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CORRUPTION, DEMOCRACY AND ECONOMIC GROWTH: DOES CONDITIONALITY MATTER?

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Abstract. This paper gives insight about the role of democracy in two competing hypotheses whether corruption 'greases the wheels' or 'sands the wheels' of bureaucracy. The study also examined whether conditional cooperation between corruption and democracy matters or not in this regard. The empirical results indicate that democracy plays an essential role in determining the corruption-growth relationship, as the coefficient of interaction term between corruption and democracy is negative and significant. The results support the hypothesis that corruption greases the wheels of administration and thereby promotes growth in countries having poor democratic norm, and second hypothesis holds in case of higher degree of democracy. The results of the study suggest that promotion of democratic norms is very essential to curb the corruption level and to boost the economic performance of the nation. Because institutional development promotes the check and balance system in the country that enhances economic growth through increase in investment.

Keywords: Democracy, Corruption, Growth, Conditionality, Panel Data

JEL classification: C21, C23, D02, D72, D73

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I. INTRODUCTION

The corruption influences socioeconomic and political factors directly as well as indirectly through institutional framework of the country. It adversely affects the performance of public officials, deforms the public policies and thereby leads to misallocation of resources. It has weakened the process of world development by affecting the execution of law and order, and thereby undermined the justice in various countries. It denied victims from a fair and impartial trial and led to violation of basic human rights. It has not only corroded the communities' abilities required to tackle the issues of international crime and terrorism, but also hampered the pace of economic development. Therefore, it is the single greatest hindrance to socioeconomic development, and has given priority to anti-corruption initiatives in its strategies for improving the quality of governance (World Bank, 1997). The estimates of World Bank (2004) indicate that US$1 trillion is paid in bribes out of total US$30 trillion of world income. African Union estimated the cost of corruption in Africa around US$148 billion annually that is 25% of Africa's GDP (Elbahnasawy & Revier, 2012).

The performance of state institutions has significant role in country's socioeconomic development and thereby prevention of corruption within society. According to Blackburn, Bose, & Haque (2005), "bureaucrats, public officials, politicians and legislators hold unique positions that emerge discretionary power". Abuse of this power can cause and have long-lasting unpleasant effects on national socioeconomic structure and even in some cases government has to resign from its office. For example, collapse of Rajiv Gandhi's government in India, Chuan Leekpai's government in Thailand, Suharto and Abdur Rehman Wahid's governments in Indonesia, General Sani Abacha's administration in Nigeria and Pakistan Muslim League (N) and Pakistan People Party Governments in Pakistan.

Asia is the most corrupt region in the world, where 25 to 40 percent politicians and 15 to 33 percent public servants are corrupt (Jain, 2001). Almost all developing nations are on the lower edge of the corruption scale (as per Transparency International surveys) and paid a high cost of corruption. For example, Pakistan has lost more than Rs.8.5 trillion (US$94 billion) in corruption, tax evasion and bad governance, and corruption level in Pakistan is increased by 400 percent (Transparency

International Pakistan, 2012). The corruption scenario in Nigeria is also not different from other developing countries. In Nigeria, estimated looted money due to widespread corruption and entrenched inefficiency is about 1.067 trillion naira ($6.8 billion) and list of arrested dignitaries includes former minister of Works and Housing, Hassan Lawal; former speaker of the House of Representatives, Mr. Dimeji Bankole and Deputy Speaker Usman Nafada (Country Reports on Human Rights Practices, 2012). Indonesia has paid US$238.6 million in the form of corruption in 20111. Besides, people and enterprises use about 1% and 5% of their income on illegal payment, respectively.

Dishonest behaviour of public official in the office is generally infectious and normally supported by the dishonest behaviour of other officials. Therefore, public sector corruption is considered the most harmful, persistent and difficult to fight. But, in spite of all these, social-scientists have evaluated the determinants and consequences of it, as society has to pay huge socioeconomic and ethical costs. The quantitative analysis of corruption has multiple implications. It not only solves the purpose of descriptive analysis, but it is also essential to understand the corruption mechanisms, and for the emergence of successful anti-corruption strategies.

