirms another study conducted on the UK.

Hamid and Rahman (2018), in their research on the elections held in Malaysia between 2008-2018, reveal that social media is a voting tool for the candidates in the elections. In the study, they stated that the social media usage rate of the young population who reached the age of voting is high and that the candidates actively use social media to reach this new voter group. On the other hand, they say that the right information published on social media in Malaysia affects voter behavior and especially Y generation voters can change society. Apuke and Tunca (2018) state that social media influenced the elections held in Nigeria in 2011 and 2015. In the elections held in 2015, it was pointed out that the party in the opposition gained a victory by increasing the political consciousness and awareness of young people through social media. Researchers state that social media has positive contributions in terms of political participation and information during the election process, but that political actors use social media in creating anti-enemies and “virtual assassination”. Bagić Babac and Podobnik (2018), in their study on 2015 elections in Croatia, found that social media influenced voter decisions. In particular, the voters’ positive responses to positive messages, negative and neutral messages provide negative feedback is among the findings of the study.

3. Methodology

In the study, tweets posted by twitter accounts of Ankara, Istanbul and İzmir metropolitan mayor candidates in the March 31, 2019 Local Elections were included in the content analysis. The AkP and Nationalist Movement Party (MHP) have decided to participate in the 2019 Local Elections with the Presidential Alliance. In three metropolitan cities included in the analysis, the Republican Alliance participated in the elections with the AK Party candidate. The so-called Nation Alliance, led by

the CHP and the İYİ Party, also participated in the elections with the CHP candidates in Ankara, Istanbul and Izmir.

Tweets of metropolitan mayor candidates were classified after content analysis by using the categories developed by İkiz et al. in their study conducted in 2014. Candidates' retweets and tweets of Istanbul Metropolitan Municipality Mayor candidates were not included in the analysis after the Supreme Election Board's decision to renew the elections in Istanbul.

4. Research Findings

Table 1. Distribution of tweets of Ankara Metropolitan Municipality presidential candidates

	Mehmet Özhasseki		Mansur Yavaş	
	Frequency	Percent	Frequency	Percent
Better public services/Targeting campaigns	14	2,15	13	3,86
Direct interaction / Engagement with citizens	-	0,00	-	0,00
Information & news sharing	157	24,15	73	21,66
Location & activity sharing	297	45,69	117	34,72
personal message	181	27,85	127	37,69
Support mobilization	1	0,15	7	2,08
Total	650	100,00	337	100,00

Table 1 provides information on the tweets of the candidates for the mayor of Ankara Metropolitan Municipality. According to the table, Mehmet Özhasseki, the candidate of the People's Alliance, posted 650 tweets between 27.11.2018-01.04.2019. During the election process, Özhasseki did not interact with citizens in any way through Twitter. When the tweets posted by Özhasseki were examined, it was observed that the candidate announced the information about the places he would visit for promotion and propaganda on the days before the meeting and shared the information from the relevant location on the day of the meeting. Posts related to public service improvement projects in Ankara constitute 2.14% of

the total tweets. Within the framework of the People's Alliance, it is seen that the MHP has also shared information about its visits to its organizations in Ankara. It was determined that he posted individual messages including women's day, new year, kandils, etc. which are the equivalent in Turkish society as special occasions, topics on the agenda and death anniversaries of the death politicians and artists that were trained in Turkey.

Mansur Yavaş, the common candidate of Nation Alliance for the Ankara Metropolitan Municipality, posted 337 tweets between 18 December 2018-01.04.2019. It was observed that Yavaş, who posted fewer tweets than his rival, announced the places he would visit one day earlier and shared with the relevant region during his visit. When the individual messages of Yavaş are examined during the election process, it includes the stance against the negative / defamatory campaign against him both with social media and traditional media. On the other hand, similar to Özhaseki's messages, some of Yavaş's individual messages shared commemorative messages covering the important days and weeks of the death anniversaries of politicians and artists who were not alive.

Table 2. Distribution of tweets of Istanbul Metropolitan Municipality presidential candidates

	Contact Binali directly		Ekrem İmamoğlu	
	Frequency	Percent	Frequency	Percent
Better public services/Targeting campaigns	262	24,30	108	14,19
Direct interaction / Engagement with citizens	2	0,19	1	0,13
Information & news sharing	201	18,65	148	19,45
Location & activity sharing	301	27,92	236	31,01
Personal message	301	27,92	258	33,90
Support mobilization	11	1,02	10	1,31
Total	1078	100,00	761	100,00

Table 2 shows the data of the tweets of Istanbul Metropolitan Municipality candidates. Between 27.12.2018-01.04.2019, Ekrem İmamoğlu, the candidate of the Nation Alliance, posted 761 tweets. 14.19% of the tweets that İmamoğlu posted includes the posts of improvements in public services and new projects. On the other hand, 31.01% of the shares are composed of location and activity posts related to party organizations and public gatherings within the framework of the election campaign. The 19.45% tweets, which constitute information and news sharing, include the announcement of the trips planned for the election process to the citizens. 33.90 % of the tweets, which constitute important days and weeks, messages related to the agenda, and commemoration shares with important persons who have lost their lives, were evaluated in the personal messages section.

Between 27.12.2018-01.04.2019 Binali Yıldırım, the common candidate for the People's Alliance of Istanbul, posted 1078 tweets. 24.30% of Yıldırım's tweets consists of improving public services and announcing new projects to citizens. 27.92% of the tweets are content for organizational visits, public gatherings and other activities. Important days and weeks, to send messages of remembrance and important issues relating to persons forming part of the agenda of Turkey constitutes 27.92'lik% of all posts.

Table 3. Distribution of tweets of Izmir Metropolitan Municipality mayor candidates

	Nihat Zeybekci		Tunç Soyer	
	Frequency	Percent	Frequency	Percent
Better public services/Targeting campaigns	7	2,19	16	4,53
Direct interaction / Engagement with citizens	1	0,31	1	0,28
Information & news sharing	51	15,99	90	25,50
Location & activity sharing	200	62,70	145	41,08
Personal message	59	18,50	91	25,78
Support mobilization	1	0,31	10	2,83
Total	319	100,00	353	100,00

Table 3 shows information about the tweets of the candidates for the mayor of İzmir Metropolitan Municipality. Between 27.11.2018-01.04.2019 Nihat Zeybekci, İzmir mayor candidate for the People's Alliance, posted 319 tweets. 62.70% of the tweets consist of meetings held within the framework of party organization meetings, rallies and election campaigns, and activities carried out in these activities. Important days and weeks, commemorative messages about important people who lost their lives and tweets through which individual thoughts were expressed constitute 18.50% of all posts. Posts related to improvements in public services and new projects in İzmir at a rate of 2.19%.

Nation Alliance İzmir candidate Tunç Soyer posted 353 tweets between 27.01.2019-01.04.2019. 41.08% of the posts consisted of meetings, party meetings, locations and activities related to the meetings held within the election campaign. Posts related to improvement of public services and new projects in İzmir are 4.53% of all posts. 25.50% of the posts consists of information about the rallies and information about the programs hosted.

