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POLICY RESEARCH WORKING PAPER

Accountability and Corruption

Political Institutions Matter

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The results of a cross-country empirical analysis suggest that political institutions are extremely important in determining the prevalence of corruption: democracy, parliamentary systems, political stability, and freedom of the press are all associated with lower corruption.

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Summary findings

Using a cross-country panel, Lederman, Loayza, and Soares examine the determinants of corruption, paying particular attention to political institutions that increase political accountability. Previous empirical studies have not analyzed the role of political institutions, even though both the political science and the theoretical economics literature have indicated their importance in determining corruption.

The main theoretical hypothesis guiding the authors' empirical investigation is that political institutions affect corruption through two channels: political accountability

and the structure of the provision of public goods.

The results suggest that political institutions are extremely important in determining the prevalence of corruption: democracy, parliamentary systems, political stability, and freedom of the press are all associated with lower corruption. In addition, the authors show that common findings of the earlier empirical literature on the determinants of corruption—related to openness and legal tradition—do not hold once political variables are taken into account.

This paper—a product of the Office of the Chief Economist, Latin America and the Caribbean Region—is part of a larger effort to conduct research on pressing policy issues in the region. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Patricia Soto, room 18-018, telephone 202-473-7892, fax 202-522-7528, email address psoto@worldbank.org. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The authors may be contacted at dlederman@worldbank.org or nloayza@worldbank.org. November 2001. (37 pages)

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**Accountability and Corruption:
Political Institutions Matter**

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1 Introduction

Corruption is popularly regarded as one of the most serious obstacles to development. Recent econometric studies show that indicators of corruption are negatively correlated with important economic outcomes. Mauro (1995) and Burki and Perry (1998) claim that corruption reduces economic growth, via reduced private investment; Kaufman et al (1999) find that corruption limits development (per capita income, child mortality, and literacy); and Bai and Wei (2000) argue that corruption affects the making of economic policy. Even though specific methodologies may raise doubts about issues of causation, it is true that corruption is indeed negatively correlated with several crucial economic variables and, despite the presence of feedbacks, corruption seems to have independent effects of its own. Consequently, there is a real economic return to understanding and fighting corruption.

This study examines empirically the determinants of corruption, paying particular attention to political institutions that help determine the extent to which policymakers can be held accountable for the actions of their staff. Previous empirical studies have not analyzed the role of political institutions, even though both political science and economics theoretical literatures have indicated their importance. One of the main contributions of this paper is to show that the role of political institutions is indeed extremely important, and eclipses the effects of some variables that have received considerable attention in the previous empirical literature. In addition, this study uses a panel data set, which is also new in the literature.

The main theoretical hypothesis guiding our empirical investigation is that political institutions affect corruption through two channels: political accountability and the structure of provision of public goods. Political mechanisms that increase political accountability, either by encouraging punishment of corrupt individuals or by reducing the informational problem related to government activities, tend to reduce the incidence of corruption. Also, institutions generating a competitive environment in the provision of public services tend to reduce the extraction of rents, therefore reducing corruption.

The results show that political institutions seem to be extremely important in determining the prevalence of corruption. In short, democracies, parliamentary systems, political stability, and freedom of press are all associated with lower corruption. Additionally, we show that common results of the previous empirical literature on the determinants of corruption – related to openness and legal tradition – do not hold once political variables are taken into account.

The rest of the paper is organized as follows. Section 2 discusses the nature of corruption by, first, distinguishing corruption from other types of crimes, and, second, by characterizing corruption as a political phenomenon. Section 3 presents the data on corruption, discusses its potential limitations, and describes the empirical approach and selected variables. Section 4 discusses the specification of the model and the results. Section 5 concludes the paper by summarizing its main contributions to the empirical literature on the determinants of corruption.

2 The Nature of Corruption

2.1 Corruption as a Crime

There is no question that corruption is, before anything else, a type of crime. Therefore, it is reasonable to expect that factors determining the incidence of common crimes should also play an important role in determining the incidence of corruption, thus making corruption and other types of crimes highly correlated. Surprisingly enough, this is not the case. While the different types of “common” crimes are highly correlated across countries, none of the common crimes are significantly correlated with corruption. Table 1 shows the pair-wise correlation between crime rates, taken from the International Crime Victimization Surveys, and a corruption index, taken from the International Country Risk Guide, which are discussed in section 3 below. While the pair-wise correlations among rates of thefts, burglaries, and contact crimes are all positive and significant at the 1% level – ranging from 0.55 to 0.76 – the correlations among the corruption index and the crime rates are quite small and never significant, being even negative for thefts.

Table 1: Correlation Between a Corruption Index and Crime Rates

	Corruption	Burglary	Theft	Cont. crimes
Corruption	1			
Burglary	0.12 42	1		
Theft	-0.12 42	0.58*	1	
Cont. crimes	0.22 42	0.76*	0.55*	1

Notes: * - Significant at 1%. Number of observations below the correlations. Corruption index from the ICRG, 1999. Crime rates from ICVS, average for all years available.

This evidence suggests that factors distinguishing corruption from the other crimes, related precisely to its connections to government activities and authority, play an important role, which makes corruption a different phenomenon with its own characteristics and determinants. This was noticed as long ago as 1907, when Francis McGovern (1907, p266) wrote that

“Its [*corruption's*] advent in any community is marked by the commission of bribery, extortion and criminal conspiracies to defraud the public, without a corresponding increase in other unrelated crimes. Its going, likewise, is accompanied by no abatement in the usual grist of larcenies, burglaries and murder. It is, indeed, a unique and highly complex thing; an institution, if you please, rather than a condition of society or a temper or tendency of any class of individuals.”

To analyze the determinants of corruption, thus, we have to concentrate precisely on its “institutional” features. The political dimension of this point is immediately obvious. Political institutions, by determining the environment in which the relations between individuals and the state take place, are extremely important in determining the incidence of corruption. Ultimately, the political macrostructure – related to the political system, balance of powers, electoral competition, and so on – determines the incentives for those in office to be honest, and to police and punish

misbehavior of others, such that the effects are propagated throughout the system to the lower levels of government.

2.2 The Political Determinants of Corruption

The theoretical literature on the determinants of corruption has experienced a boom in the last decades, accompanying the increased interest in the topic in the media. A large part of this literature has concentrated on the impact of different institutional designs on corruption levels and on the political nature of corruption. Here, we selectively review this literature, with the goal of setting up a theoretical background to guide our empirical investigation. A broad review of the literature on corruption is contained in Bardhan (1997).

The problem of corruption in the public sphere is almost a natural consequence of the nature of government interventions. Transactions within the government always imply some asymmetry of information between the parts involved, and governments intervene precisely in situations where there are market failures, such that private provision is not a good alternative (Banerjee, 1997). In this context, corruption arises spontaneously as a consequence of the existence of rents and monitoring failures. The possibility of rent extraction and the precise nature of the informational problem depend on the political institutions, which determine the incentives facing individuals dealing with and within the state. Ultimately, these determine the responses of the political actors to corruption, and, thus, the equilibrium level of corruption.

These effects of political institutions on corruption work mainly through two channels. The first one is related to political accountability: any mechanisms that increase political accountability, either by encouraging punishment of corrupt individuals or by reducing the informational problem related to government activities, tends to reduce the incidence of corruption. The other one is related to the structure of provision of public goods: institutions generating a competitive environment in the provision of the same public service tend to reduce the extraction of rents, therefore reducing corruption *via* a straightforward economic competition mechanism. The following discussion further explores these two points.

Political Accountability and Corruption

The political science and economics literatures have extensively discussed the role of political accountability in generating good governance practices, and, particularly, in reducing corruption (see, for example, Fackler and Lin, 1995; Linz and Stepan, 1996; Nas et al, 1996; Bailey and Valenzuela, 1997; Persson et al, 1997; Rose-Ackerman, 1999; Djankov et al, 2001; and Laffont and Meleu, 2001). The central argument is that accountability allows for the punishment of politicians that adopt “bad policies,” thus aligning politicians’ preferences with those of the electorate. The degree of accountability in the system is determined, in turn, by the specific features of the political system. Three main features can be identified in this respect: the degree of competition in the political system, the existence of checks and balances mechanisms across different branches of government, and the transparency of the system.