The corruption debate has focused on, whether it is deleterious or helpful to the economic activity. This implies that whether corruption acts as 'grease-the-wheals-of-bureaucracy' or 'sand-the-wheals-of-bureaucracy'. First stream of debate suggests that bribes raise the level of investment and economic growth, acting as a trouble saving device or speed money. Leys (1970) argued that small side payments to public office bearers could help in reducing the bureaucratic hindrances and thereby encourage economic activity. The empirical research on bureaucratic efficiency has mixed findings. For example, Acemoglu and Verdier (1998) rationalize some forms of corruption in the enforcement of property rights but Ades and Di Tella (1997) empirical results failed to support the hypothesis "corruption greases-the-wheels-of-bureaucracy" in case of petty corruption. Mauro (1995) identified another channel through which corruption impacts growth that is the selection of projects

[1]Ezra Sihite (30 January 2012), "Corruption Costs Indonesia $238m in 2011" Jakarta Globe.

carried out by the government. It documented that corruption significantly lowers investment in the economy even when allowance are paid to public officials. Knack and Keefer (1995) findings confirm the role of institutions that protect property rights because these are very essential to investment and hence growth.

Second stream of debate asserts that corruption can be fatal to economic activity because it not only makes bureaucratic procedures sluggish, expensive, inefficient but also diverts resources to unproductive activities (Mauro, 1998; Myrdal, 1968; Shleifer and Vishny, 1993; Tanzi and Davoodi, 1997). In addition, corruption hampered the pace of economic growth even more in countries having weaker institutions such as democracy, political stability and governance. The corruption also hurts the growth through resource misallocation when decisions about public funds investment and private investment are made by the public office bearers. This misallocation is basically the result of the corrupt official decision-maker criteria 'potential for bribery'. These office holders may compromise on human development through a worsening public health care and education programs (Reinikka and Svensson, 2005), and allocating public funds to certain areas (military spending) that have more capacity to generate illegal money as compared to their counterparts required to improve the living standards of national residents (Gupta, de Mello, & Sharan, 2001). In addition, corruption may escort to expensive concealment and detection of unlawful earnings, resulting in a deadweight loss of resources (Blackburn et al., 2006; Blackburn and Forgues-Puccio, 2010).

In a nutshell, the basis of both 'grease the wheels' and 'sand the wheel' hypotheses lies in the interaction between corruption and institutional features. The exiting literature on corruption-growth relationship indicates that the role of institutions was not properly investigated with a very few exceptions, and especially in the context of Developing Eight (D-8) countries. The cultural norms are basically founded on religion and all religion including Islam does not permit to misuse of government money or office for personal benefits. All D-8 nations are Muslim, nations that opted Western Democracy, and also facing the problem of corruption. Thus, it is very necessary to investigate the impact of corruption on growth in these countries considering the role of democracy. The focus of study in hand is to empirically investigate the

impact of corruption on economic growth by incorporating the institutional feature (democracy) in D-8 countries. Besides, study has also examined, which of the hypotheses "corruption greases the wheels" or "sands the wheels" holds?

The rest of the study is organized as follows. Section 2 provides the theoretical background and analytical framework. Section 3 deals with econometric model and estimation method. Section 4 gives detail of data description. Section 5 shows empirical findings and discussion. Section 6 is specified for conclusions and policy implications.

II. THEORETICAL BACKGROUND AND ANALYTICAL FRAMEWORK

Christie (2011) highlighted various aspects of the relationship between government expenditures and economic growth in long term.

Following Becker (1968), Polinsky and Shavell (1984) developed a model, in which individuals not only consider the expected gains but also compare these ones to the expected costs (in the form of the probability of detection and punishment). This implies that the net expected benefit must be positive for the incidence of corruption. Corruption-growth debate has two streams of arguments; corruption might promote or retard economic growth. Following Solow's (1956) growth accounting process, we used standard production function to investigate the corruption-growth mechanism as below.

$$Y_{it} = A_{it}[F(K]_{it}, L_{it}) \qquad (1)$$

Where Yit is the total output, Ait is total factor productivity, Kit is the capital stock and Lit is the total labour in the country i at time period t. Total differentiation of function $[(Y]_{it}$ gives the following:

$$dY_{it} = [F(K]_{it}, L_{it})dA_{it} + A_{it}(F_K\, dK + F_L dL) \qquad \mathbf{(2)}$$

Dividing equation (2) by Y_{it} we get the same decomposition as Solow (1957)2.