5. Discussion and Conclusion

Social media accounts of the metropolitan municipality mayors in İstanbul, İzmir and Ankara in 2019 Local Elections in Turkey were analyzed through content analysis. In the examinations conducted, it was observed that the majority of the candidates' posted location and activity tweets related to propaganda meetings, party organizations and meetings with the leading institutions in the candidate provinces during the election process. On the other hand, the candidates' tweets related to informing and sharing news about the rallies, live broadcasts and events constituted the majority of the tweets posted. Personal messages also play an important role in the election process. It is seen that all of the candidates posted tweets related to important days and weeks, remembrance messages about people who were authority in many fields and now are dead, and topics on the agenda. Candidates did not interact with citizens on Twitter or interacted with them in a limited way. The ideological closeness of

the parties constituting the People's Alliance and the Nation Alliance has largely prevented the parties from creating oppositions through ideologies. In this context, it is possible to say that the most prominent common share of both alliances is the commemorations made to commemorate Necmettin Erbakan.

Candidates were generally found to post towards the young population, called the Y generation. Posts on democracy, transparency and accountability are very limited. In these elections, it was determined that the candidates shared the messages within the framework of cooperation and participation. It can be said that there is a common language in the posts of candidates regarding religious and ethnic elements.

Within the framework of the local election, no evidence was observed that the share of candidates on Twitter had a positive / negative effect on their votes. Other political parties and supporters of the people's and the nation alliance during the election process and the fact that their supporters are composed of different segments make this analysis difficult.

Investigation of the effect of social media in both local and general elections in Turkey is of great importance. In this context, first, the use of social media for members of political parties needs to be analyzed. It is important to examine the relationship between the use of social media among voters who are political party members, their aims in social media and their attitudes and interactions with political parties. Second, the level of reflecting the political attitudes and behaviors of individuals in social media to social media should be examined. Third, the reasons behind the fact that political figures do not communicate directly with citizens on social media should be identified and necessary measures must be taken to enable citizens to communicate directly with politicians and to ensure citizen participation. Fourth, interdisciplinary studies should be encouraged and supported to conduct sentiment analysis in social media specific to Turkey. The methods to be developed in the light of the data to be obtained will contribute to the future research and will also guide the political actors.

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LANGUAGE AND CULTURE IN ARCHAIC/CULTURAL AND TRADITIONAL BASED SOCIETIES

Dr. Amir A. Fekri²

Preface

The archaic pattern of the ancient Mesopotamian-Middle East basin is the religious focus of Islamic geography. This archaic formal social structure and structural pattern is known for its *Settled Archaic Cultural* and *Unsettled Nomad* communities. The settled archaic cultural communities lived ancient New Stone Age (8000-5500 BC), Copper Age (5000-3000 BC), Bronze Age (3000-1200 BC) and Iron Age (1200-330 BC) at the same settlement geography. During the determined antiquity, communication languages developed in the field of original interaction in line with the vital requirements of each period and ones required by geographical location. As a matter of fact, the communicating language of settled cultural lifestyle dominates the transformation of the ages while it developed in accordance with the essence of the geography where each ancient settled cultural community is located. Therefore, the languages that developed in the ancient settled cultural communities dating back to the present day are the identity of the settled geography of same communities.

The geographical requirements and the vital needs that emerge in line with the natural specificities of the area have led to the development of the perceptions and conclusions of the settled communities. In this direction, communication is inherent to acquired perceptions and conclusions; characteristics of established cultural communities. The nomadic communities, who did not live in the Iron Age, have been taken place

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within the cultural settlements geographies. It is inevitable that the migratory communities will be reproduced by synthesizing the cultural life structure, cultural pattern, cultural rituals, cultural language and linguistics of the settled cultural communities they encounter during the transition to settled lifestyle with their unique understanding of nomadic structural pattern.

It has become inevitable to develop an eclectic language/linguistic and traditional living space in the context of the cultural structure along the rituals/cults/traits as traditional elements of cultural patterns, cultural communication language and linguistics. In this respect, the nomadic structure/pattern assimilates its structural texture, language, linguistic and rituals while its encounter with the settled cultural structure through being alienated from its owned nomadic structure. Thus, nomadic communities have their own structural characteristics which are influenced by temporary settled geographical locations take on their migrant routes. These characteristics should take place in the process of transformation within a particular cultural settlement and the establishments of and integrity with. They have been able to maintain their survival in the context of their new transformed structures so that have been formed by eclectic mixture of cults, rituals and traditions. Living spaces in the form of /collectives/communities/societies under the cultural language influence and cultural elements of settled ancient geographies; is the subject which confirms the difference Cultural Societies (Collectives/Communities) and Traditional Societies (Collectives/Communities).

Lack of specific natural geographical conditions, accumulated permanent settled knowledge, evaluative settled background and vital experiences of the cultural ages on or around the geographical space of cultural communities within the social texture of nomadic structures is an indispensable realities for them to encounter cultural geographic area and undergo transformative structural processes. Starting from the Neolithic Age, the immigrant community structures devoid of cult, which developed as a vital phenomenon and ritual data accumulated in the same geographical

environment; it is only possible for the cult and culture that developed during the same ages to survive in a certain geographical environment imbued with vital phenomena, rituals, traditions and linguistics.

As of the Iron Age, history has witnessed the nomadic incursions into ancient settled cultural geographic areas. Nomadic tribes and nomadic colonies attempting to settle in culturally settled areas have begun to come to life, which has differentiated the originality of new settlers. The vital phenomena and rituals developed by the nomadic communities have been subject to a continuous process of change depending on the changing geographical conditions in which they pass. These changes occurred on the basis of what they encountered in each geographical location. The habits, rituals, vital phenomena that change depending on the geographical conditions of each geography and climate have made the nomadic communities open to new traditions, habits, customs, cult and pieces. Also, apart from kinship, tribal blood ties and religious rituals; every phenomenon that can change under the effects of alternate space/location is subject to change for these communities. The diversity of traditions experienced as a result of the changing phenomenon of life due to the geographical location and the nature of migration; it is opposed to the cult, cultural rituals and traditions that cultural communities have produced over the ages. Therefore, the fact that nomadic communities cannot produce original settled habitats and that their settlements are eclectic is becoming more evident. However; Cultural societies/communities, have a conservative and sensitive tendency for their cult accumulation as a result of long ancient background and tried experiences. Providing of an eclectic language and imported traditions based lifestyle is the fate of nomadic life. In this sense, Western geography is an example of an eclectic Greek-Latin language and a mixture cult and traditional social structure and pattern originated from Greek ancient settled cultural-linguistic and language environment which fortified by Holy Rome Church and East Roman Church/Byzantium Christianity . It is clear enough to obvious the mixture of various ancient settled cultural cults and traits throughout

the religious traditions, rules, forms and habits which are constituent and creator of Western World's *Traditional* and *Modern* two thousands years historical background. Consequently, Western communities created *Modern Tradition* by changing Christianity religious traits, beliefs and traditions reproduced an eclectic lifestyle in accordance with a specific social structure came out from a transformation process so called Age of Renaissance, Reform, Enlightenment followed by French Revolution, Industrial Revolution and Modern era.

