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THE IMPACTS OF CORRUPTION ON BUDGET BALANCE AND PUBLIC DEBT IN TURKEY: AN EMPIRICAL ANALYSIS

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ABSTRACT

Today, maintaining stability, transparency and budget balance are main indicators for developed and developing countries. Corruption, causing deviation from these indicators and its results are important issues that should be researched. Because corruption changes the composition of public expenditures leading to inefficient expenditures, as well as reducing public revenues and affecting budget balance negatively. Increase in budget deficit leads to an increase in public debt stock. In this study, the effect of corruption in Turkey on budget balance and public debt is analyzed by using Johansen Cointegration, VAR (Vector Autoregressive Model) and Granger Causality methods for 1995-2019 years. Empirical findings state that there is no cointegration relationship among variables and there are causalities from budget deficits and public debt burden to corruption and from budget deficit to public debt. Furthermore, VAR method provides empirical evidence that budget deficit and corruption affect each other.

Keywords: *Corruption, Budget Balance, Public Debt Stock.*

JEL Codes: *D72, D73, H62, H63*

TÜRKİYE'DE YOLSUZLUĞUN BÜTÇE DENGESİ VE KAMU BORÇLANMASI ÜZERİNDEKİ ETKİLERİ: BİR AMPİRİK ANALİZ

ÖZET

Günümüzde gelişmiş ve gelişmekte olan ülkeler için istikrar, şeffaflık ve bütçe dengesinin sağlanması önemli göstergeler arasında yer almaktadır. Bu göstergelerden sapmalara neden olan yolsuzluk olgusu ve sonuçları ise araştırılması gereken önemli bir sorunsal olarak karşımıza çıkmaktadır. Çünkü yolsuzluk kamu gelirlerini azaltmanın yanısıra kamu harcamalarının kompozisyonunu değiştirerek verimsiz harcamalara yol açmakta ve bütçe dengesini olumsuz şekilde etkilemektedir. Artan bütçe açıkları ise kamu borç stokunun artmasına neden olmaktadır. Bu çalışmada,

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Türkiye'de 1995-2019 zaman aralığı için yolsuzluğun bütçe dengesi ve borçlanma üzerindeki etkisi Johansen Eşbütünleşme, VAR (Vector Otoregresif Model) ve Granger Nedensellik yöntemleri ile analiz edilmektedir. Ampirik bulgular değişkenler arasında eşbütünleşme ilişkisinin olmadığını, bütçe açıklarından ve borç yükünden yolsuzluğa ve bütçe açıklarından borçlanmaya doğru nedenselliklerin var olduğunu ortaya koymaktadır. Ayrıca VAR yöntemi bütçe açıklarının ve yolsuzluğun birbirlerinden etkilendiklerine dair ampirik kanıtlar sunmaktadır.

Anahtar Kelimeler: *Yolsuzluk, Bütçe Dengesi, Kamu Borç Stoku.*

JEL Kodları: *D72, D73, H62, H63*

1. INTRODUCTION

Leiken (1997) has defined corruption in his study as "The misuse of public power for private profit or political gain". Tanzi (1998) has described corruption as "affects and distorts what should be arms' length or objective and unbiased, relationships between government officials and private sector individuals". Shleifer and Vishny (1993) defined government corruption as "the sale by government officials of government property for personal gain" illustrating the relationship between corruption and the level of economic development. This study shows that Africa stands out with the high level of corruption, while Central and Southern America are dealing with high poverty and extreme corruption. The study concludes that corruption is less among developed countries.

Corruption has been a significant and an endemic problem for both developed and developing/under developed countries throughout the history. Corruption is a problem for both public and private sectors. It is witnessed among non-democratic countries as well as democratic ones. In macro scale, corruption may have a negative impact on economic growth and development; cause a risk on efficient investments; decrease the efficiency of public and private sectors; falsify financial and economic data and lead to instability and anarchy in the political process (Everhart et al., 2009: 1579-1580). In addition, corruption may be considered as an indicator of political risk that has also impacts on foreign direct investments (FDI) inflows (Ayhan, 2019: 44).

