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MEASURING THE ECONOMIC IMPACT OF CORRUPTION: A SURVEY

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Measuring the Economic Impact of Corruption: A Survey

Anthony Lanyi

Introduction[1]

Because corrupt transactions are by definition illegal—or at the very least, part of the "informal economy"—they are not recorded and therefore impossible to measure directly. Nevertheless, strenuous efforts have been undertaken, by the business sector, the donor community, and scholars, to measure corruption indirectly. As will be seen, this has taken the form of *either* collecting survey data of various types, in conjunction with "hard" data that are hypothesized to be related to corruption, *or* measuring variables related to institutions or behavior that are considered to be linked—whether positively or negatively—to corruption.

There are three kinds of uses to which data of this sort can be put. One is to track the rise or decline of corruption (or, conversely, the degree of "institutional integrity" or "good governance") in a particular country; another is to compare countries (in order to make statements such as "Shangri-la is the world's most corrupt country"); a third, beloved of economists, is to use the data in order to make econometric estimates of the causes of corruption, or of its effect[2] on such economic variables as growth of GDP, foreign investment, fiscal revenues, the level and composition of government expenditures, and other variables that measure living standards.

A companion paper, by Thomas and Meagher (2003), surveys and critiques the conceptual frameworks that have been used to analyze corruption. The present paper is intended to survey the already rather large literature on the topics sketched above, bearing in mind the general question: "What do we know about the economic impact of corruption?" Section II discusses the measurement of corruption itself, or related variables. Section III briefly reviews empirical work aimed at specifying the causes of corruption. Section IV discusses the econometric studies that try to tease out the impact of variables related to corruption (or governance institutions) on economic outcomes. Section V summarizes what can be concluded from the existing corpus of empirical research in this area.[3]

I. Measures of Corruption: The Problem and Attempts to Solve It

This section addresses the problem of measuring corruption—or its converse, good governance or institutional integrity. The first section is definitional and conceptual,

[1] This paper has benefited greatly from discussions with and comments from Omar Azfar, Patrick Meagher, Peter Murrell, Melissa Thomas, and especially Shang-Jin Wei. I would also like to thank Darin Dalmat, Michael Kanaley, and Nuzaira Khan for their help with procuring documentation and manuscript preparation.

[2] Or, alternatively, the effect of institutional variables related to corruption.

[3] There are other surveys of the empirical research on corruption, in part covering similar ground but with purposes different from those of this study. Lambsdorff 1999 focuses on econometric results, with little discussion of measurement problems. Johnston and Kpundeh 2002 focus on the measurement problem in some detail, without any consideration of the causes and consequences of corruption.

addressing the question of whether there are institutional characteristics, the measurement of which provides a valuable indicator of corruption or the lack of it. The second discusses the pitfalls of trying to measure corruption. The last two sections survey attempts that have been made to measure corruption (Section II.C.) and institutional integrity (Section II.D.).

A. Corruption and Institutional Integrity: Two Sides of a Coin?

Donors such as the World Bank and USAID, in trying to assist developing and transition countries improve the capacity of government to develop their economies, have tried two partly distinct, partly overlapping, approaches: "anti-corruption" initiatives and building "institutional integrity" or "good governance." This distinction is based on a standard definitional usage: *corruption* is commonly defined as the abuse of public office for private gain, while *governance* may be defined as the formulation, promulgation and enforcement of rules, regulations, laws and other institutional procedures, in connection with such matters as how governments are chosen and replaced, how economic policies and public services are determined and carried out, and how civil and economic (e.g., property) rights are defined and upheld. Definitions of "governance" tend to be very broad—some would say too broad to be analytically useful.[4]

Corruption, strictly speaking, is a subset of the governance regime in a country, yet "corruption" is itself arguably too broad a term to serve as the basis of precise analysis. The many types of corruption—see Thomas and Meagher (2003) for examples—encompass a broad range of transactions, ranging from "high-level" favoritism, "cronyism," patronage, embezzlement, rent-seeking, *guanxi,* and "state capture," to "low-level" bribery and extortion. In all cases, these concepts refer to a set of political or economic circumstances in which an arm's-length relationship between government and business—a crucial component of Mancur Olson's "market-augmenting government"[5]— is violated, and/or in which there is "abuse of public office for private gain." But there are crucial differences among these different forms or near-relations of corruption in terms of substance of the transaction, identity of the actors, and economic and political contexts.

There are also semantic problems with the terms "institutional integrity" and "good governance." In part, such terms have become widely used by international agencies and bilateral donors because of possible diplomatic problems in applying the term "corruption" to a particular country. But while in some respects—as in the example given above—corruption and institutional integrity can be seen as two sides of the same coin, there are other respects in which this is not so. For one thing, "good governance"—the term most popular in the World Bank—and "institutional integrity"—a term much used in USAID—are not synonyms. "Good governance" has a broader meaning, encompassing such factors as macroeconomic policies, the regulatory regime, the rule of law, civil rights, and political stability, while "institutional integrity" is concerned more narrowly with the transparency and accountability of government processes. Important aspects of good governance are sometimes referred to as "the rule of law," a term that is itself occasionally used as a near-synonym of good governance. The concept of "good governance"—or just "governance," as it is usually called in the World Bank—is arguably so broad that, like "corruption," its meaningfulness as a tool of analysis is severely compromised. For example, "measurements" of governance by the

[4] I am grateful for Shang-Jin Wei's comments on this point.