I- Historical Background

Bronze Age Mesopotamia and culture of the Sumerian community means, the emergence of the Sumerian writing language. In 2000 BC, Sumerian language developed as Akkadian language within the Akkadian civilization and spread to Mesopotamia. Towards the Iron Age, Assyrian, Babylonian, Median and Persian cultural environments and languages spread to the Iranian plateau and India as the dominant settled culture and language of geography. The established/settled culture and linguistic environment of the Med-Persian geography has developed the Avestaian-Ahuraian cultural language and belief linguistic along with Aramaic language and its Cultural pattern basin of Mesopotamian-Eastern Mediterranean. The meeting of this cultural and religious linguistic with the context of Greek settled culture and language in the last stages of the Iron Age is an explanatory element of *Indo-European language* concept/environment. The tradition of cultural phenomena and cultural languages has extended from Mesopotamia-Middle East to the geographical location of India.

A concrete output of communication analysis where has developed predominantly in cultural settled communities is a wide spread Indo-European speech and writing language. The discontinuous wandering life experiences of nomadic masses that existed in discrete geographical areas in the same regions and processes have been limited to what they have acquired from the ancient settled cultures they've encountered.

Culture, Tradition, Language

Culture as a contested anthropological concept, consists of natural perception and understanding of human being toward a specific settled geographic location. A series of ideas, beliefs, traits, cults and symbols in together with the attitude and behaviors are components that make up the culture. Continuity is the main characteristic of cultural occurrence process that shows continuous reshaping of inevitable *past* in *present*. Another issue that needs to be addressed to continuousness of cultural process is the adaptability of human being with their settled geographic location's realities. Therefore, when we talk about culture, ancient culture and cultural settlement, it is considered as a reflections of language, art, architecture, lifestyle and vital relations to the settled human behaviors, attitudes, beliefs and traditions at the same geographical location throughout the ancient ages. In this basis, it is possible to say that the occurrence of linguistic patterns and communicating languages had been occurred. Obviously language is the carrier of cultural values and experiences. In together with culture and language as its main carrier during ancient ages up to day *Tradition* as a key concept in sociology is the main means of organizing collective memory and social practices. It is preserved through custom and customary traditions while continuously re-meaning and reproduce by migrants and subsequent settled nomads as its carriers.

Migration of nomadic masses to ancient culturally settled geographical areas began in late of the iron age. They were influenced by the traditions and linguistic environment of cultural life in the process of confronting nomadic masses with settled cultural communities. In this process, nomadic masses have added cultural settlements tradition and communication language environment to their own customs and traits.

Traditional non-settled nomad communities tried to reshaped and reproduced their community as a settled era in a geographic neighborhood by referring to cultural traditions and occurred communication language. Transmission of nomadic lifestyle to a settled structure needs to become a mixture of nomadic traits, customs, and habits and get used

to geographical climate conditions which it means eclectic surrender to eclecticism. From this point of view eclecticism means a mixture of geographically defined cultural traditions, habitual, rituals, meaningful values in language and contemporary non-settled traditions and habits. Subsequently traditional settlements are open to all traditions they encounter due to the lack of collective mind and memory regarding ancient cultural accumulation and lack of belonging to the development of traditions.

When an ancient settled cultural community meets new cultures and traditions, sensitivity, awareness and sensitivity towards its own values exhibit some kind of invariance, while in traditional settlements, the situation of invariance and sensitivity cannot be observed. The linguistic / literary cultural field traditions, doctrines, rituals, beliefs developed in connection with the field and settlement geography developing in this field and cultural communication form the basis of prioritized transfer of knowledge and data of the settled geography, cultural behaviors and cultural life principles. The most important elements produced by cultural settlements depending on geography are religion, religious and religious structures. As a matter of fact, the religions and beliefs that develop within these communities are unique and reproductive in terms of development structure and content. The belief systems developed by the established cultural masses are meaningful and legible in their own language and language. The religious fabric in question, like other cultural traditions for the traditional masses of people, is only temporary and verbal exchanges. This study is an approach that has been put forward with the tendency of the formation of social-geographic patterns at the theoretical and conceptual level to screen culturally and culturally reproduced traditions. Formal and formal social structures built in the context of the specific language developing in the structure of culturally resident human masses; It has been brought into the focus of discussion that it reveals various linguistic-behavioral reactions reproduced in the process of self-protection through cultural reflexion against the attack of traditional-social textures from traditional eclectic structures.

II- Culture in the Traditional - Modern Debate of Western-Centered Sociology

In the Western-centered sociology approach, from the mid-19th century onwards parallel to the liberalism movements, the *social individual* increased to the *subjective human* level and human being became the subject of society. Subjectivity of the social individual along tend to utilitarianism head to a new population/communities' structural pattern and formation so called *Modern capitalist society*.

Modernism as a result of the Industrial Revolution, which gained momentum with the beginning of the 19th century in line with the dynamics of the Renaissance, Reform period, Enlightenment and French Revolution starting from the 13th century, respectively, parallel to the capitalist process; It means the end of European-centered traditionalism and traditional paradigms. Tradition within the Western-centered sociology conception means that the Roman Empire confronted Christianity and became Christianized and transformed into the Holy Roman Church Empire. However, the tradition of the Roman Empire before the Roman-Christian meeting is in fact a tradition of the cultural and linguistic activity of a Greek language and cultural facility.

Therefore, as a processual synthesis of a cultural environment and a cultural language of communication (Greek, Greco-Latin and Latin), it becomes a traditional social structure-texture and structure-pattern. From this point of view, it can be determined that the development process of today's Western modernism has been transferred from the formation of a cultural tradition to the traditional and that it has been transferred to the modern times with the process of capitalism. In the developed context, the cultural environment and language is limited to Greek culture and language, and in this sense, it is inevitable that all the scientific disciplines of the West will develop in Greek language, mathematics, geometry and mythology and that a traditional West will be built with the relocation of Christianity from Mesopotamia to Rome. reality. While the West is moving forward with traditional Renaissance, Reform, Enlightenment

and new philosophical efforts; Since it seems impossible to return to Greek culture and linguistic origins, it is inevitable that he chose the modern against the Greek Christian tradition.

The main element that this study problematizes is the evaluation of the Christianity tradition, which takes place in the Greek culture of the ancient cultural and linguistic sources of the Western-centered sociology of Mesopotamian and Middle Eastern human masses at the level of 'Traditional'. When Mesopotamian and Middle Eastern communities are considered within the scope mentioned, it is seen that the building patterns developed on the basis of ancient settled cultural and non-settled traditionalism are almost mentioned as 'compassionate in the western-centered traditional perception and modern approach. Because traditionalism or traditional social structure as a sociological concept does not have the same level of usability for Western and Mesopotamian-Middle Eastern geographies. Social structures, which have traditional characteristics in Mesopotamia-Middle East and Islamic geography in general, are reflections of ancient settled cultural and linguistic structures in the same geography and have a remanufactured structural feature. On the other hand, the linguistic and linguistic environment developed due to the ancient cultural pattern constitutes the main elements of the eclectic structure, texture and languages of these traditional structures. On the basis of this conceptual analysis, which is taken into the focus of discussion, there are two social structures that are qualitatively and lucidly separated from each other; cultural (ancient cultural settlements) communities and traditional (eclectic) communities.