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[2] However, we use the equation to examine the divergence of cross-country growth performance instead of studying the traditional growth accounting.

$$\frac{dY_{it}}{Y_{it}} = \frac{\mathbf{d}A_{it}}{A_{it}} + \frac{A_{it}(F_K\, dK)}{Y_{it}} + \frac{A_{it}(F_L dL)}{Y_{it}} \qquad (3)$$

Following the interpretation of Schumpeter's theory of economic development (Schumpeter, 1912, 1939), equation (3) show two effect of changes that can influence an economy; (a) growth component that indicate the impacts of changes in factor availability, and are shown by the growth rates of capital and labour in the production function. (b) Development component which show the effects of socio-technological changes and other factors related to the total factor productivity growth (Schumpeter, 1912). Following Mo (2001) interpretation of this transformation, we can write equation (3) as follows:

$$GR = F(a_{it}, IY, GL) \qquad (4)$$

Where GR indicates the growth rate of real output, a_{it} is the total factor productivity, IY shows the investment-output ratio, and GL is the growth rate of labour. Levine and Renelt (1992) identify the factors, which are robust in determining the economic growth such as share of investment in GDP, population growth rate, initial level of real GDP per capita, and human capital. The first two factors are considered as growth component, whereas the last two are related to the development component. Following Meon and Sekkat (2005), we introduced corruption, democracy and interaction term in the model as a determinant of productivity growth rate along with its other determinants to test the hypotheses whether corruption promotes or retard the economic growth as follows:

$$a_{it} = f\left(CORR_{it}, X_j, \mathbf{DEM}, CORR_{it} \times \mathbf{DEM}\right) \qquad \mathbf{(5)}$$

Where CORR is the level of corruption; X_j is the jth conditioning variables such as government expenditure, investment-output ratio, population growth rate and education, and DEM indicates the democratic norms prevailing in the society.

ANALYTICAL FRAMEWORK

Combining equation (5) with equation (4), we get the equations for estimation. Equation (6) shows that impact of corruption and institutional features on growth without considering the impact of corruption on growth through institutional features.

$$GR_{it} = \alpha_0 + \alpha_1 CORR_{it} + \alpha_2 DEM_{it} + \sum \beta_j X_{ijt} + \mu_{it} \qquad (6)$$

The dependent variable (GRit) is the growth rate of GDP per capita, and explanatory variables are corruption (CORRit), democracy (DEMit) and set of control variables (Xijt). Following Mo (2001) and, Pelligrini and Gerlagh (2004), we used four control variables such as government expenditures, investment-output ratio, population growth rate and education3 to analyze the impact of corruption on growth, thus:

X1 = Government expenditure X2 = Share of investment in output

X3 = Population growth rate X4 = Education

Subscript i is used to present the country (i = 1, 2,…...,n), j for control variables (j = 1, 2,…., m) and t is used for time (t = 1, 2,…..,T), and μ is an error term. The focus of study is on the impact of corruption on growth, so α1 is the coefficient of main interest. The positive sign of the coefficient of corruption ($\alpha_1 > 0$) supports the hypothesis that corruption 'greases the wheels'; whereas its negative sign ($\alpha_1 < 0$) implies that corruption 'sand the wheels'. The expected sign of the coefficients of institutional factor indicate that improvement in democratic norms enhances the economic growth; ($\alpha_2 > 0$). We used interaction term in the model to test the 'grease the wheels' or 'sand the wheels' hypotheses as follows.

$$GR_{it} = \alpha_0 + \alpha_1 CORR_{it} + \alpha_2 DEM_{it} + \sum \beta_j X_{ijt} + \sum \alpha_3 (CORR_{it} \times DEM_{ijt}) + \mu_{it} \qquad (7)$$

The parameters of interest are α_1 and α_3. Under 'grease the wheels' hypothesis, corruption should have a positive impact on growth if the quality of institution such as democracy is very low. On the other hand, with high institutional quality the impact of corruption should become negative, and it supports the 'sand the wheels' hypothesis. In order to get these impacts, α_3 should be negative. Hence to hold the hypothesis i.e., corruption 'grease the wheels' α1 should be positive with α_3 should be negative (α1 > 0 and $\alpha_3 < 0$). Under the 'sand the wheels' hypothesis,

[3] Education is also used as a measure of human capital (see, Mina and Ndikumana, 2008).

corruption retards growth and becomes increasingly detrimental as democratic norms deteriorates. It is argued that corruption affects economic growth adversely if democratic norms are very high. In this case, the sign of corruption coefficient should be negative ($\alpha 1 < 0$) to still have a negative impact on growth if the quality of institution is very low. Besides, these hypotheses can be tested simply by differentiating equation (7) with respect to corruption as follows:

$$\frac{\partial GR}{\partial CORR} = \alpha_1 + \alpha_3 DEM \qquad (8)$$

The coefficient α_3 captures the interaction effect of institution (democracy) and hence, effect of corruption on growth depends on democracy.