Various definitions suggest that corruption causes asymmetric information as public employees and/or politicians use their discretionary power towards their own interest rather than serving the public. In Lemon Market Model developed by Akerlof (1970) asymmetric information problem, caused by one of the parties' hidden information in a principal-agent relationship, shows the results in favor of one of the parties while against the other. Asymmetric information problem may also be experienced among public, politicians and public employees who are authorized to manage state affairs.

There are three main criteria for corruption caused by asymmetric information problem. Primarily, politician/public employee should have the authority to draft or manage regulations and policies arbitrarily. Secondly, this authorization should lead to economic rent. As the third and last

criterion, incentives in political, administrative and legal institutions should establish an appropriate environments for administers with discretionary power to maintain economic rent (Aidt, 2003: 633).

Politicians and public employees may prefer their private interest over public interest leading to asymmetric information within principal-agent problem framework. This problem prevents market efficiency; highlights bribery in getting into the market, overshadows the important data of economics such as price, quality, competition, reliability and transparency and trigger corruption. As the principal's side, the public transfers sovereignty power to the politicians, i.e. by elections and vote mechanisms. As the agents' side, politicians/public employees, especially regarding public investment expenditures, may foster corruption by using their discretionary power through bribery, rent seeking, etc. and eventually damage budget balance and public debt stock by the negative impact on public expenditures.

There are economic, political and administrative effects and indicators of corruption. However, discussing corruption in terms of taxation system and public expenditures policies as well as a budget balance and public debt allows researchers to analyze it within public finance. However, there exists a variety of studies looking at the relation between corruption and public expenditures[1] and taxes[2].

Studies in Turkey regarding budget balance as well as the analysis of relationship between public debt and corruption are quite limited. This study aims to fill in the gap and contribute to the literature in Turkey. Besides the analysis of corruption in terms of budget balance and public debt in Turkey, this study aims to serve the analysis of the data in the light of central government and present the effect of central government decisions on corruption. Within this context, the study investigates the impact of corruption during 1995-2019 on public debt burden and central government budget balance by using Johansen Cointegration, VAR and Granger Causality analysis. The first part of the study presents review of the empirical literature and the second part introduces empirical methodology and analysis. Finally, the study concludes with the results of empirical analysis and interpretation of the findings.

2. LITERATURE REVIEW AND SOME EMPIRICAL ANALYSIS

Corruption affects public finance with public expenditures and public revenues by changing the composition of expenditures types and decreasing tax income. Corruption causes public expenditures to become inefficient, changes in the composition of expenditures and worsens the expenses of the budget. On the other hand, corruption affects not only individual and corporate (levied on income) taxes in direct taxes; but also VAT, sales taxes and turnover taxes in indirect taxes negatively. Therefore, corruption leads to a decrease in potential public revenues (Hillman, 2004: 1071). Public revenues, being affected by taxes and public expenditures by expenses, triggers budget balance and public debt and causes

[1] Further papers for the relationship between corruption and public expenditures are; Usher (1989), Mauro (1996), Mauro (1997), Mauro (1998), Liu and Feng (2011), Jajkowicz and Drobiszová (2015), D'Agostino et al. (2016), Wu et al. (2017).
[2] Further papers for the relationship between corruption and tax are; Bayley (1966), Rose-Ackerman (1978), Sah and Stiglitz (1987), Virmani (1987), Chu (1990), Chander and Wilde (1992), Tanzi and Shome (1993), Tanzi (1994), Flatter and Macleod (1995).

various problems in public finance. There are various studies in the literature investigating the empirical analysis of the relationship between corruption and public revenues (especially tax income), public expenditures and public debt. In studies on public expenditures and corruption, it is also debated economic (investment expenditures) and functional (education, defense, health, environment protection, social security, etc.) classifications of public expenditures. In studies on taxes and corruption, besides classification of direct and indirect taxes some studies are based on classification of taxes according their resources (individual income tax, corporate tax, VAT, etc.). There are also studies on public expenditures and taxes as well as studies including public debt stock in the analysis. As a literature review, the abstracts and findings of some of these studies are given in chronological order below.

