DOES POLITICAL INSTABILITY INDUCE CORRUPTION?

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Abstract

The aim of this study is to analyze how political instability affects corruption. For this purpose, we firstly carry out data analysis. Using multiple OLS regressions over a range of countries and controlling for additional explanatory variables, we find out that political instability is not necessarily positively associated with corruption. In view of our findings in the data, we secondly present a theoretical model where we show that corrupt behavior of the monopolist officials is so that when political instability is introduced, overall gains from corruption are reduced.

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1. Introduction

"Our government is crippled by inefficiency, corruption and over- centralization", one Bolivian cried out after having witnessed the Bolivian economy not responding to years of reformist economic policy attempts (Klitgaard, 1991).

There is one human motivator that is both universal and central to explaining the divergent experiences of different countries, namely, self-interest. The way self-interest is channeled makes countries differ from each other. Endemic corruption suggests a pervasive failure to tap self-interest for productive purposes, which is often observable in the proceedings of public institutions.

Public sector corruption, as used in this text, is commonly defined as misuse of public office for private gain. The USAID Handbook for Fighting Corruption (1999) depicts various sorts of corruption giving forms and organizational schemes of corruption. Corruption consists of both unilateral and multi-lateral exploitation. It encompasses unilateral abuses by the bureaucrats in the forms of embezzlement and nepotism, as well as abuses with a linkage of public and private agents such as bribery, extortion, influence peddling and fraud. Corruption takes place in both political and bureaucratic offices and can be petty or grand, organized or disorganized.

Corruption is well known to be wide-spread at every level of life all over the world and to be rampant in many institutions despite the efforts by governmental and non-governmental organizations to curb it (Corruption Perception Index 2006). Susan Rose- Ackerman reports in her book that during her visiting research fellowship at the World Bank between 1995 and 1996, she was surprised to have been told that when a review of a program mentioned

"governance problems," "unexplained cost overruns," or "excessive purchase of vehicles," these all meant that corruption and simple theft were a problem (Rose-Ackerman, 1999). To illustrate the antiquity of the problem and to understand how deeply rooted it is, Bardhan (1997) provides the following text that dates back to the fourth century B.C.:

> Just as it is impossible not to taste the honey (or the poison) that finds itself at the tip of the tongue, so it is impossible for a government servant not to eat up, at least, a bit of the king's revenue. Just as fish moving under water cannot possibly be found out either as drinking or not drinking water, so government servants employed in the government work cannot be found out (while) taking money (for themselves). (R.P. Kangle 1972, p.91)

The magnitude of the corruption setback is huge from whatever perspective one approaches it, especially taking into consideration the adverse effect it exerts on the gap between the rich and the poor world. Most of the countries suffering highly from corruption seem to be the poor ones, for which evidence is provided by Treisman (2000) and Paldam (1999). This fact aggravates the extent of the problem and makes it more difficult to handle. On the one hand, poor countries use up their limited resources in a corrupt inefficacy, on the other – large amount of foreign aid to eradicate poverty is subject to the dilemma between aiding poorly handled corrupt government practices or not helping them at all and leaving them aside.

In addition, Paolo Mauro (1995, 1998) shows that higher levels of corruption are associated with lower levels of investment as a share of Gross Domestic Product (GDP). Mauro was able to evaluate the effects of bureaucratic efficiency, which accounts for less corrupt bureaucracy, and found that if Bangladesh (with a score of 4.7 out of 10) were to improve the integrity and the

efficiency of its bureaucracy to the level of that of Uruguay (with a score of 6.8 out of 10), its investment rate would rise by almost five percentage points, and its yearly GDP growth rate would rise by over half a percentage point (Mauro, 1995). Mauro also demonstrates that highly corrupt countries have a tendency to under-invest in human capital by spending less on education (Mauro, 1998). Likewise, Keefer and Knack (1995) scrutinize the effect of government institutions on investment and growth for 97 countries over the period 1974 to 1989. They demonstrate that measures for the government institution quality, of which corruption is one of the indices, do at least as well in explaining investment and growth as measures of political freedoms, civil liberties and the frequency of political violence.

Although the consistency and the direction of causality are subject to fervent discussions and very little is known about the idiosyncrasies of the issues, there are numerous determinants of corruption suggested by different authors, e.g. Treisman, Rose-Ackerman, Shleifer, Vishny, etc. Policy distortions, income inequality, lack of competition, the extent of democracy, colonialism, freedom of press, the independence of the judiciary, cultural norms, natural resource endowments and religion are among the factors that are associated with corruption.

Political instability stands out among the aspects in the context of corruption determinants. On the empirical level, political instability, as corruption, seems to be detrimental for investment and growth by creating uncertainties for the entrepreneurs on the political and economic prospects. Different definitions

are used for political instability. One emphasizes social unrest largely expressed outside standard political channels, such as violent demonstrations, strikes, political assassinations, or coups (Londregan and Poole 1990, Banks 1987, Jodice and Taylor 1988). Another, suggested by Alesina and Perotti (1994), considers instability within the political system by looking at a measure of executive instability, such as government turnovers. A third definition, more directly linked to the security of property rights, is the indicator of country risk produced by specialized firms (Mauro 1995, Keefer and Knack 1995, Svensson 1998).

Even though there is a common view that the more politically instable a country is, the more corrupt it is, the evidence for this is mixed, which is provided in the data analysis section. Motivated by the interesting fact that it is not necessarily true that the two phenomena go hand in hand, in this thesis we aim to analyze how political instability has an effect on the corrupt behavior of the bureaucratic servants.

In attempting to measure the extent to which political instability affects corruption, we analyze the data and the corresponding regressions of corruption on a set of explanatory variables, keeping political instability as our interest variable. Using multiple OLS method on a range of country, our findings contradict the general view that political instability and corruption are positively correlated. The evidence we find in the data is not robust enough for us to be fully confident about our results; nevertheless, the persistence of the sign of the

relation gives us a sufficiently strong belief not to take the widespread view in the literature for granted.

The conviction that we have thanks to our data inspection leads us to further scrutinize the connection in a more theoretical setting. In a formal analysis of how corrupt bureaucrats behave as the monopolist provider of public good in a politically instable setup, we present a model and show that under certain conditions and assumptions the total gains from corruption that bureaucrats reap may drop once political instability as a form of uncertainty is introduced into the model.

The organization of the paper is as follows. The next section gives insight into the literature starting with some early works and continuing with the studies where the causes of corruption are investigated. The third section describes and discusses the cross-country data and the variables. Section four presents the estimation results on the relationship between corruption and political instability, controlling for some additional explanatory variables. Section five posts a formal model of corruption under political instability in view of the findings from the data. The last section gives concluding remarks.

2. A Review of the Literature

Early work on the traditional rent-seeking theory goes back to Tullock (1967), Krueger (1974) and Posner (1975). The rents obtained are associated with government restrictions, monopolistic behaviors and other forms of property ownership. The focus of rent-seeking is on the interaction between the state and private parties, where the state has the monopoly on allocating property rights, be it by certain laws, regulations, subsidies, taxes, tariffs, import quotas or by awarding contracts in public procurement. In addition, the work on rent-seeking identifies situations in which economic agents expend resources to gain such rents and explores how competitive pressures can produce situations in which the rents are largely or entirely dissipated.

Regarding the studies on corruption in the literature, one can see that beginning with Leff (1964) and Huntington (1968), some authors have argued that corruption may foster economic growth through “speed money”, which enables entrepreneurs to avoid cumbersome red-tape and by giving the government employees the incentive to work harder. Rose-Ackerman (1978) warns of the complexity of steering corruption to the areas where it can serve beneficially. On the other hand, Shleifer and Vishny (1993) argue that corruption will lead to a lower economic growth and Murphy et al. (1991) provide evidence that countries where talented people look for rent-seeking activities tend to grow slowly.