III. ECONOMETRIC MODEL AND ESTIMATION METHOD

Fixed effects model and random effects model are commonly used for the panel data analysis. Panel data set is preferred in empirical research because it combines the data for N cross-sections and t time periods. Panel data models examine fixed and/or random effects of individual or time. The main difference between fixed and random effect models lies in the role of dummy variables. In fixed effects model, parameter estimate of a dummy variable becomes a part of intercept; whereas in random effects model, it is a part of error term. Therefore, fixed effects model is called Least Square Dummy Variable (LSDV) model. In this method of estimation, constant is treated as cross-section specific, which permits a separate intercept for each cross-section. Thus, fixed effects model captures all effects, which are specific to a particular entity and do not change over time such as geographical factors, natural endowments and any other basic factor that vary among countries but remain constant over time.

The random effects model assumes that individual effect is not correlated with any regressor and estimated error variance is specific to cross-section units (or time). Therefore, a random effects model is also named as 'Error Component Model'. In this models, intercept and slope

parameters of regressors are the same across individual and their individual specific errors capture the difference among individuals (or time periods), and are not part of their intercepts. So, intercept for each section is not fixed, rather a random parameter. In addition, random effects specification also assumes that the effect is uncorrelated with the idiosyncratic residual. The selection of the model estimation format from fixed effects and random effects is based on the test, called Hausman test.

The violation of exogeneity assumption makes OLS estimators inconsistent and creates the problem of endogeneity. Following Mauro (1995), we examine the causality between variables, and found reverse causality between corruption and GDP per capita. It is extremely difficult to find appropriate instruments for all variables (Kotera et al., 2012), thus we use GMM estimation method, which uses internal (lagged) variables as the instruments. GMM estimation is generally applied in two stages. In the first stage, one gets initial estimator (un-weighted GMM estimator) whereas, the second stage is used to get weighted GMM estimators. The weighted GMM estimator is constructed using the weight matrix, which includes the residuals from the first stage. The second stage GMM estimators are more efficient than the first stage when weight matrix is properly chosen and has the smallest asymptotic variance among all other GMM estimators.

In GMM estimation method, Hansen J-statistic is used to test the over-identifying restrictions in the model. It is numerically identical to the Sargan test statistic. Hansen's J statistic is the most common diagnostic test used in GMM estimation to evaluate the suitability of the model. A rejection of the null hypothesis implies that the instruments do not satisfy the required orthogonality conditions-either because they are not truly exogenous or because they are being incorrectly excluded from the regression.

IV. DATA DESCRIPTION

We use the panel data set for developing eight (D-8) countries covering the period 1995-2013. Corruption Perception Index (CPI) is used to measure the corruption as it measures the perceived levels of public sector corruption (Transparency International, 2013), democracy and political stability for institutions and a set of control variables. CPI is constructed by Transparency International (TI) and is based on a ‘poll of

polls' showing the impressions of business people, the local population of relevant countries, and risk analysts, who have been surveyed. The index scaled the all countries from 0 to 10. The higher value of scale indicates lower level of corruption and vice versa. For clarity in interpretation, we transformed it by subtracting each nation's CPI value from 10 (10-CPI), so higher index value indicates higher corruption level.

Following Kalenborn and Lessmann, (2013), democracy is measured by the democracy index prepared by the 'The Economist Intelligence Unit'. According to the index methodology-2012, index range vary from 0 and 10, depending on the ratings for 60 indicator groups, which are divided into five categories; electoral process and pluralism, civil liberties, the functioning of government, political participation and political culture. Each nation falls into one of four regimes depending on its index value; full democracies (8-10), flawed democracies (6 to 7.9), hybrid regimes (4 to 5.9) and authoritarian regimes (below 4).

Other macroeconomic variables are GDP per capita, government expenditures, investment-output ratio, population growth rate and nation's education level. First one is used as dependent variables and remaining as control variables. GDP per capita is expressed in purchasing power parity (PPP) dollars per person. Government expenditure is measured by general government total expenditure as a percentage of GDP. Investment-output is measured by the ratio of total investment and GDP. Population is measured by the total population of the country and education level by the total adult literacy rate (% of people ages 15 and above). The data concerning GDP per capita, government expenditures, investment-output ratio and population is taken from The World Economic Outlook (WEO) database and on education from the World Development Indicators (WDI).