[5] Olson 2000.

World Bank (see Section II.D) include variables related to representative democracy, yet there are important cases of countries with authoritarian governments but apparently good governance in a number of important respects over extended periods.[6]

The analytical distinction between the "corruption" and "governance" approaches has, to some extent, operational consequences. For example, if the problem is perceived as bribery of officials for doing what they are supposed to do (customs officials for passing goods through customs or government clerks for granting permits), the anti-corruption approach would emphasize raising penalties for wrongdoing, installing an anti-corruption agency or department to keep an eye on officials, setting up mechanisms for citizens' complaints, and creating an independent oversight agency with investigatory and perhaps also prosecutorial powers. The institutional integrity (or good governance) approach would involve such actions as civil service reform (linking hiring, promotion and pay strictly to qualifications and performance), establishing ethical codes and rules for each government office, and also, as in the previous approach, establishing anti-corruption units.

Thus, the two approaches are, operationally, both somewhat distinct (if complementary) and somewhat overlapping. Furthermore, where political institutions and cultural values are such as to encourage corrupt practices, distinctions between anti-corruption measures and building good governance may be immaterial, as both kinds of initiatives would be closely bound up with what would in effect be an effort to change existing political structures and/or cultural values.

Nevertheless, economists who want to explore the economic effects of corruption may choose to focus on the effects of institutions that are hypothesized to be associated with corruption, for the simple reason that institutional indicators are easier to measure than corruption itself. Efforts to carry out both types of measurements are summarized in the following sub-sections, and in Parts III and IV of this paper, where the literature on the causes and economic impact of corruption is summarized, attention is also given to econometric estimates based on institutional variables thought to be associated with corruption.

B. Why is Corruption So Difficult to Measure?

The problem of measuring corrupt transactions is loosely related to that of measuring criminal or informal activity more generally: how does one measure transactions that are being carried out essentially in secret? Formal, open economic activity is measured by a variety of means: income tax reporting (by both employers and employees, as well as financial institutions and corporations paying interest and dividends); corporate reports; industrial and agricultural data reported to the government and private trade associations; foreign trade transactions passing through customs; revenue and expenditures reported by governments at every level; and so on. From such data, we derive aggregate economic data on such variables as gross domestic product (GDP), foreign trade, employment, profits, household income, and investment. As corrupt transactions—such as bribes, payoffs, and gifts—are not reported, there is simply no way to compile data on them, in a way that is parallel to operations of the formal economy. Even informal economic activity, in the aggregate, can be estimated from certain types of hard data—e.g., by comparing changes in measured economic activity with parallel changes

[6] See Lanyi and Lee (1999, 2003) for a discussion of the implications of authoritarian government for economic governance.

in such variables as currency in circulation, electricity and gasoline usage, airplane passenger miles, and "errors and omissions" in international payments data. But since corrupt transactions, unlike informal economic activity, involve no creation of value added—but rather, transfer payments between individuals (or downright theft from the government)—it is far more difficult to find even indirect ways of measuring the total volume of such activity.

The succeeding sections specify, and give examples, of the measures that have been actually attempted by scholars and organizations. These measures fall into the following categories:

- *Surveys of perceptions* of "experts," business people, households and officials.
- *Surveys of the direct experience* of business people, households and officials.
- *Indirect "hard data" measures* of variables thought to be the result of or associated with corruption.

None of these measures is without serious difficulties. First of all, in any survey, one must deal both with systematic biases and with reluctance to answer honestly. Biases can be especially strong in surveys of perceptions: for example, perceptions of behavior close to the person being surveyed will be more accurate than those of phenomena with which the surveyed person is less familiar. Biases of perceptions can also be heavily influenced by the perceptions of others—e.g., published reports (which may or may not themselves be accurate). Biases can arise from other, extraneous factors: e.g., if you're in the political opposition, you will tend to assume that those in power are more corrupt than members of your own group.

Surveys based on interviewees' experience may run afoul of their fears of answering honestly, especially if they have themselves been directly involved in corrupt transactions: thus, while it is often believed that surveys are more accurate if focusing on experience rather than perceptions, absence of bias is probably impossible to achieve in either case. Moreover, whether surveying perceptions or experience, bias in surveys may be built in by those designing or implementing the survey; and if surveys are designed abroad and implemented locally, the survey administration may itself be carried out in a way that introduces further biases and errors (e.g., in translation of key concepts). None of these sources of biases and error has as yet been properly studied, nor ways of overcoming them yet successfully devised.[7]

A further problem—discussed in Thomas and Meagher—is that surveys of whatever variety tend to address certain kinds of corruption, like bribery of officials delivering government services, and not others, like high-level embezzlement or bribery in connection with government procurement or preferential policies.[8] Yet the latter kinds of corruption may involve both greater amounts of money and larger economic distortions. Moreover, international comparisons of corruption among countries suffer, because the surveys on which such comparisons are based do not take into account the variations among countries in the relative importance of different kinds of corruption.

[7] See Thomas and Meagher, pp. 16-17.

