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Corruption and governance around the world

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Chapter 2

Determinants of Corruption: A Survey

“If government were a product, selling it would be illegal.”

P. J. O’Rourke (1993)

2.1 Introduction

Corruption is a world-wide phenomenon that is multi-faceted. While it also exists in the private sector, corruption primarily involves government officials. Hence, it is not surprising that corruption is labeled as “endemic in all governments” (Nye, 1967: 417), where “... no region, and hardly any country, has been immune” (Glynn et al., 1997: 7). Corruption is probably as old as government itself.

Corruption affects almost all parts of society. Like a cancer, as argued by Amundsen (1999: 1), corruption “eats into the cultural, political and economic fabric of society, and destroys the functioning of vital organs.” The World Bank (WB) has identified corruption as “the single greatest obstacle to economic and social development. It undermines development by distorting the rule of law and weakening the institutional foundation

Earlier versions of this chapter—joint work with Jakob de Haan—were presented at the European Public Choice Society meetings in 2005 and 2006

on which economic growth depends.”¹ This explains why anti-corruption measures rank high on the policy agenda of the World Bank and the United Nations (2007) as exemplified by its recent *Stolen Asset Recovery (StAR) Initiative*.

Corruption has also attracted the attention of researchers in the academic arena; not only in economics, but also in sociology, political science, law, etc. Research in this area includes detailed descriptions of corruption scandals, case studies, and cross-country studies. It also ranges from theoretical models to empirical investigations.

This chapter updates the surveys by Andvig et al. (2000) and Jain (2001) and reviews empirical studies² on the causes of corruption. Since corruption has a negative impact on economic outcomes (Mauro, 1995; Tanzi and Davoodi, 1997; Gupta et al., 1998; Lambsdorff, 2001), it is important to know which factors determine corruption.

The rest of this chapter is constructed as follows. In section 2.2 we discuss the concept of corruption and its measurement. Section 2.3 explores some empirical issues concerning the determinants of corruption. Section 2.4 concludes.

2.2 Corruption: Definition and Measurement

2.2.1 Definition

The Oxford Advanced Learner's Dictionary (2000, p. 281) describes corruption as: (1) dishonest or illegal behaviour, especially of people in authority; (2) the act or effect of making somebody change from moral to immoral standards of behaviour. Here, corruption is linked to two important elements: authority and morality. Authors like Gould (1991: 468) explicitly define corruption as a moral problem, i.e., it is “an immoral and unethical phenomenon that contains a set of moral aberrations from moral standards of society, causing loss of respect for and confidence in duly constituted au-

¹ www1.worldbank.org/publicsector/anticorrupt/index.cfm.

² An excellent survey on theoretical studies on corruption is Aidt (2003).

thority.” This is in line with Dobel (1978: 960) who labels corruption as “the moral incapacity to make disinterested moral commitments to actions, symbols, and institutions which benefit the substantive common welfare.”

These normative definitions, however, are not without problems. Moral norms differ from place to place and change from time to time. For example, whose moral standard should be used, or what is the appropriate moral benchmark if there is more than one standard? In African traditions ‘gift giving’ is a common practice (de Sardan, 1999), but in Western cultures it is often regarded as corruption (Qizilbash, 2001). Also, what was not regarded in the past as corrupt acts, now may be labeled as corruption, and the other way around. Moreover, viewing corruption merely as a moral problem tends to individualize this social phenomenon and ignores the wider socio-political context of corruption.

For corruption to exist, according to Jain (2001), three conditions should be fulfilled: discretionary power, economic rents, and a weak judicial system.³ Discretionary power relates to authority to design and administer regulations, which, in turn, is accompanied by the presence of extracted rents associated with power. A weak judicial system implies a low probability of detection and lack of sanctions. Jain (p. 73) thus defines corruption as an act “in which the power of public office is used for personal gain in a manner that contravenes the rules of the game.” It brings us back to Waterbury’s (1973: 533) definition which is now widely accepted, i.e., corruption is “the abuse of public power and influence for private ends.” Under this definition, corruption takes many forms varying from the minor abuse of influence to institutionalized bribery and systematic kleptocracy.

2.2.2 Measurement

The literature provides three ways of measuring corruption. First, direct estimates in money metric terms that mainly capture corruption by politicians. For example, the Transparency International *Global Corruption Re-*

³In the same vein, Klitgaard (2000) constructs an ‘equation’ saying that corruption equals monopoly power *plus* discretion *minus* accountability.

port 2004 estimates the size of stolen asset by the top 10 world kleptocrats, ranging from 0.07-0.08 billion \$US (Josep Estrada, the President of the Philippine, 1998-2001) to 15-35 billion US\$ (Mohamed Soeharto, the President of Indonesia, 1967-1998).⁴

Second, estimates based on micro level data. Some authors employ a direct approach (e.g., Henderson and Kuncoro, 2004 and Kuncoro, 2004), where the reported bribe payments to public officials is used to calculate the magnitude of corruption at the micro level. Others employ an indirect approach. A good example is the study of Olken (2006) who compares Indonesian villagers' beliefs about the likelihood of corruption in a road-building project with a measure of 'missing expenditures' in the project.