III. Discussion

With the emergence of today, the human communities in the Islamic geography, secular nation-states and Islamic communities / societies clustered on the axis of Islamic sects and exhibit unique positions on each other on the ideological axis. Main sectarian elements of communities and clusters of geography; It is seen that they have a contradictory structure in the

social context parallel to the cultural and traditional structure of the geography. The fact that the two types of communities mentioned in this geography are separated in the axis of the sects of Islam shows that the element of eclecticism consists of different lizard traditions at different social levels. However, while religious and sectarian tradition phenomena constitute an identity process for traditional communities; the social patterns of cultural communities do not go beyond an articulated motif. As a matter of fact, cultural communities / societies take the imposed traditions that are imposed into the process of culturalization by dissolving them into their own patterns. Therefore, it can be said that the digestive and transformative specificity of the process of acculturation is not included in the structure of traditional communities. Consequently, while traditional community structures perceive additive traditions as identical to their structures and as an integral part of their social identity, the same articulated traditions take part in social identity as a motif of the digestive and transformative patterns of cultural communities and do not become part of cultural identity. The cultural linguistic environment and the eclectic traditional linguistic environment are the basis of this divergence. As the cultural and traditional sociological structures of the geography, which are the focus of the discussion, they tend to *Shi'a* sectarian and *Sunni* sect in their religious traditions respectively. It is also worth investigating that cultural social structures are prone to *Shi'a* and its elements and that traditional structures have entered the social identification process through the *Sunni* sect. The main focus of the study is that cultural structures, which are predominantly religious, have a language environment different from that of the religious tradition (Islam).

The point to be emphasized here is the language of religious tradition. Although the religious language of Islam is widespread to the west of the Islamic geography, the fact that Iran is encountering the ancient cultural linguistic environment and the fact that the religious language of Arabic cannot be carried to the east of the geography is thought-provoking. For this reason, Islamic geography can be determined as Western Islamic geography and Eastern Islamic geography. On this basis, it can be said that

an ancient settled culture on the Iranian plateau and the effectiveness of Pahlavi, Persian and Sanskrit in the specific language of this cultural area play a decisive role. The religious rhetoric of Islam and the language of discourse, where traditional communities (Tribes, Bedouin communities; other masses, masses and humanitarian clusters connected to the tribe of Arabi and the Quraish Tribe through the Asabia), have eliminated all other non-cultural, non-culturally developed local discourses abolished. However, when he turned to the west of the linguistic geography which was directed towards the west, he experienced a breakdown when he faced the ancient settled cultural Egypt.

As a matter of fact, Heterodox Islamic sects as Fatimids, Naqshibandi and *Mu'tezile* which are sects closed to Shi'a sect in the East, is thought to be the reason for this pause. Islam, which emerged as a product of a traditional and eclectic (Eastern Roman Empire and Greek cultural activity) social environment has become a suitable basis for the development of two sectarian movements in the process of traditional development. The emergence and development of the Shi'ism sectarian movement within the cultural environment of Iran, its position in the cultural linguistic field and its stance against the current developing towards the west of the geography through cultural traditions stand as a dichotomic structure within the Islamic tradition. On the other hand, the Sunnism sect / verbal, which develops depending on the historical process and times, exhibits a stance within the religious linguistics which is influenced by the traditional communities.

Conclusion

In this study, it is aimed to examine the human communities and their coexistence of Islamic geography in the context of Mesopotamia and Middle East in the context of cultural and cultural language originating from historical times and antiquity. The focus of the discussion is that communication opportunities and language that are dependent on culture and culture, which are developed according to the ancient settled culture and

culture, and the effectiveness of language in forming the building blocks of eclectic traditional communities are inevitable.

It is possible to determine the effectiveness of the factors discussed in the social structures of the nation states established and unraveled within the Middle East / Mesopotamian geographical area, which is at the center of today's Islamic geography. Due to the geographical and linguistic origins of the differences, it is debatable how accurate the studies of the Western-centered social sciences are. In this context, while the cultural discourse and sects connected to both elements and culture in Islamic geography exist at the problematic level, the extent to which Western-centered historical traditional, modernism and even postmodern times are valid are among the elements of this problem.

The transfer of Western-centered sociology to the modern process through the traditional process from the Renaissance, Reform and Enlightenment through the linguistic, traditional and religious sereils that began only after the Iron Age naturally necessitates rejection of the traditional. Western-centered sociology is directly linked to the lack of a cultural base to recourse to rejection of traditionalism and modern understanding.

In addition, it is accepted that approximately two thousand people who live in the eclectic life experience acquired through the Christian tradition, leaving the languages they developed and moving to modernity are not expected to be based on Greek culture. In the Middle East / Mesopotamia, they seem to be able to return to the cultural traditions and linguistic environments that are still in use, leaving the religious tradition that they have been living for almost one thousand five hundred years.

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THE DEVELOPMENT OF CAPITALISM AND IMPERIALISM IN THE OTTOMAN EMPIRE

Bengücan FINDIK

1. Introduction

While the Ottoman Empire was the dominant power of Europe until the 1600s, it remained out of the industrial revolution and capitalist development in Europe, and in the following periods, it was defeated economically, militarily and politically and entered the process of disintegration. It would be useful to review the discussions of the Asian Type of Production regarding the exclusion of the Ottoman Empire from the development of capitalism. I only touch upon the views of Sencer Divitçioğlu and Doğan Avcıoğlu in terms of the subject of our study.

According to Divitçioğlu, the ruling class in the Ottoman Empire was not related to capital and trade. There is a manorial system in the Empire and the manorial owner does not own the land. The right on the land belongs directly to the Sultan. In other words, in Ottoman society, the land is the property of the state and the cavalryman is the representative of the state. According to Divitçioğlu, it is wrong to say that the Ottoman system is a classical type of feudal system by establishing parallelism between the manorial owners and the European senators of the Middle Ages (Divitçioğlu, 1981: 154). After this evaluation, Divitçioğlu compared the Ottoman society with the Asian Type of Production and drew some conclusions.

Land ownership is similar in both models. Marx, in the Asian Type of Production, refers to the ownership of land, sometimes joint ownership,

sometimes communal property, and sometimes state property. In Ottoman society, the land is inherited and in principle belongs to the state.

Ottoman class structure and Asian type class structure show similar characteristics. According to Marx, the Asian state has a unifying, supreme presence. However, citizens are defined to be generalized slaves. In Ottoman society, the head of state and the state is a superior authority. The bureaucrats and the ulama form the elite class, and the exploited class is the real producers, *reaya*.

In Asian societies, the class confrontation between the dominant and lower classes is determined by the way the surplus-product is seized by the producers. The surplus-product goes to the state as tax, tribute, and chore. The residual product created by *reaya* in Ottoman society passes through the state through an excellent tax system.

