

**THE RELATIONSHIP BETWEEN CORRUPTION AND PUBLIC INVESTMENT:
THE CASE OF TURKEY**

Arş. Gör. Dr. Ünal ARSLAN
Mustafa Kemal Üniversitesi
İktisadi ve İdari Bilimler Fakültesi
İktisat Bölümü
uarслан@politics.ankara.edu.tr

Yrd. Doç. Dr. Yıldız SAĞLAM
Mustafa Kemal Üniversitesi
İktisadi ve İdari Bilimler Fakültesi
İktisat Bölümü
yildizsaglam@yahoo.com

ABSTRACT

This study examines the relationship between corruption and public investment in Turkey for the annual sample period between 1975-2007, using Johansen (1988) and Johansen and Juselius (1990) cointegration analysis. The results of cointegration analysis provide an evidence of a long-run relationship between corruption and public investment. On the other side, it is concluded that corruption effects public investment positively in Turkey.

Keywords: *Public Investment, Corruption, Cointegration.*

JEL Classifications:H10, H19

Introduction

In the 1960's the differences of economic growth between countries began to be explained with non-economic factors. Especially, in 1990's increased emphasis on non economic factors in economic growth process. Corruption is one of the variable that non economic factor effects the economic activities. Because of that there is an increasing interest about the impact of corruption on economic growth, investment, foreign direct investment, saving etc.. In literature there are different conclusions about the effects of corruption which differ in time, sample and used variables.

Corruption effects the composition of government expenditures and thereby public investment. Mauro (1996; 1997; 1998) shows that government spending on education as a ratio to GDP is negatively and significantly correlated with corruption index. It means that high corruption level causes expenditure on education to decrease (the more corruption, the less spent on education). The coefficient of the analysis shows that a one-standard-deviation improvement in the corruption index is associated with an increase in government spending on education by around a half percent of GDP. Similarly, his analysis indicates that other components of expenditure, most importantly, transfer payments, social insurance and welfare payments are also negatively and significantly associated with the corruption index. On the other side, Delavallede (2006), argues that public corruption distorts the structure of public spending by reducing social expenditure, as education, health and social protection. She finds a negative and significant relationship between corruption and education, health and social insurance expenditures. On the other side, Gupta, Mello and Saharan (2000), suggest that corruption is associated with higher military spending as a share of both GDP and total government spending.

The second corruption effect is related to tax revenues of a government. Ghura (1998) assumes that the level of corruption is a factor that influence tax revenue performance. He analyzes tax revenue performance in Sub-Saharan African countries and finds that corruption is a factor that decrease tax revenue-GDP ratio and a decrease in corruption can increase tax revenue. On the other side, Hwang (2002), examines the relationship between corruption and government revenue and concludes that corruption inversely affects the total amount of government revenue. According to Imam and Jacobs (2007) one of the reason for low tax revenue in Middle East is institutional corruption and their results suggest that government revenues from taxation could rise when corruption falls.

Corruption has an impact on public investment directly. Mauro (1996; 1997)'s studies show that there is fairly robust evidence that corruption lowers total (private and public) investment, but there is no clear relationship between corruption and public investment. The author notes that these findings may be due to the fact that the sample is relatively small and consists only of developing countries. The studies in the literature such as Tanzi and

Davoodi (1997; 1998) and Haque and Kneller (2008) assert that corruption increase public investment and decrease the productivity. We will examine the relationship between corruption and public investment in detail in section three.

There is limited ampirical studies about corruption effects on Turkish economic variables. In these study, We want to filling the gap in ampirical literature and to investigate corruption impact on public investmentin inTurkey. We use Johansen (1988) and Johansen and Juselius (1990) cointegration analysis to test the relation between corruption and public investment.

In this study we use Johansen (1988) and Johansen and Juselius (1990) instead of Engle-Granger cointegration method. Because in Engle-Granger cointegration is assumed that there is only one cointegration vector even if there is more than one vector and only a single model is estimated while in Johansen (1988) and Johansen and Juselius (1990) method the number of all vectors are examined. (Harris 1995, p. 62).

