POLITICAL MANAGEMENT AND CORRUPTION IN DEVELOPING NATIONS

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ABSTRACT

This study empirically explores the relationship between corruption and the quality of political management in developing nations using a cross-country data set. Specifically, this analysis jointly considers the two theoretical effects of corruption, 'grease the wheels' and 'sand in the wheels', argued in the literature to determine if a nonlinear relationship exists between corruption and the quality of political management. Using a cross-country data set of 114 countries, the results of this study suggest that corruption has an overall negative effect on the quality of political management in developing nations; however, political managers can benefit from a minimal level of corruption and that the complete absence of corruption can hinder the effectiveness of political managers. The Concluding Comments section includes a discussion of the policy implications of the findings.

JEL: O57; O15

KEYWORDS: Political Management, Corruption, Developing Nations, Nonlinear

INTRODUCTION

Political leaders influence and guide all facets of a country's growth and development. Through domestic and international policy development, political leaders shape the economic, social, and political landscape of their countries. The relationships policy leaders form with other global leaders can significantly affect their country's standing in the global community, which can then play a role in international trade and foreign direct investment, among many other factors. In short, political leaders have a substantial influence on almost every aspect of their country; from its basic economic well-being to its global relationships. Nonetheless, some policy leaders have been very successful in leveraging their countries' positive attributes by steering their countries through sustained democratic transformation and development, while other leaders have floundered. Thus, the question arises as to what factors can influence policy leaders' ability to bring about effective country-level change and development. In other words, what factors influence effective political management?

In regards to effective political management, the focus of this study is political leaders operating in developing or transforming countries. Although past research has identified several factors that can alter the effectiveness of political managers, an area needing further study is the effect of corruption on the quality of political management, especially in developing nations. Researchers such as Aguilera and Vadera (2008), Johnston (1996), Heidenheimer (1989), and Van Klaveren (1989) have described corruption as a variety of behaviors. These included bribery of public officials, collusion between two parties, and the abuse of authority for personal gain. A considerable literature has found that corruption weakens a country's institutions and hampers nation-building activities designed to bring about transformative change, or as Ades and Di Tella (1997), state corruption acts as 'sand in the machine'. Nonetheless, as Jain (2001) summarizes, there is a small, but growing stream of research that finds corruption can 'grease the wheels' of bureaucratic rigidities and facilitate transactions and, in this light, serve to increase efficiency. Thus, past studies suggest that corruption can either hinder or, in some cases, boost political leaders' ability to drive positive transformative change and development. Current news out of two countries illustrate polar opposite effects of corruption on the

international and economic status of the country. According to a recent story by Romero in the New York Times (April 24, 2013), Paraguay is the "fastest growing country in the Americas," while being extremely corrupt, especially in land disputes. Alternatively, Zimbabwe, in economic decline fueled in part by government corruption, recently reelected their leader, Mr. Mugabe, to a seventh consecutive term in power.

If the 'grease the wheels' and the 'sand in the wheels' arguments are considered jointly, this can suggest a nonlinear relationship between the quality of political management and corruption. This study empirically explores the relationship between corruption and political management using a cross-country data set to determine if a nonlinear relationship exists between corruption and the quality of political management in developing nations.

The remainder of the document is organized as follows: the next section discusses the current literature and findings related to corruption and political management; the Data and Methodology section provides summary statistics and a discussion of the methodology used to empirically test the hypothesis, as well as a greater description of the data and control variables used in this analysis; Results and Discussion presents the analysis results and discusses the empirical findings with an emphasis on the results of the hypothesis test; and finally, Concluding Comments provides a brief summary of the study and offers policy implications associated with the findings in addition to providing avenues for future research.

LITERATURE REVIEW

Past research has identified corruption as the cause of a variety of economic, political, and financial ills and the World Bank (2008) has stated that corruption is among the greatest obstacles to economic and social development as it undermines development by crippling the institutional foundations on which economic growth depends. Hellman et al. (2000) and De Maria (2008) offer empirical evidence that corruption weakens economic growth. Specifically, using a cross-country data set comprised of data from over 3,000 firms Hellman et al. (2000) find that the growth rate of the enterprise sector in countries with pervasive legislative corruption is approximately ten percentage points lower over a three-year period compared to countries without pervasive legislative corruption. Further, De Maria (2008) notes that the African Development Bank estimates that corruption costs African economies more than $148 billion dollars each year, which translates into a 50 percent loss in tax revenue and raises the cost of African goods by approximately 20 percent. De Maria (2008) states that corruption has caused a 25 percent cumulative loss in Africa's GDP.