There are a fairly high number of studies that investigate the causes of corruption. Although so many different variables have been under scrutiny and significantly or insignificantly found to have an association with corruption, corruption is, by and large, considered to be connected to state activities, especially stemming from its monopoly and discretionary power. Gary Becker, Nobel laureate in economics, has pointed out in one of his *Business W*eek columns that if we abolish the state, we abolish corruption. Goel and Nelson (1998) relate one form of corruption indicator to the real per capita total expenditures of the local government, arguing that state intervention and public spending give rise to rent-seeking activities, and hence corruption. Additionally, La Porta et al. (1999) show a positive correlation of the total government transfers and subsidies with corruption. On the other hand, Rose-Ackerman (1999) argues that such simple correlations might be spurious, and in support of that view, Elliott (1997) presents an opposite correlation for a sample of 83 countries, in which she reports that the size of the government budget decreases with levels of corruption and argues that the type of activities and spending undertaken might be more important in causing corruption.

Treisman (1999), concerned with the impact of decentralization on corruption, provides evidence that federal states are more corrupt than centralized ones, though not robust. In addition, Fisman and Gatti (2002) make use of some other form of variable on decentralization and find for a wide range of specifications a strong negative relation between fiscal decentralization in government spending and corruption.

Institutional quality is considered to be another key element in corruption debate. Kaufmann and Wei (1999) provide evidence to disprove the notion that corruption "greases the wheels". They find that corruption is positively associated with government regulations that impose a heavy burden on business competitiveness and that are vague and lax. Johnson, Kaufmann and Zoido-Lobaton (1998) support the argument of corruption sanding the wheels by presenting evidence on the positive correlation between corruption and the size of the unofficial economy. Treisman (2000) and Ades and Di Tella (1997) find that state intervention and policy distortions have a positive effect on corruption.

As another determinant of corruption, competition is commonly assumed to lower the rents of economic activities, and consequently, reduce the motive of public servants and politicians to seize parts of these rents by means of extortion and corruption. Henderson (1999) argues that corruption is negatively correlated with different indicators of economic freedom, which is largely backed by Paldam (1999a) by multivariate regressions. In support of these views, Ades and Di Tella (1995 and 1997) use a country's openness to trade as a sign of competition and argue that it is negatively associated with corruption. Brunetti and Weder (1998b) agree with these findings. However, Treisman (2000), using another index for trade openness, did not find significant evidence for such an impact. Moreover, another valid measure of the extent of competition existing in a country can be derived from the number of years it has been open to trade, as assessed by Sachs and Warner (1995). Treisman (2000) and Leite and Weidmann (1999)

provide evidence that this variable negatively and significantly impacts the level of corruption.

The benefits from corruption are likely to accrue to the well-connected at the expense of the poor. Gupta, Davoodi and Alonso-Terme (1998), therefore, argue that corruption increases with income inequality, as measured by the Gini coefficient. They also investigate the income growth of the bottom 20 per cent of society. While controlling for various influences, they report that the growth of corruption exerts a significant and negative impact on this variable. Furthermore, the way causality actually moves has been questioned by Husted (1999), who argues that inequality contributes to high levels of corruption. This has also been suggested by Swamy et al. (1999).

By regressing various measures of corruption on indicators of press freedom, Brunetti and Weder (1998a) show that a free press effectively deters corruption. The latter variables consist of "laws and regulations that influence media content", "political influence over media content", "economic influence over media content" and "repressive actions", as compiled by Freedom House. These four separate indices and an aggregate index of press freedom all negatively impact the level of corruption in various specifications. Brunetti and Weder (1998b) investigate the impact of openness and democracy on the level of corruption in selected countries over intervals of time and find that freedom of press deters corruption.

The World Development Report (1997) focuses on the quality of the judiciary. They find that while controlling for other explanatory variables, an index

of the predictability of the judiciary significantly influences the level of corruption in 59 countries. A similar correlation between corruption and the independence of the judicial system is proposed in Ades and Di Tella (1996).

Using a form of democracy index, Paldam (1999a) and Treisman (2000) test the impact of democracy on corruption. Paldam (1999a) argues that the effect of the democracy on corruption is ambiguous, whereas Treisman (2000) argues that while the current degree of democracy is not significant, a long period of exposure to democracy lowers corruption.

Rauch and Evans (1997) investigate the impact of merit-based recruitment on corruption. In the index they created, the higher values of merit are associated with a bigger proportion of higher-level officials that posses a university degree or that has passed an entry examination for the position. They find that the level of merit-based recruitment negatively affects corruption. On the other hand, Rijckeghem and Weder (1997) examine to what extent the level of public sector salaries is linked to the amount of corruption. They argue that low salaries force public servants to supplement their incomes illicitly, while high salaries mean higher losses if a public servant gets caught.

Lambsdorff (1999) argues that some societies are characterized by a high level of trust among its people, while others may lack this. La Porta et al. (1997) dispute that trust can be helpful in fighting corruption, since it helps bureaucrats to better cooperate with each other and with private citizens. La Porta et al. (1997) also examine the role of religion in contributing to the level of corruption. The authors report a positive association between the percentage of population

belonging to a hierarchical religion and corruption, controlling for other influences, for a sample of 33 countries. Hierarchical religions are defined as Catholic, Eastern Orthodox and Islamic and as such are detrimental to civic engagement, a factor which should help reduce corruption. Additionally, Treisman (1999) suggests a corruption regression on the percentage of Protestants in the total population in a sample of up to 64 countries and obtains a highly significant negative impact of this index on corruption.

Besides, gender, as another dimension of culture, is investigated by Swamy et al. (1999) and Dollar et al. (1999). The authors determine the percentage of women in the labor force and in the parliament. Both indicators negatively impact the level of corruption in a cross-section of up to 66 countries. The influence is large in magnitude, highly significant and robust throughout a large variety of regressions.

Treisman (2000) finds that former British colonies exhibit lower levels of corruption compared to other countries in the region, controlling for the level of income per head and various other variables, for example the existence of a common law legal system, which is also reproduced by Swamy et al. (1999). Yet, in countries where natural resources are abundant (e.g. former colonies) opportunities for rent-seeking behavior seem to be created and give rise to corruption (Leite and Weidemann 1999).

Mauro (1995) suggests a strong connection between bureaucratic efficiency, which is an average of corruption, red-tape and judiciary system indices, and political stability. He groups the countries as in Figure 1 and argues

that despite some outliers most of the countries lie near or on the diagonal, which points to a positive correlation between corruption and political instability.