[8] Recently, as reported by Kaufmann 2003, the first such surveys of these types of corruption have been undertaken.

For all these difficulties, researchers using cross-country surveys for empirical investigation often point out that since results from different measurements tend to be highly correlated with each other, as well as with certain types of "hard" data, they do appear to be pointing to real tendencies. These surveys are considered by many to be inherently reliable, insofar as they reflect the perceptions of businessmen deciding where to place their foreign direct investments, who tend to be well-informed and who have the incentive of having to make decisions about their own funds, ensuring that they investigate carefully the situation in potential host countries.[9]

In principle, hard data—for instance, comparing procurement prices—would seem to be a more reliable basis for evidence of corruption, although obtaining such data often meets severe constraints.[10] Here, the problem is that what is being measured is not corruption itself but rather an indirect indicator of corruption. In effect, a hypothesis has been made linking the data being examined and corruption, and while the linkage may seem self-evident or common-sense, one must still be aware that it is itself a hypothesis that cannot be tested directly. Nevertheless, when the results of such a study—focusing, for instance, on possible corruption in hospital procurement—are compared with the results of a survey focusing on the same issue, and both results point to the existence of such corruption, the conviction that the corruption exists is certainly stronger than if the only "evidence" were purely anecdotal. Corruption is therefore one of those fields of study where it is highly desirable to gather different types of evidence, in the hope of achieving a reasonable degree of corroboration. This is one of the reasons why major programs of gathering data—like those of Transparency International and the World Bank—are based on collecting and comparing results from a large variety of sources.

C. Measures of Corruption

There have been a number of attempts to "measure" corruption—though "measure" needs to be in quotation marks, because what "measurement" in this context means is not entirely clear. Alternative meanings of "measuring corruption" could include measuring:

1. The *prevalence* of corruption in particular contexts: how often bribery (for example) is encountered in a particular economic activity or public sector function. One indirect measure under this heading might be the amount of time that enterprise management spends dealing with government officials (assuming that the prevalence of bribery is correlated with the amount of red tape.

2. The *level* of corruption—for instance, the proportion of an enterprise's or household's income that is spent on bribes or other corruption-related costs. This becomes more difficult to define when one is talking about high-level, state-capture types of corruption. (What is the size of payoffs to officials relative to government procurement costs?)

3. The *relative level or prevalence* of corruption in a country, compared to other countries: this involves a subjective ranking by those surveyed, without any effort to attach dollar-valued magnitudes to the corruption levels perceived.

[9] These points are made by Mauro 1995, Tanzi (1998, 2002) and Wei (note to the author).
[10] Ibid., p. 16.

4. The *impact* of corruption is yet another method of quantification: for example, firms can estimate the costs they incurred because of corruption (in value of bribes, and time lost in transactions with those demanding bribes).

One difficulty in the second of these measures is that the larger the scope of the corruption measure, the more unreliable it is. People answering a survey can tell you how much of their income they spend on bribes, or what is the average bribe for a particular purpose; but they become quite inaccurate when trying to make a national estimate.

Because of the important role played by corruption in determining the quality of the business environment and the rate of return on investment, several of the aggregate corruption measures mentioned below have been created by business-oriented organizations. Some are easily available (e.g., on the Internet), others require a payment for access. Appendix I summarizes in tabular form the different sources; the list below gives some of the more important ones.

1. One of the longest-established business services is the International Country Risk Guide (ICRG) published annually by Political Risk Services (PRS): this set of data is based on the views of foreign businessmen and experts with knowledge of each country.
2. The Business Environment Risk Intelligence (BERI) service provides, for 50 countries, a Political Risk Index (political stability), an Operation Risk Index (bottlenecks for business), and an R factor (related to the ability of firms to repatriate profits).
3. A rival of ICRG and BERI is Business International (BI)—now run by the Economist Intelligence Unit—which publishes indices of "country risk factors" based essentially on a network of experts and analysts. BI calculates separate indices for a number of factors, including political change, social stability, the legal and judicial system, bureaucracy/red tape, and corruption.
4. The World Bank's World Business Environment Survey (WBES), conducted in some 80 countries, has a number of corruption-related questions and can be used to relate corruption factors to business sales and investment.
5. A newcomer to the field is the Opacity Index, constructed by the PricewaterhouseCoopers endowment for the Study of Transparency and Sustainability. The OI leans heavily on surveys, conducted in 35 countries, of highly placed business executives (typically chief financial officers), equity analysts, bankers, and PWC staff working in foreign countries. The OI is a composite index made up of separate scores for five factors: corrupt practices, legal and judicial opacity, economic policy, accounting/corporate governance, and regulatory practices.
6. Freedom House's *Nations in Transition* publishes "democratization" and "rule of law" scores for 27 former socialist countries in Eastern Europe and Central Asia. These indices include factors for both "governance" and "corruption."
7. The World Economic Forum publishes Competitiveness Reports for various regions, notably Africa, which includes corruption measures. The latter are based on the Executive Opinion Survey, which concentrates on the business community, and has yielded detailed data that the World Bank is now comparing to its governance indicators (described in a later section).