This article contains six sections. In section two we give various definitions of corruption. In section three, the reationship between corruption and public investment is examined. Section four describes the data and the econometric method. In section five we present empirical results and then section six concludes.

1. Definitions of Corruption

Corruption is a term that has been expressed in different manners by various scholars. Ghura (1998), Wei (1999), Tanzi (1998b), Tanzi (1999), Treisman (2000), Sarkar and Hasan (2001), Akçay (2002), Hwang (2002), Svensson (2005) and Alt and Lassen (2003, p. 345) use the definiton of World Bank and International Monetary Fund (IMF) that corruption is “the abuse of public office for private gains”. On the other side, Transparency International (TI) defines the corruption as the misuse of entrusted power for private gain. In addition, TI differentiates between "according to rule" corruption and "against the rule" corruption. “According to rule” facilitate payments, where a bribe is paid to receive preferential treatment for something that the bribe receiver is required to do by law. On the other hand, “against the rule”, is a bribe paid to obtain services the bribe receiver is prohibited from providing.

Bardhan (1997, p. 1321) defines the corruption as “the use of public office for private gains”, where an official intrusted with carrying out a task by the public engages in some sort of malfeasance for private enrichment which is diffucult to monitor for the principal. Shleifer and Vishny’s (1993, p. 599) definition is “the sale by government officials of government property for personal gain”. According to Khan (1996, p. 684) corruption is “the deviations from the formal rules governing the allocative decisions of public officials in

response to offers to them of financial gain or political support”. Imam and Jacob (2007, p. 5-6) define corruption “as an unlawful or unauthorized act engaged in by a public official using his or her position to receive a bribe, directly or through a family member or associate, in exchange for making a benefit available to a member of the public (e.g., a taxpayer)”. According to Jain (2001, p. 73) “although it is difficult to agree on a precise definition, there is a consensus that corruption refers to acts in which the power of public office is used for personal gain in a manner that contravenes the rules of the game”.

From these definitions, it should not be concluded that corruption exist only in public sector. It also exists in private sector, especially in large private enterprises, during procurement and hiring and it takes place in private sector activities that are regulated by the government. The abuse of the public power can take place for benefit of one’s party, class, tribe family and so on, as it takes place for one’s private benefits. Nowadays, in many countries some proceeds of corruption go to finance the activities of the political parties (Tanzi, 1998b, p. 564).

2. The Relationship Between Corruption and Public Investment

Most economists and a large part of the economic theory accept that a positive connection exists between investment and economic growth. Therefore, if corruption affects investment, it must affect economic growth at the same time (Tanzi, 1999; Tanzi and Davoodi, 2000). Wei (1999) asserts that if a country could reduce its corruption level, it would have been able to raise its investment/GDP ratio and encourage foreign investment. Shortly, if corruption reduces domestic investment and reduces foreign investment, one would think that it would also reduce the economic growth rate (Wei, 1999, p. 9-10). According to this explanations, there is a close association between corruption and slow economic growth or corruption and high economic growth (Mauro, 2002, p. 20). Corruption has negative effects on investment and growth. Payment of bribes to get an investment licence clearly reduces the incentive to invest. On the other side when public resources are diverted for politicians’ private consumption, growth rates will obviously be affected negatively (Bardhan, 1997, p. 1327-1328). Mauro, (1995, p. 695), finds that there is a negative and significant association between corruption and the investment rate. According to the result, a one-standard-deviation increase which means an improvement in the corruption index is associated with an increase in the investment rate by 2.9 percent of GDP. By enlarging the data set, Mauro (1996; 1997) indicates that if corruption index improves (increases) by one-standard-deviation (equal to 2.38), the investment rate increases by more than 4 percentage points and the annual growth rate of per capita GDP increases by over a half percentage point. These results show that if a country improves its standing on the corruption index, it will enjoy the benefits of an increase in investment, with consequent improvement in economic growth. As a result, Mauro’s (1995; 1996; 1997) empirical findings which indicate that corruption is negatively linked to the level of investment and economic growth means that the more corruption, the less investment and the less economic

growth. Shortly, empirical evidences indicate that corruption lowers investment and retards economic growth to a significant extent (Mauro, 1997, p. 6). These conclusions imply that a large portion of the effects of corruption on economic growth takes place through investment (Mauro, 1996, p. 12).