In the Asian Type of Production, the state is in charge of doing public works. In Ottoman society, public works, and services are carried out by the state and the dominant class representing the state.

In the Asian mode of production, the economy of the village is capable of supporting itself as the division of labor between agriculture and handicrafts is highly developed. In the Ottoman economy, the village has an autarchic structure that can support itself.

In the Asian mode of production, the city, and the village are undifferentiated. In the Ottoman economy, the dual economy emerges clearly. On the one hand, there are developed cities, on the other hand, there is a rural area dominated by peasant economies. The city and the village are separated from each other.

According to Marx, the economy in the Asian mode of production is on the one hand self-supporting village economies; on the other hand, it is in a state of solid, durable and stagnant economies, lacking internal dynamics due to public works of the state. In Ottoman society, none of the public works that the ruling class had to do is a productive investment (Divitçioğlu, 1981: 119-125).

Divitçioğlu proposes that it is an economic model parallel to the Asian Type of Production in the Ottomans by considering the division of labor between the village and the city.

Doğan Avcioğlu, on the other hand, thinks that the Ottoman order is not very different from the West (Avcioğlu, 2015: 14). In the West and in Ottoman society, production is carried out in small enterprises where the peasant family works for personal needs rather than for the market. The Turkish farmer has the right of disposition on these enterprises with the title deed and can transfer this right to his children. So, unlike the Asian Type, there is a practice similar to private property system. The serf in Europe and the reaya in the Ottoman Empire are tied to the soil, and the seigneur in Europe and the state or representative of the state in the Ottoman Empire seize the surplus product.

The separation of craft from agriculture and the development of inter-city trade in the Ottoman society, the establishment of large cities (Istanbul is the largest city in the world at the beginning of the XVII century), investments for security and accommodation between these cities and the emergence of the intermediary merchant class separates the Ottoman Empire from the Asian Type Production Society⁴. There are differences between the cavalryman and the senator in terms of their relations with the state. While cavalryman was like an officer of the state, the senator was a force against the state and was quite independent than the cavalryman. Cavalryman's and the senator's relationship with the peasantry are very similar. Both have the physical superiority to confiscate the plus product. In this case, according to Avcioğlu, it is not wrong to say that the Ottoman Empire approaches the feudal mode of production (Avcioğlu, 2015: 18).

One of the most important conditions of transition from pre-capitalism to capitalism is the emergence of the large class of landowners. In this way, the village can be opened to the exchange economy. The class that seized the surplus in the Ottoman state was the bureaucrat class, and they resisted not to emerge a class of landowners who could now

have rights as rivals. The Ottoman state mechanism, with a strong central government, has taken away the remnants of power in the hands of the families who participated in the conquest of Anatolia, but it is inevitable that the civil servants in the provinces strengthened their influence in times of weakening political power. Without strong control of the center, local officials could have increased their economic and political power with tax revenues. After the collapse of the military service system in return for tax collection, the system of tax farming was started and those who paid the most taxes to the state had the right to seize the surplus. Throughout the 18th century, Ottoman lands were dominated by notables who controlled the hierarchy of tax farming.

Notables both collected the taxes of the villagers in the regions they controlled and kept the trade in their hands. Notables also began to regulate the city's economies, and they have established the chamber of notables similar to the Western city aristocracy (Keyder, *Türkiye'de Devlet ve Sınıflar*, 2014: 25). During this period, it was also observed that notables engaged in agricultural activities for trade purposes. For example, Rosa Luxemburg writes that in Egypt, Kavalalı Mehmet Ali Pasha provided a noticeable increase in labor productivity. Kavalalı used people as unpaid labor in the construction of dams and canals, as well as in irrigation and sowing works in soils and followed the same methods as European sennar in practice and engaged in agricultural activities for commercial purposes (Luxemburg, 1975: 77).

For the developing class of landowners, the beginning of the end was the Deed of Agreement, which showed that the Sultan agreed with the notables. In the following years of the signing of this document, the central authority has succeeded in defeating the notables at the economic level as well as at the political level. The attitude of the great states against this internal evolution in the Ottoman Empire manifests itself in the Kavalalı incident. In the struggle between the Sultan and Mehmet Ali Pasha, England was in favor of the center and in return for the privileges granted, it enabled the Sultan to win and to fail the experience

of the premature national economy (Keyder, Türkiye’de Devlet ve Sınıflar, 2014: 26). The lack of a class of landowners to seize the crop that is large enough to control the market has given qualitative importance to commercial capital and has led to the formation of a crowded intermediary class. The intermediary merchant class was not only interested in buying and selling existing surplus products, but also encouraging, tricking, or forcing the producer peasant to produce the products demanded by the market. The Ottoman bureaucracy opposed the exportation of the producing peasant from its own control and export-oriented commercialization, that is to say, trade-oriented agriculture did not occur with the support of political authority, but with political authority (Keyder, Türkiye’de Devlet ve Sınıflar, 2014: 30).

The intermediary merchant class marketed the goods of the imperialist countries up to the inner regions of Anatolia and bought the raw materials needed by the industries in these countries from the peasants to reach the imperialist countries (Kurmuş, 2012: 77). Another feature of the intermediary Merchant class was that they consistently charged the peasant and the borrowing peasant enters into the yoke of the merchants. Thus, the trader could decide which product to produce according to the needs of the market. Another important point was that the intermediary merchant class was mostly composed of Greeks and Armenians. As we will talk about in the future, the non-Muslim class that engaged in the trade would have right to obtain passports of imperialist countries, they could change their nationality and would provide great tax advantages over Muslim merchants through the privileges granted. Due to the dominance of non-Muslim merchants, the Turks in Anatolia became unable to do even the smallest brokerage business and the formation of a national bourgeoisie would be impossible. The commercial capital accumulated in the hands of the Armenian and Greek traders was not brought into production by the majority but was flowing to Europe by British, French and then German traders. In the following periods, the banks with foreign capital and the money obtained by *Düny-u Umumiye* to be established would go directly out of the national

economy. For this reason, the first accumulation of capital, the first stage in the transition from pre-capitalism to capitalism, would not be possible. One of the reasons behind the extermination of the Armenians from Anatolia and the population exchange with the Greeks is due to the fact that the Greeks and Armenians dominated the whole trade life.

2. START OF TRADE WITH EUROPE AND CAPITULATIONS

In the pre-capitalistic period, the Ottoman rulers saw domestic and foreign trade as a means to meet the needs of the cities and especially the capital; to provide needs of the palace, the army, and the navy, and to provide the raw material resources for the guilds. The Ottoman rulers supported all kinds of trade, especially imports, but they did not hesitate to ban the export of certain goods when problems occurred in the market. Due to the discovery of new trade routes for the Europeans in the 16th century, capitulations are used as a means to attract merchants to the Mediterranean (Pamuk, 2014: 165).