Macrae (1982), Alam (1995), and Ades and Di Tella (1997 and 1999) also find that corruption harms private sector development and leads to the misallocation and inefficient use of resources, which can be attributed to government officials' bias towards inefficient projects that are associated with greater bribes. Hibbs and Piculescu (2005) support this theory and state that corrupt bureaucrats, in collusion with firms, have the incentive to exploit opportunities in the unofficial sector. Mahagaonkar (2008) also notes that corruption can delay innovation and other start-up activities as corrupt officials tend to stall in granting permits until offered a greater bribe. Thus, corrupt practices can delay economic activity, increase the cost of conducting business and result in an inefficient use of resources. On the global stage, Mauro (1995), Gastanga et al. (1998), Wei (1999), and Zhao et al. (2003) find that corruption disrupts international trade and investment. As Kehoe (1998), Jain (2001), and Lamsdorff, (2003) conclude, the consensus of much theoretical and empirical research is that corruption negatively affects a country's ability to flourish and compete in the global economy.

The above research clearly suggests that pervasive corruption will hamper political management and render those operating in such countries as ineffective political leaders. If corruption weakens the

economic institutions needed to support sustained growth in developing nations, then even non-corrupt political leaders operating in countries with widespread corruption will face considerable obstacles in bringing about effective democratic change. Nevertheless, China and Italy are clearly exceptions to this rule. As summarized in Jain (2001) there is another stream of research that suggests that corruption can 'grease the wheels' of bureaucratic rigidities and facilitate transactions and production in some economies.

In this vein, Osterfeld (1992) states that the presence of corruption can expand output and productivity as bribes allow for more free market exchange. Cuervo-Cazurro (2008) and Lui (1985) find that corruption can facilitate transactions and speed-up procedures, which can increase efficiency. Bardhan (1997) historically links corruption to free thinking entrepreneurs and Dreher and Gassebner (2007) find that corruption increases entrepreneurial activity in highly regulated economies. Thus, while much research has identified the negative effects of corruption on a variety of economic and business factors, corruption has also been found to increase efficiency and economic activity in some societies. Building on this body of research, if corruption can facilitate transactions and 'grease the wheels' of economic activity, then corruption can possibly increase the quality of political management in some societies.

In sum, a significant body of research suggests that corruption should hinder political management; however, there is a small, but growing literature that implies that corruption can boost political management. If these two opposing theories are jointly considered -- 'grease the wheels' and 'sand in the wheels' -- this can suggest a nonlinear relationship between the quality of political management and corruption. Specifically, it is hypothesized that in countries where corruption is all invasive, political management is the least efficient as political leaders will face significant barriers in every area in which they seek to implement positive change and development. As corruption is reduced from the most pervasive levels to more moderate levels, political management should become increasingly more efficient as these leaders face fewer barriers and slowdowns. Nonetheless, by considering the studies finding that corruption can increase efficiency in some countries, it is hypothesized that in countries where corruption is minimal or nonexistent, political managers can be less effective. In other words, some low level of corruption can serve to assist political leaders in bringing about effective change as the existence of some corruption can ease bureaucratic rigidities and facilitate transactions. Thus, H1 is stated:

H1: The relationship between effective political management in developing nations and the level of corruption is nonlinear. Political management is least effective at high levels of corruption and improves as corruption is mitigated. Once corruption reaches some minimal or non-existent level, then the efficiency of political management will begin to decline.

This hypothesis is empirically tested using sample data from 114 countries. The data and research methods are discussed in the following section.