Tanzi and Davoodi (2000, p. 10) assert that corruption can affect investment in different ways. Corruption may affect (a) total investment, (b) the size and composition of foreign direct investment, (c) the size of public investment, and (d) the quality of the investment decisions and of investment projects.

It is necessary to define what is meant by public investment, before examining the effect of corruption on public investment. Investment can be defined as the consumption of current resources in order to produce benefit for the future. By this definition, public investment can be defined as any type of government disbursement that creates economic benefits beyond the current budget cycle (Lansing, 1995, p. 1) or public investment can be identified as an element of public expenditure that bear significant association with economic growth (Hanque and Kneller, 2008, p. 2). Public expenditure contains investment projects (Tanzi, 1998a, p.12; Tanzi, 1998b, p. 568; Tanzi, 1999, p. 7) and public investment projects are only a way through which corruption can affect public expenditure (Tanzi, 1999, p. 7).

The size of the total public investment budget is a decision which is taken by a strategically-placed high-level official that can influence the phases of approval of a public investment project by corruption. So, it can be said that corruption distorts the decision making process connected with public investment projects and causes both the size and the composition of public investment projects to be distorted. Corruption is likely to increase the number of projects undertaken in a country and to change the design of these projects by enlarging their sizes and their complexity. The net result is an increase in the share of public investment in GDP and a fall in the average productivity of that investment which in turn lowers the growth rate of the country. The productivity of the investment is reduced, because of corruption, the rate of return as calculated by cost-benefit analysis (a method of determining just how much each dollar invested will increase output) ceases to be the criterion for project selection. As a consequence of these and other effects of corruption on the economy, the rate of growth of a country where corruption is significant is negatively affected (Tanzi and Davoodi, 1997, p. 1998).

Tanzi and Davoodi (1997; 1998), regress the public investment –GDP ratio on a constant and corruption index and verified the hypothesis that other things being equal, high corruption is associated with high public investment directly. According to these results they suggested that this is a paradoxical situation. Because some public investment can result in decreasing the growth rate of a country. Here the mechanism is as follows: the share of

public investment in gross domestic product may have risen, but the average productivity of that investment has dropped.

Haque and Kneller, (2008) investigate the hypothesis that corruption promotes the level of public investment but reduces the returns to this investment. They find that when corruption is lower, public investment has a stronger marginal growth effect. Their results indicate that a one standard deviation increase in corruption (1.59) would raise public investment by 0.74 percentage points. As a result corruption promotes public investment but reduces its effect on economic growth. At the end of this study they reach the conclusion that the countries which have low corruption level can enjoy the efficient return on public investment such that it raises growth. But in countries which have high corruption level, public investment fails to generate high growth rate, because the returns from public investment are reduced by the corrupt agents in the economy.

In this study, we examine the relation between public investment and corruption in Turkey for 1975-2007 annual period, using Johansen (1988) and Johansen and Juselius (1990) cointegration analysis. The results of cointegration analysis provide an evidence of a long-run relationship between corruption and public investment. On the other side, it is concluded that corruption effects public investment positively in Turkey.

3. Description of the Data and Variables

In this study we use International Country Risk Guide (ICRG) Index, as a measurement of corruption perception. ICRG compiles monthly data on a variety of political, financial and economic risk factors to calculate risk indices in each of these categories as well as a composite risk index. Economic risk assessment scores are based upon objective analysis of quantitative data and financial risk assessment scores are based upon analysis of a mix of quantitative and qualitative information. Political risk assessment scores are based on subjective staff analysis of available information (Erb et al, 1996, p. 7). The political risk index has twelve components. Corruption is one of the component of this index. We use this variable in our analysis as proxy with name of corruption. The public investment data is drawn from State Planning Organization of Turkey (SPO) and Turkish Statistical Institute (TSI) and presented by *Pinvest* notation.