Third, estimates based on the perception of the likelihood, frequency, or level of corruption of respondents in surveys. There are more than 25 organizations around the world that collect and publish this type of corruption data, either as poll-based data (primary source) or as poll-of-polls-based data (secondary source).

A good example of the poll-based data is the International Country Risk Guide (ICRG) data covering almost 150 countries since the beginning of the 1980s—making it the largest panel dataset available.⁵ The ICRG data are expert-based assessments of political, economic, and financial risks. Corruption is one of the 12 political risk components, with scores ranging between 0-6, where a higher score means less corruption. Corruption is captured via “actual or potential corruption in the form of excessive patronage, nepotism, job reservations, ‘favor-for-favors’, secret party funding, and suspiciously close ties between politics and business.”⁶

Another example is the World Economic Forum (WEF) dataset reported in *The Global Competitiveness Report*. Released since 1979, it initially cov-

⁴The list appeared also in the UN-WB report *StAR Initiative 2007*, but some of the estimates have been actually published in *Time Asia* (24 May 1999) and *The Guardian* (26 March 2004).

⁵The complete list of primary sources can be found in the reports of Kaufmann et al. (*Governance Matters*) and Lambsdorff (*Framework Document*).

⁶www.prsgroup.com/ICRG.Methodology.aspx

ered only 16 countries, but over time has been expanded to almost 120 countries. It is based on an annual opinion survey that records the perspectives of business leaders around the world who compare their own operating environment with global standards on a wide range of dimensions. Some of these provide information on the perception of corruption. For instance, one issue refers to ‘favoritism in decisions of government officials when deciding upon policies and contracts.’ Other dimensions include ‘irregular payment’ in export and import, government procurement, tax collection, public contracts, and judicial decision as well as business cost of corruption. Each of these variables is scaled between 1-7, where a higher score means less corruption.

The third example of primary data is the one reported in the *World Competitiveness Yearbook* of the Institute for Management Development (WCY-IMD). The WCY has been published since 1987 and was initially a joint initiative with the WEF. The IMD reports corruption on the basis of a survey among thousands domestic and foreign firms operating in about 50 countries. There are various variables that are related to corruption, but the most explicit one is an indicator labeled ‘bribery and corruption exist in public sphere’. This indicator has a scale ranging from 0 (highly existing) to 10 (not existing).

A well-known example of the poll-of-polls-based data is the Transparency International (TI) index, called Corruption Perception Index (CPI).⁷ This data covers about 130 countries. At least three primary surveys or sources should be available for a country to be included in the calculation of CPI. Computed by Lambsdorff on behalf of the TI since 1995, the CPI aggregates various perception-based indicators of corruption to a new index on 0-10 scale index where a higher score means less corruption. The index is constructed via two steps. First, standardization of the primary data is done by a two-sequential procedure: matching percentile and β -transformation.⁸

⁷ www.transparency.org/policy_research/surveys_indices/cpi/

⁸ Before 2002 the standardization was done by a simple mean and standard deviation approach.

The former is to tackle the differences in scaling system among the primary sources as well as in the distribution of data, and also to ensure that the resulting index lies between 0-10. The latter is to handle the tendency of the standard deviation to attenuate over time. In the second step, the final index is computed as the unweighted average of the standardized and transformed data (Lambsdorff, 2002, 2003b, 2004).

Due to the differences in the standardization and transformation and the use of different sources over time, the CPI is not a consistent time series. In Lambsdorff's (2000: 4) words, "year-to-year changes may not only result from a changing performance of a country ... changes can result from the different methodologies ... not necessarily from actual changes."⁹

The other main source of poll-of-polls corruption data is the World Bank (Kaufmann and Kraay, 2002; Kaufmann, et al., 1999, 2006, and 2007).¹⁰ Corruption is one of the six components of the Kaufmann governance index.¹¹ Reporting corruption data since 1996, this index covers almost 200 countries and territories and draws upon about 40 data sources produced by more than 30 different organizations. To aggregate the various corruption indicators, Kaufmann et al. (1999, 2002) use a latent variable approach in which the observed perception indicators of corruption are expressed as a linear function of the latent concept of corruption plus a disturbance capturing perception errors and sampling variation in each indicator. The resulting index ranges between -2.5 (most corrupt) and $+2.5$ (least corrupt).