Figure 1: Bureaucratic Efficiency *and* Political Stability

Bureaucratic efficiency (increasing ↓)	Political stability (increasing →)				
	5th quintile	*4th quintile*	*3rd quintile*	*2nd quintile*	*1st quintile*
5th quintile	Ghana Iran Liberia Pakistan Philippines Thailand Zaire	Bangladesh Haiti Mexico Nigeria	INDONESIA	EGYPT	
4th quintile	Colombia	Ecuador India Kenya Morocco	Algeria Brazil Jamaica Portugal Venezuela	GREECE SAUDI ARABIA TURKEY	
3rd quintile	ANGOLA IRAQ NICARAGUA PERU	Spain Sri Lanka	Argentina Dominican Republic Korea Panama Trinidad/Tobago	Italy Ivory Coast	
2nd quintile	ISRAEL	CHILE SOUTH AFRICA ZIMBABWE	Ireland Jordan	Germany Kuwait Malaysia Taiwan	Austria France Uruguay
1st quintile				Australia Belgium Denmark New Zealand United Kingdom	Canada Finland Hong Kong Japan Netherlands Norway Singapore Sweden Switzerland United States

Source: Mauro (1995)

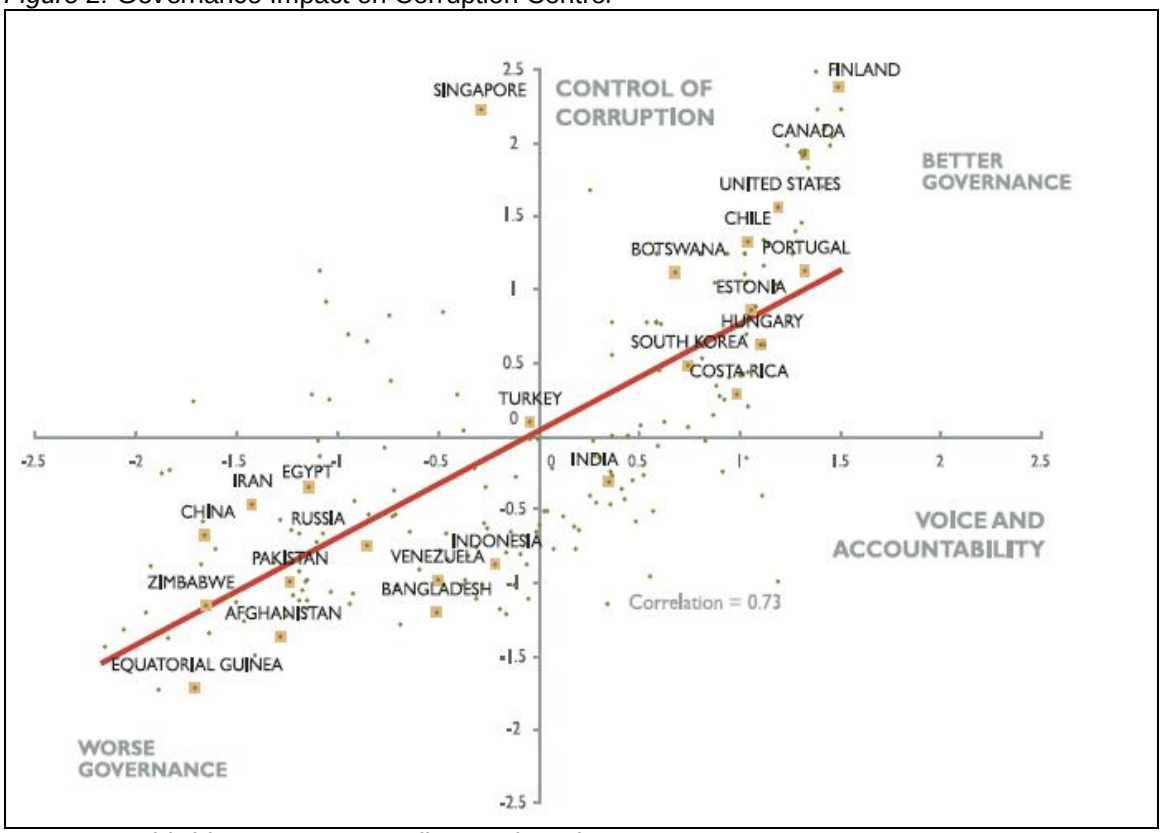
Shleifer and Vishny (1993) agree with this view, stating that more politically unstable countries suffer more from corruption. Rauch and Evans (1997) suggests a similar association arguing that political stability would offer a longer time horizon for the bureaucratic servants, together with the opportunities of promotion and pay rise and alike, so that the bureaucrats will be less inclined to try to exploit corruption benefits. On the other hand, Treisman (2000) finds different signs of correlation, which are all insignificant in the end.

Having seen that the effect of political instability on corruption is not well clarified and there is no theoretical study modeling this relationship, our aim is to question the sign of the association between the two phenomena, and then to model the relationship theoretically. As a result, this paper contributes to the literature first giving some additional view on the correlation of the two, based on the results form data analysis, and second, presenting a simple formal model where the relation is demonstrated under certain assumptions.

3. Data Analysis

In this section, we will begin by describing and discussing our data set and the corresponding variables. Then, in the subsequent section we will turn our attention to the estimation results. Results will be presented and brief comments on the results for control variables will be followed by a more thorough discussion on the focus of our interest, which is the correlation between corruption and political instability/ stability. The outcome of the estimations for this relation will be presented and the results will be interpreted and discussed.

Figure 2: Governance Impact on Corruption Control



Source: Worldwide Governance Indicators (2007)

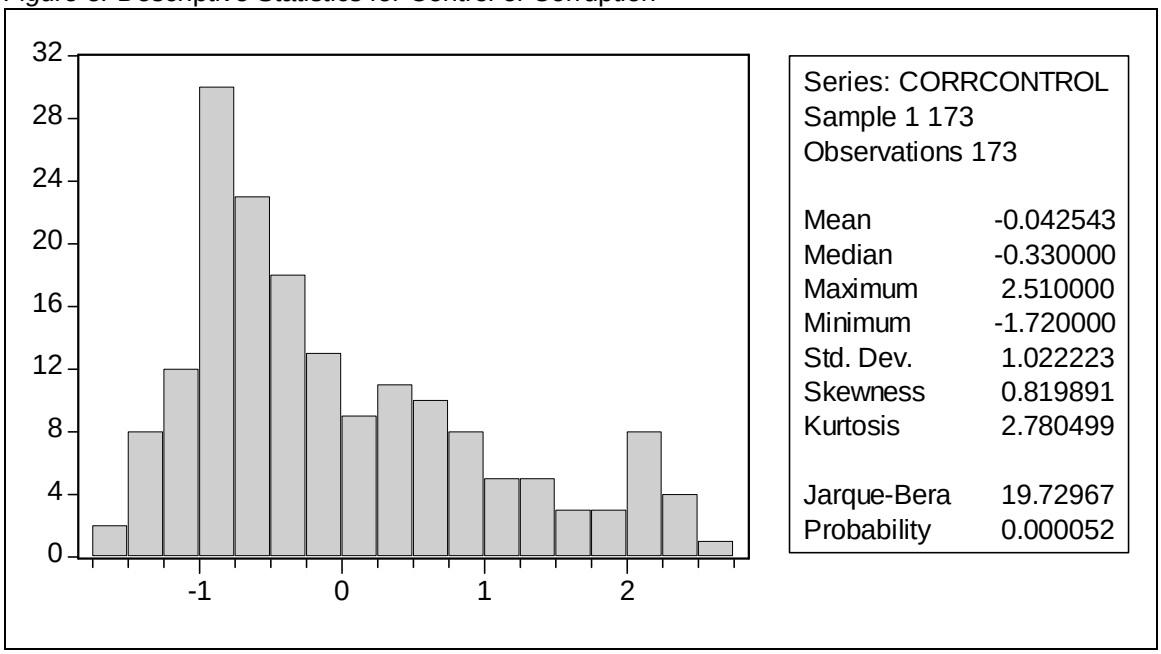
Firstly, our data include aggregate indicators of a group of six dimensions of governance, namely, control of corruption, political stability, voice and accountability, government effectiveness, regulatory quality and, rule of law. We believe that better governance practices have an important effect on the developmental achievements of the states. Considering our focus on corruption, when better governance is put into practice, corruption is confronted much more solidly (Figure 2).