4. Empirical Results

In this study, we focus on the effect of corruption on public investment. In the following we present the main test results concerning unit roots, cointegration, and Granger-causality.

4.1. Unit Root Test

The stationarity of variables were tested by using Augmented Dickey Fuller (ADF). This test is the most used test in the literature and contains three different regression equations.

$$\Delta Y_t = \gamma Y_{t-1} + \sum_{i=2}^p \beta_i \Delta Y_{t-i+1} + \epsilon_t \quad (1)$$

$$\Delta Y_t = a_0 + \gamma Y_{t-1} + \sum_{i=2}^p \beta_i \Delta Y_{t-i+1} + \epsilon_t \quad (2)$$

$$\Delta Y_t = a_0 + a_2 t + \gamma Y_{t-1} + \sum_{i=2}^p \beta_i \Delta Y_{t-i+1} + \epsilon_t \quad (3)$$

In order to test $\gamma = 0$ hypothesis, the same τ , τ_μ and τ_x statistics are used. Dickey and Fuller (1981), to test joint hypothesis on the coefficient, provide three additional F-Statistics which are called ϕ_1 , ϕ_2 and ϕ_3 . With (2), the null hypothesis $\gamma = a_0 = 0$ is tested using ϕ_1 statistics. Including a time trend in the regression-namely (3)-the joint hypothesis $a_0 = \gamma = a_2 = 0$ is tested using ϕ_2 statistics. On the other side, the joint hypothesis $\gamma = a_2 = 0$ is tested using ϕ_3 statistics (Enders, 1995, p. 221-222).

Table 1: ADF Unit Root Test Results

Variables	Model	McKinnon Critical Values (%1 and %5)	ADF Test Statistics	Lag*	Results
PINVEST	I**	-2.639210, -1.951687	-0.823717	[0]	I(1)
	II***	-3.661661, -2.960411	-1.706800	[1]	I(1)
	III****	-4.284580, -3.562882	-3.130207	[1]	I(1)
	IV*****	-2.644302, -1.952473	-5.191185	[1]	I(1)
CORRUPTION	I**	-2.664853, -1.955681	-0.657088	[0]	I(1)
	II***	-3.752946, -2.998064	-2.548689	[1]	I(1)
	III****	-4.416345, -3.622033	-3.202307	[1]	I(1)
	IV*****	-2.669359, -1.956406	-4.088656	[0]	I(1)

*Lag number of variables which are tested by using ADF test and determined by Schwarz Info Criterion (SIC)

**Model I, not include trend and intercept

***Model II, include intercept

****Model III, include intercept and trend

*****Model which includes unit root test of differenced series

The stationary status of each variable is tested by using the Augmented Dickey Fuller (ADF) unit root test. Firstly, this test is applied to the level variables and then to their first differences. The null hypothesis tested is that the variable under investigation has a unit root against the alternative that it does not.

The top half of table 1 reports the unit root test of public investment variable in different ADF models. Lag number of variables are determined by Schwarz Info Criterion (SIC). The results of corruption variable are reported in bottom half of table1. According to the results of table 1 after differencing the data once, it can be said that both variables are integrated of order one I (I).

4.2. Cointegration

Having established the stationarity of the two variables, the next step is to test for possible cointegration between them. Johansen (1988) and Johansen and Juselius (1990) propose two test statistics for testing the number of cointegrating vectors: the trace (Tr) and the maximum eigenvalue (L-max) statistics (Chang and Caudill, 2005, p. 1332). Table 2 reports the results of cointegration test using the maximum likelihood approach of Johansen (1988) and Johansen and Juselius (1990). The maximal eigenvalue and the trace statistic tests for each of the variables are reported in table 2. According to the trace test, the hypothesis that “no cointegrating vector exists” is rejected in favor of “at least one cointegrating vector exists” at 5 percent significance level. On the other side the existence of at most one cointegrated vector is not rejected at 5 percent level. Similarly, the maximum eigenvalue test indicates the existence of at most one cointegrating vector at 5 percent significance level. The lag length in unrestricted VAR, k=1 was selected based on sequential modified LR test statistic (LR), Schwarz Information Criterion (SIC) and Final Prediction Error (FPE) criterion.