The first point – political competition – has long been recognized as an important factor determining the efficiency of political outcomes (Downs, 1957). In brief, the simple existence of fair elections guarantees that politicians can, to some extent, be held liable to the actions taken while in public office (Linz and Stepan, 1996; Rose-Ackerman, 1999). Any institution that strengthens the harm imposed on politicians by the loss of elections will, therefore, enhance the force of this reward mechanism to control politicians’ behavior. Rules (or institutions) that lengthen politicians’ time horizons increase the force of elections as a reward device. The more the system biases politicians toward long-term goals, the higher are their incentives to stick to good governance. For example, political systems that allow for executive re-elections, or that make parties relatively stronger *vis-à-vis* candidates, should have fewer myopic politicians, and, therefore, less corruption (Linz, 1990; Linz and Stepan, 1996; Bailey and Valenzuela 1997; and Rose-Ackerman, 1999).

The second point relates to the existence of checks and balances mechanisms across different branches of power. Generally speaking, separation of powers, together with checks and balances mechanisms and the right incentives design, help prevent abuses of power, with different government bodies disciplining each other in

the citizens' favor (McGovern, 1907; Persson et al, 1997; Rose-Ackerman, 1999; and Laffont and Meleu, 2001). This can be true regarding the relations among the executive, legislative, and judiciary powers, and also regarding the relations among different levels of the executive power. For example, parliamentary systems allow for a stronger and more immediate monitoring of the executive by the legislature, which should increase accountability and, therefore, reduce corruption (Linz, 1990; Linz and Stepan, 1996; Bailey and Valenzuela, 1997). As long as it is not in the interest of one of the government branches to collude with the other branches, separation of powers creates mechanisms to police and punish government officials that misbehave, thus reducing the equilibrium level of corruption. Moreover, developing adequate checks and balances for particular contexts may take time, either as a result of an institutional learning process or because of some inertial feature of corruption (Tirole, 1996; Bailey and Valenzuela, 1997; and Treisman 2000). Political stability, in this case, is also an important factor determining the efficacy of the checks and balances mechanisms and the level of corruption.

The final point is related to transparency, which also increases the accountability in the system. Transparency depends crucially on the freedom of press and expression, and on the degree of centralization in the system. Freedom of press, so that right- and wrong-doings on the part of the government can be publicized, tends to reduce the informational problem between principals (citizens) and agents (governments), thus improving governance and, particularly, reducing corruption (Fackler and Lin, 1995; Rose-Ackerman, 1999; and Djankov et al, 2001). Evidence on the real importance of freedom of press for political outcomes is presented, for example, in Peters and Welch (1980), Fackler and Lin (1995), Giglioli (1996), and Djankov et al (2001). Transparency can also be affected by decentralization, since informational problems are smaller at the local level, which makes monitoring easier. Smaller constituencies facilitate the monitoring of the performance of elected representatives and public officials, and additionally reduce the collective action problems related to political participation. Thus, in this sense, decentralized political systems tend to have stronger accountability mechanisms and lower corruption (Nas et al, 1996; and Rose-Ackerman, 1999).

Structure of Provision of Public Goods

Corruption usually represents the extraction of a rent by someone who is vested with some form of public power. The political structure, besides determining the incentives for politicians to fight corruption, also determines the “market structure” of the provision of public goods, which determines the capacity of public officials to extract rents from citizens. These are constraints that the institutional design of the government imposes on officials and that affect the level of corruption in a strictly economic way, which is equivalent to the effect of market structure on price in a given industry.¹

When several government agencies provide exactly the same service, and citizens can freely choose where to purchase it, competition among agencies will reduce corruption. In the limit, competition may drive corruption to zero, just as perfect competition among firms drives price to marginal cost. This is the case of different bureaucracies providing substitute services, and without any control over each other or over the services provided by each other (Shleifer and Vishny, 1993; and Weingast, 1995).

The other extreme is when different government agencies provide complementary services. This occurs, for example, when different licenses have to be obtained to perform the same job, or different spheres legislate over the same activity. In this case, power is shared among different bureaucracies that extract rents from the same single source, without taking into account its effects on the others. This institutional set up increases corruption and the inefficiency of the system (Shleifer and Vishny, 1993).

These two structures can be associated with different types of decentralization of power. The first one refers to situations where, for example, several offices compete to issue the same license, so that each agency has lower monopoly power over “license emissions”, and, thus, corruption is lower. In its more intricate form, competition among public services providers refers to situations where different agencies compete for the same citizens or factors of production, and therefore their

¹ Therefore, the term “industrial organization of corruption” sometimes applies to this kind of analysis.

ability to extract rents is reduced by the possibility of migration of these constituents to other jurisdictions. The second structure, characterized by different agencies providing complementary services, can be produced by decentralization when different spheres of government are able to impose additional legislation on areas already legislated by each other, thus increasing the number of bureaucracies that citizens have to deal with to obtain a certain service.²

Decentralization will thus reduce corruption as long as power is decentralized into units that can substitute (or compete with) one another and that do not have overlapping responsibilities. In practice, political decentralization, in the sense of enhancing the autonomy of local (or provincial) governments, tends to bring together these two effects. On the one hand, it increases the ability of states to compete against each other for citizens, and, on the other hand, it allows states to increase regulation over areas already covered by the central government. Which effect predominates is an empirical question.

Existing Empirical Evidence

The goal of this paper is to analyze how important these political institutions are in determining perceived corruption. The point of departure is that the political macrostructure determines the incentives facing politicians and high-level officials, and their reaction to these incentives propagates the effects throughout the lower levels of government. The incentives are, therefore, reflected on the behavior of all those who represent the state.

This question has not been analyzed by the existing empirical literature on the determinants of corruption. This literature can be divided into two strands. One correlates corruption with a large set of variables, and searches for the significant

² As pointed out by Ahlin (2001), this apparent contradiction in results does not really indicate a theoretical indeterminacy in relation to the effects of decentralization on corruption. It indicates that different types of political decentralization will have different effects on corruption. This point is implicit in the discussion in Shleifer and Vishny (1993) and is explicitly analyzed in Ahlin (2001). In brief, political decentralization meaning that different bureaucracies/politicians compete for the provision of the same “good” to citizens – be it a license or a place to live and work – will lead to lower corruption; and political decentralization meaning that different bureaucracies provide complementary goods – such as different agencies overlapping in the regulation of the same activity – will lead to higher corruption.

coefficients, as in Treisman (2000). The other strand looks at specific policies and analyzes their effects on corruption. These analyses of the more proximate determinants of corruption have mostly concentrated on the effects of relative public wages (Van Rijckeghem and Weder, 2001) and trade policies (Ades and di Tella, 1994; Laffont and N'Guessan, 1999).

None of these studies have asked the question that we propose here, and none have analyzed the role of political variables.³ The main contribution of this paper is its search for the ultimate determinants of corruption, in the form of the political institutions that determine specific policies as well as political outcomes.

3 Empirical Approach

3.1 Indicators of Corruption

The greatest problem in the empirical analysis of corruption is the fact that, for obvious reasons, there is no directly observable indicator. Any study of the subject inevitably relies on some sort of survey. This would not be a problem if objective data, such as from victimization surveys, were widely available. But victimization surveys related to corruption are not so widespread as to allow the analysis of cross-country variations in the incidence of corruption. Hence, existing studies rely on subjective evaluation surveys, based on opinions of international businessmen, of countries' citizens themselves, or of experts on country risk analysis.

In spite of their weakness, these subjective indicators have several positive features. First, the results from surveys with very different methodologies are highly correlated. This point is discussed in some detail in Treisman (2000), who explores the correlation among several corruption indices. In Table 2, we follow his strategy and calculate the pair wise correlation among a somewhat different group of corruption indices for 1998.

³ We use one core variable that also appears in Treisman (2000), but our interpretation is quite different.

Table 2: Correlation Among Different Corruption Indices

	ICRG	WDR	GALLUP	GCS1	GCS2	CRR-DRI
ICRG	1					
WDR	0.58*	1				
	65					
GALLUP	0.71*	0.72*	1			
	43	25				
GCS1	0.64*	0.78*	0.78*	1		
	75	44	35			
GCS2	0.64*	0.75*	0.83*	0.90*	1	
	53	31	33	53		
CRR-DRI	0.63*	0.75*	0.70*	0.81*	0.79*	1
	100	57	41	64	51	

Notes: * - Significant at 1%. Number of observations below the correlations. Indices refer to 1998; definitions contained in the Appendix.