Additionally, these six indicators are constructed by Kaufmann et al. (2006) using the unobserved components methodology. The six governance indicators are measured in units ranging from about -2.5 to 2.5, with higher values corresponding to better governance outcomes. The governance indicators presented reflect the statistical compilation of responses on the quality of governance given by a large number of enterprises, citizens and expert survey respondents in industrial and developing countries, as reported by a number of survey institutes, think tanks, non-governmental organizations, and international organizations. The dataset is cross-country for 173 countries, all values are for the year 2004, and has been acquired from Worldwide Governance Indicators studies.

Control of Corruption is introduced as our dependent variable to capture the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as the “capture” of the state by elites and private interests. Having seen that the data set for the control of corruption reveals many low scores on the control of corruption and a negative mean and a

median, one can understand once more the severity of the corruption problem, how pervasive it is around the globe, and consequently that it is worth investigating (Figure 3).

Figure 3: Descriptive Statistics for Control of Corruption



Political Stability stands for the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism. Political stability is our explanatory variable on focus. An investigation of the corresponding literature reveals the following. Mauro (1995) argues that corruption is reported as a more serious problem in politically unstable countries. Shleifer and Vishny (1993) models the idea that a very harmful type of corruption will exist in the countries where government is weak and unstable. They argue that under such a government, entrepreneurs may end up bribing several authorities but still may not get the right to proceed with their project. Additionally, Rauch and Evans

(1997) argue that under a politically stable system officials would have longer time horizons, with a longer career opportunity in the office and with the possibility of a promotion, during which they will be less inclined to corruption. On the contrary, the evidence provided for the effect of political stability on corruption by Treisman (2000) appears to be statistically insignificant. Besides, it is argued that the time provided by political stability for the private and the public to fortify their reputation and relationships would give the opportunities for the engaged parties to better organize their corruption and enjoy larger benefits.

Variable Voice and Accountability is measured to capture political, civil and human rights. It reflects the extent to which a county's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. For various reasons, the exposure of corrupt abuses would be higher in a society where freedom of press and freedom of association is higher; this way the enhanced voice and accountability will help improve corruption control (For example see Diamond and Plattner, 1993). This variable can also be considered as a proxy for democracy scores, which will lead to lower corruption.

The Index of Government Effectiveness reveals the quality of public services, the quality of the civil service and the degree of its independence from political pressure, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Putnam (1993) shows that in Italy lower governmental effectiveness occurs where measures of

generalized trust is lower, and accordingly, increased government effectiveness may bring an improvement in the control of corruption.

Regulatory Quality tells us the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. One can easily think of a possible relation between private sector advancement and reduced corruption opportunities for public sector. As the size of the public sector shrinks due to private sector enhancement, the size and the reach of the transactions by the public sector will be diminished; as a consequence, the possibilities and the amount of gains from corrupt transactions will decrease.

Rule of Law makes known the extent to which agents have confidence in and abide by the rules of the society, and in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence. Advanced rule of law increases the cost of corruption for bureaucrats, since it strengthens the legal set-up that may boost the probability of getting caught and punished for corruption. Besides, due to the fact that property rights are better protected under advanced rule of law, there will be less room left for corrupt acts.

Secondly, Treisman (2000) argues that increased level of economic development will strengthen the spread of education, literacy and depersonalized relationships each of which would raise the probability of a misuse being detected and challenged. Treisman (2000) and Paldam (1999) provide evidence that causation runs from economic development to lower corruption, and GDP

per capita seizes a strong explanatory power for a range of corruption indicators. Therefore, using GDP per capita as a proxy for the level of economic development might prove to be useful. The dataset for GDP per capita has been acquired from the UNDP Human Development Report 2006 database.

Thirdly, La Porta et al. (1999) argue that a common law legal system is associated with superior government practices and increased property rights. Since superior judicial and governmental practices may strongly affect the extent of corruption and may mean less corruption, we added a dummy variable for the countries whose law system is based on common law system.

Fourthly, Rose- Ackerman (1999) argues that trade liberalization may bring in more competition and as a result, play a role in reducing rent-seeking opportunities. Ades and Di Tella (1999) and Treisman (2000) have found evidence that countries that are more open to trade tend to be less corrupt; however it is hard to determine the direction of causation and the findings are not as robust for us to be fully confident about the results. Nonetheless, we include a trade variable, which is the summation of exports and imports as the shares of GDP, as a proxy for openness to trade. The dataset has been acquired from the UNDP Human Development Report 2006 database.

Lastly, Mauro (1995) provides evidence that there is a negative and significant correlation between ethno-linguistic fractionalization and institutional efficiency. He argues that as bureaucrats favor members of their group, ethno-linguistic fractionalization will lead to worse corruption. In addition, Shleifer and Vishny (1993) suggest that more homogeneous societies are more prone to joint

bribe maximization, which is a less harmful type of corruption than non-cooperative bribing. The fact that in ethnically divided societies cheap information is provided and even internal sanctions are put into force for those who betray their co-ethnics is shown by Fearon and Laitin (1996). Corrupt contracts are secured through this type of enforcement mechanisms. Based on these arguments, we use ethno-linguistic fractionalization indices from 1961 to 1985 and expect to have an improvement in our analyses (Roeder 2001).

4. Estimation

Multiple OLS regressions are used to investigate the data, where variables capturing a wide range of theoretically sensible determinants are simultaneously included with the expectation of reducing omitted variable bias.

Many of the variables may seem to one as endogenous. They might cause corruption but also corruption might cause them. For instance, a low level of economic development may be favorable for high levels of corruption, whereas corruption itself may hinder development and make the country trapped in low economic development levels. Not only trade liberalization may increase competition and restrain corruption but also corrupt officials may restrain openness to trade by creating trade barriers. To correct the problem of endogeneity, one should use suitable instrumental variables. An instrumental variable that is highly correlated with the endogenous independent variable but not directly related to the dependent variable would be a good fit. Regrettably, we were not able to find a reasonably convincing instrumental variable. This renders some of our results dubious, but does not totally falsify them.

Certainly, there are no objective data on the extent of corruption. Data always may include subjective misperceptions, misinformation and measurement errors. To overcome possible inconsistencies, at least to a certain extent, we did our robustness control using another set of data for our dependent variable. Using different data sets may serve as useful robustness checks. We examine an index of perceived corruption, namely, the Corruption Perception Index

compiled by Transparency International for the year 2004, instead of the Control of Corruption Index. While perceptions should never be confused with reality, the given consensus provides some confidence that the perceptions gathered are informative for actual levels of corruption. For consequent robustness tests we ran the same set of regressions for the Corruption Perception Index. This way, our results are confirmed to an important extent and proved to be robust.

The summary of the variables is as below.

Table 1: Summary of the Variables

Corrcontrol: Control of Corruption
Corruptionindex: Corruption Perception Index
Stability: Political Stability
Ruleoflaw: Rule of Law
Voice: Voice and Accountability
Quality: Regulatory Quality
Effectiveness: Government Effectiveness
GDP: GDP per capita
Commonlaw: Dummy for Common Law Countries
Ethnoling: The Variable for Ethno-linguistic Fractionalization
Trade: Trade Volume as Percentage of GDP

After having run various regressions, we present the relevant results in Table 2 on which the following analysis rests. We begin by using Control of Corruption as our dependent variable and run the following regressions accordingly.

First, we start using the explanatory variables that are meant to measure governance matters, namely, Political Stability, Rule of Law, Voice and Accountability, Regulatory Quality and, Government Effectiveness. Then, we include some other allegedly important control variables, which can be listed as GDP per Capita, Common Law Country Dummy, Ethno-Linguistic

Fractionalization and Trade Openness. While running regressions on a range of new variables, we treat the former variables depending on their prior significance levels.