The Johansen cointegration test results suggest that there is one cointegrating vector between corruption and public investment. The fact that corruption and public investment are cointegrated means that there is a long-run, or equilibrium, relationship between two variables.

Table 2: Results of Johansen Cointegration Analysis Tests

Unrestricted Cointegration Rank Test (Trace)				
Linear Deterministic Trend				
Hypothesis	Eigen Value	Trace Statistics	Critical Value at 5	Probability
$H_0 : r = 0 *$	0.673627	31.76396	25.87211	0.0082
$H_0 : r \leq 1$	0.229972	6.010560	12.51798	0.4585
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesis	Eigen Value	Max-Eigen Statistics	Critical Value at 5	Probability
$H_0 : r = 0 *$	0.673627	25.75340	19.38704	0.0052
$H_0 : r \leq 1$	0.229972	6.010560	12.51798	0.4585

The subscript* denotes the rejection of hypothesis at 5% significance level

Based on this model, the cointegrating vector representing the long-run relationship between corruption and public investment is as follows:

$$Pinvest = 0,101656Corruption \\ (0.02036)$$

As can be seen the corruption has a positive effect on public investment. This finding is consistent with Tanzi and Davoodi (1997; 1998) and with Haque and Kneller (2008) who investigated the relationship between corruption and public investment and concluded that corruption increase the public investment but lowers the returns to this investment.

4.3. Short-Run Analysis and Wald Coefficient Test

After determining the cointegrating relationship, the next step is to estimate the short run relationship by using the error correction model (ECM). The short-run model indicates how the adjustment mechanism works to revert to equilibrium condition when it is disturbed by exogenous shocks and thus deviations from long-run level occur. The dynamics affecting the short-run model are the differenced forms of the variables used in the long-run. Fundamentally, the ECM contains the one lagged error term to capture the long-run dynamics in the short-run. The error term coefficient should have a negative sign not larger than one. The coefficient provides information on how much of the disturbance is adjusted in one period (Mutluer and Barlas, 2002, p. 68).

The ECM estimated is the following:

$$\Delta Pinvest_{it} = a_0 + \sum_{i=1}^m a_{1i} \Delta Pinvest_{t-i} + \sum_{i=1}^n a_{2i} \Delta Corruption_{t-i} + a_{3i} ECM_{1t-i} \\ \Delta Corruption = \beta_0 + \sum_{i=1}^m \beta_{1i} \Delta Corruption_{t-i} + \sum_{i=1}^n \beta_{2i} \Delta Pinvest_{t-i} + \beta_{3i} ECM_{1t-i}$$

Table 3: Granger Test Results Based to Error Correction Model

Variables	Coefficient of ECM (t-statistics)	F- Statistics (Probability)	Result of Causality	
			(Short Run)	(Long Run)
Corruption-Public investment	0.913 (2.302)	3.124 (0.044)	Corruption-pinvest	Corruption→pinvest
Public Investment-Corruption	-13.154 (-0.074)	0.827 (0.526)	no causality	no causality

Corruption effects positively the public investment in the short-run and there is statistical significance relation. Since the error correction coefficient is positive (0.91), the system does not return to the equilibrium when there is a disequilibrium in the short-run. On the

other side, the deviations from equilibrium, will adjust according to the size of the error correction coefficient. In a period (one year), 91% of the deviation is adjusted. On the other side there is no causality from public investment to corruption.