Table 2.1 reports the correlation among the indicators discussed above. Both the Pearson and polychoric correlation coefficients demonstrate the closeness of the corruption indicators. Apart from the TI, the World Bank, and the ICRG indicators, the table also shows seven indicators of corrup-

⁹In line with this, since it relies heavily on independently conducted surveys and expert polls, the CPI is not available for a significant number of countries. Sometimes countries are no longer included if the required minimum number of sources is missing. Galtung (2006) therefore concludes that the CPI does not measure trends as it is a defective and misleading benchmark of trends.

¹⁰www.worldbank.org/wbi/governance/wp-governance.html

¹¹The other components are voice and accountability, political instability and violence, government effectiveness, regulatory quality, and rule of law.

tion drawn from the WEF, namely irregular payments in public utilities, public contract, judicial decision (d1-d3), export-import, tax collection (d5-d6), and business cost of corruption (d4), as well as favoritism in policy making (d7). Using these WEF indicators, we also construct an aggregate index of corruption using Principal Component Analysis (PCA).¹² It is clear that the correlation among the WEF indicators is very high, and so is the correlation among the resulting PCA-based WEF index, the Lambsdorff, Kaufmann, and ICRG indicators of corruption.¹³ In other words, although the indicators are different, they proxy the same phenomenon: corruption.

2.2.3 Criticisms

Some of the critique on these indicators of corruption depart from the definition underlying these indicators. Galtung (2006), for example, argues that the CPI does not explicitly distinguish between corruption in the civil service and political corruption. Likewise, Kurtz and Schrank (2007) criticize that the measures of corruption that combine questions about the presence of nepotism, cronyism, and bribe taking place in government with the intrusiveness of the bureaucracy or the amount of red tape may be problematic. In their words (p. 543), “intrusiveness and red tape can be a sign of either effective or ineffective governance, depending on the content of the policies being enforced.”

In line with this is critique referring to the use of different sources to come up with an indicator of corruption. Different sources may give different definitions of corruption and different forms of corrupt act. Andvig (2005) questions whether the different sources underlying the CPI cover the same phenomenon. Also, Søreide (2003: 7) writes,

¹² Other latent variable estimates such as Principal Factor (PF) and Maximum Likelihood (ML) based Factor Analysis used to produce aggregate indexes give very similar results. Each of the three techniques produces only one factor with a high eigenvalue and very high loadings of the underlying indicators.

¹³ The correlation between the two aggregated indexes (WB and TI) and the three individual indexes are certainly high, because the former indexes contain the later indexes.

Table 2.1: Indicators of Corruption, Correlation and Summary Statistics

Corruption Indicators	WB	TI	ICRG	WEF (PCA)	WEF Indicators							IMD
					WEF ₁	WEF ₂	WEF ₃	WEF ₄	WEF ₅	WEF ₆	WEF ₇	
a. WB	0.99	0.99	0.95	0.93	0.86	0.89	0.90	0.94	0.87	0.85	0.84	0.97
b. TI	0.97	0.97	0.94	0.95	0.88	0.92	0.91	0.95	0.89	0.86	0.85	0.98
c. ICRG	0.89	0.88	0.88	0.87	0.80	0.84	0.83	0.88	0.80	0.77	0.80	0.93
d. WEF	0.93	0.94	0.78	0.92	0.91	0.98	0.97	0.96	0.96	0.92	0.88	0.93
d1. WEF ₁	0.85	0.85	0.70	0.92	0.86	0.86	0.85	0.83	0.95	0.89	0.69	0.84
d2. WEF ₂	0.87	0.90	0.74	0.97	0.88	0.95	0.95	0.92	0.92	0.87	0.87	0.91
d3. WEF ₃	0.88	0.89	0.72	0.95	0.82	0.91	0.95	0.92	0.92	0.89	0.82	0.89
d4. WEF ₄	0.92	0.93	0.80	0.95	0.82	0.89	0.92	0.87	0.87	0.82	0.90	0.94
d5. WEF ₅	0.86	0.88	0.72	0.96	0.91	0.92	0.88	0.87	0.93	0.92	0.74	0.85
d6. WEF ₆	0.85	0.86	0.67	0.94	0.92	0.89	0.87	0.85	0.93	0.68	0.68	0.82
d7. WEF ₇	0.81	0.82	0.71	0.85	0.67	0.83	0.79	0.85	0.74	0.68	0.68	0.87
e. IMD	0.97	0.98	0.93	0.93	0.84	0.91	0.89	0.94	0.85	0.82	0.82	0.87
Observations	207	168	140	117	117	117	117	117	117	117	117	53
Mean	0.00	4.05	2.50	0.00	5.04	4.06	4.57	4.36	4.66	4.88	3.21	4.63
Std. Dev.	1.00	2.14	1.18	2.47	1.09	1.06	1.25	1.13	1.13	1.19	0.87	2.62
Minimum	-1.68	1.80	0.00	-4.69	2.10	2.10	2.40	2.20	2.20	2.20	1.60	0.51
Maximum	2.49	9.65	6.00	4.96	6.80	6.40	6.80	6.80	6.70	6.80	5.40	9.38

Correlation is based on the 2005-06 data. The lower (upper) diagonal is Pearson (polychoric) correlation.