The first great concession granted to the Ottoman Empire was given to France in 1536. In the agreement, France was defined as “the nation which is the most permissible nation”, the French were given the right to buy and sell all kinds of goods and the French merchants were exempted from taxes for 10 years and promised significant tax reductions for the following periods. In addition, other nations that did not benefit from the capitulations could trade with ships carrying the French flag. From this date until 1838, France will be in a superior position in the Ottoman foreign trade.

In 1579, the British were granted the right to trade in the Ottoman country, and in 1581 the Levant Company was established, which had a monopoly right with the Ottoman Empire. In 1809, another agreement was signed with the United Kingdom in which it could take advantage of the other rights granted to France. Between 1827 and 1838, the Ottoman trade with England increased by 100% because of the continuous

decline in prices in the UK, countries such as France and Austria began to lag behind in the competition with England. The rapid decline in the price of British goods in the coming years will cause great damages to Ottoman production (Kürmüç, 2012: 85-86).

1838 BALTALİMANI TRADE AGREEMENT

Immediately after the abolition of the janissary, the British, French and Russian navies defeated the Ottoman navy in the Navarino in 1827, Russia from the Balkans took Edirne in 1829, in 1833 the governor of Egypt Kavalalı Mehmet Ali came to Kutahya and the Ottoman Empire had to ask help from his arch-nemesis of Russia. Under the Treaty of Hunkar Pier, the Ottoman Empire came under Russian auspices and England found this situation dangerous for its own interests and stood by the Ottoman Empire. These are the concessions that the British want to take from the Ottomans for the good of England and the agreements with the same conditions will be concluded with other European states in the near future.

While the capitalist countries were clashing inter se, on the one hand, they were united in bringing the territory of the non-capitalist countries into the system of capitalist hegemony (Avcioğlu, 2015: 72). According to this agreement, the agreement will be implemented all over the Ottoman Empire. Egypt's monopoly on foreign trade was destroyed on the basis of this agreement. All domestic customs will be removed and no tax will be charged until arrival. 9% tax and 3% customs will be charged when the goods leave the country. For imports, it will only charge 3% customs and 3% surcharge. The fact that the Ottoman merchant pays a 12% tax in the domestic trade is a serious loss for the local merchant, and that the opportunity to compete is eliminated (Avcioğlu, 2015: 74).

1838 Treaty laid the conditions for possible dissolution and unemployment, giving foreign merchants a more advantageous position. The Ottoman Empire will no longer have the possibility of independent

development. The advantageous position of foreigners and the continuous decline in the price of imported goods would destroy traditional industry and result in the failure of modern industry. Between 1838 and 1845, Ottoman imports increased by 5 times, while exports increased by 2 times and a large foreign trade deficit emerged. This would lead to the first foreign borrowing in 1854. Another consequence of the 1838 trade agreements was the construction of railways after the agreement and the expansion of trade capital into the interior of Anatolia (Keyder, *Toplumsal Tarih Çalışmaları*, 2013: 221). With the 1839 Tanzimat Edict, the necessary arrangements were made for foreign capital and the non-Muslim class with which they work. With the 1856 Paris and 1878 Berlin agreements, the right of the imperialist states to examine and control the developments and the measures taken in the Ottoman Empire was revealed. With this right granted to Western countries, the independence and territorial integrity of the Ottoman Empire were guaranteed. In the periods after 1838, the Ottoman Empire would come under the yoke of imperialism through capital exports and direct investments.

3. CAPITAL EXPORT IN THE OTTOMAN EMPIRE

Since the 16th century, the Ottoman Empire had been borrowing money from Galata Bankers to finance short-term needs and tax farming. These bankers were named after in the 17th century because they joined the guild to operate in Galata. Galata Bankers generally consist of Armenians, Greeks, and Jews. The debts received from these bankers may actually be considered as domestic debts, but the debts received from these bankers, which are integrated into the European money markets are deemed to originate from Paris or London (Keyder, *Toplumsal Tarih Çalışmaları*, 2013: 248). After the Greek-Ottoman war, the effectiveness of the Greek bankers weakened. The relations of these bankers with the European financial circles mean that the debts received from them can be considered as external debt. After the French Revolution, the Galata Bankers took over a significant portion of the policy trade

by replacing the French merchants in Istanbul, specializing in money and credit and becoming large-scale financial capitalists. The financial strength of the Galata bankers reached its peak in the 19th century, but the decision to borrow directly from the European markets due to the increased borrowing needs of the state ended its unrivaled position. Ottoman Bank was established in 1863 and European capital was strengthened in the face of Galata bankers (Pamuk, 2014: 174-177). Between 1865-75, many credit institutions were established in Istanbul to lend to the government, and Galata bankers tried to survive by establishing partnerships with various banks and capital groups (Avcioglu, 2015: 87).

The Ottoman Empire made 15 foreign borrowings between 1854-1874. The amount borrowed is 239 million liras, while the amount obtained is 127 million liras (Yılmaz, 2007: 47). If we look at the reasons for the receipt of debts; for the financing of the Crimean War in 1854, to close the budget deficit in 1855, for the withdrawal of old money in 1858, for the payment of old debts in 1860 and 1865, to reduce the debt to Galata bankers in 1863, in 1870 to Rumeli railways in 1873, and in 1874 Foreign debts and interests could not be paid (Yeniay, 1964: 20-25).

Only 20% of the borrowings were allocated to production activities such as railways and irrigation channels and the remaining debts were used in the consumption expenditures. 13 million pounds of the Ottoman budget, which was 17 million pounds in 1875, would go to foreign debts and only 4 million pounds would be left for the government to work.

The Ottoman Empire was unable to pay even the interest of the debt due to the external debts. For this reason, a moratorium was declared in 1875 under the name of Ramadan Decree and it was announced that the debts that were due would not be paid for a certain period of time. Under the same decree, it was said that half of the debt interest would be paid and the remaining half would be billed with bonds. On the other hand, the value of 235 kuruş increased to 900 kuruş, so a devaluation was made (Yeniay, 1964).

Six tax administrations (*Resum-u Sitte*) were established in 1879 and six important tax revenues of the Ottoman Empire were allocated to the debts to Galata bankers. The British and French capital groups reacted to the privilege of creditors of Galata bankers and the ambassadors of these countries protested the situation. With the Muharrem Decree published in 1881, it was decided to establish general debt management. *Duyun-u Umumiye* is represented by English, Dutch, France, Germany, Austria, Italy, the Ottoman Empire, and Ottoman Bank. Although *Duyun-u Umumiye* was defined as a government agency by the Ottoman Empire, it is actually an independent institution and represents only the interests of creditor states. *Duyunu Umumiye*, which initially controlled 2 and a half million pounds tax on 13 items of goods, will control 8 million pounds and seize 31% of all Ottoman income by 1912. *Duyun-u Umumiye* has grown so much that in 1910, there were 5472 officers of the Ministry of Finance, while *Duyun-u Umumiye* had 8931 officers in 1912 (Avcıoğlu, 2015: 89).