These indices can be briefly described as follows: the International Country Risk Guide (ICRG) measures corruption in the political system as a threat to foreign investment; the World Development Report (WDR) measures corruption as an obstacle to business; the GALLUP measures the frequency of cases of corruption among public officials; the Global Competitiveness Survey (GCS) indices measure, respectively, the frequency of irregular payments connected with imports, exports, business licenses, police protection, loan applications, etc (GCS1), and the frequency of irregular payments to officials and judiciary (GCS2); and the Country Risk Review (CRR-DRI) measures corruption among public officials and effectiveness of anticorruption initiatives. A more detailed description of these indices is contained in the Appendix.

All the correlations are positive and significant at 1%, and with one exception they are all above 0.6. The table suggests that the different indices are indeed measuring something very similar. But in regard to exactly what they are measuring, there is nevertheless the possibility that all the methodologies share the same bias. This could be the case if the bias is caused by the use of subjective evaluation methodologies. Since opinions expressed about corruption can be influenced, for example, by the overall economic performance of a specific country, the indices could be partly capturing economic outcomes rather than corruption. Fortunately, this does not seem to be the case. The correlation between the ICRG corruption index and

the growth rate of per capita GDP is very low and not statistically significant. If we regress the ICRG on a constant and the growth rate, the coefficient on the growth rate is -0.0098 , with a p-value of 0.110 .⁴ Although this evidence indicates that the indices seem to be a reasonable measure of corruption, it is important to keep in mind their potential limitations when interpreting the results.

Besides this measurement problem, there is an issue of how to interpret the indices themselves. Is the ordering of countries the only real meaning of the indices, or is there some cardinal value attached to them? The question can be rephrased as follows: if all countries achieve a low level of corruption, will all of them be assigned the same value, or will different values yielding a ranking of countries still be used? We try to keep these issues in mind when choosing the estimation strategies and interpreting the results.

From the indices discussed in Table 2, the analysis will concentrate on the ICRG, which is the only one covering a reasonable time span (from 1984 to 1999 in our data set). Even though the time variation in the corruption index tends to be small, the period of the sample includes significant regime changes in some political systems – Latin America and Eastern Europe for example – that can help us identify the effects of the variables of interest. The use of a panel to analyze the determinants of corruption is another original contribution of this work. Our corruption variable (*corruption*) is constructed directly from the ICRG index, and varies discretely from 0 to 6, with higher values indicating more corruption.

3.2 Estimation Strategy

The theoretical background that guides the estimation is an economy where the political institutions are given, and, within this structure, policy and economic decisions are made. The institutional design of the political system is the ultimate determinant of corruption, because it shapes the incentives facing government officials. Our set of core variables is related to these factors and tries to capture the

⁴ If country fixed effects are included, or lagged values of the growth rate are used, the same result holds. If we estimate the relation using an ordered probit, the p-value is slightly lower (0.086), but the coefficient remains quantitatively small. These results should not be interpreted as evidence that corruption does not matter for economic development, because they do not provide estimates of the true partial correlation.

main political issues discussed in section 2.2. To this set of variables, we add sequentially controls that try to account for the effects of factors that might be correlated with both political institutions and corruption.

The first set of additional control variables includes factors exogenous to political structure and corruption that might simultaneously determine both. These factors could generate a spurious correlation between corruption and political institutions that we would interpret as a causal relationship, if we did not take them into account. What we have in mind here are the popular accounts of corruption as being largely determined by culture, traditions, etc. In principle, these cultural aspects – related to natural characteristics, climate, region, and colonial heritage – may determine both the prevalence of corruption and the political institutions in a given society. If this is the case, the popular view that certain people and cultures are intrinsically more corrupt is correct.

The other set of controls tries to account for the fact that policy is not determined exclusively by political structure, and different policy choices may end up having independent effects on corruption. This is clearly the case in relation to public wages and trade policies, which have direct effects on the costs and benefits of engaging in corrupt activities. These factors have been analyzed elsewhere – see Van Rijckeghem and Weder (2001) on public wages, and Ades and di Tella (1994) and Laffont and N'Guessan (1999) on openness and competitiveness – but we introduce them in our empirical analysis as additional controls for possible determinants of corruption that may be correlated with political institutions. This is also the case for the size of the government and the distribution of resources across the different levels of government, which can be seen as affecting the total amount and centralization of the rents that tempt public officials.

Finally, there is the possibility that corruption control is simply a normal good, in the sense that when countries develop, corruption naturally falls. If certain political institutions are correlated with development, this could bias the results by assigning to political institutions effects that are actually caused by development alone.

We classify these three sets of controls as, respectively, cultural, policy, and development controls. In the estimation, we include first the cultural controls, which represent structural factors, as country-group common effects.⁵ In turn, we include separately the policy and development controls, and analyze whether and how the results concerning the main variables of interest change. The empirical specification is discussed in section 4.1.

3.3 Variables

Political Variables

With the exception of freedom of press, the political variables used here are constructed from the data contained in Beck et al (2001). This study presents a database covering several countries in the period between 1975 and 1999.

The political variables are defined in the following way (more precise definitions of all the variables discussed in this section are contained in the Appendix):

- Democracy (*democ*): dummy variable with value 1 if the country is democratic;
- Presidential democracy (*presid*): dummy variable with value 1 if the country is democratic and has a presidential system;
- Reelection (*reelect*): dummy variable with value 1 if the country is a presidential democracy and head of the executive can run for multiple terms;
- Democratic stability (*dstab*): time of uninterrupted democratic regime;
- Closed lists (*lists*): dummy variable assuming value 1 if country is democratic and there are closed lists in the election of the legislature;
- State government (*state*): variable assuming value 0 if there are no local government elections, value 1 if state legislature is locally elected but the executive is not, and value 2 if both legislature and executive are locally elected;
- Executive control (*control*): dummy variable with value 1 if executive's party has control of all relevant chambers of the legislature; and

⁵ A lot of the variation in political variables comes from cross-country differences, so we opted not to include fixed effects in the analysis.

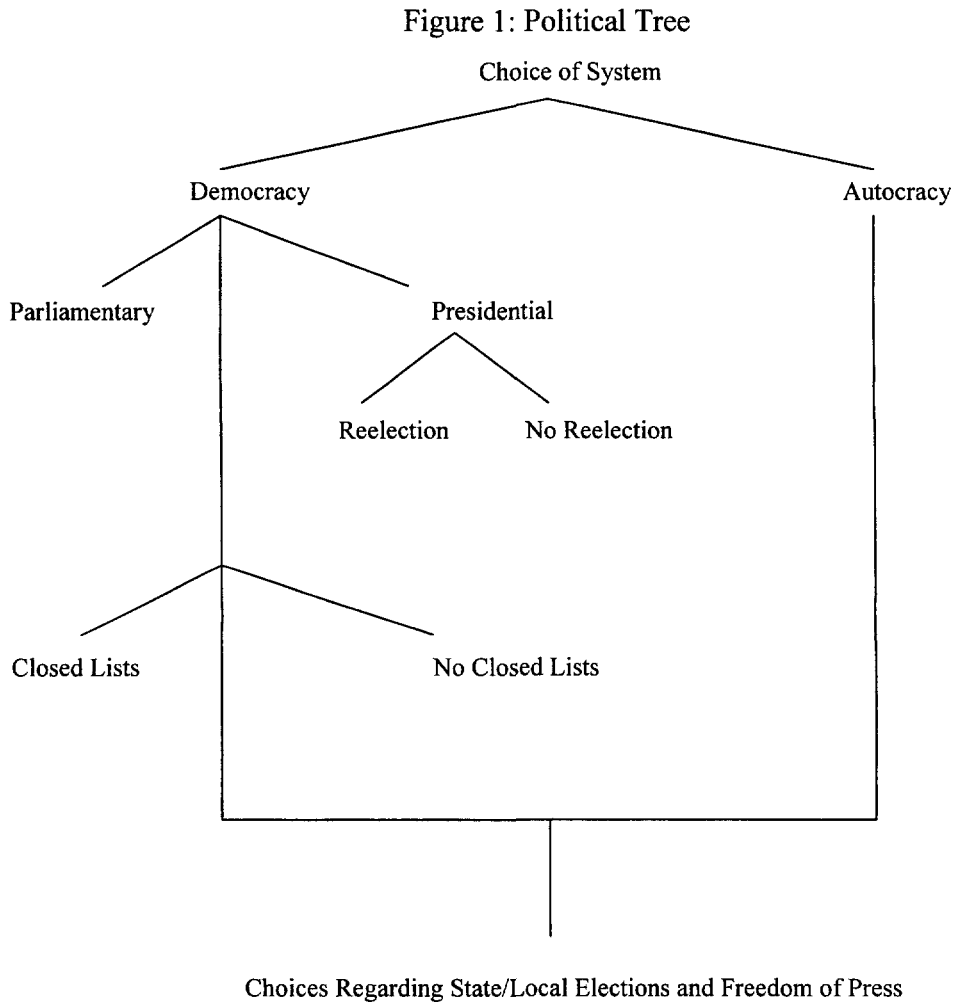
- Freedom of press (press): constructed from the freedom of press index from Freedom House, with values ranging between 0 and 100 (with higher values indicating more freedom).