PCA is based on indicators d1-d7. WEF₁-WEF₃: irregular payments in public utilities, public contract, and judicial decision;

WEF₄: business cost of corruption; WEF₅-WEF₆: irregular payments in export-import and tax collection;

WEF₇: favoritism in policy making.

“Most of the polls and surveys ask for a general impression of the magnitude of the problem, which actually means people’s subjective intuitions of the extent of a hidden activity. For the TI index, only one source asks for people’s personal experiences with corruption. The quantification of the problem is highly ambiguous. It is not clear to what extent the level of corruption reflects the frequency of corrupt acts, the severity to society, the size of the bribes or the benefits obtained. Most of the surveys do not specify what they mean by the word corruption. It can thus be quite difficult for the respondents to answer when asked about a quantification of ‘the misuse of public office for private or political party gain’ or when encouraged to rate ‘the severity of corruption within the state’.”

These criticisms, however, have limited validity. As indicated in Table 2.1, various measures of corruption are highly correlated, suggesting that they measure the same phenomenon.

Another criticism points to the design of surveys, e.g., surveys designed to capture perception may have a bias that affects the respondents’ interpretation of the questions in the surveys. As Bertrand and Mullainathan (2001) argue, the sequence of questions may substantially affect the respondents as they tend to answer questions in line with their answers to previous questions. Also, the prior questions may bring out certain memories which influence the answers. Other technical problems raised by Bertrand and Mullainathan include the time spent by the respondents to scrutinize each question, scoring effects, and other cognitive issues.

A more substantive criticism is indicated by Olken (2006) and Donchev and Ujhelyi (2007). They argue that what is believed by the respondents may not reflect what actually happens. Fisman and Miguel (2006), however, provide some evidence that beliefs about corruption and actual corruption are closely related. They study the parking behaviour of UN diplomats who have immunity from parking enforcement actions and compare the data with perceived corruption. They find that diplomats from corrupt countries (based on existing perception-based indexes) accumulate significantly more unpaid parking violations demonstrating the abuse of power.

The choice of respondents is also criticized as it may potentially influence the responses, i.e., different participants may give different opinions about a country under review. Kurtz and Schrank (2007) argue that surveys on

corruption may reflect the narrow interests of respondents, say, business communities. A potential bias in sample selection may occur due to the exclusion of respondents “who did not succeed in the marketplace, or . . . who were deterred from entering local markets by pervasive malgovernance or corruption itself.” As a consequence, the sample is dominated by unrepresentative respondents, while those who “show up in the surveys . . . are the beneficiaries of corruption and cronyism . . . therefore unlikely to report it accurately.” Moreover, “malgovernance is effectively reported . . . because it is not pervasive enough to create sufficiently strong distortions in firm-level survival or investor behaviour to induce selection bias. And thus in such contexts those who do not win from malfeasance can survive to report it!” (p. 543).

This criticism may be true for individual surveys, but less so for surveys aggregating such individual surveys. Kaufmann, et al. (2007), for example, use a mixture of sources of data coming from various agents: four cross-country surveys of firms, seven commercial risk-rating agencies, three cross-country surveys of individuals, six sets of ratings produced by government and multilateral organizations, and 11 data sources produced by a wide range of non-governmental organizations.

Despite all these criticisms, some of which appear to be more valid than others, perception-based corruption indicators have created the possibility to study corruption. As a result, numerous studies have employed such indexes. In the following, we review studies on the determinants of corruption.

2.3 Determinants of Corruption

2.3.1 Four Classes

We survey cross-country studies on the determinants of corruption published over the last 10 years. All studies that we are aware of are summarized in Appendix 1. While other categorizations are possible, we distinguish four broad classes of the underlying causes of corruption, namely (1) economic

and demographic determinants, (2) political institutions, (3) judicial and bureaucracy environment, and (4) geography and culture.

Economic and Demographic Determinants

There is a wide range of economic variables that have been suggested to cause corruption. Income is a commonly-used variable to explain corruption (Damania et al., 2004; Persson et al., 2003; and van Rijckeghem and Weder, 1997; among others). Corruption can be seen as an inferior good, where the demand falls as income rises. Also, along with an increase in income, more resources are available to combat corruption. Mostly proxied by GDP per capita, income is also used to control for structural differences across countries. It is generally found that income has a negative and significant effect on corruption, even though Kaufmann et al. (1999) and Hall and Jones (1999) question the causal relationship between corruption and income. Two studies using panel data (Braun and Di Tella, 2004; Fréchette, 2006) deviate from this commonly-found result, as they report that higher income increases corruption, especially when country fixed effects are considered. Braun and Di Tella (p. 93) argue that this is due to the pro-cyclical nature of corruption, where “moral standards are lowered during booms, as greed becomes the dominant force for economic decisions.”