DATA AND METHODOLOGY

Political Management and Corruption Data

The Political Management Index (PMI), created by Bertelsmann Stiftung and the Center for Applied Policy Research, is used to proxy the overall quality of political management in developing countries. The Bertelsmann Stiftung Report (BSR, 2012) assesses the quality of political management in125 transformative countries with populations of more than two million that have not yet achieved a fully consolidated democracy and market economy. The Report describes the PMI data, which is designed to measure political decision makers' steering and management capabilities in development and

transformation processes. In particular, the focus is on political leaders' ability to lead economic, social, and political transformations in emerging nations. In its calculations, the PMI data considers the actions of governments, political elites, and nongovernmental organizations that play a role in the development process. The PMI data is the first to provide global measures of the quality of political management in emerging nations.

To calculate the PMI data, BSR defines management as consisting of four sub-indices; (1) Steering Capability, which measures the ability of political leadership to manage reform effectively and achieve it policy priorities; (2) Resource Efficiency, which assesses the government's ability to make optimum use of available resources; (3) Consensus Building, which indicates whether the political leadership establishes a broad consensus on reform with other players; and (4) International Cooperation, measuring the willingness of a country's political actors to cooperate with outside supporters, organizations, and neighboring states. In recognition that political leaders face varying degrees of challenge in their respective countries, the BSR weights each country's PMI by this level of difficulty. Specifically, the BSR considers each country's structural constraints such as internal conflicts, per capita income levels, education index, and rule of law and weights each country's PMI based on the strengths or weaknesses of these structural constraints. The PMI values range from one to ten where a higher score indicates a higher quality of political management, which takes into consideration the degree of challenge political leaders' face. In this analysis the 2012 PMI data is used, capturing political managers over the period 2009 to 2011.

The Corruption Perception Index (CPI) created by Transparency International (2007) is used in this study to proxy for country-level corruption levels. The CPI measures the degree to which officials and politicians are believed to accept bribes or illicit payments in public procurement, embezzle public funds, or commit offences. The CPI is based on a continuous scale from zero (all-pervasive corruption), to ten (no corruption). Greater CPI values indicate lower corruption levels. This index is not based upon information from the organization's own experts, but is constructed as a weighted average of different indices from ten different well-recognized international organizations and reflects the impressions of business people and risk analysts who have been surveyed. Although other measures of corruption are available, Lancaster and Montinola (1997) and Serra (2006) state that the CPI is the most comprehensive and robust measure of corruption and is unlike other measures that are based on individual sources, such as Business International, International country Risk Guide, World Bank index, and the World Competitiveness Report. As Berg (2001) notes the CPI is probably the most well-known corruption indicator.

Control Variables

Economic freedom plays an important role in determining the quality of a country's infrastructure and affects several economic, business, and political institutions and factors such as government size, business and trade freedoms, as well as the existence of property rights. Economic freedom permeates almost every facet of business and influences the ability of government officials to achieve their goals and effectively manage resources. An economically free country typically enjoys a stable legal and monetary system, has efficient markets and is generally more open and connected to global markets. As Berggren (2003) notes, economically free institutions are able to provide growth-enhancing incentives by allowing for higher return on innovation and production through low taxation and protection of private property, which results in a more efficient use of resources. Further, Akhter (2004) states that economic freedom is needed in order to facilitate international cooperation and, as Weaver and Rockman (1993) note, institutions matter for the success of public policies. Restriction of economic freedoms generally leads to resource inefficiencies and difficulties with consensus building and international cooperation. Such limitations restrict the ability of leaders to establish transformative change and thus serve to hinder the quality of political management in economically restricted countries.

Country-level economic freedom is controlled for in this analysis using the 2007 Index of Economic Freedom (EFI) created by the Heritage Foundation. The *EFI* considers 50 economic freedom variables that are divided into ten categories; Business freedom, Trade freedom, Fiscal freedom, Government spending, Monetary freedom, Financial freedom, Property rights, Freedom from corruption, Investment freedom and Labor market freedom. Each of the freedoms is individually scored and a country's overall economic freedom score is the average of its scores on the ten individual freedoms. The EFI ranges from zero to 100, with 100 representing the greatest economic freedom.