V. EMPIRICAL FINDINGS AND DISCUSSION

We have applied the Pairwise Dumitrescu Hurlin Panel Causality Test to check the causality and results are given in Table 1. The results show the bidirectional causality of GDP per capita with corruption and population at 5% level of significance, whereas, there is a unidirectional causality between GDP per capita and other variables. This reverse causality creates the endogeneity problem, so we used the GMM estimation method. We have estimated two models; without and with interaction

term to see the impact of corruption and democracy on growth. In case of interaction term, we observe the mutual impact of corruption and democracy.

TABLE 1

Pairwise Dumitrescu Hurlin Panel Causality Tests

Null Hypothesis	**W-Stat**	**Zbar-Stat**	**p-Value**
Corruption does not homogeneously cause GDP Per Capita	5.35821	2.84654	0.0044***
GDP Per Capita does not homogeneously cause Corruption	8.21428	5.59479	0.0000***
Govt. expenditure does not homogeneously cause GDP Per Capita	7.46095	4.86990	0.0000***
GDP Per Capita does not homogeneously cause Govt. expenditure	3.88544	1.42937	0.1529
Investment-output ratio does not homogeneously cause GDP Per Capita	4.30499	1.83308	0.0668*
GDP Per Capita does not homogeneously cause investment out-put ratio	10.5962	7.88678	0.0000***
Population does not homogeneously cause GDP Per Capita	9.20488	6.54800	0.0000***
GDP Per Capita does not homogeneously cause population	6.09321	3.55379	0.0004***
Education does not homogeneously cause GDP Per Capita	3.40315	0.96528	0.3344
GDP Per Capita does not homogeneously cause education	3.00527	0.58242	0.5603
Democracy does not homogeneously cause GDP Per Capita	5.48828	2.97170	0.0030***
GDP Per Capita does not homogeneously cause democracy	4.23143	1.76230	0.0780*

Note: *, **, ***, respectively, denotes significant at 10%, 5% and 1% level of significance

DEMOCRACY, CORRUPTION AND ECONOMIC GROWTH

We estimated the panel data models using GMM method to investigate the impacts of corruption and democracy on economic growth. We used two stage least square (2SLS) weighting matrix and cross-section weights panel corrected standard error (PCSE) robust covariance methodology to address the problem of cross-section correlation (period clustering). We applied Hausman test and its p-value indicates that fixed effects estimates

are better than random effects estimates, as shown in Table 2. The p-value of Wald test and Hansen J-statistic confirm the suitability and validity of instruments. The values of R-square and adjusted R-square are reasonably high, which indicate that explanatory variables have significantly explained the variations in the dependent variable.

TABLE 2

Democracy, Corruption and Economic Growth

Variable	**(1)**	**(2)**	**(3)**
Constant	-0.7666 (-3.317)***	-2.3989 (-3.906)***	-2.0634 (-3.4222)***
Corruption	0.0563 (1.009)	0.7749 (2.718)***	0.6094 (2.1787)**
Democracy	----	0.1792 (2.657)***	0.7295 (1.9765)**
Government Expenditure	0.0166 (0.599)	-0.0918 (-1.714)*	-0.0156 (-0.4930)
Investment	0.0046 (5.376)***	0.1468 (4.680)***	0.1238 (6.2093)***
Population	0.3686 (4.006)***	-0.0491 (-0.232)	0.4145 (3.4043)***
Education	-7.0316 (-0.664)	-0.0081 (-0.107)	0.0081 (0.1422)
GDP per capita (-1)	0.8803 (29.505)***	1.0909 (11.797)***	0.8347 (17.9307)***
Corruption × Democracy	------	-------	-0.3531 (-1.8506)**
R-squared	0.9986	0.9972	0.9985
Adj. R-squared	0.9985	0.9968	0.9983
J-statistic (p-Value)	3.4271 (0.3303)	5.9495 (0.2029)	3.2839 (0.1936)
Wald Test p-Value	(0.0000)***	(0.0000)***	(0.0000)***
Observations	144	136	136
Hausman Test Stat. (P-Value)	25.4843 (0.0003)***	12.9593 (0.0731)*	338.5578 (0.0000)***

The asterisks ***, **, and * indicate 1%, 5%, and 10% level of significance, respectively. In parentheses,
robust t-statistics based on cross-section weights (panel corrected standard error-PCSE) are reported.