Income distribution is also argued to affect corruption. As Paldam (2002: 224) puts it, “A skew income distribution may increase the temptation to make illicit gains.” Proxied by the Gini coefficient, he claims that income disparity significantly increases corruption. However, using the income share of the top 20% population, Park (2003) does not find a statistically significant relationship. Similarly, Brown et al. (2006) find no evidence that a greater income inequality increases corruption.

The size of government is also put forward as a determinant of corruption, but the causality may run in two directions. If countries exploit economies of scale in the provision of public services—thus having a low ratio of public services per capita—those who demand the services might

be tempted to bribe bureaucrats ‘to get ahead of the queue’. On the other hand, a large government sector may also create opportunities for corruption. Some empirical studies (like Fisman and Gatti (2002) and Bonaglia et al. (2001)) find a negative impact of government spending on corruption, while others (like Ali and Isse, 2003) report the opposite.

Another variable that, according to various authors, also explains corruption is the share of import in GDP. Herzfeld and Weiss (2003), Fisman and Gatti (2002), Fréchette (2006), and Treisman (2000) report that a higher import share leads to less corruption. A high import share implies lower tariff and non-tariff import restrictions. The presence of such restrictions—like the necessary licenses to import, for example—offers an opportunity to bribe. Similarly, restrictions on foreign trade, foreign investment, and capital markets stimulate corruption; see, for instance, Knack and Azfar (2003), and Fréchette (2006). Broadman and Recanatini (2001, 2002) show the existence of a positive relationship between entry barriers and corruption; that is, the greater the barriers to entry and exit faced by firms, the more widespread is corruption. Some other evidence on the link between corruption and economic openness is based on the trade share that is generally found to reduce corruption (Brunetti and Weder, 2003; Knack and Azfar, 2003; Persson et al., 2003; Fisman and Gatti, 2002; Bonaglia et al., 2001; Fréchette, 2006; Wei, 2000b; Ades and Di Tella, 1999; Laffont and N’Guessan, 1999; Leite and Weidmann, 1997) and competitiveness that is found to decrease corruption as well (Gurgur and Shah, 2005; Broadman and Recanatini, 2001).

Economic freedom—measured by the indexes of the Heritage Foundation and the Wall Street Journal, or the Fraser Institute—is also repeatedly found to lessen corruption. Proponents of this view are Gurgur and Shah (2005), Park (2003), and Treisman (2000), but Lederman et al. (2005) and Paldam (2002) find mixed results.

Some other economic variables are less frequently considered as determinants of corruption. Inflation is argued to stimulate corruption as it increases the monitoring costs (Braun and Di Tella, 2004; Paldam, 2002).

Foreign aid is found to rise corruption since transferred resources with substantial discretion in the absence of accountability to the decision maker may create rents to be extracted (Ali and Isse, 2003; Tavares, 2003), although Knack (2001) finds no significant link between aid and corruption. Finally, structural reform is also found to reduce corruption as it includes a reduction in the size of the public sector and, more importantly, a fundamental shift in the state's role "from one implying owning or controlling most productive resources to one that is more narrowly defined around essential state functions" (Abed and Davoodi, 2000: 7).

Socio-demographic determinants associated with corruption include human capital (proxied by schooling) and population growth. Economies with a high level of human capital have a low level of corruption as indicated by Ali and Isse (2003), Alt and Lassen (2003), Brunetti and Weder (2003), Persson et al. (2003), Rauch and Evan (2000), Ades and Di Tella (1997 and 1999), and van Rijckeghem and Weder (1997). Education increases the ability of society to control government behavior and to judge their performance. At the same time, educated society also play a role as an external control on corruption in the administration (Brunetti and Weder, 2003; Ades and Di Tella, 1999).

Knack and Azfar (2003) show that an increase in population is followed by an increase in corruption—a finding also reported Fisman and Gatti (2002). This may be explained from the view of economies of scale in governance. As argued by Knack and Azar (p. 4), "in large nations rulers can extract significant resources from the country and pay off the constituencies necessary for them to maintain power."

Political Institutions

Most empirical studies on the political causes of corruption focus on political freedom. Using various proxies for political freedom—like civil liberty, political rights, democracy and length of the democratic regime—these studies generally conclude that more freedom reduces corruption. A common

argument for this is that political freedom ensures political competition and checks-and-balances mechanisms. At the same time, it also enforces transparency in public services. In other words, political freedom creates incentives for politicians to be ‘clean’ and implies constraints on misconduct. The list of studies reporting support for this conclusion includes Kunicová and Rose-Ackerman (2005), Lederman et al. (2005), Gurgur and Shah (2005), Braun and Di Tella (2004), Chang and Golden (2007), Damania et al. (2004), Herzfeld and Weiss (2003), Knack and Azfar (2003), Broadman and Recanatini (2001, 2002), Paldam (2002), Bonaglia et al. (2001), Fréchette (2006), Swamy et al. (2001), Treisman (2000), Ades and Di Tella (1997; 1999), Goldsmith (1999), Leite and Weidmann (1997), and van Rijckeghem and Weder (1997). Also freedom of the press is reported to reduce corruption (Brunetti and Weder, 2003). In line with these findings, political participation and constraints on the chief executive are found to reduce corrupt behaviour as well (Kunicová and Rose-Ackerman, 2005).