Shleifer and Vishny (1993) emphasizes that public expenditures are inefficient in highly corrupted countries. It is also mentioned that corrupt public authorities bribe the most and tend to support investment projects that do not prioritize efficiency. Mauro (1996) considers the effects of corruption on growth, investments and public expenditures. In this study, it is expressed that corruption decreases investments and economic growth. Furthermore, there is evidence that corruption lowers especially the share of education expenditures and changes the composition of public expenditures. Knight et al. (1996) found that the cuts in military spendings caused an increase in growth. In the same study, there were findings indicating that higher corruption might reduce growth via higher military spendings.

In a cross-sectional study by Mauro (1998) on the analysis of the relationship between corruption and public expenditures, it is set forth that corruption decreases education expenditures, changes the composition of public expenditures and indicates a clear negative correlation between them. Tanzi and Davoodi (1998) expressed that corruption played an important role on public investment projects, increased public investments and decreased the productivity of investments. Another result of the study indicated that the level of corruption was increased by the existence of ineffective audit institutions. In the light of the findings of this study, corruption promotes inefficient public investments, changes the shares of public expenditure items in total public expenditures and decreases public revenues causing a negative effect on growth.

Myint (2000) emphasizes that corruption disturbs the budget balance by affecting both public revenues and public expenditures. Corruption via bribery in order to pay less for the services such as taxes, fees, electricity, water and natural gas causes an increase in the gap between potential public revenue and generated public revenue and therefore leads to unbalance in budget. Identifying the cost and potential results of corruption on budget expenditures gets harder. However, corruption may be made in military spendings which are expensive, has high economic rent and social benefit; therefore corruption secretly contributes to disturbing the balance of public budget. (Myint, 2000: 49-50). Gupta el al. (2000) focuses on the correlation between corruption and military spendings in the study. Government as generally being the sole provider of defense services and having limited supplies, increases rent seeking in the market and forces official authorities to misconduct in some cases. This

study points out that confidentiality in defense expenditures with regards to national security may lead to corruption, pushing transparency in the back especially in equipment purchases. According to the result of the study, corruption is associated with higher military spending as a share of total government expenditures and GDP.

According to the results of an empirical study by Ghura (2002) on Sub Saharan African countries during 1985-1996, there is evidence indicating that an increase in the level of corruption lowers the rate of tax incomes/GDP. Most significant role of corruption in affecting tax income, as public revenue, is confirmed by the high beta coefficient. In this study, it is remarkable that there is a significant increase in tax income as a result of the efforts on decreasing corruption. Martinez-Vazguez et al. (2004), in their study analyzed the correlation of corruption and public revenues, stated the presence of negative correlation between corruption and tax ratio. The same negative effect between corruption and revenue collections is also supported by the findings in several cross-country and case studies of transitional and developing countries. In the empirical study of Hwang (2002) it has analyzed the negative impact of corruption on public revenues. In the study, it is emphasized that corruption decreases tax income by contributing to tax evasion, tax exemptions and weak tax administration. The study also states that corruption damages the composition of tax incomes and decreases the ratio of taxes in a country, and increases the ratio of international tax revenues in total tax revenues. Positive and meaningful correlation between various corruption indexes and international trade taxes; negative and meaningful correlation between domestic tax income and GDP can be evaluated as the two significant findings of Hwang (2002) study.