8. Perhaps the most famous aggregate measure is the Corruption Perceptions Index (CPI), published each year by Transparency International (TI), the most important international NGO dedicated to the fight against corruption. The CPI—available from TI's website—is constructed from data from 15 other sources, including most of the sources mentioned above (one not included is the ICRG).
9. The World Bank's aggregate governance indicators—described in the next section—include one that is devoted exclusively to corruption.

The aforementioned indicators, collected by organizations with substantial resources and wide-ranging networks, are convenient for businessmen and researchers alike. But they all tend to be rather general and, some would argue, subjective. To policymakers—e.g., officials of donor agencies—and researchers interested in greater detail about corruption prevailing in a particular organization or institution in a particular country, much more careful measurement is in order. Surveys—whose pitfalls have been enumerated earlier—are a favorite instrument. In some detailed studies, surveys are supplemented by in-depth interviews and focus-group discussions.

Another source of information comes from a careful examination of existing hard data for clues that might reveal the existence of corruption: this method includes what is sometimes called "forensic accounting." Such an examination of government or business books can, indeed, reveal mishandling of funds; more often than not, however, in countries where tax evasion is part of the local culture, businesses are in the habit of keeping two—or even three—sets of books, and there are many governments where accounts are badly kept or not at all.[11] Sometimes corruption can be indicated by comparison of prices paid by government for procured goods and services with prices prevailing in the market. DiTella and Savedoff (2001) found corruption in Latin American hospitals by comparing certain hard data—like procurement prices and the percentage of births that were by Caesarian section—with survey data from the same hospitals. In another study using "micro-data," La Porta, Lopez-de-Silanes and Zamarripa (2003) expose the causes of corruption in the banking sector by showing the overlap between the directorates of banks and their debtor firms. Thus, just as in criminal investigations, unearthing corruption requires a combination of persistence, ingenuity, and luck.

Reinikka and Svensson (2003) have recently provided an interesting review of the various ways of collecting quantitative micro-level data on corruption. Their review focuses on public expenditure tracking surveys, service provider surveys, and enterprise surveys, as well as on means by which corruption can be measured in individual schools, health clinics, and firms. The authors point out that such measures provide a better basis than do broader surveys for studying the mechanisms involved in corruption. An example of using data of this sort is provided by Svensson (2003), who combines an enterprise survey with financial data from firms surveyed to show that public officials, in extracting bribes from firms, act as price discriminators (across firms with different abilities to pay) and that the prices of public services are partly determined in order to extract bribes.

[11] Again, see Thomas and Meagher, p. 16.

D. Measures of Governance and Institutional Integrity

A number of the private surveys conducted include certain variables related to the quality of governance or institutional integrity. For example, the International Country Risk Guide (ICRG) includes, among its components of political risk, such factors as democratic accountability, bureaucratic quality, government stability, and law and order—although it might be pointed out that the last two of these factors are only ambiguously related to corruption.[12] The annual Index of Economic Freedom, prepared by the Heritage Foundation and The Wall Street Journal, includes corruption-related measures such as government intervention in the economy—which many economists believe is positively related to corruption—property rights (negatively related to corruption), regulation and the black market (both positively related to corruption); these estimates are prepared for 161 countries. Both these numbers are based on expert opinion and assessments of the research staffs of these two organizations.

The major work in bringing together a large amount of data on different aspects of governance has been performed by Daniel Kaufmann and his colleagues at the World Bank.[13] In this work, the World Bank economists gather together the largest number of ratings and scores available for each country, and aggregate them under six main Governance Indicators: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. (Examples of the country scores calculated by the Bank are given in Appendix II.) Of course, only the last of these six groups is directly related to corruption; and the country scores are really not strictly comparable, since the number of sources on which the score is based differs from country to country. (This is because of differences in country coverage among the various surveys on which the Bank's scores are based.) [14] The authors themselves point out that these data need to be interpreted with great caution, as standard deviations are large relative to the units in which governance is measured. This seems to be particularly true for the indicators for rule of law and corruption.[15]

Knack et al. (2002), in a report prepared for the World Bank and U.K. Department for International Development, argue that the type of governance indicators just described have several failings: they do not lead to clear targeting of reform measures, "are unspecific, and are intrinsically difficult to accept politically." [16] Knack et al. try to develop *second generation indicators*, which are replicable, available across many countries and over time, accurate, and specific to particular institutional arrangements. Such indicators can be categorized as "process measures"—e.g., budget processes, legislative oversight—and "performance measures," such as budgetary stability and quality of service delivery. Such

[12] See Kaufmann, Kraay and Zoido-Lobatón (KKZ) 1999, p. 50.

[13] See especially KKZ (1999 and 2002), and Kaufmann and Kraay (2002a and 2002b).

[14] Recently, this corruption indicator was used to provide a cut-off point for countries eligible, and those ineligible, for financing under the Millenium Challenge Account. Unfortunately, those responsible for separating these sheep and goats used the median score as the cut-off point value—rather than a range of scores as the authors suggest—leading to results that, in this author's opinion, are questionable.

[15] See Kaufmann and Kraay, 2002a, pp. 13-15. Shang-Jin Wei, in a note to the author, points out that high correlation among the six measures raises doubts about whether these are separate measures of different dimensions of governance.