Some aspects of democratic elections may, however, create opportunities for corruption. Selecting politicians through party lists, for example, can obscure the direct link between voters and politicians, thus degrading the ability of voters to hold politicians accountable (Kunicová and Rose-Ackerman, 2005; Persson et al., 2003). Chang and Golden (2007) find that corruption increases (decreases) with district magnitude under open-list (closed-list) political representation. Similar results are found by Persson et al. (2003).

Authors like Park (2003), who uses Alesina and Perotti’s (1996) PCA-based socio-political instability index, and Leite and Weidmann (1999), who take the frequency of revolutions, coups, and political assassinations as indicators of political instability, find that corruption is high in unstable polities. Shleifer and Vishny (1993) point out that the ephemeral nature of public positions in unstable systems makes the officials irresponsible and get them involved in illicit rent-seeking behavior. Some support on the role of political stability is also given by Wei (2000a).

Finally, some studies report that presidential system promotes corruption (Brown, et al., 2005; Kunicová and Rose-Ackerman, 2005; Lederman

et al., 2005; Chang and Golden, 2007) as the president tends to have extensive legislative and non-legislative powers. Also the number of political parties (Chang and Golden, 2007) is reported to increase corruption. When the number of parties increases it is more difficult for the public to monitor the behaviour politicians. Yet, ideological polarization reduces corruption because more ideologically polarized systems provide constraints related to credible political commitments (Brown, et al., 2005). Likewise, corruption seems to be lower under a plurality system, as monitoring of rent seekers is more stringent than under a proportional representation system (Kunicová and Rose-Ackerman (2005).

Judiciary System and Bureaucratic Environment

There is no question that the quality of the judicial system is important in explaining corruption. A weak judicial system is fertile land for corruption to grow. Many studies have employed various indicators to come up with this conclusion. Damania et al. (2004), for example, have used the rule of law index of Kaufmann et al. (1999) that measures the extent to which economic agents abide by the rules of society, perceptions of the effectiveness and predictability of the judiciary, and the enforceability of contracts. Others (Brunetti and Weder, 2004; Ali and Isse, 2003; Herzfeld and Weiss, 2003; Park 2003; and Leite and Weidmann, 1999) use the index of the ICRG that reflects the degree to which the citizens of a country are willing to accept the established institutions to make and implement laws and adjudicate disputes. This index also measures the extent to which countries have sound political institutions, strong courts, and orderly succession of power. All studies mentioned conclude that a strong rule of law reduces corruption.

The bureaucratic environment is also relevant in influencing corruption. Van Rijckeghem and Weder (1997) argue that public sector wages are highly correlated with the rule of law and the quality of the bureaucracy, which may therefore may have an effect on corruption. In developing economies civil servants often receive wages that are so low that they entice corrupt

behaviour. Measured as the relative magnitude of government wages to GDP, Herzfeld and Weiss (2003) identify that an increase in public sector wages significantly reduces corruption. Likewise, van Rijckeghem and Weder (1997) report that the level of government wages is negatively correlated with corruption. Similar results are found by Alt and Lassen (2003) and Rauch and Evans (2000). However, other studies find that this relationship is not always statistically significant (Gurgur and Shah, 2005; Treisman, 2000).

Gurgur and Shah (2005), Brunetti and Weder (2003), and van Rijckeghem and Weder (1997) report that the higher the quality of the bureaucracy, the lower corruption will be. Similarly, absence of meritocratic recruitment, promotion and professional training in the bureaucracy are also found to be associated with lower corruption (Rauch and Evans, 2000).

Decentralization or federalism has also been argued to affect corruption. Enhancing the autonomy of local governments may result in two different effects (Lederman et al., 2005). It may promote the ability of local governments to compete against each other for citizens, but it can also provide authorities to amplify regulations in areas already covered by the central government. Hence, the effect of decentralization remains an empirical question. Measuring decentralization as transfers from central government to other levels of national government as a percentage of GDP, Lederman et al. (2005) find that this variable reduces corruption significantly. Likewise, taking a binary variable of centralized unitary states and decentralized federal systems, Ali and Isse (2003) report that decentralized government lowers corruption.