Some of these variables are defined as subgroups of others. So, for example, presidential system actually identifies the presence of a presidential system within a democracy, or reelection is measuring the possibility of executive reelection within a presidential democracy. The effect of these variables has, thus, to be interpreted as conditional on the effect of the preceding one, as in “the effect of presidential system, given that the country is democratic”, and so on. This structure derives from our view of the sequence of relevant choices in terms of political institutions. This view is illustrated in the decision tree in Figure 1.

The variables democracy, reelection, and closed lists try to capture features of the political system associated with electoral competition and the strength of political parties, which tend to make elections a more effective instrument for distributing political rewards. Democracy is the most basic measure of electoral competition, and both reelections and closed lists are institutions that tend to increase the horizon of politicians, thus increasing accountability. Reelections have a straightforward effect in this direction, while closed lists make parties stronger, which in turn bias politicians toward long term goals and increase the concerns about reputation. In other words, the use of closed lists in legislative elections creates incentives for individual politicians to worry about the reputation of the party as a whole, and thus we expect lists to have a corruption reducing effect (Linz, 1990; Linz and Stepan, 1996; Bailey and Valenzuela, 1997; Rose-Ackerman, 1999; Garman et al, 2001).

Presidential system, executive control of houses, and democratic stability are variables determining the presence of checks and balances mechanisms in the system. Presidential systems and executive control of the legislative houses make the executive more independent and less subject to checks from other powers, thus reducing accountability. Time of democratic stability allows for institutional learning and development of checks and balances mechanisms adequate to the particular culture and political tradition, thus increasing accountability, besides giving time for other political institutions to have its effects completely felt (Linz, 1990; Linz and

Stepa, 1996; Tirole, 1996; Bailey and Valenzuela, 1997; Rose-Ackerman, 1999; Garman et al, 2001).



Freedom of press captures the transparency of the system. By increasing transparency, freedom of press reduces the informational problem in the political system, and increases accountability (Peters and Welch, 1980; Fackler and Lin, 1995; Giglioli, 1996; and Djankiv et al, 2001).

State autonomy tries to capture the decentralization of the political system. As mentioned, decentralization affects several different aspects of the political system. First, decentralization tends to increase accountability via easier monitoring of governments at the local level. Second, decentralization affects the structure of

provision of public goods, possibly simultaneously increasing the competition among states and establishing overlapping bureaucracies from local and central governments. These two forces have opposite effects on corruption, and which one predominates is an empirical matter (Shleifer and Vishny, 1993; Weingast, 1995; Nas et al, 1996; and Rose-Ackerman, 1999; and Ahlin, 2001).

These are the political variables that try to capture the aspects of political institutions discussed in section 2.2. They constitute our main interest and the core variables in our empirical investigation.

Control Variables

As mentioned, our control variables are classified into three groups: cultural, policy, and development controls. The cultural controls include a large set of variables related to climate, region, and ethnic characteristics of the countries. The goal is to include a set of human and geographic variables as broad as possible, to account for all the possible determinants of cultural traditions that may affect simultaneously political institutions and the incidence of corruption. The variables chosen are the following:

- Variables for natural conditions: region dummies (*reg_**); landlocked country dummy (*landlock*); longitude and latitude position of the country (*longit* and *latit*); size of the country (*area*); tropical area dummy (*tropic*); and British legal tradition dummy (*leg_brit*); all these variables are taken from the World Bank's Global Development Network Growth Database; and
- Ethno-linguistic fractionalization (*elf*): index of ethno-linguistic fractionalization, from Collier and Hoefler (1998).

These variables try to capture natural factors that may directly or indirectly affect a country's traditions, determining, for example, its "intrinsic" propensity towards openness (*landlock*), or its colonization history (*tropical*, *leg_brit*, *longit*, and *latit*). Additionally, other aspects of the country's history that may affect its human and cultural compositions are considered, *via* its legal tradition and ethno-linguistic fractionalization.

The policy controls concentrate on government wages, openness, and size and composition of the government. These variables are represented by the following series:

- Relative government wages (*wages*): government wages in relation to manufacturing sector wages, from Van Rijckeghem and Weder (2001);
- Economic openness (*open*): imports as a share of GDP, from the World Bank's World Development Indicators;
- Size of the government (*govrev*): total government revenue as a share of the GDP, from the IMF's Government Financial Statistics; and
- Expenditures decentralization (*transf*): transfers from central government to other levels of national government, as percentage of GDP, from the IMF's Government Financial Statistics.

These variables try to control for aspects that elsewhere have been found to affect corruption, such as government wages and openness, and for the size and composition of the rents available for extraction (Ades and di Tella, 1994; Laffont and N'Guessan, 1999; Treisman, 2000; and Van Rijckeghem and Weder, 2001).

The last set of control variables is related to development, and tries to capture unspecified dimensions of development that may directly affect corruption. We choose income and education measures as indicators of development levels. They are defined as follows:

- Income (*lngdp*): natural logarithm of the per capita GDP (PPP adjusted), from the World Bank's World Development Indicators; and
- Education (*tyr15*): average schooling in the population above 15, from the Barro and Lee dataset.

Table 3: Summary Statistics

<i>Variable</i>	N Obs	Mean	Std. Dev.	Min	Max
<i>corruption</i>	2082	2.67	1.40	0	6
<i>democ</i>	2486	0.49	0.50	0	1
<i>presid</i>	2490	0.21	0.41	0	1
<i>reelect</i>	2490	0.14	0.34	0	1
<i>dstab</i>	2275	12.66	19.63	0	68
<i>state</i>	1863	0.75	0.83	0	2
<i>list</i>	2367	0.22	0.41	0	1
<i>control</i>	2439	0.73	0.44	0	1
<i>press</i>	2237	51.74	24.78	0	95
<i>wages</i>	436	1.12	0.52	0.10	6.06
<i>open</i>	2183	40.18	24.80	1.35	199.82
<i>govrev</i>	1217	26.43	11.07	0.03	81.54
<i>transf</i>	1214	3.30	3.21	0	17.13
<i>reg_eap</i>	2766	0.14	0.34	0	1
<i>reg_eca</i>	2766	0.15	0.36	0	1
<i>Reg_mena</i>	2766	0.12	0.33	0	1
<i>reg_sa</i>	2766	0.05	0.21	0	1
<i>reg_ssa</i>	2766	0.27	0.44	0	1
<i>reg_lac</i>	2766	0.17	0.37	0	1
<i>landlock</i>	2766	0.21	0.41	0	1
<i>longit</i>	2606	18.45	63.91	-172.43	177.97
<i>latit</i>	2606	17.56	24.03	-36.89	63.89
<i>area</i>	2606	178377	233792	105	977956
<i>leg_brit</i>	2622	0.32	0.47	0	1
<i>tropic</i>	2766	0.51	0.50	0	1
<i>elf</i>	1968	41.89	29.45	0	93
<i>lngdp</i>	2162	8.17	1.09	5.77	10.42
<i>tyr15</i>	913	6.04	2.54	0.90	11.94

Notes: Variables defined in section 3.3, and explained in detail in the Appendix. All observations available in the period 1984-99 used in the calculations. Region dummies refer to: East Asia and Pacific, East Europe and Central Asia, Middle East and North Africa, South Asia, Sub-Saharan Africa, and Latin America and Caribbean.