Duyun-u Umumiye was an alternative for imperialist states to establish a colonial apparatus over the Ottoman Empire. The stabilization of the Empire's relationship with European credit institutions reflected the rapprochement of rival imperialist states. As a representative of the Ottoman creditors, this institution made the Ottoman government more reliable in the international arena while preventing radical change and financial reform at the same time (Keyder, 'Türkiye' de Devlet ve Sınıflar, 2014: 56)

Duyun-u Umumiye made the Ottoman Empire a safe place for foreign capital because the profit guarantees for the investments were realized by this administration. For example, the annual profit guarantee determined for the railway was paid with the tax to be taken from the place where the railway would pass and the collection of the corresponding tax was left to *Duyun-u Umumiye*. For the payment of the debt installments, the taxes collected from a region or from a good were paid against each debt and collected those taxes directly from *Duyun-u*

Umumiye. In other words, the possibility that creditors could not get their money at maturity was disappeared from the beginning.

Duyun-u Umumiye was not only an institution that collects and transfers taxes on behalf of creditors but also an enterprise that conducts business. For example, the monopoly of salt and tobacco was transferred to this administration²⁴. These monopolies, called Reji, could only be put to an end during the Republican period and state monopolies would be established instead.

After the establishment of Duyun-u Umumiye, the Ottoman Empire continued to borrow money by selling bonds in European money markets. Since tight control over Ottoman finance reduced the risk of Ottoman bonds, it could borrow money at more favorable interest rates. Until the collapse of the Ottoman Empire, the debt was transferred to Europe as the principal and interest twice the money (Pamuk, 2014: 233).

From the establishment of the Ottoman Empire Duyun-u Umumiye until the end of World War I, 109 million liras, 14 million pounds, and 81 million German marks were borrowed from abroad (Dikmen, 2005: 145). During this period, some debts were counted as substitutes for the old debts without entering the Ottoman budget and there was a period in which the debt was closed with debts. When we look at the general characteristics of borrowing, more reasonable borrowings were made compared to the previous ones, and some of the borrowings were allocated to railway construction and military expenditures.

Another representative of the foreign capital control over the Ottoman economy is the Ottoman Bank. The Ottoman Bank was established in 1863 with the British-French partnership and acted as the Ottoman central bank on many issues. The government will give the bank the authority to issue paper money and give up the right to pursue an independent monetary policy. The Ottoman Bank was one of the founders of the Tobacco Regime, participated in foreign capital investments as a partner and became one of the representatives of British and French

capital in the country. As the stability of the Ottoman currency is very important for the European capital, the Ottoman Bank, which is the central bank, issued very limited amounts of money. However, it is an economic fact that normal central banks, which take into account national interests, should print more money in certain periods in order to revive the economy in their countries. In short, the Ottoman Bank took advantage of all the advantages of being a central bank but did not assume the duty of protecting the interests of the country which was the central bank's duty (Pamuk, 2014: 235). In fact, when the Ottoman Empire entered World War I, he asked the Ottoman Bank to issue money to help the state, but the bank refused.

In the 1880s, in parallel with Abdulhamid's distrust of the British and the support of the Germans' Islamist policies, there were great developments in trade with Germany and Austria. During this period, German products began to dominate the Anatolian market with German marketing techniques, rendering British and French goods uncompetitive. In this period, parallel to the revision of the army by German officers, the sale of weapons from Germany to the Ottoman Empire gained momentum. Ortaylı writes that rifle production in Tophane and gunpowder production in Baruthane was possible in this period, but those large quantities of weapons were purchased from Germany instead of developing this industry (Ortaylı, 2014: 117). The increase in the capital exports from Germany to the Ottoman Empire was also influenced by the fact that Deutsche Bank could not easily obtain loans from the Ottoman Bank.

4. DIRECT INVESTMENTS IN THE OTTOMAN EMPIRE

Direct investments in the Ottoman Empire were mainly by the construction of railways and the operation of agricultural lands and mines around the lines. In order to serve the aims of imperialism, instead of making investments for production, investments were made to facilitate the spread of trade from the port cities to the inner regions and to help

transport the needed mines and agricultural products to Europe. In the construction of a railway, which is the most prominent of direct investments, countries also have goals such as protecting their own zones of influence and creating new zones of influence. Total foreign capital on railways, excluding foreign debts, reached 41% until 1890 and 63% in 1914. In the mentioned period, England, France, Germany, and Russia wanted to create areas of influence in the Ottoman Empire and fought each other in the construction of railways (Kaynak, 1984: 70). European states have exerted all the political and military pressures they can make to get railway concessions because if the Ottoman Empire disintegrates, the railroads of influence will join the colonial empires of the countries (Avcıoğlu, 2015: 100).

The first railway built in Anatolia is the İzmir-Aydın railway. The traders holding the trade in İzmir saw that trade and profits would increase with the connection of Western Anatolia to İzmir Port. In 1860, with the privilege granted to the British company, the Ottoman government guaranteed the company a 6% profit. The railroad company would be able to enter the materials required for the completion of the product without paying any tax, would have the right to operate the mines in the 45 km area where the line passes and the companies that could compete with it would be prevented by the Ottoman government (Kurmuş, 2012: 100). For the Ottoman government, the construction of railways was profitable because of the ease of shipment of soldiers, public order would be provided more easily and taxes on agriculture and trade would increase. A law enacted in 1866 allowed foreigners to own land in the Ottoman Empire. With the enactment of this law, the British began to buy land near the railway.

In the 1880s, trade relations with England began to deteriorate and German and French investments gained momentum. When the privilege of the Anatolian Railways was given to the Germans in 1888, the French demanded new concessions. France, which ranks first among the countries that lent to the Ottoman Empire, requested a railway concession

or another concession for each loan. France obtained concessions for the Beirut-Damascus, Damascus-Aleppo and Jaffa-Jerusalem lines, especially in Syria in response to the concessions that the Germans would receive. France hoped that it could determine the trade between Anatolia, Egypt, Arabia, and Iraq by railways. In addition, Syria's strategic importance for France was the ability to dominate these regions and cut off other countries' relations with their colonies (Kaynak, 1984: 74). In parallel with these investments, this region will remain in the French population after World War I.

With the 1880s, the corporatization of the Germans towards the Ottoman market accelerated. Germany was a hungry country without colonies and needed vegetables, cereals from Anatolia and oil from Mesopotamia. While the Baghdad railway was going into Anatolia, the German capital had built irrigation facilities in Çumra and dried the swamps of Eregli. Deutsche Bank, founded in 1888, also increased its effectiveness and became a partner in companies in many areas. Germany carried out all these initiatives with political propaganda and succeeded in influencing the Ottoman rulers, intellectuals and people (Ortaylı, 2014: 73).

In 1889, Anadolu Railways Company was established, which is apparently a Turkish company, originally managed by Deutsche Bank. The company obtained the right to use the previously opened Haydarpaşa-İzmit line and the concession of the İzmit-Eskişehir-Ankara railway company. The concession of the Haydarpaşa-Uskudar suburban line and later Eskişehir-Konya and Ankara-Kayseri lines will be given to this company. In order to build the railway, the Ottoman government gave the company a guarantee of 15,000 gold francs per kilometer and for this guarantee, the İzmit, Ertugrul, Kutahya and Ankara tars were left directly to Duyun-u Umumiye (Luxemburg, 1975: 88-89). When the operation of the Haydarpaşa Train Station was left to the Germans in 1898, the commercial transportation of Anatolia became under German rule (Ortaylı, 2014: 141).