[16] Knack et al. 2002, p. 8.

indicators can at least in part be measured in strictly quantitative terms. Among the indicators regarded by the authors as most promising are the timeliness of audited financial statements, budgetary volatility, the ratio of average government wages to average wages in non-governmental sectors, international trade tax revenue, and "contract-intensive money."[17] A number of these measures, combined with the kinds of survey data already described, can be combined into "governance scorecards" for countries. This attempt to create sets of "hard" data relevant to governance, to supplement the "soft" data derived from surveys, is certainly laudable. From the viewpoint of measuring corruption, however, the connection between corrupt practices and governance measures may be quite unclear: poor scores on many of these indicators can be the result of weak organization and capacity of government, and just plain poor economic policies and management, rather than corruption *per se.*

II. Estimates of Causes of Corruption

There is a much larger literature on (a) quantitative measures of corruption (covered in the preceding sub-sections) and (b) estimates of the economic *impact* of corruption (covered in Section III) than on quantitative estimation of *causes* of corruption. This is so despite—as shown in the companion paper by Thomas and Meagher—the large amount of theorizing that has been carried out on this topic. While corruption is often thought to result from failures in political and governmental institutions, analysis along such lines is subject to the criticism that *both* "corruption" *and* lack of "institutional integrity" may stem from the same cause or set of causes. Another factor discussed by some authors is the influence of cultural and social values on corruption, although here the direction of causation, especially over the long term, is murky. There is no doubt, of course, that long-established "corrupt" practices are associated with a "culture of corruption" that has evolved over time—dictating, for example, which types and sizes of bribes and kickbacks are considered acceptable and expected, and which are considered overreaching.[18]

In contrast to institutional or cultural approaches, economists tend to embark upon their empirical investigations with the general presumption that corruption stems from *over-regulation of the economy*, which creates both opportunities and incentives to pay officials to reduce the delays and expenses involved for businesses. While this proposition has been cogently argued by a number of prominent economists,[19] it has not (to the knowledge of this author) been directly tested. Perhaps the proposition is too broad to test; or perhaps it is simply definitional, in the sense (for example) that if there is an import licensing system, there is the possibility of bribing officials who grant licenses, and if the system is eliminated, that option disappears.

This cause of corruption is often stated in even broader terms, namely, that corruption is positively related to the *extent of government intervention in the economy*—including not only regulation, but also taxation, subsidies, direct controls over foreign trade and investment,

[17] The last of these measures is, essentially, the ratio of bank deposits to total money supply. Knack et al. believe this is an excellent proxy for the rule of law in a country; the author disagrees with the use of this variable as a reliable governance indicator.

[18] On this topic, see, for example, Lipset and Lenz 2000. I am indebted to Shang-Jin Wei (note to author) for illuminating this point.

[19] For instance, Bhagwati 1982, Krueger 1974, and Tanzi 1998, 2002.

price controls, quotas, rationing systems, and, very importantly, state ownership of enterprises. Such intervention creates the possibilities of "rents"[20] that can be obtained by entrepreneurs, giving them command over scarce or artificially rationed resources or privileges—licenses, import permits, foreign exchange (where this is controlled and rationed), and so on. There is a whole literature on "rent-seeking," an activity that is often associated with corruption. It is easy to see, for each type of intervention, ways in which rent-seeking by private firms and individuals could result in bribery and other official abuses. In addition, as pointed out by Shleifer and Vishny, rent-seeking results in the redirection of scarce entrepreneurial resources from productive management to rent-seeking activities.[21]

While these general propositions have been discussed in theoretical terms, a number of hypotheses relating to more specific causes of corruption have been empirically tested. These include the following possible causal relationships.

1. Corruption may stem from *"industrial policies,"* which involve discretionary decisions by government officials with regard to subsidies, tariff concessions, zoning decisions, special credit facilities, grants, etc. The mechanism here is that official discretion leads to rent-seeking behavior by affected firms, possibly involving corrupt transactions. Ades and Di Tella (1997) find positive evidence from a sample of 32 countries that active industrial policy promotes corruption, whose impact detracts from the otherwise positive effect of industrial policies on investment. Gatti (2000) suggests that differential tariffs—a common manifestation of industrial policy—creates corruption by giving customs officials discretion to classify goods in higher- or lower-tariff categories.

2. Corruption has been argued to be related to *civil service pay*—and more broadly, whether the recruitment, pay and promotion decisions in the civil service are determined on meritocratic criteria. The mechanism involved here is not simple or unambiguous. Corruption is also affected, for example, by the levels of bribes and by the probability and penalties of detection: if bribes are low, and detection is likely and costly (e.g., the loss of one's job), wages need to be less high to deter corruption than if the opposite were the case. Meritocratic pay and promotion criteria also enhance the incentives to refrain from corrupt behavior. Van Rijckeghem and Weder (2001, 2002) have found cross-country evidence supporting the relationship between low pay and corruption. The evidence suggests, further, that wages must be raised higher if unaccompanied by policies to increase transparency and accountability in the civil service. The authors warn that cross-country correlations may reflect other factors than a causal link from government wages to corruption,[22] and the results do not support a conclusion that in the short run raising pay leads to lower corruption. The authors do point out, however, that there are case studies showing higher tax revenues resulting from pay reforms in tax administration.