Descriptive Summary of the Data

Table 3 presents summary statistics of all the variables discussed above. Table 4 decomposes the standard deviations into within and between components, for those variables that change across countries and time. The variables related to ethno-linguistic fractionalization (*elf*) and freedom of press (*press*) are country specific in our sample due to data limitations.

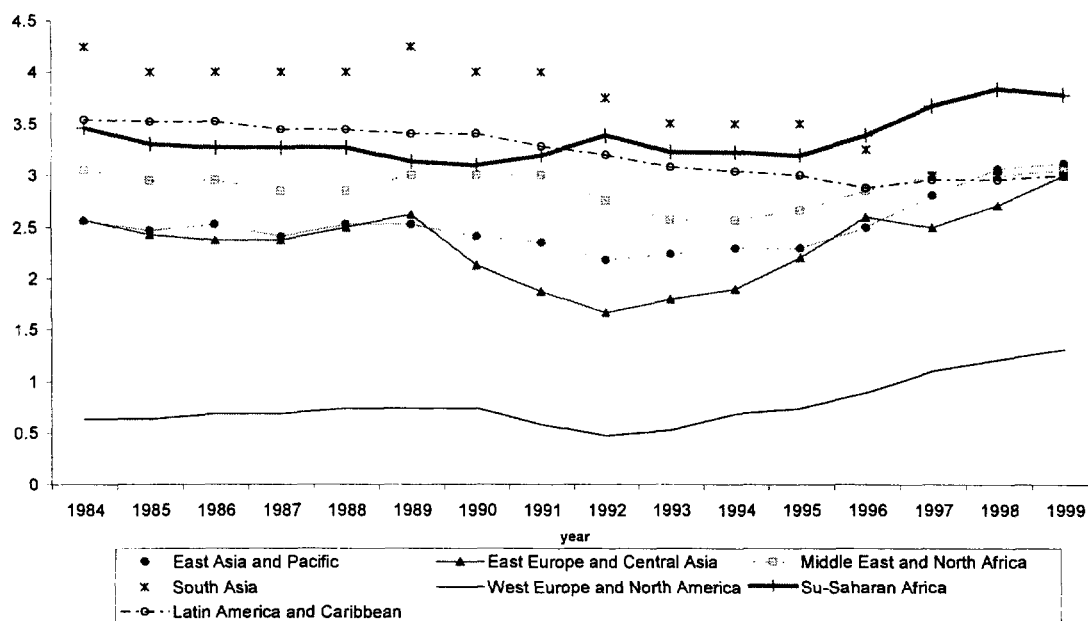
Table 4: Between and Within Variation in the Data

<i>Variable</i>	N Countries	Std. Dev. of Country Means (Between)	Mean of Country Std. Deviations (Within)	(1)/(2) (Btw/Wth)
		(1)	(2)	
<i>corruption</i>	146	1.20	0.52	2.30
<i>democ</i>	179	0.41	0.20	2.09
<i>presid</i>	179	0.33	0.15	2.26
<i>reelect</i>	179	0.26	0.13	2.02
<i>dstab</i>	179	18.76	2.39	7.86
<i>state</i>	157	0.80	0.07	11.58
<i>list</i>	178	0.37	0.08	4.66
<i>control</i>	178	0.39	0.11	3.53
<i>wages</i>	62	0.46	0.14	3.32
<i>open</i>	164	23.28	7.42	3.14
<i>govrev</i>	112	10.78	2.77	3.89
<i>transf</i>	102	2.84	0.89	3.21
<i>lngdp</i>	154	1.06	0.20	5.33
<i>tyr15</i>	83	2.54	0.28	9.14

Notes: Variables defined in section 3.3, and explained in detailed in the Appendix. All observations available in the period 1984-99 used in the calculations.

Despite the usual claim that corruption does not vary at all within a country, Table 4 shows that the ratio of between to within variation for the corruption index is actually lower than the same ratio for most of the explanatory variables, besides the political variables. Although this is probably caused partly by the discrete and limited nature of the variable itself, it shows that there is some time variation to be explored in the corruption index. Figure 2 illustrates this point by plotting the evolution of the corruption index through time by regions of the world (simple averages for the countries belonging to the respective region). Although there seems to be some co-movements of the series across the different regions, there are also some independent patterns. For example, as Latin America and South Asia experienced a decline in corruption since the late 80's, Western Europe and North America experienced a slight increase during the same period. Hence, the time dimension of the data seems to present enough variation to justify its exploration.

Figure 2: Evolution of Corruption by Regions of the World, 1984-99



We also try to summarize here the simple pair-wise relation between the corruption index and the main explanatory variables. For the dichotomous political variables, Table 5 presents the mean of the corruption index for mutually exclusive categories, and indicates for which cases the difference between the means is statistically significant.

The simple difference in means goes generally in the expected direction: democracy, the possibility of reelection, and the existence of local elections are associated with lower corruption, while presidential system and government control of all houses are associated with higher corruption than their respective control groups. Closed lists do not appear to be significantly correlated with corruption.

Table 6 presents the correlation of the other main explanatory variables with the corruption index. Most of the correlations also have the expected sign: democratic stability, freedom of press, relative wages in the public sector, economic openness, transfers from central to other levels of government, income level, and education are associated with lower corruption, while ethno-linguistic fractionalization is associated with higher corruption. The correlation between government revenues as a share of

GDP and corruption is surprisingly negative and significant. Some endogenous response of government expenditures to the level of corruption is probably at work here, so that less corrupt governments end up having higher revenues as a share of GDP.

Table 5: Mean of the Corruption Index across Different Political Institutions

<i>Group</i>		N Obs	Mean	Std. Err.
<i>democ*</i>	0	802	3.25	0.0409
	1	972	2.11	0.0447
<i>presid*</i>	0	538	1.58	0.0613
	1	434	2.76	0.0497
<i>reelect*</i>	0	197	2.97	0.0681
	1	238	2.58	0.0689
<i>state*</i>	0	543	3.01	0.0619
	1	801	2.03	0.0452
<i>control*</i>	0	543	1.72	0.0595
	1	1200	3.02	0.0358
<i>list</i>	0	435	1.98	0.0693
	1	468	2.09	0.0629

Notes: * - Difference between group means is statistically significant at 1%. Value 1 indicates that the observation is included in the respective category. For presidential system and closed lists, averages calculated only on the sub-sample of democratic countries. For reelection, averages calculated only on the sub-sample of presidential democratic countries. For state elections, group 1 defined as to include groups 1 and 2 defined before.

Table 6: Correlation between Corruption Index and Explanatory Variables

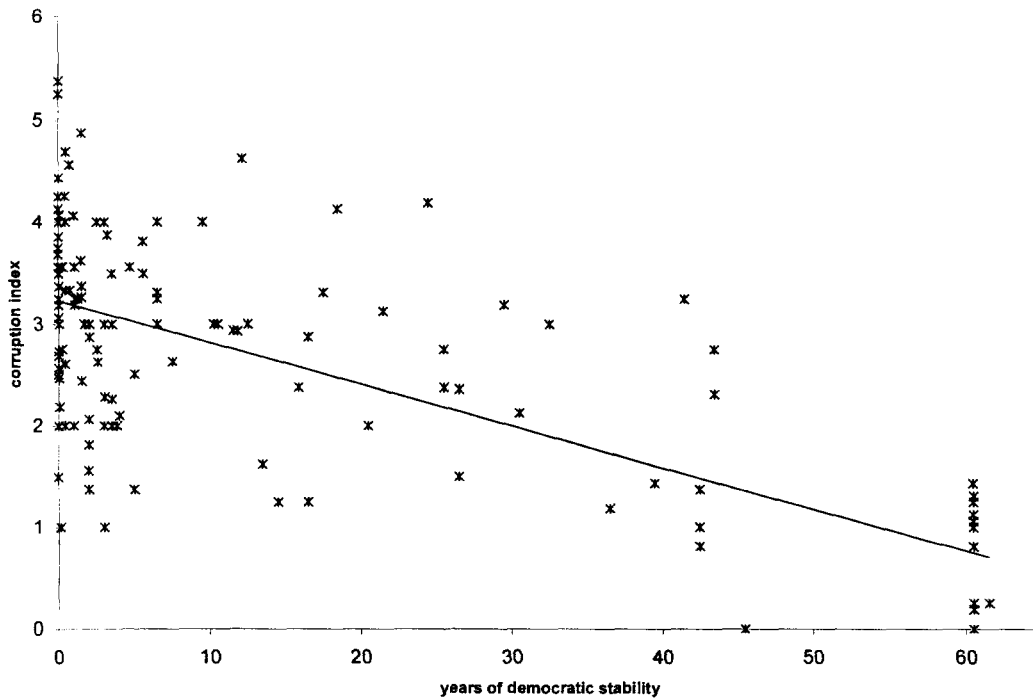
<i>Variable</i>	Correlation with Corruption Index	N Obs
<i>dstab</i>	-0.6465*	1752
<i>press</i>	-0.5727*	1711
<i>wages</i>	-0.2335*	369
<i>open</i>	-0.0977*	1670
<i>govrev</i>	-0.4820*	1035
<i>transf</i>	-0.4215*	697
<i>elf</i>	0.3235*	1705
<i>lngdp</i>	-0.5991*	1624
<i>tyr15</i>	-0.6471*	835

Notes: * - Significant at 1%. Correlations calculated using pooled data.