Delavallade (2006) tested the effect of corruption on public expenditures during 1996-2001 in 64 countries by using three-stage least squares method. One of the findings is that corruption has decreased the share of social expenditures such as education, health and social protection in total public expenditures. On the other hand, the study states that corruption is effective in increasing the share of expenditures in public services and order, fuel and energy, culture and defense in public expenditures. In the study by Everhart et al. (2009), it is discussed the effect of corruption in emerging markets on governance, investment and growth. Moreover, it is stated that the effect of corruption on public investments is undetermined and its effect on governance is clearly negative, which has a more negative effect on economic growth. Grechyna (2012) in the study, used dynamic panel model for 30 OECD countries. There was evidence stating that increase in public debt stock was a significant indicator of public corruption. In Hessami's (2014) study for 29 OECD countries covering 1996-2009 periods, a negative correlation is detected between public expenditures and corruption. Other bivariate relationships in the study are determined as positive relation between corruption and defense expenditures; a negative relation between corruption and health expenditures; a weakly positive relation between corruption and environmental protection expenditures.

In Dimakou's (2015) study, a positive and significant relationship between corruption and debt accumulation is detected on cross-sectional large country sample. Benfratello et al. (2015) stated in their study covering the period of 1995-2013 in 166 countries by using panel data analysis that corruption decreased GDP and increased public debt and therefore led to an increase in public debt stock/GDP ratio.

Cooray et al (2017) studied the relationship between corruption, shadow economy and public debt. The results of the empirical study, covering the period of 1996-2012 in 126 countries, verify that increase in corruption and a larger shadow economy lead to an increase in public debt. The study confirms that shadow economy increases the effect of corruption on public debt and acts in parallel with corruption, complementing it. Moreover, the results of the study state that a larger shadow economy decreases tax revenues and increases public debt; on the other hand, the increase in public expenditures due to debt stock strengthens the effect of corruption on public debt more. Moreover, the study states that steps taken in order to decrease corruption will lead to a decrease in shadow economy, public debt stock, public expenditures and will have a positive effect on budget balance.

3. DATA AND METHODOLOGY

Most studies in literature investigate the relationship between taxes, public expenditures and corruption. This study points out central government budget balance and uses a comprehensive data set including not only the tax revenues but also other central government budget revenues and budget expenditures. Therefore, this study contributes to the literature via specifically focusing on the relationship between corruption and central government budget balance and debt. Accordingly, this study aims to analyze corruption with regard to its reflection on the public budget and to state the finding about public debt and corruption. Theoretically, decrease in public revenues and increase in public expenditures due to corruption cause an increase in corruption, disturbing budget balance and increase in public debt. However in this study, instead of tax incomes and public expenditures, central government budget balance and debt stock are included into the model.

3.1. Data

The variables of the study analysis are corruption, budget balance and public debt. Corruption Perceptions Index (CPI), which is used as corruption indicator, is obtained from Transparency International (TI) data center. Budget balance data set expressing the central government budget balance is provided from the statistics of Presidency of Turkey, Presidency Office of Strategy and Budget. Central government debt stock is collected from central government debt stock statistics of Turkish Republic Ministry of Treasury and Finance. The variables are listed in below;

- *CORRP*: Logarithm of CPI,

- *BB:* Ratio of central government budget balance to GDP,

- *DS:* Ratio of central government total debt stock to GDP.

The data cover the period of 1995-2019. 1995 as the first year of CPI is generated and calculation differences in 2012 are taken into account while generating CPI values to make them more consistent and compatible.

3.2. Methodology

The methods include VAR analysis, Johansen Cointegration Test and Granger Causality Test. VAR is a model that provides solution for the endogenous and exogenous valuable differences arising from mutual interaction between economic variables. On this aspect, VAR model differs from simultaneous equation systems, widely preferred as it allows the presence lagged values of dependent variables in the models and makes strong future forecasts (Tarı and Bozkurt, 2006: 4). Some conditions should be taken into consideration in the presence of a relationship among variables. The first condition is to test whether the series has a unit root. Furthermore, cointegration relationship among variables should be reviewed in case the series are stationary at the same level. If there is no cointegration, VAR analysis should be carried on with stationary series. Assumption tests, impulse response functions and the results of variance decomposition are interpreted by using VAR analysis. In this study, the empirical method is decided after the stationarities of the series are investigated.

4. EMPIRICAL ANALYSIS AND ESTIMATIONS

Unit root tests of variables determined according to the relationship of corruption with budget balance and debt are in Table 1.