Gurgur and Shah (2005) use the ratio of employment in non-central government administration to general civilian government employment and show that corruption is lower in both decentralized unitary and federal states but the impact is higher in decentralized unitary systems. Fisman and Gatti (2002) measure decentralization as the share of state and local government spending in total government spending and find a negative effect on corruption. In line with this, Abed and Davoodi (2000) indicate that

corruption is higher in countries governed by a central planning system.

However, others fail to find a negative effect of decentralization. Kunicová and Rose-Ackerman (2005), who use a dummy for autonomous regions with extensive taxing, spending and regulatory authority, even argue that federalism increases corruption, holding other factors constant. Likewise, using a dummy variable for the presence of a federal constitution, Damania et al. (2004) and Treisman (2000) find that a federal structure is more conducive to corruption. The reason for this finding, according to Brown et al. (2006: 13), is that “as the political pie is divided between a greater number of geographic entities, opportunities to generate political rents increase.” Similarly, Goldsmith (1999) demonstrates that federalism is associated with more perceived corruption.

Geography and Culture

Geography is a broad term that includes both human and physical geography. As it explains the interactions among the members of the society that shape norms, traditions, cultures, and institutions, human geography may also matter for corruption. Ethnolinguistic homogeneity, for example, is found to be negatively related to corruption (Ali and Isse, 2003). In a heterogeneous and fragmented society, the probability that economic agents will be treated equally and fairly are lower. As a result, highly fragmented communities are likely to be more corrupt than homogenous societies.

It is also often argued that countries with many Protestants tend to have lower corruption levels (Chang and Golden, 2007; Bonaglia et al., 2001; Treisman, 2000; La Porta et al., 1999). Protestant traditions are commonly used to proxy for an egalitarian community. Compared to more hierarchical societies, the likelihood of corruption to occur in egalitarian communities is lower. Paldam (2001) reports that in countries dominated by two religions, namely Reform Christianity (i.e., Protestants and Anglicans) and Tribal religions, corruption tends to be lower compared to countries in which other religions dominate.

Another cultural variable used to explain corruption is colonial heritage that captures “command and control habits and institutions and the divisive nature of the society left behind by colonial masters” (Gurgur and Shah, 2005: 18). The evidence on the relevance of this variable is, however, mixed. Countries that have been colonized tend to suffer from corruption (Gurgur and Shah, 2005; Herzfeld and Weiss, 2003; Tavares, 2003). On the other hand, some studies indicate that former British colonies have lower levels of corruption. Persson et al. (2003) measure the influence of colonial history by partitioning all former colonies into three groups, namely British, Spanish-Portuguese, and other colonial origin. They conclude that former British colonies tend to be less corrupt. Similarly, La Porta et al. (1999) report that in countries with German and Scandinavian legal origin corruption is lower compared to those with a Socialist and French legal origin.

Women’s participation is also argued to correlate with corruption. Swamy et al. (2001) indicate that the more women are involved in the public arena, the lower corruption will be. They also find that a higher share of women in parliament and in government reduces corruption. Following Gottfredson and Hirshi (1990) and Paternoster and Simpson (1996), they (p. 52) provide four arguments to explain the finding. First, “women may be brought up to be more honest or more risk averse than men, or even feel there is a greater probability of being caught.” Second, “women, who are typically more involved in raising children, may find they have to practice honesty in order to teach their children the appropriate values.” Third, “women may feel more than men—the physically stronger sex—that laws exist to protect them and therefore be more willing to follow rules.” Lastly, “girls may be brought up to have higher levels of self-control than boys which affects their propensity to indulge in criminal behaviour.”

Countries situated far away from the equator—as measured as absolute latitude—tend to have lower corruption levels (La Porta et al., 1999). This may be interpreted as colonial influence, as settlers preferred another climate. Meanwhile, Ades and Di Tella (1999) argue that trade distance correlates to corruption. Corruption is high in countries located far away to

large exporting nations. This distance protects such countries from the penetration of foreign competitors due to high transport costs. As this 'natural protection' rises, corruption also increases. Similarly, remoteness isolates countries to have an anti-corruption regime (Bonaglia et al., 2001).

Finally, another form of physical geography is natural endowment. A higher export share of raw materials, such as fuel, mineral, and ore, stimulates corruption (Leite and Weidmann, 1997). Natural endowments create rents-related corruption, according to Tornell and Lane (1998). Aslaksen (2007), through various panel model specifications, provides evidence that corruption is high in countries with many natural resources, especially oil. This is confirmed in cross-section studies by Herzfeld and Weiss (2003), Tavares (2003), and Bonaglia et al., (2001).

2.3.2 Empirical Issues

In the absence of a theory-based consensus on which to base empirical research on the causes of corruption (Alt and Lassen, 2003), studies on the determinants of corruption face several problems. First, researchers do not know the 'true' determinants of corruption so that the choice of variables to be included in the empirical model are open to question.