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[20] Economists formally define "rent"—not to be confused with payment to the owner of a house or apartment—as "that part of a person's or firm's income which is above the minimum amount necessary to keep that person or firm in its given occupation." (Henderson and Quandt 1958, p.101) In other words, it is the income resulting from the use of some scarce (or artificially rationed) resource or privilege that raises income above the level that would prevail under perfect competition.

[21] See Shleifer and Vishny 1998, Ch. 4.

[22] For example, "corrupt countries tend to have poor budgetary performance and face strong budgetary pressures, or may subscribe to the view that civil servants already earn sufficient income from corruption" (Van Ryckeghem and Weder, 2001, 2002).

3. A further strand in the literature suggests that *ethnic fragmentation* may encourage corruption, by leading local or national governments to engage in rent-creating policies that favor particular ethnic groups. Moreover, as Shleifer and Vishny (1998)[23] have argued, uncoordinated bribe-taking by rival bribe-takers may result in greater corruption than if bribery is centrally coordinated; and ethnic fragmentation will tend to lead to more uncoordinated corruption. Mauro (1995) shows a correlation between ethnic fragmentation and corruption. In greater detail, focusing on African countries (but comparing them to other regions), Easterly and Levine (1997) show that high ethnic diversity is correlated closely with weak economic policies and public goods delivery. While their data does not include an explicit corruption variable, the authors interpret some variables—like the black market premium for foreign exchange—as evidence that "interest group polarization leads to rent-seeking behavior."[24] However, Treisman (2000) finds no effect of ethnic division on corruption, when a number of other variables are included in the equation.

4. An intriguing but empirically (and theoretically) complex issue is whether there is a direction of *causation from income to corruption* (or "good governance"), as well as in the opposite direction (discussed in the next sub-section). Here, findings differ among scholars. Treisman (2000) finds a strong relationship of higher per capita incomes being associated with reduced corruption: "Rich countries are perceived to be less corrupt than poor ones." Kaufmann and Kraay (2002a), however, find evidence of negative feedback from rising per capita incomes to better governance outcomes. They explain this somewhat surprising result by arguing that higher incomes do not automatically lead to demands for better institutions, and may be accompanied, at least at first, by such phenomena as "crony capitalism," elite influence, regulatory capture, or "state capture"; these phenomena have been observed in varying degrees in East Asia, Latin America, and the transition economies of Central and Eastern Europe, even during upswings in output. The policy implication of this is that "no virtuous circle can be counted upon" and "interventions to improve governance are warranted."[25]

5. Whether *federalism* contributes to corruption or not is a matter of some debate in the literature. Treisman (2000) finds a strong positive relationship, suggested earlier by the theories of Shleifer and Vishny (1998, Ch. 5), on grounds that federalism will tend to create vertical competition for bribes among officials of different levels of government; another way of putting this is that a more centralized government tends to create more coordination (and therefore lower amounts) of corruption. Moreover, Bardhan and Mookherjee (2002) give reasons why decentralization might lead to capture of local governments by local elites, but adduce no empirical evidence on this point. Against this, Fisman and Gatti (1999) find a strong negative relationship between fiscal decentralization in government expenditure and corruption, but their results also show that decentralization in revenue generation may be necessary to ensure this result. Along parallel lines, De Mello and Barenstein (2002) find "a positive association between decentralization and governance," although closer examination of their results does bear out the fears of Shleifer and Vishny that graft and corruption may rise with decentralization; De Mello and Barenstein get stronger positive results when regressing decentralization against the positive World Bank governance indicators (rule of

[23] Shleifer and Vishny 1998, Ch. 5.
[24] Easterly and Levine 1997, p. 1241.
[25] Kaufmann and Kraay 2002a, p. 29.

law, voice and accountability, government effectiveness). What the authors—and all other thoughtful commentators—emphasize is that whether decentralization leads to better governance depends on the way it is carried out. Somewhat contradicting the Fisman-Gatti findings, De Mello and Barenstein find that governance improves with the share of non-tax revenues, grants, and transfers from higher levels of government in total subnational revenues, and that using tax mobilization rather than increased user charges as a means of financing public services may lead to worsening governance, as subnational governments, in danger of capture by local elites, may be subject to overly soft budget constraints. This is clearly an area where more empirical work is needed.

6. Another general approach to causes of corruption is to examine *the impact of particular institutions or sets of institutions*—but here, it is easier to show correlations than to tease out the direction of causality. In a study of transition economies, Broadman and Recanatini (2002) find the same broad economic and political causalities as do most global cross-country studies: i.e., that corruption tends to decline with economic development, strengthening of democratic processes, and (to some extent) greater openness of trade. They also find, however, that corruption is encouraged by high barriers to new business entry and soft budget constraints on incumbent firms.[26] In a broader study, Kaufmann (2003), utilizing global surveys and governance indicators of the World Bank, finds close correlations among the indicators for "rule of law," "voice and accountability," and "control of corruption."

7. Sociological factors have also been shown to contribute to corruption. For instance, Swamy, Knack, Lee and Azfar (2001) present data that suggest that corruption is less severe when there is greater participation of women in economic and political life.