Democratic societies are typically associated with political stability, greater freedom of choice, strong government institutions and overall higher quality of governance. Moon et al. (2005) state that countries with less democratic governments tend to marginally employ services that enhance efficiency and have less transparent and interactive relations with its citizens. Further, Isham et al. (1997) find that greater civil liberties and political rights serve to increase citizen participation, resulting in greater efficacy of government actions. Greater political and civil freedoms also enhance consensus building, needed for political leaders to carry out transformative change. Thus, all else equal, political leaders operating in societies with greater democratic freedoms are more likely to have a higher overall quality of management relative to those working in more autocratic systems.

In this study, the Political (*PR*) and Civil Liberties (*CL*) indices, constructed by Freedom House (2007), are used to proxy the level of democratic freedom within a country. Political rights largely refer to the freedom to organize in political parties or groupings, the existence of party competition and the fairness of elections. Civil liberties refer to the freedoms afforded to the media, the right to open and free discussions, the freedom of assembly and religious expression, the protection from political terror and the prevalence of the rule of law. Both indicators are measured on a scale of one to seven, where higher numbers imply fewer rights and liberties. As both measures represent important facets of democracy, the average of the two values (*PRCL*) is used. Past researchers such as Barro (1999) and Emerson (2006) have used this un-weighted average of PR and CL to approximate country level democracy.

Finally, political leaders operating in different geographical regions of the world face unique challenges. Thus, regional indicators for Eastern Pacific / Southern Asia (EPSA), Latin America (LA), Eastern Europe (EE), and the Sub-Saharan African (SSA) are accounted for, using North Africa and Middle East countries as the benchmark.

Table 1 provides descriptive statistics for the data used in the analysis. With the exception of regional indicators, the data for all variables used in this analysis are collected and reported on an annual basis. The most recent 2012 *PMI* data is used as the dependent variable and, considering that the effect of the control variables cannot be expected to occur immediately, all other variables are lagged by approximately five years to allow time for these factors to affect the quality of political management. Finally, the data used in this analysis was available for 114 countries.

Table 2 provides the correlation matrix of all variables used in the analysis. As shown below, PMI is positively and significantly correlated with CPI and EFI and negatively and significantly correlated with PRCL. These relationships suggest that countries with lower levels of corruption and greater economic freedom that are more democratic tend to also enjoy a higher quality of political management. These relationships are expected given previous research. Nonetheless, the correlations only suggest associations and in order to test for a causal and possible nonlinear relationship between PMI and CPI as stated in H1, a regression analysis is necessary.

Table 1: Data Summary and Descriptive Statistics

Variable	Proxy (Name, Year Reported)	Reporting Frequency	Min	Max	Mean	St. Deviation	*n*
PMI	Political Management Index (*PMI*, 2012)	Annual	1.77	7.72	5.00	1.402	114
CPI	Corruption Perception Index (*CPI*, 2007)	Annual	1.40	9.30	3.32	1.338	114
EFI	Index of Economic Freedom (*EFI*, 2007)	Annual	28.60	87.20	57.83	8.872	114
PRCL	Freedom House (*PRCL*, 2007)	Annual	1.00	7.00	3.83	1.784	114
EPSA	Eastern Pacific / Southern Asia	N/A	N/A	N/A	N/A	N/A	19
LA	Latin America	N/A	N/A	N/A	N/A	N/A	21
EE	Eastern Europe	N/A	N/A	N/A	N/A	N/A	23
SSA	Sub-Saharan Africa	N/A	N/A	N/A	N/A	N/A	33
NAME	North Africa and Middle East	N/A	N/A	N/A	N/A	N/A	18

Table 1 provides a summary of the data sources used in the analysis in addition to the descriptive statistics. Although the PMI data represents 2012, it captures political managers' activities over the period 2009 to 2011. Thus, the independent variables are lagged approximately two years as their effect on the quality of political management cannot be expected to occur immediately.

To explore the relationship between PMI and CPI, two regression models are estimated. First, Model 1 is estimated using the data described in Table 1 for the 114 countries for which data was available for all variables:

$$PMI = \beta_0 + \beta_1 CPI + \beta_2 EFI + \beta_3 PRCL + \beta_4 EPSA + \beta_5 LA + \beta_6 EE + \beta_7 SSA + \varepsilon \quad (1)$$

This model is estimated to explore the overall relationship between corruption and the quality of political management. Given the extensive literature that suggests that corruption hampers the quality of political management, or serves as 'sand in the wheels', it is expected that the coefficient on CPI, β_1, will be significant and positive as greater values of CPI indicate lower corruption levels.