Table 2: Dependent variable – Control of Corruption

corrcontrol	**1**	**2**	**3**	**4**	**5**
stability	**-0.011425**	**-0.013567**	**-0.013071**	**-0.010316**	**-0.008617**
	[0.037979]	[0.034834]	[0.035184]	[0.036101]	[0.040538]
ruleoflaw	*0.717956	*0.687836	*0.687455	*0.734266	*0.68098
	[0.088751]	[0.08094]	[0.081242]	[0.084862]	[0.088514]
voice	-0.022255				
	[0.036323]				
quality	-0.043722				
	[0.056615]				
effectiveness	*0.362718	*0.282803	*0.282003	*0.234611	*0.287054
	[0.089268]	[0.071162]	[0.071686]	[0.075756]	[0.081426]
GDP		*0.0000055	*0.0000055	*0.0000062	5.80E-06
		[0.00000324]	[0.00000325]	[0.00000333]	[0.0000038]
commonlaw			0.008723		
			[0.073138]		
ethnoling				*0.1244	
				[0.076782]	
trade					-0.000191
					[0.000473]
Constant	0.012549	-0.045311	-0.045932	*-0.111562	-0.029927
	[0.020027]	[0.039001]	[0.039461]	[0.055754]	[0.056998]
R^2	0.945392	0.945853	0.945858	0.946109	0.945941
N	173	173	173	161	173

*Values in brackets are standard errors. Values with an * are significant for at least 10% level.*

Contrary to our expectations, Regulatory Quality and Voice and Accountability turned out to have a negative sign, which would mean that if we increase the score of these two governance indicators, there is a worsening in the control of corruption. On the other hand, both indicators seemed to be insignificant in most of the regressions that we have run. Hence, the ultimate

effect is still far from being unambiguous. This kind of result can primarily be attributed to some sort of measurement error. Otherwise, it does not help us much to have improved outcome for our focus variable, political stability.

Our findings for Rule of Law are positive for all of the regressions and are in line with former studies and evidence in the literature. Every coefficient on rule of law is significant and its magnitude is important. One standard deviation improvement in the score of rule of law measure would lead to an increased score of corruption control by between 0.67 and 0.72 points. Such an increase would be quite important in the fight against corruption. To illustrate, one standard deviation increase in the rule of law score of Morocco will make them have a higher score in corruption control than Italy does.

Government Effectiveness is another variable which has a positive significant impact in all of the regressions. Although its magnitude is not as big as rule of law, it still affects corruption control to an important extent. One standard deviation improvement in the government effectiveness score will improve the corruption control by 0.22 to 0.36, which would make Guam as good as Hungary in fighting corruption.

GDP per Capita also appears to be a statistically significant factor in almost all our regressions; the impact coefficient is fairly small, though. It has a positive estimate; however, we cannot confidently say that it has a strong effect. Moreover, as discussed earlier, the direction of causation is still an open question, which renders our results on GDP per capita uncertain.

While some evidence has been provided by other authors that Common Law based legal systems are more effective in fighting corruption, our results do not strongly support this argument. Nevertheless, the coefficient on the common law dummy is still positive, though insignificant, which gives a hint about the effect in accordance with the literature.

Ethno-Linguistic Fractionalization seems to be a much stronger indicator than the GDP per capita level, but not as strong as the rule of law or government effectiveness. Since the coefficient is positive and statistically significant, our finding here is the opposite of the evidence provided in the literature. Our finding suggests that increased ethno-linguistic fractionalization may increase the control of the corruption score, whereas other authors' findings provided above claim the opposite. On the other hand, since the significance level is just at the threshold in Table 2, and regressions run with the corruption perception index in Table 3 do not give statistically significant results, our counter-evidence result here is not very robust. Yet, it is still robust enough to raise some question marks about the argument provided in the literature.

Unlike the recommendations given by some authors on Trade Openness, our results in this work do not support that sort of argument. The sign of the estimate is negative, and consequently, suggests that increased openness to trade will diminish corruption control. Yet, our results are not statistically significant.

Table 3: Dependent variable – Corruption Perception Index

Corruptionindex	**1**	**2**	**3**	**4**
stability	**-0.034868**	**-0.01132**	**-0.01027**	**-0.037223**
	[0.107697]	[0.10884]	[0.109952]	[0.11261]
ruleoflaw	*1.053165	*1.051048	*1.109377	*1.054632
	[0.239475]	[0.260617]	[0.239356]	[0.262866]
voice				
quality				
effectiveness	*0.836651	*0.783824	*0.792088	*0.837076
	[0.216662]	[0.246829]	[0.22009]	[0.244572]
GDP	*0.000027	*0.000028	*0.000025	*0.000027
	[0.000013]	[0.0000101]	[0.000013]	[0.0000103]
commonlaw		0.262243		
		[0.211269]		
ethnoling			0.095198	
			[0.21798]	
trade				8.00E-05
				[0.001109]
Constant	*3.795751	*3.771234	*3.7629	*3.789537
	[0.150683]	[0.124018]	[0.198959]	[0.15024]
R^2	0.916575	0.917509	0.917265	0.916578
N	142	142	137	142

*Values in brackets are standard errors. Values with an * are significant for at least 10% level.*

Before going on further with the discussion of Political Stability variable, we will briefly discuss Table 3. The results in Table 3 are provided for a robustness check. Similar regressions as in Table 2 are run also for Table 3, but this time as a dependent variable the Corruption Perception Index is used rather than the Control of Corruption Index. We can comfortably say that our results provided in Table 2 are fairly robust, due to the fact that the results provided in Table 3 almost fully support our previous findings. Merely the exception of ethno-linguistic fractionalization stands out in Table 3 as an insignificant factor, whereas

Table 2 presented it as a significant one. However, the discussion above on ethno-linguistic fractionalization already suggested that its robustness is suspicious; since it cannot reasonable counter-argue the evidence and argument provided in the literature.

Finally, after analyzing our control variables we turn to our interest variable, political stability. Even though it appears to be insignificant, the negative sign of the political stability index is very persistent. In all of the regressions run, the sign of the political stability estimate showed to be negative. This may lead us to think that politically more stable countries have a weaker control of corruption. This definitely counter-argues the literature view. As presented above, Mauro (1995) and Shleifer and Vishny (1993) argue that political instability is positively correlated with corruption and the more politically unstable a country is the more it suffers from corruption. Rauch and Evans (1997) agrees with them and puts forward that politically stable states will create less corrupt agents in the system due to the incentives that come from career opportunities and an increased time horizon.

Whether one sees this relationship one way or other, our findings are plausible enough to feel uncomfortable about the issue and raise some serious questions. The following arguments can be suggested to support our findings. We can think of a politically stable system as a long enough time span during which public and private parties can develop strong confidence for each other; thus, while potential loss of getting fired increases, the expected benefits from corruption also increases. Additionally, through such channels they solve the

coordination problem. These strong ties that are created between officials and certain special interest groups can bear huge corruption gains for both sides. Accordingly, one can imagine that in case of a government change, incoming power will have great aspirations to reform previously entrenched corruption schemes set up by its predecessors. Under such a circumstance, political instability would end up decreasing corruption instead of fostering it.

Furthermore, if we think of the endogeneity between corruption and political instability, another supportive argument can be provided. Corruption itself could prompt public unrest and could urge the public to protest and challenge the incumbent regime for a change for a better one. This form of political instability demonstrates that the relation between corruption and political instability could be negative. At this point, we would like to end this part of our analysis with important examples that come from Mauro (1995). He discusses that Indonesia under the rule of President Suharto was relatively politically stable, but the private agents in the economy were reported to be burdened with cumbersome, corrupt bureaucracy. This makes one wonder if such regimes can be considered politically stable, or which definition applies. Additionally, despite their relatively non-corrupt bureaucracy, Peru and South Africa were suffering from political instability because of a fragile democracy, social violence and racial tensions, active trade unions, respectively.