Table 1. Results of Unit Root Test

ADF	**Constant**	**Constant+trend**	**Without constant**
CORRP (level)	-1.426236 (0.5525)	-2.180269 (0.4775)	-0.266836 (0.5793)
First Difference	-3.695476 (0.0114)	-3.563131 (0.0560)	-3.773260 (0.0006)
BB (level)	-1.510286 (0.5114)	-2.358804 (0.3896)	-1.010666 (0.2715)
First Difference	-4.508829 (0.0018)	-4.362393 (0.0112)	-4.596725 (0.0001)
DS (level)	-1.666063 (0.4349)	-1.76015 (0.3213)	-0.496531 (0.4904)
First Difference	-9.719515 (0.0000)	-4.909615 (0.0035)	-5.037594 (0.0000)
Philips-Peron (PP)	**Constant**	**Constant+trend**	**Without constant**
CORRP (level)	-1.636033 (0.4495)	-2.348892 (0.3944)	-0.266836 (0.5793)
First Difference	-3.703382 (0.0112)	-3.545050 (0.0579)	-3.781997 (0.0006)
BB (level)	-1.675716 (0.4302)	-2.460769 (0.3424)	-1.044350 (0.2586)
First Difference	-4.509635 (0.0018)	-4.363612 (0.0112)	-4.599196 (0.0001)
DS (level)	-1.779522 (0.3809)	-2.138702 (0.4998)	-0.481806 (0.4964)
First Difference	-4.922921 (0.0007)	-4.909615 (0.0035)	-5.036594 (0.0000)

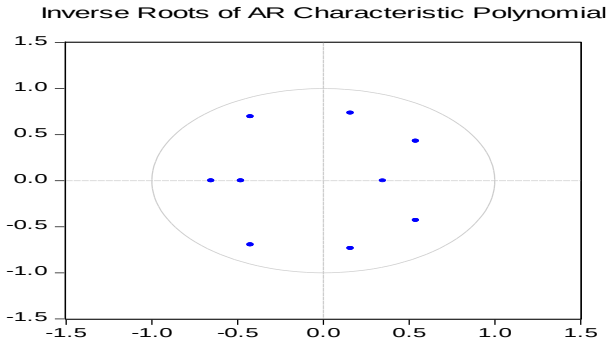
According to Table 1, ADF and PP test results indicate that three variables are stationary in the first difference. Test determining whether the variables are cointegrated and the series are stationary at the same level should be performed. Cointegration analysis (Johansen, 1988) is a method used to

determine the existence of long-term relationship in series. In case of cointegration relationship, long-term parameter assumptions should be made and in case of no cointegration relationship, empirical analysis should be performed by using VAR analysis by first differences. In this context, before performing cointegration tests, it is a prerequisite to perform results tests for the appropriate model by determining of lag length. Information criteria for determining the lag length and results of VAR (3) model are given in Table 2. The appropriate the number of lag is determined as "3", according to all information criteria. VAR (3) model states that there are no autocorrelation and heteroscedasticity problems and Graph 1 indicates that the stability conditions are maintained.

Table 2. Determination of Lag Length and Test Results of VAR Model

Lag	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	NA	0.043401	5.376135	5.525353*	5.408519
1	6.555170	0.070523	5.847680	6.444550	5.977216
2	24.18362*	0.031531	4.977421	6.021943	5.204109
3	16.57368	0.019553*	4.327865*	5.820040	4.651705*
Modulus	**Autocorrelation**			**Heteroscedasticity**	
	Lag	**LM stat**	**P value**	**Statistics**	**P value**
0.813176	1	9.613225	0.3827	115.7412	0.2878
0.813176	2	7.884354	0.5458		
0.751953	3	5.045428	0.8303		
0.751953	4	7.320972	0.6037		

Graph 1. Reverse Roots Unit Circle



In order to determine the appropriate model specification for cointegration test according to the test results in Table 2 and Graph 1, Pantula Principle is used. Table 3 shows Trace Statistics according to Pantula Principle. According to the Pantula Principle, appropriate model specification is specified as in Model 2.