Table 2: Correlation Table

	PMI	*CPI*	*EFI*	*PRCL*
PMI	1			
CPI	0.627***	1		
EFI	0.628***	0.711***	1	
PRCL	-0.833***	0.522***	-0.575***	1

Table 2 provides the correlation matrix of all of the data used in the analyses. The correlations indicate countries with lower levels of corruption and greater economic freedom that are more democratic tend to also enjoy a higher quality of political management. These relationships are expected given previous research.

To test H1, Model 2 is estimated that allows for a nonlinear relationship between corruption and the quality of political management by including a squared CPI term. The second regression allows for the possibility that corruption can have both a 'sand in the wheels' and the 'grease the wheels' effect on the quality of political management.

$$PMI = \beta_0 + \beta_1 CPI + \beta_2 CPI^2 + \beta_3 EFI + \beta_4 PRCL + \beta_5 EPSA + \beta_6 LA + \beta_7 EE + \beta_8 SSA + \varepsilon \quad (2)$$

If β_1 is significant and positive and β_2 is significant and negative, this will provide empirical evidence to support H1.

RESULTS AND DISCUSSION

As shown in Table 3, the regression results for Model 1 provide overall support for the model with an Adjusted R^2 of 0.7433 and a significant *F* at the 99 percent confidence level. White's (1980) general test for heteroscedasticity suggests that the residuals are homoscedastic and the Variance Inflation Factor

(VIF) for each of the explanatory variables is less than 10, the cutoff suggested by Field (2005). In reference to the control variables, the coefficient on PRCL is significant and negative, indicating that countries with fewer democratic freedoms are associated with a lower quality of political management. The coefficient on EFI is not significant, which was not expected given previous research. A possible explanation for this result is that Model 1 accounts for democratic freedoms and corruption levels and when both of these factors are controlled for, they subsume some of the effect of economic freedom on the quality of political management. Finally, the significant and positive coefficient on the regional indicator for Eastern Pacific / Southern Asia countries suggests that political leaders operating in these countries have an advantage in their political management. Most importantly, the coefficient on CPI is significant and positive, which indicates that corruption hinders the ability of political managers to direct transformative change.

Table 3: Model 1 Estimated Regression Results

	Coefficient Estimate	**Std Err**	***t* Stat**	**VIF**
Intercept	5.030	0.768	6.55***	0
CPI	0.233	0.074	3.14***	2.206
EFI	0.016	0.012	1.37	2.344
PRCL	-0.512	0.056	-9.20***	2.212
EPSA	0.409	0.239	1.71*	1.792
LA	0.118	0.265	0.44	2.393
EE	0.262	0.253	1.04	2.322
SSA	0.374	0.228	1.64	2.418
Adj. $R^2 = 0.7433$	*F* stat = 47.75***	*p* <0.10*; **p <0.05; ***p<0.01		

Table 3 provides the estimated regression result for Model 1. The positive and significant coefficient on CPI suggests that, overall; corruption lowers the quality of political management.

To test H1, Model 2 is estimated using the squared CPI term. When a regression model involves a squared or nonlinear term many researchers, such as Jewell (2003), advocate using centered data in the regression. A centered regression model is often preferred as it provides a more meaningful interpretation of the coefficients and reduces the multicollinearity that often arises with the introduction of a squared term. Given that preliminary regression analyses using non-centered data suggested that multicollinearity was present, the CPI and CPI^2 data are centered by their respective means and these centered terms were included in the regression analysis. The estimated regression results are shown in Table 4.