The political variables time of democratic stability and freedom of press are very strongly related to corruption in the pooled data. This is also true for the simple cross sectional relation based on country averages. Figures 3 and 4 plot the within country averages of *dstab* and *press* against the within country average of *corruption*,

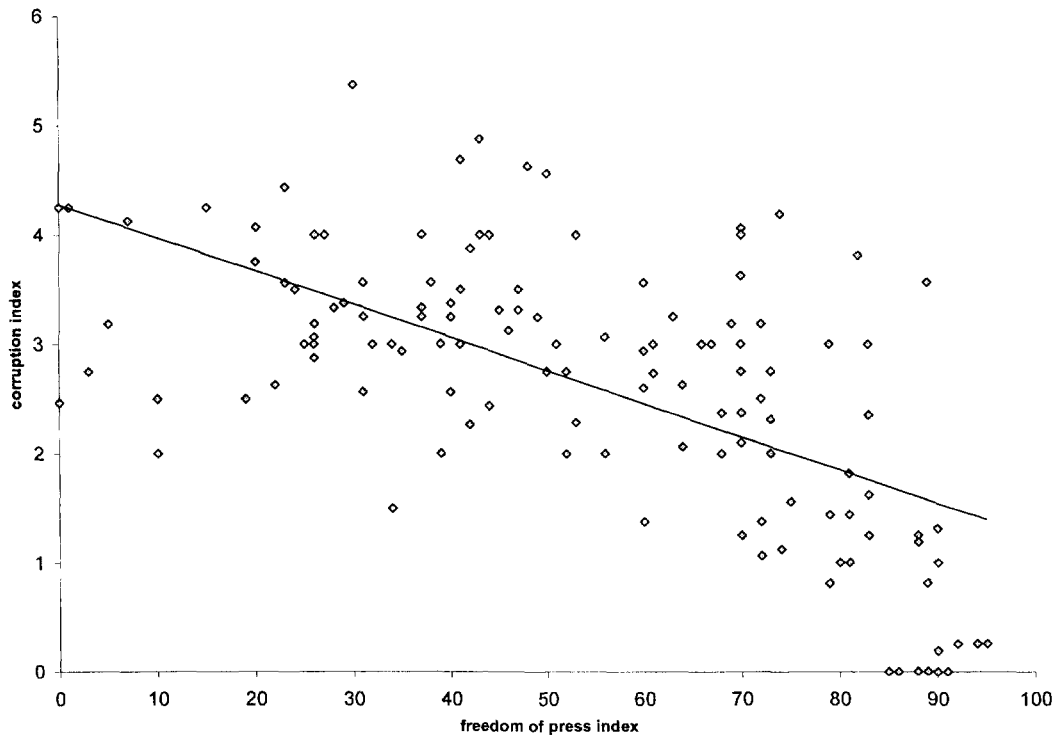
and fits a linear regression to each of these cross-sectional relations. The negative correlations between these two variables and corruption are clear.

Figure 3: Cross-sectional Relation between Democratic Stability and Corruption, Country Averages



At a superficial level, most of the selected variables have a relation with corruption that is similar to what is theoretically plausible. Accountability has a strong negative correlation with corruption, which suggests that political variables may be in fact important in determining the prevalence of corruption. Whether this is a causal relationship or a spurious correlation is the question that we try to address in the remaining sections of the paper. In what follows, we discuss the specification adopted in our multivariate analysis of the political determinants of corruption, and discuss the results.

Figure 4: Cross-sectional Relation between Freedom of Press and Corruption,
Country Averages



4 Specification and Results

4.1 Specification

The ICRG corruption index varies discretely between 0 and 6. Strictly speaking, it cannot be treated as a continuous variable. With this in mind, we estimate the model using ordered probit and simple OLS techniques, following the approach of Dutt (1999). The ordered probit allows for a dependent variable in which the actual values are irrelevant, except that higher values correspond to higher outcomes. Given that the precise meaning of the cardinal values in the corruption index is unclear, this is another feature of this class of models that is adequate for our purposes (for details on ordered probit models, see Maddala, 1983).

Table 7: Results: Corruption Regressions

	Ordered Probit				OLS			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>democ</i>	-0.1580 0.1302 0.2250	-0.5238 0.1547 0.0010	-1.8054 0.3149 0.0000	-0.7097 0.2368 0.0030	-0.2078 0.1195 0.0820	-0.4598 0.1227 0.0000	-1.2111 0.2009 0.0000	-0.6140 0.1870 0.0010
<i>presid</i>	1.0367 0.1030 0.0000	0.4324 0.2028 0.0330	1.2732 0.3340 0.0000	1.1194 0.2710 0.0000	0.9261 0.0907 0.0000	0.3591 0.1679 0.0330	0.7589 0.2237 0.0010	0.8403 0.2150 0.0000
<i>reelect</i>	-0.2244 0.1375 0.1030	0.0429 0.1810 0.8130	-0.3354 0.2929 0.2520	-0.3062 0.2609 0.2410	-0.2329 0.1254 0.0630	0.0385 0.1477 0.7940	-0.1668 0.2153 0.4390	-0.2676 0.2149 0.2140
<i>dstab</i>	-0.0340 0.0024 0.0000	-0.0423 0.0032 0.0000	-0.0410 0.0055 0.0000	-0.0453 0.0049 0.0000	-0.0272 0.0019 0.0000	-0.0307 0.0022 0.0000	-0.0234 0.0033 0.0000	-0.0284 0.0035 0.0000
<i>state</i>	-0.0968 0.0425 0.0230	0.1525 0.0543 0.0050	0.4359 0.1015 0.0000	0.1625 0.0768 0.0340	-0.1039 0.0370 0.0050	0.0828 0.0407 0.0420	0.1693 0.0618 0.0060	0.0759 0.0557 0.1730
<i>list</i>	-0.1654 0.0860 0.0550	0.0426 0.1035 0.6810	-0.0817 0.1733 0.6370	0.3171 0.1472 0.0310	-0.1553 0.0683 0.0230	-0.0018 0.0689 0.9790	-0.0501 0.0904 0.5800	0.1937 0.0909 0.0330
<i>control</i>	0.1628 0.0955 0.0880	-0.0574 0.1068 0.5910	-0.4270 0.1864 0.0220	-0.1001 0.1429 0.4830	0.1419 0.0825 0.0860	-0.0413 0.0808 0.6090	-0.3092 0.1112 0.0060	-0.0667 0.1028 0.5170
<i>press</i>	-0.0113 0.0022 0.0000	-0.0056 0.0031 0.0690	-0.0210 0.0061 0.0010	-0.0014 0.0043 0.7500	-0.0099 0.0020 0.0000	-0.0043 0.0024 0.0740	-0.0152 0.0042 0.0000	-0.0006 0.0033 0.8500
<i>govrev</i>			0.0389 0.0098 0.0000				0.0239 0.0065 0.0000	
<i>transf</i>			-0.0632 0.0221 0.0040				-0.0184 0.0110 0.0950	
<i>open</i>			0.0000 0.0030 0.9930				-0.0015 0.0019 0.4510	
<i>lngdp</i>				-0.1826 0.1412 0.1960				-0.1940 0.1056 0.0670
<i>tyr15</i>				-0.1090 0.0443 0.0140				-0.0469 0.0304 0.1230
<i>leg_brit</i>		0.2598 0.1122 0.0210	0.3293 0.2510 0.1900	0.6279 0.1672 0.0000		0.1518 0.0844 0.0730	0.1735 0.1485 0.2430	0.3470 0.1216 0.0040
<i>elf</i>		0.0123 0.0021 0.0000	0.0210 0.0040 0.0000	0.0109 0.0029 0.0000		0.0100 0.0016 0.0000	0.0132 0.0024 0.0000	0.0103 0.0020 0.0000
<i>period dummies</i>	yes	yes	yes	yes	yes	yes	yes	yes
<i>reg/nature vars</i>	no	yes	yes	yes	no	yes	yes	yes
<i>N Obs</i>	1158	1010	490	605	1158	1010	490	605
<i>Pseudo R²/R²</i>	0.24	0.33	0.45	0.38	0.57	0.70	0.79	0.74