8. Treisman (2000) has carried out one of the most comprehensive cross-country investigations of the factors—economic, political and sociological—determining corruption. This study is unusual in its almost total neglect of economic policy regimes (apart from trade openness) as a causative factor. Rather he finds—aside from the level of economic development and federalism, already discussed—the following explanatory variables:

- A period of British rule (with evidence that the distinctive feature here is the emphasis on procedural fairness in the administration of justice).
- The proportion of Protestants in the population—perhaps because of the historically greater independence of Protestant churches from the state, and Protestants' greater focus on an individual-centered rather than family-centered morality.
- A continuous democratic system in place since 1950.
- Openness in trade. (Other studies have found that while openness is partly a function of economic policy, it also depends on a number of other factors, such as economic size, stage of economic development, geographical location, and historical factors that overlap with some of those already mentioned).

[26] This conclusion is especially pertinent to the People's Republic of China, although the PRC was not included in the sample of countries covered in this study.

III. Estimates of the Economic Impact of Corruption (and Institutional Integrity)

The work in this area takes two tacks: first, estimating directly the impact of corruption and per capita income, or growth of income; and second, estimating the effect of corruption on various economic variables that have a proven or widely-assumed effect on growth. Section III.A looks at the first type of study; the following sections examine studies of effects on variables that contribute to growth.

A. Impact on Overall Growth and Development

The effect of corruption on economic growth and development was discussed for many years before it was actually tested. It seems odd—given the general consensus now that corruption undermines investment and growth—that some of the early work on this subject argued in the other direction: namely, that corruption may "grease the wheels of commerce" in the face of government's unwieldy and unhelpful involvement in the economy, thereby eliminating red tape that would otherwise impede production and commerce. These arguments were made in often-cited works by Leff (1964) and Huntington (1968).

Perhaps the two most important studies directly examining the linkage between growth and corruption are those of Paolo Mauro (1995) and Kaufmann and Kraay (2002a). Mauro uses the Business International (BI) indices (or country risk assessments), and finds that the separate BI indices are correlated with each other—for example, corruption is more widespread in countries with more "red tape." Taking an average of several key indices, Mauro finds a correlation between the BI average index and per capita output, as well as between the BI index and *growth* of per capita output. These results show an impact of quite substantial magnitude: for example, if Bangladesh's BI index were as favorable as Uruguay's, its investment rate (as a percentage of output) would be five percentage points higher, and its annual output growth over half a percentage point higher.

The later work of Kaufmann and Kraay (2002a) uses different explanatory variables, regressing per capita income on the main World Bank good governance categories—voice and accountability, political stability, governmental effectiveness, regulatory quality, and control of corruption. They get high and positive correlations between good governance and per capita income in all instances, taking into account a variety of other possible factors.

A different—and certainly more broad-brush approach—is taken by Tanzi and Davoodi (2001, 2002), in which they simply regress per capita output on the Transparency International Corruption Perception Index. The correlation is again high and significant.

Another strand of the literature regresses per capita income, or the rate of growth of income, against various categories of good governance. An early and well-known effort of this sort was that of Knack and Keefer (1995), in which investment and growth were found to be positively related to a set of ICRG and BERI indicators. The ICRG index Knack and Keefer use is constructed from five of their indices: Expropriation Risk, Rule of Law, Repudiation of Contracts, Corruption in Government, and Quality of Bureaucracy. They find close correlation among these indices, arguing that high levels of corruption are associated with lower credibility of government commitments. Thus, while their conclusions are couched in terms of "security of property rights," this concept is closely related to that of "corruption in government."

B. Impact on Fiscal Variables

A number of studies have found that corruption reduces revenues and distorts public expenditure in several growth-reducing ways.

Tax revenues. Tanzi and Davoodi (1997, 2002) show that corruption tends to reduce tax revenue, presumably because of corruption in the tax administration, including the customs (a rich source of corruption anecdotes). Lower tax revenues may be correlated with a lower rate of economic growth, but only to the degree that government spends its resources in an efficient and productive manner.

Composition and quality of public expenditures. Mauro (1997, 2002) finds that corruption (measured by the ICRG corruption index) reduces those expenditures that are relatively less "profitable" for corrupt officials—namely, expenditures on health and education, and those for operation and maintenance of existing infrastructure—and increases expenditures on those that tend to be associated with high-level and large-scale procurement corruption. In the same vein, Tanzi and Davoodi (2001, 2002) find that corruption (measured by the TI Corruption Perception Index) increases expenditure on new public investment, while Gupta, de Mello, and Sharan (2001, 2002) show that corruption is also positively correlated with military expenditures. In addition, Tanzi and Davoodi also find that corruption reduces the *productivity* of public investment, further dampening growth.

This conclusion is not surprising, considering that a higher proportion of corruption-related government expenditures—such as large-scale investments and military expenditure—seems likely to be associated with both greater leakage of government resources into private pockets and with procurement decisions taken on the basis of bribery and connections rather than proper bidding procedures. To the extent that such procurement represents investment in productive capacity, or a diversion of resources away from government expenditures that are growth-promoting (health, education, infrastructure), there is a clear negative impact of such corruption on overall economic growth and development.