CONCLUSION

According to the results of cointegration test using the maximum likelihood approach of Johansen (1988) and Johansen and Juselius (1990), there is one cointegrating vector between corruption and public investment. This indicates that there is a longrun equilibrium relation between two variables. But according to cointegrating vector, the corruption has a positive effect on public investment. In the error correction model, corruption effects positively the public investment and there is statistically significant relation in short-run. On the other side, the system returns to the equilibrium in the short-run, however, there is no short-run relationship. Public investment effects negatively the corruption in the short-run, but there is no statistical significance relation. The system does not return to the equilibrium, because the error correction coefficient is positive. Nevertheless, there is a short-run relationship.

REFERENCES

- Akçay, S. (2002), "Corruption and Economic Growth: A Cross-National Study", Ankara Üniversitesi SBF Dergisi, 57 (1): 1-13.
- Alt, J. E.-Lassen, D., D. (2003), "The Political Economy of Institutions and Corruption in American States", Journal of Theoretical Politics, 15 (3): 341-365.
- Bardhan, P., (1997), "Corruption and Development: A Review of Issues", *Journal of Economic Literature* 35 (3): 1320-1346.
- Chang, T.,-Caudill, S., B. (2005), "Financial Development and Economic Growth: The Case of Taiwan", *Applied Economics*, 37 (12): 1329-1335.
- Delavallade, C., (2006), "Corruption and Distribution of Public Spending in Developing Countries", *Journal of Economics and Finance*, 30 (2): 222-239
- Dickey, D., A./Fuller, W., A. (1981), "Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root", *Econometrica*, 49 (4): 1057-72.
- Enders, W., (1995), *Applied Econometric Time Series*, John Willey and Sons inc., U.S.A. Canada.
- Erb, C. B.- Campell R. H.-Tadas E. V., (1996), "Political Risk, Economic Risk and Financial Risk", Fuqua School of Business Working Paper no. 9606: 1-26.

Ghura, D., (1998), "Tax Revenue in Sub-Saharan Africa: Effects of Economic Policies and Corruption", IMF (International Monetary Fund) Working Paper, no. 135: 1-25.

Gupta S.- Luiz de M.- Raju S., (2000), "Corruption and Military Spending", IMF (International Monetary Fund) Working Paper, 23: 1-31.

Habib, M.- Zurawicki, L., (2002), "Corruption and Foreign Direct Investment", Journal of International Business Studies, 33 (2): 291-307.

Haque M. E.- Kneller, R. (2008), "Public Investment and Growth: The Role of Corruption", The University of Manchester: Discussion Paper Series, 098: 1-21.

Harris, Richard, I.D. Using Cointegration Analysis In Econometric Modelling, T.J.Press(Padstow) Ltd: Great Britain:1995.

Hwang, J., (2002), "A Note on The Relationship Between Corruption and Government Revenue", Journal of Economic Development, 27 (2): 161-178.

Imam, Patrick.A./Jacobs, Davina F. (2007), "Effect of Corruption on Tax Revenues in the Middle East", IMF (International Monetary Fund) Working Paper, 270: 1-34.

Jain, A. K., (2001), "Corruption: A Review", Journal of Economic Surveys, 15 (1): 71-121.
Johansen, S., (1988), "Statistical analysis of cointegration vectors", Journal of Economic Dynamics and Control, 12 (2)-3: 231-254.

Johansen, S.- Juselius, K., (1990), "Maximum likelihood estimation and inference on cointegration- with applications to the demand for Money", Oxford Bulletin of Economics and Statistics, 52 (2): 169-210.

Ketkar, K.W.- Athar M. Suhas L.K., (2005), "Impact of Corruption on Foreign Direct Investment and Tax Revenues", Journal of Public Budgeting, Accounting & Financial Management, 17 (3): 313-341.

Khan, M. H., (1996), "The Efficiency Implications of Corruption", Journal of International Development, 8 (5): 683-696.

Lansing, K. J., (1995), "Is Public Capital Productive? A Review of the Evidence", Economic Commentary, Federal Reserve Bank of Cleveland, 1-4.

Larrain, B. F.-Tavares, J., (2004), “Does Foreign Direct Investment Decrease Corruption?”, *Coadernos De Economica*, 41 (123): 217-230.