Table 3. Trace Statistics According to Pantula Principle

Rank ®	**Model 2**	**Model 3**	**Model 4**
(r=0)	30.88261 (0,1355) Ho accepted	3085499 (0,0376) Ho rejected	38.65497 (0,1251) Ho accepted
(r=1)	12.81720 (0,3786) Ho accepted	12.80033 (0,1223) Ho accepted	20.00325 (0,2258) Ho accepted
(r=2)	2.432449 (0,6910) Ho accepted	2.416739 (0,1200) Ho accepted	9.072584 (0,1759) Ho accepted

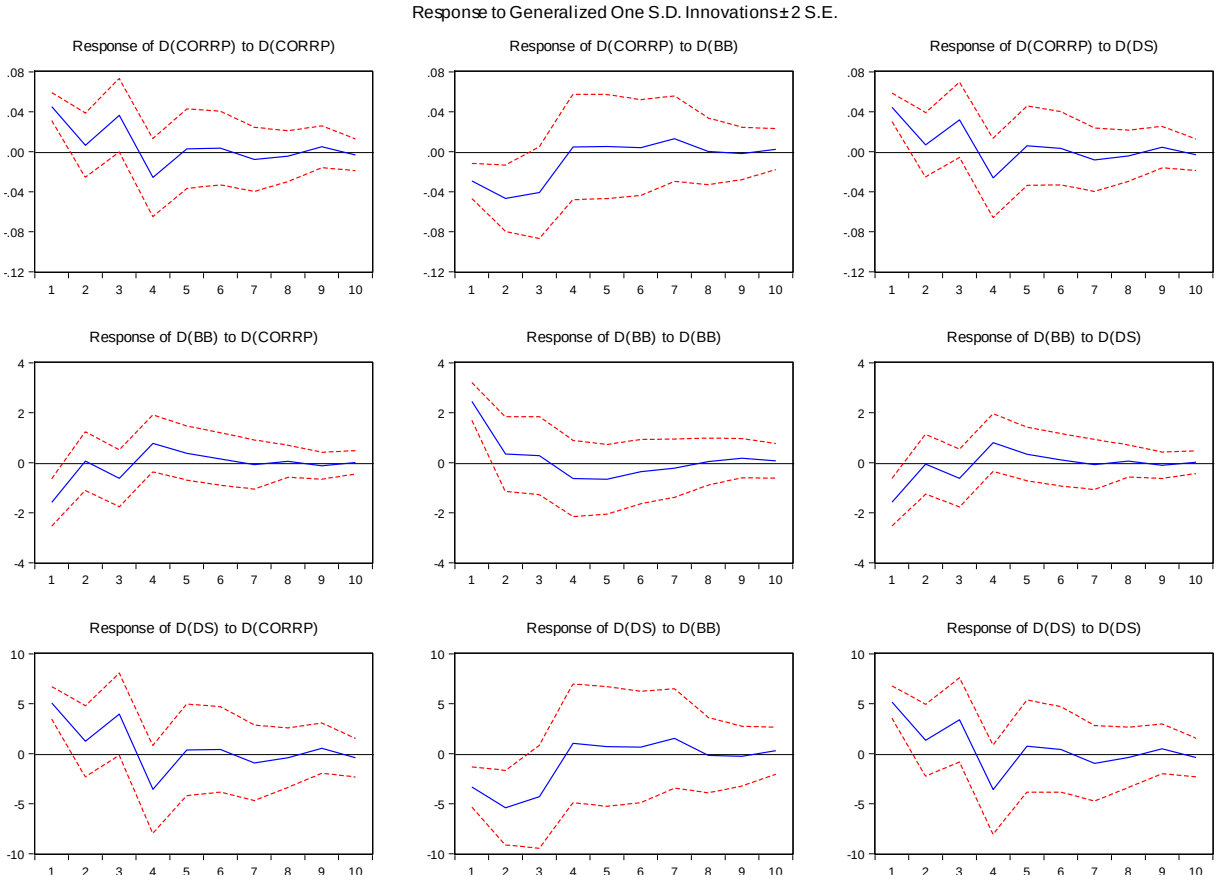
Results of the Johansen Cointegration Analysis for Model 2 are shown in Table 4. For the existence of cointegration relationship between variables, trace and eigenvalue test statistics should be bigger than the table values. According to cointegration results, as trace and eigenvalue statistics are lower than critical values, cointegration relationship between variables is not detected. In the long term, variables do not move in the same direction.