5. The Model

In this section, we turn our attention to the formal examination of our previous findings from the data and try to explain the formerly found relationship between corruption and political instability with a simple mathematical model. The model is as follows.

A single government-produced good, e.g. license is provided by the government officials. The monopolist government officials are assumed to be homogeneous, for which we study one representative official. There is a public demand for the government good, defined by the following inverse demand function:

$$p\{q\} = a - bq; \tag{1}$$

where *a* and *b* are positive constants, *q* is the quantity of government goods given out by the representative official, and *p* is the price paid for the government good.

The official could sell the permits with or without theft, as described in Shleifer and Vishny (1993). The basic idea of corruption with theft is that the official does not turn over anything from the bribe he gets to the government, hides all his corrupt transactions and keeps the benefit for himself. In other words, the officials steal the government goods from the government by selling the goods without government notice and reaping the gains. Shleifer and Vishny (1993) argue that in the case of corruption with theft, one can see that both

parties, bribers and bribees, are satisfied and may reach their equilibrium under such conditions. Bribees are content with getting all the benefit from corruption and bearing zero marginal costs, whereas bribers are content with paying a bribe level which is supposedly even lower than the official price level. Bribers do not expose officials to the monitoring authorities, since they pay a bribe lower than the actual price level, hence the spread of corruption will be much larger than the spread of corruption without theft. Here, considering the equilibrium structure of the corruption, the fact that it would not change the results of our focus and for the sake of simplicity, we take the case under which an official does not pass on anything to the government. For this reason, *p* is the same as per unit bribe.

5.1. Maximizing Gain from Corruption under Certainty

To be able to analyze what happens under uncertainty, which in this case is in the form of political instability, and weigh it against the outcome under certainty, we set up a two-period model. Building up the model on multiple periods might give some additional insight but would not change the implications of the results. Our focus is to see what happens to the price/ bribe behavior of the official with a future uncertainty.

First of all, under certainty we write down the baseline model as follows. Superscript *"1"* denotes our first case scrutinized under certainty and subscripts are to denote first and second periods, respectively:

$$\Pi^1 = \Pi_1^1 + \Pi_2^1 = \left[a - bq_1^1\right]q_1^1 + \left[a - bq_2^1\right]q_2^1; \tag{2}$$

where Π^1 stands for the two-period total profit under certainty, which is the sum of the profits from the first and the second periods, Π_1^1 and Π_2^1 respectively, and q_1^1 is the amount of the licenses delivered in period one, whereas q_2^1 is the amount of the licenses delivered in period two. First-order conditions for profit maximization give us:

$$q_1^1 = q_2^1 = \frac{a}{2b},$$

$$p_1^1 = p_2^1 = \frac{a}{2},$$

$$\text{hence; } \Pi_1^1 = \Pi_2^1 = \frac{a^2}{4b} \Rightarrow \Pi^1 = \Pi_1^1 + \Pi_2^1 = \frac{a^2}{2b}.$$

5.2. Maximizing Gain from Corruption under Uncertainty

Secondly, we consider the case where the official is exposed to the uncertainty of losing his office, which comes from the existence of political instability. At the beginning of the first period, every homogeneous bureaucrat determines how to arrange his two-period bribe collection system for his own private benefit and how high the price level, correspondingly bribe level, levied should be. The government official deciding on the level of price/ bribe charged, and consequently, on the quantity sold is well aware that with some probability he will not hold the office in the next period. We assume that the likelihood for the official to lose the office depends on political instability, which is defined here as government turnover. In the case of a government change, the incumbent official

is ousted from the office and is replaced by the personnel assigned by the new government. Subsequently, we define the probability of losing office post as follows:

λ = probability of government turnover, representing political instability.

We assume that the corrupt behavior of the officials has an endogenous impact on the probability of the government turnover. Considering that the corrupt practices observed in the governmental proceedings may urge public protests and challenges for the incumbent regime, this assumption seems to reflect the reality to an important extent. In fact, political scandals in countries across the globe have sparked public outrage against corruption in recent years, and in dozens of countries discredited governments have been forced out of office (Treisman, 2000).

Assuming a Leontief type production function for the producers who are in need of the government licenses is in line with what the actuality reflects, and it reveals producers' capability of producing as a function of the licenses they have got, and the incapability that without licenses they cannot continue production (See Jehle and Reny, 2000 for a more detailed discussion). From the inverse demand function $p\{q\} = a - bq$ we can write $q = \frac{a}{b} - \frac{p}{b}$. By aggregating this level provision to the overall economy level we can write that

$$Y = \frac{a}{b} - \frac{p}{b}; \tag{3}$$

where Y is the overall level of the provision of licenses.

Since we assumed a Leontief type of production function, this aggregation for overall license level also reflects the overall production level of the producers in the economy.

Here, the endogeneity of the probability of the government turnover works as it has been the case in many economies. When there is a slump in the economy, the dissatisfaction of the general public increases, leading to a political and economic turbulence in the society, which might ultimately force the government to step down or, in the worst case, let the army intervene. The notion that there is a link between the state of the economy and the political fortunes for the incumbent ruler is supported to a large extent (Kramer, 1971; Tufte, 1977). Accordingly, the probability of the government turnover has a positive correlation with the unrest in the society, which is affected negatively by the economic performance. Hence the mathematical notation would be:

(4) $$\frac{\partial \lambda}{\partial Y} < 0 \text{ which in turn leads to } \frac{\partial \lambda}{\partial p} > 0.$$

Therefore, we can write the probability of government turnover as a function of *p*. We assume that the public is myopic, so that their dissatisfaction is not permanent and is just affected by the previous periods' outcomes. This assumption makes sense looking at the general electoral behavior of the voters. Hence, the current period's probability of government turnover is affected by the previous periods' prices, and the corresponding notation is:

(5) $$\lambda_t = \lambda_t \{p_{t-1}\} \text{ and } \frac{\partial \lambda_t}{\partial p_{t-1}} > 0$$

The expected two-period-profit will include the probability of government turnover, in which case the official will lose his office and will get zero profit. Government officials determine their optimal two-period expected profit knowing that their price decisions in the first period have an impact on their future tenure in the office, superscript *"2"* denoting the second case scrutinized under uncertainty and subscripts are denoting the first and second periods, respectively:

(6) $$\mathrm{E}[\Pi] = \Pi^2 = \left(a - bq_1^2\right)q_1^2 + \lambda\left\{p_1^2\right\} \times 0 + \left(1 - \lambda\left\{p_1^2\right\}\right)\left(a - bq_2^2\right)q_2^2;$$

where $p_1^2\left\{q_1^2\right\} = a - bq_1^2$.