In 1899, the extension of the line from Konya to Baghdad and Basra was accepted by the Delegation and in 1902 the concession was granted to the Ottoman-Anatolian Railways Company. The Baghdad railway would extend in the direction of Konya-Karaman-Mersin-Adana-Aleppo and from there it would be connected with Beirut and Jerusalem and continued to Basra. The British objected to the project as a German route to the Persian Gulf would pose a threat to Britain's sovereignty in India. By 1913, the Germans had to deal with the British and gave up the line to reach Basra, meaning they left Basra to the British on behalf of the Ottomans. The German initiative, which opened the line from Izmit to Ankara and Konya between 1890-96, could not continue this success. After 1912, the line could continue from Konya to Karapınar. Toprakkale-Iskenderun, Islahiye-Resulayn, and Baghdad-Samara lines were built, but these lines could not be connected. These detached lines had no effect other than plundering the wealth of the country, and the Ottoman Empire had a railway line that could not integrate with each other and could lose its continuity at any time (Ortaylı, 2014: 149-166). İlber Ortaylı says that the difference between Abdülhamid and Tsar II. Nikola, who draw the St. Petersburg-Moscow railway line with his cane, can be seen in the Baghdad railway story:

“The tsar considered the fastest access between the two Russian capitals. The Sultan had to say yes to those who wanted to plunder his country. The first way can still answer the speed of our era, the second is that the erstwhile plunder to the desired agricultural centres following the progress of our country cannot respond to rapid transportation needs between the two metropolia and Turkey must now embark on re-investment in the railway to combine these two points.” (Ortaylı, 2014: 167).

5. GENERAL EVALUATION AND CONCLUSION

Ottoman Empire was unable to experience the process of development of capitalism and the industrial revolution similar to Europe and became economically and politically weak. One of the reasons for this

backwardness is the lack of a large class of landowners engaged in market-oriented agriculture and a national merchant class. In the Ottoman Empire, the bureaucracy class, which now had the right to seize the product did not allow the formation of a class of feudal that would share its share while the state was strong; European states that did not want a national economy to be formed while the state was weak, took the position of the center and ensured that the state dominance in the provinces continued. In the period starting with 1838, Europeans had the right to trade all over the country with very low taxes and a class of non-Muslim intermediaries was born to ensure the exchange between European merchants and the Anatolian people. Together with the Tanzimat, the non-Muslim class came under the protection of European states and with the guarantees and passports they received, they were so strong that they could not even commission the Turks with the slightest brokerage. The merchant class, which consisted of Greek, Armenian and partly Jews, marketed cheap European goods to the inside of the country and bought the raw materials and agricultural products needed by the capitalist countries to flow into Europe. The accumulation of trade capital in the hands of the non-Muslim intermediaries did not return to the country as an investment, thereby preventing capitalist development.

The entry of imperialism into the Ottoman Empire was realized as capital exports and direct investments. With capital issuance borrowing, direct investments have been realized in the form of railways and mining enterprises that would transfer resources to Europe. For the first time in 1854, the Ottoman Empire went to foreign borrowing in order to cover the costs of the war. As the taxes on trade and agriculture decreased, it was obliged to borrow until the collapse period. Over time, even the interest of the debts became unable to pay, and the European states established the General Debt Administration, which seized most of the state revenues. After the establishment of this administration, lending to the Ottoman Empire became a very profitable and risk-free investment in European financial circles. After the establishment of the

General Debt Administration, the Ottomans borrowed or granted concessions in return for any assistance they demanded from the Europeans.

Direct investments were generally in the form of railways. The construction of the railways was risk-free due to the Ottoman government's profit-per-kilometer guarantee, as well as the large areas where the line crossed, were freely available to the country receiving the concession. Since the railways would make the countries making these roads the rightful owner of the land in case of the disintegration of the Ottoman Empire in the future, long-term plans have been taken. In line with these plans, Russia in the Caucasus, England in Western Anatolia, France in the South Marmara and Syria, Germany, on the other hand, wanted to cut the British relations with the colonies and to become the dominant power of the World, they received the privileges of the railways to be built from Anatolia to Basra. We are still using this dysfunctional rail network to transport agricultural products and minerals to Europe.

The spread of imperialism in Anatolia shaped the division of labor in production according to imperialist aims. This division of labor is the reason why Western Anatolia has turned to chromium, manganese and emery stone production (Kurmuş, 2012: 258). In the same way, boron production started in Balıkesir but when the company obtained the concession found the same mine in America, the production of boron was first reduced from 12 thousand tons to 3 thousand tons and then stopped completely (Avcıoğlu, 2015: 111). In other words, capitalist funds determined the mines to be extracted and prevented the extraction of mines that it did not want to be produced.

Imperialist exploitation and the invasion of cheap goods brought the country to a halt to the production of traditional industry, while enterprises resisting in their craft continued to produce with very low incomes. After the 1850s, there have been attempts by the state to establish a modern industry, but no success has been achieved (Avcıoğlu, 2015: 77).

From the 18th century onwards, the people living in the cities and villages of Anatolia became poorer and lost the labor force due to the soldiers who could not return from the war. Between 1850 and 1900, the number of soldiers who could not come from war only in Western Anatolia reaches 200 thousand (Kurmuş, 2012: 142).

One of the biggest consequences of the Ottoman Empire's subjugation to imperialism is the big change in the population structure of Anatolia. In the last periods of the Ottoman Empire, the Committee of Union and Progress determined that a national economy should be created for the liberation of the country and a national bourgeoisie should be created for this. According to this idea, since the national economy could not be created with the Armenians and Greeks holding the trade life, Turkish merchants had to replace them. In the 6 Eastern provinces where the Ottomans promised to reform, the Armenians were confusing and dreaming of autonomy and independence after the reforms. The movement of the Armenians with the Russians during the First World War would lead to the enactment of the relocation law and the Armenian population would be completely migrated from Anatolia. The other members of the non-Muslim merchant class, the Greeks would be gone by the population exchange in the Republican period and a national bourgeoisie would be created in this way.

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Perspectives on Applied Economics and Politics: Cases from Turkey

The main characteristic that distinguishes this book from its peers is that it contributes to the literature by combining multi-faceted information and different topics from sub-disciplines in the field of economic and administrative sciences. To illustrate, from one side, the book provides useful information on the social, political, cultural, and environmental studies, on the other side, it offers evaluation of the current macroeconomic issues for the World and Turkey's economy. Thus, students and all readers who are interested in these topics would be able to comprehend all the related areas more easily by making connections with current developments and taking advantage of the examples in the book. In addition, the book provides convenience to readers with its classification in 5 main chapters and with its fluent and simple narrative. Therefore, this book is a study that can be used by all segments of society who are interested in socio-economic developments and changes.

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