Table 4. Johansen Cointegration Test Results

Trace Test Statistics		**Eigenvalue Test Statistics (Max Eigenvalue)**	
Trace Statistics	**Critical Value (5%)**	**Max Eigenvalue**	**Critical Value (5%)**
30.88261	35.19275	18.06541	22.29962
12.81720	20.26184	10.38475	15.89210
2.432449	9.164546	2.432449	9.164546

If the series are not stationary in level and there is no cointegration among series, the analysis should be carried on by using VAR model (Asteriou and Hall, 2007). Impulse response functions in VAR analysis are shown in Graph 2.

Graph 2. VAR Model Impulse Response Functions



Corruption, budget balance and debt variables are affected positively against to one-unit standard deviation shock. All these three variables reach to a long term balance after eight or nine terms. Corruption gives a negative response for the first three terms to one-unit shock of budget balance. However, after three terms corruption makes a positive trend to one-unit shock in budget balance. The

response of corruption is negative for the first two terms to a shock in budget balance. While improvements in the budget balance reduce corruption, budget deficits increase corruption. The response of corruption is positive for first three terms to one-unit shock in public debt. Public debt gives the same response as one-unit shock in corruption. In other words, public debt and corruption show the same positive response, mutually. On the other hand, the response of public debt is negative to one-unit shock in budget balance. This indicates that budget deterioration causes an increase in debt burden.

Variance decomposition results, obtained from VAR analysis, are shown in Table 5. According to the results of variance decomposition, most effective variable on corruption during the first term is itself while budget balance is as effective as it is in the following terms. Corruption is affected from itself around 45%, from budget balance by 41.9% and from debt burden by 9%. Budget balance is affected from itself around 50%, while affected from corruption by 41.8% and from debt variable by 6.5%. Debt variable is affected from itself around 9.6%, while affected from budget balance by 40% and from corruption by 47%. While debt variable is mostly affected from corruption, corruption and budget balance are affected from each other at the same level.

Table 5. Variance Decomposition Results

Term	**SE**	**D(CORRP)**	**D(BB)**	**D(DS)**
1	0.045234	100.0000	0.000000	0.000000
2	0.072056	40.23260	59.76303	0.004373
3	0.086769	45.39012	47.98158	6.628305
4	0.091984	48.22490	45.63337	6.141735
5	0.094153	46.12865	44.54840	9.322946
6	0.094593	45.84022	44.92294	9.236845
7	0.095528	45.59065	45.27003	9.139323
8	0.095712	45.63781	45.22546	9.136726
9	0.095876	45.75123	45.10590	9.142870
10	0.095933	45.80838	45.05562	9.135999
Term	**SE**	**D(CORRP)**	**D(BB)**	**D(DS)**
1	2.453883	42.00128	57.99872	0.000000
2	2.594802	37.62298	55.74187	6.635148
3	2.674904	40.89112	52.84391	6.264964
4	2.799097	44.92294	48.66473	6.412333
5	2.885372	44.03145	49.41621	6.552334
6	2.916466	43.35271	49.75011	6.897188
7	2.938774	42.75942	50.44301	6.797570
8	2.941786	42.70852	50.47710	6.814378
9	2.948593	42.68272	50.44601	6.871271
10	2.950614	42.62600	50.50128	6.872721
Term	**SE**	**D(CORRP)**	**D(BB)**	**D(DS)**
1	5.169905	96.81243	0.005091	3.182483
2	8.052577	42.29325	56.09438	1.612370
3	9.717727	45.68626	44.03093	10.28281
4	10.49823	50.68379	40.28452	9.031693
5	10.80526	47.96796	39.39571	12.63633
6	10.88463	47.43124	40.11597	12.45280
7	10.99534	47.17824	40.55469	12.26707
8	11.01663	47.12827	40.64224	12.22949
9	11.03550	47.21905	40.52002	12.26093
10	11.04430	47.28330	40.45726	12.25945