(7) $$\frac{\partial \mathrm{E}[\Pi]}{\partial q_2^2} = \left(1 - \lambda\left\{p_1^2\right\}\right)\left(a - 2bq_2^2\right) = 0 \Rightarrow q_2^2 = \frac{a}{2b} \text{ and } p_2^2 = \frac{a}{2} = p_2^1$$

(8) $$\frac{\partial \mathrm{E}[\Pi]}{\partial q_1^2} = a - 2bq_1^2 - \lambda'\left\{p_1^2\right\}\left(-b\right)\left(a - 2bq_2^2\right)q_2^2 = 0$$

Plugging the result from (7) for q_2^2 into the q_1^2 equation in (8), we find that:

(9) $$q_1^2 = \frac{a}{2b} + \lambda'\left\{p_1^2\right\}\frac{a^2}{8b} \Rightarrow q_1^2 = q_2^2 + \lambda'\left\{p_1^2\right\}\frac{a^2}{8b}$$

Plugging q_1^2 into the inverse demand function, we find out that:

(10) $$p_1^2 = \frac{a}{2} - \lambda'\left\{p_1^2\right\}\frac{a^2}{8} \Rightarrow p_1^2 = p_1^1 - \lambda'\left\{p_1^2\right\}\frac{a^2}{8}$$

As a consequence, we determine that the second period per-unit bribe under uncertainty is the same as under certainty, whereas the first period per-unit

bribe under uncertainty declined, since it is equal to the first-period price under certainty minus a positive amount.

From these findings we can calculate the gains of the official in the first period under uncertainty:

$$(11) \qquad \Pi_1^2 = \frac{a^2}{4b} - \left(\lambda' \left\{ p_1^2 \right\} \frac{a^2}{8} \right)^2 \frac{1}{b} \Rightarrow \Pi_1^2 = \Pi_1^1 - \left(\lambda' \left\{ p_1^2 \right\} \frac{a^2}{8} \right)^2 \frac{1}{b}$$

by which we demonstrate that the gains from bribery under uncertainty is equal to the gains from bribery under certainty minus a positive amount, which makes us conclude that there is an overall decline in the level of corruption gains in the case of an uncertainty, correspondingly political instability. Therefore, our results show that under the threat of political instability and possible government change, both per-unit bribe and the aggregate level of bribes fall. This finding is in accordance with and justifies the empirically suggested direction of the correlation between corruption and political instability in our data investigation, and the following comments.

6. Concluding Remarks

Corruption and political instability, two very detrimental factors to economic and social development, are endemic in many countries. Corruption scandals have toppled governments in both industrial and developing countries. In the transition countries, the shift from command economies to free market economies has created massive opportunities for the appropriation of rents and has often been accompanied by a change from a well-organized system of corruption to a more chaotic and deleterious one. At the beginning of our paper we illustrated this with the results of some of the studies on the severe consequences of corruption on the economy.

Furthermore, there is a flurry of research on the causes of corruption. Lack of competition, economic development, state intervention, and political instability are among the frequently referred causes of corruption. Our aim in this thesis was to understand how the corrupt behavior of the officials is shaped in case of political instability.

For this purpose, we first analyzed the effect of political instability on corruption, out of which we gained some insights for our formal model. The data provided that the correlation between political instability and corruption is not necessarily positive. Although the results were not significant, the sign of the relation was so persistent that it created doubts about the common view on the corruption and political instability relationship.

Having gained curiosity and suspicion from the results that we got from the data, we tried to mathematically model how a corrupt official behaves when political instability is the case. We constructed a two-period model and found out that under the uncertainty that stems from political instability, the pricing behavior of the monopolist corrupt official is so that overall the corruption gain that goes to the official decreases. Our finding from the theoretical model that corruption drops when there is political instability is in accordance with the questions created due to our data inspection.

Certainly, there is still room to further advance this study. More realistic assumptions can add depth to the model. Instead of leaving the government out, the interaction between the government and the officials can be investigated. Another improvement could be not to assume every official to be corrupt, but to assume that some fraction is non-corrupt, which reflects reality better. To have an insight into policy reform, one can introduce competition into the model and try to determine what happens when the officials are competitive instead of being monopolies. Also, some more attention can be devoted to the determination of the probability of political instability. One suggestion can be, as it is commonly argued in the literature, that the surge of the probability of political instability comes from the surge in the income inequality in the society. One could try to model the society as two distinct groups, rich and poor. Assuming that there is a threshold for the bribe level above which poor cannot afford it, and that the gap between rich and poor widens, which leads to more socially and politically unstable economies, might prove to give some valuable hints.

There is a much do in the realm of corruption studies. Although some significant elements are commonly known, the mechanisms that are specific to certain locations and the precise cures to root out corruption are still ambiguous. We believe that considering the consequences of the extent of corruption on the people, whether they are engaged in it or not, the disease deserves much more awareness of and concentration on the treatments. A very good example to comprehend the meaning and the relevance of this matter and why we should pay attention comes from Sharma (2006). He provides evidence that the lack of progress in economic development accompanied by *political instability, corruption and short sightedness of the ruling elite* have paved the way for a situation which ended in a civil war in Nepal.

References

Acemoglu, Daron and Verdier, Thierry. 2000. “The Choice Between Market Failure and Corruption.” *The American Economic Review*, 90: 194-211.

Ades, A. and Di Tella, R. 1995. "Competition and Corruption." *Draft Paper, Keble College, Oxford University.*

Ades, A. and Di Tella, R. 1996. "The Causes and Consequences of Corruption: A Review of Recent Empirical Contributions." *Liberalization and the New Corruption,* ed. by B.Harris-White and G. White, (Brighton: Institute of Development Studies Bulletin, 27): 6-12.

Ades, A. and Di Tella, R. 1997. "National Champions and Corruption: Some Unpleasant Interventionist Arithmetic." *The Economic Journal,* 107: 1023-1042.

Ades, A. and Di Tella, R. 1999. “Rents, competition and corruption.” *The American Economic Review*, 89: 982- 993.

Alesina, A. and Perotti, R. 1994. “The Political Economics of Growth: A Selective Survey and Some New Results.” *World Bank Economic Review,* 8: 351-371.

Banks A. 1987. *A Political Handbook of the World.* CSA Publications: SUNY-Binghamton, NY.

Bardhan, Pranab. 1997. “Corruption and Development: A Review of Issues.” *Journal of Economic Literature*, 35: 1320- 1346.

Brunetti, A. and Weder, B. 1998a. "A Free Press is Bad News for Corruption." *Wirtschaftswissenschaftliches Zentrum der Universität Basel Discussion Paper,* No. 9809.

Brunetti, A. and Weder, B. 1998b. "Explaining Corruption.” *Draft version. University of Saarland and University of Basel.*

Butkiewicz, L. James and Yanikkaya, Halit. 2005. “The Impact of Sociopolitical Instability on Economic Growth: Analysis and Implications.” *Journal of Policy Modeling*, 27: 629-645.

Diamond, L. and Plattner, M.F. 1993. *The Global Resurgence of Democracy.* Johns Hopkins University Press, Baltimore.

Dollar, D., Fisman, R. and Gatti, R. 1999. "Are Women Really the 'Fairer' Sex? Corruption and Women in Government." *Policy Research Report on Gender and Development, Working Paper Series, No. 4.* (Washington, D.C.: The World Bank).

Drazen, Allan. 2000. *Political Economy in Macroeconomics.* Princeton University Press, Princeton, New Jersey.

Fearon, J.D. and Laitin, D.D. 1996. “Explaining interethnic cooperation.” *American Political Science Review,* 90 (4): 715–735.

Fisman, Raymond. 2001. “Estimating the Value of Political Connections.” *The American Economic Review,* 91: 1095-1102.

Fisman, Raymond and Gatti, Roberta. 2002. “ Decentralization and Corruption: Evidence Across Countries.” *Journal of Public Economics,* 83 (3): 325-345.

Fisman, Raymond and Gatti, Roberta. 2002. “ Decentralization and Corruption: Evidence from U.S. Federal Transfer Programs.” *Public Choice,* 113 (1-2): 25-35.

Goel, R.K. and Nelson, M. A. 1998. "Corruption and Government Size: A Disaggregated Analysis." *Public Choice,* 97: 107-20.