Second, a certain variable can be significant in a particular model, but becomes insignificant once other variables are taken into account. Some techniques, like the Extreme Bounds Analysis (EBA) of Leamer (1983, 1985) as well as Levine and Renelt (1992) or Sala-i-Martin (1997), the Bayesian Model Averaging (BAM) as introduced by Chatfield (1995) and Drapper (1995), or the general-to-specific approach (Hendry and Krolzig, 2005) may be used to examine the issue of model uncertainty. The significance of variables may also be influenced by the choice of a particular sample and the presence of outliers. The latter issue can be dealt with using robust estimation (Temple, 1998).

Third, there may be a multicollinearity problem related to the previous issue; that is, the estimate of the influence of a particular determinant

of corruption depends on the range of other determinants taken into account. Only in the case that a particular determinant is orthogonal to all other determinants in the model, can we safely evaluate the effect of this determinant on corruption independently of the specification used in the estimation. Hence, including highly correlated variables in a model at the same time might be problematic. Aggregating correlated variables via Factor Analysis can be a way to cope with this problem.

Fourth, there may also be a simultaneity problem as there could be a feedback relationship between corruption and one or more of its determinants. The corruption-income nexus, for example, is widely known to suffer from this problem. An increase in income may reduce corruption, while a lower level of corruption may lead to an improvement in income. The same applies to many other variables suggested to cause corruption, like openness, political stability, government size, etc.

Fifth, there may be indirect and interaction effects. Empirical models of corruption usually assume the existence of a direct link between corruption and its determinants. But there may be indirect effects, i.e., a variable affects corruption through its effect on another variable that, in turn, influences corruption. In such a case, a structural model might be useful. Similarly, corruption may be affected by the combined effect of some variables. Hence, an interaction between such variables should be considered.

Sixth, there may be parameter heterogeneity. In models explaining corruption, it is usually assumed that the magnitude of the effects of the determinants are country-invariant. One may question this assumption since it implies that, for example, the impact of income in poor and rich countries, or the effect of press freedom in democratic and non-democratic countries, on corruption is the same. Quantile Regressions (QR; Koenker and Hallock, 2001) can be used to tackle such heterogeneity, since each estimated quantile depicts a particular segment of the conditional distribution to result in a heterogeneous portrait of the relationship between per corruption and its determinants. Meanwhile, viewing this as spatial heterogeneity, Geographically Weighted Regression (GWR; Brunsdon et al. (1996, 1999), or even

Hierarchical Linear Modelling (HLM; Raudenbush and Bryk, 2002) can also be considered to tackle the issue of parameter homogeneity.

Finally, there might be a spatial dimension. Countries tend to be clustered with neighbors having similar institutions. Diffusion-adoption of knowledge, regional political and economic interactions, policy convergence, or socio-cultural similarities are responsible for this clustering phenomenon. Spatial Regressions (SR) can deal with these effects (Anselin, 1988).

2.4 Concluding Remarks

There is no doubt that corruption has a damaging impact on economic outcomes. The first step in combating corruption is to know its underlying determinants. This chapter has surveyed the extensive literature on the determinants of corruption. The main conclusions can be summarized as follows.

Corruption is not simply the deviation from a certain moral standard, thus it should be viewed in a wider socio-political context. Under this view, corruption takes a variety of forms, which in empirical studies are captured by various indicators. We find that these indicators are highly correlated. Or, in the language of latent variable analysis, the various measures of ‘private wealth-seeking behaviour misusing the entrusted public authority’ can be collapsed into a single latent concept of corruption. Therefore, the criticisms against the indicators and measurements of corruption may not have much empirical ground. In addition to this, the criticism on the bias in the choice of observations is not entirely correct. The widely used corruption indexes have incorporated a variety of surveys capturing a broad range of respondents. Also, it is reasonable to argue that the perceived corruption index may mirror the frequency, severity, and magnitude of corruption.

If it is possible to measure corruption, it is also possible to investigate its causes. There are some empirical issues, however, in investigating these variables. This is mainly due to the absence of a theoretical consensus on which to base an empirical model. Likewise, questions on which and

how many variables should be considered in an empirical model remain. Some researchers may pay attention to a particular variable of interest, but others explore the corruption determinants from a more general perspective. This survey has reviewed these factors and broadly classifies them into four classes, namely (1) economic and demographic factors, (2) political factors, (3) bureaucracy and judicial system, and (4) geography and culture.

It seems save to conclude that corruption is severe in low income countries that are less integrated with the world economy and are densely populated. The political determinants generally follows the 1887 Lord Acton's dictum saying that "Power tends to corrupt, and absolute power corrupts absolutely." Hence, lack of democracy increases corruption. Corruption is also high in countries suffering from a weak judicial system and low quality of bureaucrats who earn low wages. Countries with a higher fraction of Protestants, that are ruled by a system rooted in British legal origin, and that are ethnically less fragmented have a low level of corruption. Lastly, countries situated around the equator and that have many natural resources are more likely to be corrupt.