In the final empirical part of the study, Granger Causality Test is used in order to review the causality between the series. Granger causality test determines the causality among the series (Granger, 1969). Table 6 shows the results of Granger Causality test.

Table 6. Granger Causality Test

Dependent Variables	**Explanatory Variables**		
	CORRP	BB	DS
CORRP	----------	25.62568 (0.0000)*	31.85271 (0.0000)*
BB	4.455256 (0.21639)	----------	4.332830 (0.2277)
DS	33.59889 (0.0000)*	21.05078 (0.0001)*	----------

Table 6 indicates that there are causalities from budget balance and debt burden to corruption and from budget deficit and corruption to debt. While corruption and budget deficits are the causes of public debt, budget deficits and public debt are the causes of corruption. Causality findings are consistent with the study expectations.

5. CONCLUSION AND SUGGESTIONS

The government has a major role in ensuring macroeconomic stability. The government intervenes in the economy by using fiscal policy tools such as taxes, expenditures, budget and debt. Budget balance also as a fiscal policy is supported by public revenues and public expenditures. Dissolution or erosion of public revenues for various reasons and increase in public expenditures by various factors cause budget deficit. The common problem of both developed and emerging/underdeveloped countries is corruption, which decreases public revenues on the other hand increases public expenditures.

Various corruption calculations and corruption indexes which are formed throughout the history is an indicator that corruption is a significant problem in international scale. Therefore, corruption problem in budget balance, public debt burden, GDP, growth level and even in other economic development indicators due to its effect on education and health expenditures is caused by voluntary and political gaps. Types of corruption such as bribery, misappropriation, rent seeking, bid rigging are empowered by the asymmetric information may damage the credibility of government and economic stability.

In literature, it is accepted that in countries with high corruption, public revenues are affected negatively both due to tax evasion and underground economy; public expenditures are performed as inefficient and unproductive and their distribution is changed. Corruption increases underground economy, affects growth negatively, changes the behavior of people regarding taxes, causes a decrease in tax revenues and public revenues and increases public expenditures. Under the assumption of budget being affected by the two variables mentioned, corruption causes budget deficit and financing of budget deficit triggers public debt. Accordingly, due to limited studies in the literature and multilateral

relationship between corruption, budget balance and public debt being researched in the same study has established a ground for an original contribution to the literature of public finance.

In this study, the effect of corruption on central government budget balance and public debt in Turkey is analyzed by using Johansen Cointegration, VAR and Granger Causality methods in between 1995-2019. According to the results of Johansen Cointegration Model, there is no cointegration relationship between the variables. According to the VAR method findings, while corruption is affected positively from the presence of the budget deficit, public debt is also affected by the budget deficit. Variance decomposition results show that the most significant variable on corruption is the budget deficit. On the other hand, Granger causality tests support that there are causalities from budget deficits and public debt to corruption and from budget deficit to public debt.

Based on the findings of this study, in order to perform sustainable public debt policies; detect the reasons of budget deficits accurately; use public expenditures and revenue items efficiently and effectively; decrease asymmetric information in public-government relations, an effective anti-corruption audit mechanism should be developed and discussed in globally. To reduce corruption, publicity, transparency and accountability should be increased during the preparation and usage of government revenues and expenditures should be limited for the discretion power of politicians and public employees. Finally, to follow the positive developments within the scope of global scale anti-corruption policies, it is significant that politicians and bureaucrats in using discretionary power and in preparing fiscal policies should be more responsible and compatible.

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