Table 4: Model 2 Estimated Regression Results

	Coefficient Estimate	**Std Err**	***t* Stat**	**VIF**
Intercept	5.442	0.809	6.72***	0
CPI_C	0.387	0.098	3.96***	4.009
CPI_C^2	-0.059	0.025	-2.36**	2.434
EFI	0.018	0.011	1.58	2.359
PRCL	-0.457	0.059	-7.71***	2.617
EPSA	0.550	0.242	2.28**	1.910
LA	0.261	0.267	0.98	2.523
EE	0.346	0.250	1.38	2.369
SSA	0.498	0.229	2.17**	2.553
Adj. $R^2 = 0.7539$	*F* stat = 48.23***	*p* <0.10*; **p <0.05; ***p<0.01		

Table 4 provides the estimated regression result for Model 2. The subscript C indicates the CPI is centered. The positive and significant coefficient on β_1 and significant and negative coefficient on β_2 offers empirical support for H1.

As shown above, the signs and the significance of the coefficients do not change substantially from the estimated results from Model 1. Most importantly, the coefficient on β_1 is significant and positive and β_2 is significant and negative, providing empirical support for H1. These results indicate that in countries where corruption is all pervasive, the quality of political management is the poorest as political leaders

suffer from barriers and slowdowns in every avenue in which they seek to create positive change and development. As corruption is reduced to more moderate levels, the quality of political management continues to improve as leaders face few restrictions and, at some low level of corruption, political management reaches a maximum in efficiency. Nonetheless, when corruption is completely eliminated, the quality of political management decreases slightly as some minimal level of corruption serves to assist leaders in steering positive change as some minimal corruption can grease the wheels of bureaucratic rigidities and facilitate transactions.

Using the estimated regression results from Model 2, the level of corruption that maximizes the quality of political management can be calculated by taking the partial derivative of the estimated regression with respect to CPI and then solving the first order condition. Those calculations suggest that the quality of political management is maximized when CPI is approximately 6.6, holding all else constant. In developing nations, a CPI value of 6.6 represents relatively low levels of corruption. Of the developing countries considered in this analysis, four countries have CPI values close to this point; Estonia (CPI value 6.5), Slovenia (CPI value 6.6), Uruguay (CPI value of 6.7), and Chile (CPI value of 7.0). Interestingly, these countries also have some of the higher PMI values of 7.44, 6.57, 7.66, and 7.15, respectively. The empirical results also provide examples for the existence of countries where each of the two competing theories better explain the relationship between corruption and political management. For example, Zimbabwe, Venezuela, and Myanmar exhibit the 'sand' phenomenon, while Paraguay, Benin and Mali are archetypes of the 'grease' hypothesis.

CONCLUDING COMMENTS

The objective of this study was to empirically test the hypothesis of a nonlinear relationship between corruption and the quality of political management in developing nations. The results of this cross-country study indicate that a nonlinear relationship does in fact exist and that while corruption has an overall negative effect on the quality of political management in most developing nations, a minimal level of corruption can 'grease the wheels' and enhance efficiencies. In other words, political managers can benefit from a minimal level of corruption. Nonetheless, the authors are not suggesting that policies or other means of increasing corrupt practices is a desired means to enhance the quality of political management in a country. Rather, the authors' objective was to jointly consider the 'sand in the wheels' and 'grease the wheels' theories to empirically explore if there was validity to both arguments.

The results of this study have policy implications. First, policies aimed to boost democratic freedoms will also serve to improve the quality of political management within a country. Further, while some minimal level of corruption can serve to benefit political managers, overall, policies aimed to reduce corrupt practices will also increase the quality of political management. For example, policies designed to increase transparency in government transactions should reduce corruption, as such practices would be more readily exposed and subject to scrutiny. If such policies are effective in increasing transparency and lowering corruption, a country's institutions and infrastructures will strengthen, which will provide political managers with greater tools to lead their countries through positive democratic transformations.

As with all empirical studies, this study is not without its limitations. Specifically, the quantitative variables used in this analysis are proxies for qualitative factors that are arguably difficult to quantify. The measures of perceived corruption, economic and democratic freedoms, and the quality of political management are approximate measures and are not without their criticisms. Thus, the results of this study should be considered in this light. Finally, this study suggests areas for future research. In the analysis above, developing nations are considered, but can the sand and grease in the wheels theories be jointly considered in developed nations? Further, as more data becomes available over time, does the relationship between corruption and the quality of political management exist over time? In other words, does this relationship exist using a panel data set? Given the importance of political management to a

country's overall well-being, future studies exploring the factors that shape the quality and effectiveness of these managers should be encouraged.

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