The coefficients of control variables have expected signs and are statistically significant except education. The coefficient of investment-

output ratio is positive and significant in all three regressions. This implies that increase in investment-output ratio promotes economic growth in the sample countries. This result supports the findings of previous studies such as Méon and Sekkat, (2005) and Hodge, Shankar, Rao, and Duhs, (2011). The coefficient of population growth rate is positive and significant in all regressions except regression (2). This implies that increase in population growth rate increases the economic growth, because population growth is also used as a proxy for labor growth. The coefficient of adult literacy rate remained insignificant. The results for government expenditure coefficient are also not significant except regression (2). This implies that government expenditure retards economic growth when democracy variable is included in the regression.

The coefficient of corruption is insignificant in the absence of institution (democracy), but becomes significant when an institutional variable is included in the regression. The coefficient of institutional factor (democracy) is significant in the regressions (2) and (3). Regression (2) results indicate that 10% increase in corruption promotes economic growth by 7.7% and similar increase in democracy index increases the growth just by 1.7%. Similar findings are reported by the Drury, (2006), which indicate 1% increase in a democracy index leads to a 0.1% increase in the growth rate. This implies that the hypothesis, corruption 'grease the wheels' holds. The signs of corruption and democracy coefficients are positive, which indicate that both promote economic growth. Following Ahmad et al., (2012), We included lag value of GDP per capita by one period, as it affects the speed of convergence at which an economy converges toward its steady state, thereby affecting the growth rate.

MUTUAL EFFECT OF CORRUPTION AND DEMOCRACY

The results of regression (3) indicate the coefficient of the interaction term is negative and significant, which implies that conditionality matters. The coefficient of corruption is positive and significant, but its effect on economic growth depends on the institutional performance (democracy). We have calculated the marginal effect by inserting the value of estimated coefficients in equation (8) as follows.

$$\frac{\partial GR}{\partial CORR} = 0.6094 - 0.3531(DEM) \qquad (9)$$

Equation (9) indicates that the marginal effect of corruption on economic growth depends on the degree of democracy. The corruption has respectively, positive association and negative association with growth for nations having poor democratic and strong democratic norms. The sign of the interaction effect of corruption with degree of democracy on growth changes at the margin when value of democracy index is about 5.6 points. If a country has a degree of democracy of more than 5.6 index points, the marginal effect of corruption on growth is negative and significant, which implies that corruption is not a suitable instrument to promote economic growth. This implies that corruption is always detrimental to growth in countries where institutions are effective like Bangladesh, Indonesia, Malaysia and Turkey in the sample nations (average democracy index value greater than 5.6). On the other hand, Egypt, Iran, Nigeria and Pakistan are the countries that have democracy index average value less than 5.6, so corruption promotes growth in these nations. In other words, corruption hypothesis‘ sand the wheels’ is established in Bangladesh, Indonesia, Malaysia, Turkey, and ‘greases the wheels’ is established in Egypt, Iran, Nigeria and Pakistan.

VI. CONCLUSION AND POLICY IMPLICATIONS

We have tested two competing hypotheses whether corruption ‘greases the wheels’ or it ‘sands the wheels’ in D-8 countries using panel data models and GMM estimation method. The study examined the effect of corruption on growth and checked whether conditional cooperation between corruption and democracy matters or not in testing the above hypotheses. The empirical results indicate that the effect of corruption depends on the institutional performance, which implies that conditionality matters. The coefficients of corruption and democracy are positive and significant. But coefficient of interaction term is negative and significant. This implies that corruption promotes growth for lower level of democracy but retards growth in the countries experiencing democracy since longer. In our sample countries, Bangladesh, Indonesia, Malaysia and Turkey have average democracy index value greater than threshold level (5.6) whereas remaining countries Egypt, Iran, Nigeria and Pakistan has less than that. Thus, it is concluded that corruption lowers the growth in Bangladesh, Indonesia, Malaysia and Turkey, whereas, it promotes growth in Egypt, Iran, Nigeria and Pakistan. This

implies that corruption hypotheses 'sands the wheels' and 'greases the wheels' are established in Bangladesh, Indonesia, Malaysia and Turkey, and Egypt, Iran, Nigeria and Pakistan, respectively.

The empirical results of the study suggest that caution should be taken in drawing some solid policy implications, as the study used the panel data of only Muslim Developing Eight countries. But still, we believe that empirical results of the study suggest some very essential implications for understanding the impacts of public corruption on economic growth. Therefore, it is recommended that in order to reduce the effect of corruption on growth the promotion of democracy is indispensable, because with the progress of democracy, functioning of monitoring system improves and thereby investment increases that promotes economic growth. It certainly implies that future studies on corruption-growth relationship and its impact on society should pay careful attention to the governmental sphere, as this seems to have a potentially great influence on how residents evaluate government's functioning in terms of democracy.

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