Mauro, P., (1995), “Corruption and growth”, *The Quarterly Journal of Economics*, 110 (3): 681- 712.

Mauro, P., (1996), “The Effects of Corruption on Growth, Investment and Government Expenditure”, IMF (International Monetary Fund) Working Paper, 98: 1-27.

Mauro, P., (1997), “Why Worry About Corruption?” *International Monetary Fund Economic Issues*, 6: 1-13.

Mauro, P., (1998), “Corruption and the composition of government expenditure”, *Journal of Public Economics*, 69 (2): 263–279.

Mauro, P., (2002), “The Persistence of Corruption and Slow Economic Growth”, IMF (International Monetary Fund) Working Paper, 213: 1-23.

Mlambo, K., (2005), “Reviving Foreign Direct Investments in Southern Africa: Constraints and Policies”, *African Development Review*, 17 (3): 552-579.

Mutluer D.- Barlas, Y., (2002), “Modelling the Turkish Broad Money demand”, *Central Bank Review*, 2 (2): 55-75.

Robertson, C. J.- Watson, A., (2004), “Corruption and Change: The Impact of Foreign Direct Investment”, *Strategic Management Journal*, 25 (4): 385-396.

Sarkar, H.-Hasan, M.A., (2001), “Impact of Corruption on the Efficiency of Investment: Evidence From A Cross-Country Analysis”, *Asia-Pacific Development Journal*, 8 (2): 111-116.

Shleifer, A.- Vishny, R. W., (1993), “Corruption”, *Quarterly Journal of Economics*, 108 (3): 599-617.

State Planning Organization, <http://www.dpt.gov.tr/ing/>

Svensson, J., (2005), “Eight Questions about Corruption”, *Journal of Economic Perspectives*, 19 (3): 19–42.

Tanzi, V., (1998a), “Corruption Around the World: Causes, Consequences, Scope, and Cures” IMF (International Monetary Fund) Working Paper, 63: 1-39.

Tanzi, V., (1998b), "Corruption Around the World: Causes, Consequences, Scope, and Cures" IMF Staff Papers, 45 (4): 559-594.

Tanzi, V., (1999), "Governance, Corruption, and Public Finance: An Overview", Chapter 1 in Governance, Corruption and Public Financial Management, Edited by Salvatore Schiavo-Campo: 1-17. First Published in November 1999. This publication is prepared by Asian Development Bank.

Tanzi, V.- Davoodi, H., (1997), "Corruption, Public Investment, and Growth", IMF (International Monetary Fund) Working Paper, 139: 1-23.

Tanzi, V.- Davoodi, H., (1998), "Roads to Nowhere: How Corruption in Public Investment Hurts Growth", International Monetary Fund Economic Issues, 12: 1-12.

Tanzi, V.- Davoodi, H. R., (2000), "Corruption, Growth and Public Finances", IMF (International Monetary Fund) Working Paper, 182: 1-26.

The PRS Group, 2010, "PRS Methodology" Political Risk Service, August 21, http://www.prsgroup.com/ICRG_Methodology.aspx

Transparency International "How do You Define Corruption?" http://www.transparency.org/news_room/faq/corruption_faq#faqcorr1

Treisman, D., (2000), "The Causes of Corruption: A Cross-National Study", Journal of Public Investment, 76 (3): 399-457.

Turkish Statistical Institute, <http://www.tuik.gov.tr/Start.do>

Voyer, P. A.- Beamish, P. W., (2004), "The Effect of Corruption on Japanese Foreign Direct Investment", Journal of Business Ethics, 50 (3): 211-224.

Wei, S. J., (1999), "Corruption in Economic Development: Beneficial Grease, Minor Annoyance, or Major Obstacle?", The World Bank Policy Research Working Paper Series, 2048: 1-30

Wei, S. J.- Shleifer, A., (2000), "Local Corruption and Global Capital Flows", Brooking Papers on Economic Activity, 2000 (2): 303-354.