Obs.: Std errors and p-values below coefficients. Dep var is ICRG corruption index, (0 to 6, higher values more corruption). Ind vars are (*d* for dummy): democracy *d*, presidential *d*, possibility of reelection *d*, time of democratic stability, indicator of local elections for state govts, gov control of legislative *d*, freedom of press index, gov revenues (% GDP), transfers from central gov to other levels (% GDP), openness to trade (imports as % GDP), ln of per capita GDP, avg schooling in the pop above 15, British legal tradition *d*, index of ethno-linguistic fractionalization, period *d*'s, region *d*'s (E Asia and Pacif, E Eur and C Asia, M East and N Afr, S Asia, Sub-Saharan Afr, and L Am and Carib), and nature variables (landlock *d*, area, tropical *d*, long, and lat). *govrev*, *transf*, *open*, *lngdp*, and *tyr15* lagged. Regressions include all obs available between 1984-97. Robust std errors used.

As discussed in section 3.2, four different specifications are adopted, to check the robustness of the results to different alternative hypotheses. In brief, the first equation contains only the core variables, the second specification contains the core variables and the cultural controls, the third specification adds the policy controls, and the last specification substitutes the development for the policy controls. In all specifications, dummy variables for different sub-periods of the sample are included (1987-90, 1991-94, and 1995-97), to account for possible spurious co-movements of the corruption index across countries. Also, the economic variables (*govrev*, *transf*, *open*, *lngdp*, and *tyr15*) are included with a lag of one period, to account for potential problems of endogeneity.

Table 7 presents the results of the regressions. Columns (1) to (4) present the different specifications mentioned above for the ordered probit model, and columns (5) to (8) present the same specifications for the OLS estimates. Since the qualitative results are virtually the same across the ordered probit and OLS estimates, we concentrate our discussion on the OLS results, which provide a more intuitive interpretation of the coefficients. The variable relative to government wages (*wages*) is not presented in the table above because it enormously reduces the sample, but likewise, we discuss its effect on the estimates. The following discussion also mentions how certain results change when the models are estimated with different samples.

4.2 Results

Political Variables

Table 7 shows that the most consistent results regarding the political variables are related to democracy, presidential systems, time of democratic stability, and freedom of press. The estimated coefficients in columns (4) to (8) imply the following relations between these variables and perceived corruption: democracy reduces corruption by 0.7 points; presidential systems in a democracy, as opposed to parliamentary systems, increase corruption by 0.8 points; each additional 20 years of

uninterrupted democracy reduce corruption by 0.5 points; and 50 points more in the freedom of press index (as from the level of Turkey to the level of the United Kingdom) reduces corruption by 0.5 points. These main results are robust to the inclusion of the government wages variable in the right hand side, which typically reduces the sample to less than 200 observations.

Using a common yardstick to translate these results into comparable units, and looking at the average values of the coefficients in Table 7, we have that a one standard deviation increase in the democracy variable, or a one standard deviation reduction in the presidential systems variable, reduces the corruption index by approximately 0.3. A one standard deviation increase in the time of democratic stability reduces the corruption index by 0.54, while a one standard deviation increase in the freedom of press index reduces it by 0.19. If we restrict ourselves to the within country variation in these variables, which probably gives a more accurate picture of the extent of political changes typically happening in the short run, a one (within country) standard deviation increase in these variables has the following effect on the corruption index: a reduction of 0.12 for democracy, an increase of 0.11 for presidential systems, and a reduction of 0.07 for democratic stability. Overall, time of democratic stability seems to be the variable with the most important effect on corruption, although if we look only at within country changes, democracy and presidential systems become more important.

The effects of presidential system and democratic stability are reasonably stable across all specifications. The effect of democracy starts being insignificant in the simplest specification, and only becomes significant once controls are introduced. There seems to be cultural factors that determine simultaneously democracy and corruption, but democracy alone, once these natural factors are accounted for, reduces corruption. With freedom of press, the case is the opposite. Freedom of press is significantly related to less corruption in the first three specifications, but once economic development is taken into account, its effect falls to close to zero, and is not

statistically significant anymore.⁶ The results suggest that freedom of press may be actually capturing the effect of economic development on corruption.

Also worthy of note, but apparently less strong than the previous results, is the effect of local government autonomy. It starts being negative and borderline significant in the simplest specification, and becomes positive and significant (for most of the cases) as additional controls are introduced. This means that cultural factors correlated with decentralization are also correlated with less corruption: the simple correlation between corruption and state autonomy is negative, but once these cultural factors are accounted for, the independent effect of decentralization becomes positive. This suggests that the congestion of different bureaucracies regulating the same activities dominates the other potential effects of decentralization. However, this result has to be interpreted with caution, because it is partly due to changes in the sample. If we run the simplest specification in the smaller samples used in columns (6) to (8), the effect of state autonomy becomes positive, although statistically significant in only one of the cases.

Control Variables

As expected, size of the government (*govrev*) increases corruption, while distribution of resources from the central government to other levels of national government (*transf*) reduces corruption. This last effect may be associated with the fact that monitoring at the local level is easier than at the central level, so that more resources used by local government translates into more resources falling under closer control by citizens. Together with the state autonomy variable (*state*), this variable may be decomposing different dimensions of decentralization: while *state* captures the autonomy of the state to interfere on spheres already being partly legislated by the central government (which might increase inefficiency and corruption), *transf* captures the distribution of a given amount of resources between central and local governments (which might increase accountability and reduce corruption).

⁶ The behavior of the democracy and freedom of press coefficients is not due to changes in the sample when new variables are included. They still hold when the different specifications are run with the same restricted sample.

The effects of economic openness and British legal tradition do not agree with commonplace results from the previous literature. Openness has no significant effect here, while it was found to reduce corruption in Ades and di Tella (1994) and Laffont and N'Guessan (1999). This difference is not spuriously generated by different samples or statistics used: if we omit the political variables from our regression, openness does show up as having a negative and significant effect on corruption.

The negative effect of British legal tradition on corruption, which is one of the main results in Treisman (2000) via the variable history of British colonization, is also absent here: British legal tradition usually appears as having a positive and significant effect in our regressions. Again, this is not due to differences in the data used: if we omit the political variables from our regression, British legal tradition does show up as having a negative and significant effect on corruption.

In our view, these differences come from the distinct conceptual and empirical approaches that we adopted. Political institutions are the main exogenous force shaping the incentive structure that determines both corruption and the implementation of specific policies. Thus, in our sample, openness is correlated with democracy, parliamentary systems, freedom of press, and absence of corruption, but the political variables seem to be determining openness and corruption, rather than the other way around. In the vast majority of cases, political variables seem to be clearly more exogenous than trade policies.