Gupta, S., Davoodi, H. and Alonso-Terme, R. 1998. "Does Corruption Affect Income Inequality and Poverty?" *International Monetary Fund Working Paper*.

Henderson, D. R. 1999. "Power Corrupts - Editorial Comment.” *The Wall Street Journal,* April 19.

Huntington, Samuel P. 1968. *Political Order in Changing Societies.* Yale University Press: New Haven, CT.

Husted, B. 1999. "Wealth, Culture, and Corruption." *Journal of International Business Studies,* 30 (2): 339-60.

Jodice, D. and Taylor, D. 1988. *World Handbook of Social and Political Indicators.* Yale University Press: New Heaven, CT.

Johnson, S., Kaufmann, D. and Zoido-Lobaton, P. 1998. "Regulatory Discretion and the Unofficial Economy." *The American Economic Review, Papers and Proceedings,* 538: 387-92.

Internet Centre for Corruption Research. 2006. http://www.icgg.org. (Accessed May 15 2007).

Jehle, Geoffrey A. and Reny, Philip J. 2000. *Advanced Microeconomic Theory.* The Addison-Wesley Series in Economics, USA.

Kangle, R.P. 1972. *The Kautiliya Arthasastra, Part 2.* U. of Bombay, Bombay.

Kaufmann, D. and Wei, S. J. 1999. "Does 'Grease Money' Speed up the Wheels of Commerce?" *National Bureau of Economic Research Working Paper* 7093, Cambridge MA.

Kaufmann, Daniel; Kraay, Aart and Mastruzzi, Massimo. 2006. "Governance Matters V: Governance Indicators for 1996-2005". *World Bank Policy Research.*

Keefer, Philip and Knack, Stephen. 1995. "Institutions and Economic Performance: Cross- Country Tests Using Alternative Institutional Measures." *Economics and Politics,* 7: 207-227.

Klitgaard, Robert. 1991. *Adjusting to Reality: Beyond "State versus Market" in Economic Development.* ICS Press, San Francisco: California.

Kramer, Gerald H. 1971. "Short-Term Fluctuations in U.S. Voting Behavior, 1896-1964." *The American Political Science Review,* 65 (1): 131-143.

Krueger, Anne O. 1974. "The Political Economy of the Rent-Seeking Society." *American Economic Review*, 64 (3): 291-303.

La Porta, R., Lopez-De-Silanes, F., Shleifer, A. and Vishny, R.W. 1997. "Trust in Large Organizations." *The American Economic Review, Papers and Proceedings,* 137 (2): 333-8.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W. 1999. "The Quality of Government." *Journal of Law,* Economics and Organization, 15: 222–279.

Lambsdorff, Johann Graf. 1999. "Corruption in Empirical Research - A Review." *Transparency International Working Paper.*

Leff, Nathaniel. 1964. "Economic Development Through Bureaucratic Corruption." *American Behavioral Scientist,* 8-14.

Leite, C. and Weidmann, J. 1999. "Does Mother Nature Corrupt? Natural Resources, Corruption, and Economic Growth." *International Monetary Fund Working Paper.*

Londregan, J. and Poole, K. 1990. "Poverty, the Coup Trap, and the Seizure of Executive Power." *World Politics,* 92: 1-24.

Mauro, Paolo. 1995. "Corruption and Growth." *Quarterly Journal of Economics,* 110: 681-712.

Mauro, Paolo. 1998. "Corruption and the Composition of Government Expenditure." *Journal of Public Economics,* 69: 263-279.

Murphy, Kevin M., Shleifer, Andrei and Vishny, Robert W. 1991. "The Allocation of Talent: Implications for Growth." *Quarterly Journal of Economics,* 503-530.

Paldam, M. 1999a. “The Big Pattern of Corruption: Economics, Culture and the Seesaw Dynamics”. Working Paper No. 1999–11, Department of Economics, University of Aarhus.

Paldam, M. 1999b. “Corruption and Religion Adding to the Economic Model”. Department of Economics, University of Aarhus, unpublished mimeo.

Persson, Torstten and Tabellini, Guido. 2000. *Political Economics: Explaining Economic Policy.* The MIT Press, Cambridge: Massachusetts.

Philip G. Roeder. 2001. "Ethno-linguistic Fractionalization (ELF) Indices 1961 and 1985." http//:weber.ucsd.edu\~proeder\elf.htm. (Accessed on May 15th 2007).

Posner, Richard A. 1975. “The Social Costs of Monopoly and Regulation.” *Journal of Political Economy*, 83 (4): 807-827.

Priks, Mikael. 2006. “Judiciaries in Corrupt Societies.” Center for Economic Studies, University of Munich, unpublished mimeo.

Putnam, R.D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy.* Princeton University Press: Princeton.

Rauch, J.E., Evans, P.B. 1997. *Bureaucratic Structure and Bureaucratic Performance in Less Developed Countries.* University of California: San Diego, Manuscript.

Rijckeghem, C. Van and Weder, B. 1997. "Corruption and the Rate of Temptation: Do Low Wages in the Civil Service Cause Corruption?" *International Monetary Fund Working Paper.*

Rose-Ackerman, Susan. 1978. *Corruption: A Study in Political Economy.* Academic Press: New York, NY.

Rose-Ackerman, Susan. 1999. *Corruption and Government: Causes, Consequences and Reform.* Cambridge University Press: Cambridge, UK.

Sachs, J. and Warner, A. 1995. "Economic Reform and the Process of Global Integration." *Broolings Papers on Economic Activity,* 1-118.

Sharma, Kishor. 2006. “The Political Economy of Civil War in Nepal.” *World Development,* 34: 1237-1253.

Shleifer, Andrei and Vishny, Robert. 1993. “Corruption.” *Quarterly Journal of Economics,* 108: 599- 617.

Snowdon, Brian and Vane, R. Howard. 2005. *Modern Macroeconomics: Its Origins, Development and Current State.* Edward Elgar Publishing Limited: Cheltenham, UK.

Svensson, J. 1998. "Investment, Property Rights, and Political Instability: Theory and Evidence." *European Economic Review,* 42: 1317-41.

Swamy, A., Knack, St., Lee, Y. and Azfar, O. 1999. "Gender and Corruption." *Draft Paper, IRIS Center, University of Maryland.*

Treisman, Daniel. 1999. "Decentralization and Corruption: Why are Federal States Perceived to be More Corrupt." *Paper prepared for the presentation at the Annual Meeting of the American Political Science Association, Atlanta. University of California, Los Angeles*.

Transparency International. 2007. "Corruption Perception Index." http://www.transparency.org/policy_research/surveys_indices/cpi/2006. (Accessed June 1 2007)

Treisman, Daniel. 2000. "The Causes of Corruption: A Cross National Study." *Journal of Public Economics, 76: 399-457.*

Tufte, Edward R. 1977. "Political Statistics for the United States: Observations on Some Major Data Sources." *The American Political Science Review,* 71 (1): 305-314.

Tullock, Gordon. 1967. "The welfare costs of tariffs, monopolies, and theft." *Western Economic Journal*, 5 (3): 224-232.

UNDP Human Development Report 2006 Database. 2007. http://hdr.undp.org/hdr2006/statistics/. (Accessed May 15 2007).

USAID. 1999. *A Handbook on Fighting Corruption.* Technical Publication Series, Center for Democracy and Governance.

Wei, S. J. 1998. *Corruption in Economic Development: Economic Grease, Minor Annoyance, or Major Obstacle.* Harvard University, Manuscript.

Worldwide Governance Indicators. 2007. http://www.govindicators.org. (Accessed May 15 2007).