Also, rather than having a direct negative effect on corruption, British legal tradition is strongly associated with democracy, stability, freedom of press, and parliamentary systems, and these political variables tend to reduce corruption.⁷ Thus, once the political system is taken into account, the culture associated with the British legal tradition by itself seems in fact to increase corruption. Analyzed alone, the informality of the British law, where practices are strongly based on unwritten rules,

⁷ Both openness and British legal tradition are significantly correlated to the abovementioned political variables. For all cases mentioned, pair-wise correlations are statistically significant at 1%, apart from freedom of press, for which correlations are smaller and only significant at the 5% level.

seems to be more subject to corruption than other traditions, where rules are explicitly defined. Therefore, our result should not be surprising.^{8,9}

5 Concluding Remarks

This paper explores the link between political institutions and corruption. We show that the behavior of corruption is very distinct from the behavior of common crimes, and argue that this indicates the relevance of explanatory variables that are unique to corruption. These factors are mainly associated with the environment in which relations between individuals and the state take place. Political institutions, by determining this environment, are extremely important in determining the incidence of corruption. Ultimately, the political macrostructure – related to the political system, balance of powers, electoral competitiveness, and so on – determines the incentives for those in office to be honest, and to police and punish misbehavior of others, such that the effects are propagated throughout the system to the lower levels of government.

We analyze the available data on corruption, and argue that, despite its limitations, the evidence suggests that it measures something close to perceived corruption. The empirical analysis using panel data based on the ICRG corruption index indicates that corruption tends to decrease systematically with democracy,

⁸ Similar results are obtained when government relative wages are included in the regression. With a more extended set of “structural” independent variables, the effect of *wages* tends to be insignificant, although even positive significant results sometimes emerge. When the political variables are excluded from the regression, the effect of government wages becomes negative and borderline significant. But in this case, due to the limited number of observations on *wages*, it is difficult to tell how much of the result comes from the change in the sample, and how much comes precisely from the inclusion of different sets of independent variables. Nevertheless, as mentioned before, all the main results on the core variables survive to the inclusion of *wages* in the regression. For this reason, and because of the instability of this coefficient across different specifications, we omit the regressions including *wages* in Table 7.

⁹ In relation to the regional dummies, the most consistent results across the different specifications refer to “East Europe and Central Asia” and “Latin America and the Caribbean.” Both these regions have higher level of perceived corruption than would be expected from the values of the other independent variables. The estimated coefficients imply that, for constant values of the other variables, “East Europe and Central Asia” and “Latin America and the Caribbean” have corruption indices approximately 1 point higher than the control group (West Europe and North America). There seems to be some truth to the popular belief that these places of the world have a particularly acute problem of corruption.

parliamentary systems, political stability, and freedom of press. We control for different sets of variables that may determine simultaneously political institutions and corruption, or that may be correlated with both. These controls include a large set of cultural and natural factors (from region and climate, to legal tradition and ethnic composition), a set of policy variables, and development variables. The inclusion of such a large set of controls is possible due to the unprecedented use of a panel in this type of analysis. Of the results mentioned before, all but the one related to freedom of press survive the inclusion of the different sets of controls. Freedom of press seems to be partially capturing the effect of economic development on corruption.

Another effect suggested by the empirical analysis, but that needs further investigation to be confirmed, is the one related to decentralization. In accordance with the theoretical literature, the analysis hints at the fact that different types of decentralization may have different effects on corruption. Political decentralization in the sense that states are more autonomous, potentially being able to legislate over areas already covered by the central government, seems to increase corruption, while decentralization in the sense that expenditures are more decentralized through the different levels of national government seems to reduce corruption.

The inclusion of political variables in the empirical analysis of the determinants of corruption turns out to be refreshing. Justifying all the attention given by the theoretical literature to the institutional determinants of corruption (referenced in section 2.2), our results indicate that political variables are indeed among the most important determinants of corruption across countries and over time. After political institutions are accounted for, variables usually found to be important determinants of corruption – such as openness, wages in the public sector, and legal tradition – lose virtually all their relevance. These results are robust to controls for regions of the world, natural characteristics, economic development, ethnic composition, etc. In a nutshell, political institutions really matter because they establish the monitoring and accountability mechanisms, which in turn reduce the incentives for corruption by public servants.

From a policy viewpoint, this study should raise the attention given to accountability mechanisms more generally. For example, future research could

explore whether agencies subject to different accountability mechanisms (such as transparency standards) within a given country also differ in terms of the corruption they engender. Moreover, discussions of political decentralization should bear in mind the distinct effects that different forms of decentralization might have. Efforts should be targeted at creating competition in all levels of the political structure, avoiding regulations in which different agencies – or levels of power – have overlapping jurisdictions. Finally, although the effect of freedom of press in our data might be the product of development, this finding should not deter efforts to strengthen the ability of civil society to monitor the performance of the public sector.

Nevertheless, the results do indicate that political institutions matter, and that some political systems are likely to be associated with lower levels of corruption over time. Thus, anti-corruption efforts to be undertaken are likely to succeed more readily in some systems than in others.

Appendix: Data

Name	Variable	Source	Description
Corruption			
CRR-DRI	Corruption	Standard and Poor's DRI/McGraw-Hill	Corruption among public officials, effectiveness of anticorruption initiatives. Based on country analysts' opinion. Detailed in Kaufman et al (1999).
GALLUP	Corruption	Gallup International	Frequency of "cases of corruption" among public officials. Based on survey of citizens. Detailed in Kaufman et al (1999).
GCS1	Corruption	Global Competitiveness Survey	Irregular, additional payments connected with import and export permits, business licenses, exchange controls, tax assessments, police protection or loan applications. Based on survey of enterprises. Detailed in Kaufman et al (1999).
GCS2	Corruption	Global Competitiveness Survey	Frequency of "irregular payments" to officials and judiciary. Based on survey of enterprises. Detailed in Kaufman et al (1999).
ICRG	Corruption	International Country Risk Guide	Indicator related to financial risk associated with this factor based on the analysis of worldwide network of experts. Detailed in ICRG (1999).
WDR	Corruption	World Development Report 1997.	Corruption as "obstacle to business". Based on firms' survey. Detailed in Kaufman et al (1999).
Political			
control	Executive Control of Legislative Houses	Beck et al (2001)	Dummy indicating whether executive has control of all houses.
democ	Democracy	Beck et al (2001)	Dummy for a regime with democratic characteristics, not run by a military officer.
dstab	Time of Democratic Stability	Beck et al (2001)	Years of democratic stability
list	Closed Lists	Beck et al (2001)	Dummy for existence of closed lists in a democratic regime.
presid	Presidential System	Beck et al (2001)	Dummy for a presidential democracy.
reelect	Reelection	Beck et al (2001)	Dummy for possibility of reelection in a presidential democracy.
state	State Autonomy	Beck et al (2001)	Variable indicating the degree of state political autonomy (0 if there are no local elections, 1 if legislature is locally elected, and 2 if both legislature and executive are locally elected).
Controls			
area	Area	World Bank Global Development Network Growth Database	Country area in square km's.
elf	Ethno-linguistic Fractionalization	Collier and Hoeffler (1998)	Ethno-linguistic Fractionalization Index: probability that any two random citizens will be drawn from different ethno-linguistic groups.
fpres	Freepress index	Freedom House	Freedom of press index obtained from the HDI. Based on academic advisors, in-house experts, publications, and local correspondents.
gdppc	Income	World Development Indicators	GDP per capita, PPP (current international \$).
govrev	Size of the Government	IMF Financial Government Statistics	Total government revenue as % of GDP.
landlock	Landlocked	World Bank Global Development Network Growth Database	Dummy for landlocked countries.
latitude	Latitude	World Bank Global Development Network Growth Database	Country latitude in degrees.
leg_brith	British Legal Tradition	World Bank Global Development Network Growth Database	Dummy for British legal tradition.
longitude	Longitude	World Bank Global Development Network Growth Database	Country latitude in degrees.
open	Trade Openness	World Development Indicators	Imports as share of GDP.
reg_*	Regions	World Bank Global Development Network Growth Database	Dummies for regions of the world.
transf	Expenditure Decentralization	IMF Financial Government Statistics	Transfers from central government to other levels of national government as % of GDP.
tropic	Tropical Climate	World Bank Global Development Network Growth Database	Dummy for tropical countries (absolute value of latitude less than or equal to 23).
tyr15	Education	Barro and Lee	Average Schooling in the population above 15.
wages	Relative Government Wages	Van Rijckeghem and Weder (2001) and ILO	Government wages relative to manufacturing wages.
Crime			
burglary	Burglary Rate	International Crime Victimization Surveys	Percentage of the population victim of burglaries.
theft	Theft Rate	International Crime Victimization Surveys	Percentage of the population victim of thefts.
cont. crime	Contact Crimes Rate	International Crime Victimization Surveys	Percentage of the population victim of contact crimes.

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