The association between corruption (or governance quality) and *fiscal decentralization* was discussed above in connection with causes of corruption; in dealing with this relationship, the literature tends to treat decentralization as exogenous and corruption as endogenous. However, De Mello and Barenstein (2002) point out that corruption can also be regarded as undermining the effort to improve governance through devolution of expenditure authority to subnational government; Azfar et al. (2000) make this point more strongly, showing, in a detailed study of the Philippine and Ugandan cases, that corruption reduces the effectiveness of public service delivery by subnational governments (see III.D. below).

C. Impact on Trade, Business, and Investment

The view prevailing among economists is that corruption hurts trade and business. Nevertheless, at a time before there were systematic surveys of corruption and econometric estimates of its effect, anecdotal evidence suggested that corruption might have its uses. What Kaufmann and Wei (1999) have termed "the efficient grease argument" suggested that bribery was required to cut through red tape. However, what is true for the individual businessman—bribing in order (for example) to expedite an import shipment through customs—may not be true for the collectivity of businessmen, because in fact "bureaucratic harassment" may not be a given fact of life but "endogenous," i.e., arising from the culture of

bribery itself. Using data from World Bank business surveys, Kaufmann and Wei find a positive relationship between bribe payments on the one hand, and bureaucratic burden and delay on the other. Thus, imposition of international laws and standards may reduce both bribes and the harassment faced by firms.

There are several aspects of corruption's effect on trade and business that have been examined. First, there are the effects of corruption on *general business activity*, focusing sometimes on the barriers to entry faced by smaller businesses. Second, there is the impact on *investment*, and especially *foreign direct investment*. The effect of corruption on FDI is of particular significance, because it reveals the presumably well-informed inter-country comparisons made by global business corporations. These comparisons are also a factor in the result that more corruption (or less transparency) is correlated with greater *financial instability*, both leading to financial crises and contributing to capital flight during such crises. Finally, there is evidence that corruption leads to *less open foreign trade regimes*, which other studies have found tend to impede long-run economic growth.

A major source for the *relationship between corruption and business activity* is the World Bank's World Business Environment Survey (WBES), which represents a large, systematic effort to pick out the various constraints identified by firms, by means of a survey of 10,090 enterprises in 80 countries. The survey focuses on constraints imposed by policy instability, taxes and regulations, inflation and price (including exchange rate) instability, finance, "governance" (including the legal system and corruption) and the quality of public services and the infrastructure. For four developing regions—South Asia, Africa, developing East Asia (including China), and the Middle East/North Africa—corruption is one of the three most important constraints. The survey includes detailed questions about bribe payments: for instance, almost two-thirds of respondents in South Asia and developing East Asia reported "irregular additional payments to officials." Econometric estimates show a negative relationship between the sales growth of enterprises and corruption, as well as between investment growth over the previous three years and corruption.[27]

Kaufmann (2003) reports on recent strengthening of the Executive Opinion Survey, carried out for the World Economic Forum. The Survey now includes questions on different *types of corruption with which businesses may have experience*. Comparing three types of bribery—for access to public utilities, public procurement contracts, and "capture" of laws and regulations—Kaufmann finds that while in some regions—South Asia and the former Soviet Union—the scores for all three types of bribery are high, in others there are sharp differences: for instance, in developing East Asia (including China), bribery is much higher for public procurement than for public utilities. Kaufmann argues that strengthening governance must not concentrate solely on the government, as if the private sector were a passive recipient of the business climate created by the government. Bringing together results from the World Bank Governance Indicators with those of the Executive Opinion Survey, Kaufmann shows that poor official governance tends to be correlated with poor corporate governance and state capture—where elite (sometimes foreign) firms and conglomerates illicitly shape laws, policies, and regulations to their own advantage. He argues for a broad-based attack on lack of transparency in both the public and private sector.

[27] See Batra, Kaufmann and Stone 2002 for a report on the most recent of these results.

A major impact of corruption on business activity appears to be the *effect on both domestic and foreign investment*. The "grabbing hand" of government officials effectively raises the cost of doing business and lowers the rate of return on investment. Mauro (1995), using the BI index as an independent variable, finds a substantial impact of an average of corruption and integrity variables on the investment rate, even taking into account a variety of possible other factors. Shang-Jin Wei (2000) has shown that corruption—measured by the usual expert surveys and the Transparency International composite of surveys—significantly reduced inward foreign direct investment (FDI) and "may tend to distort the composition of capital inflows away from FDI and toward foreign bank loans." This compositional effect makes the capital-receiving country more vulnerable to the kind of currency crisis that hit several East Asian countries in 1997.[28] In a separate estimation, Wei calculates that the FDI received by China is in line with the same factors calculated for other countries, and that "corruption is just as damaging to FDI into China as it is elsewhere."

In a different study, Wei uses the PricewaterhouseCoopers Opacity Index to estimate how much more FDI a country would have attracted if its opacity level were reduced to a low-opacity benchmark based on the average opacity scores of Singapore, the U.S., Chile, and the U.K. His conclusion is that the negative effects of opacity (i.e., the difference from the benchmark) are equal to those that would result from large increases in corporate tax rates (e.g., a rise in the Chinese tax rates of 42 percentage points).

Asking somewhat different questions, Hellman, Jones and Kaufmann (2002) find that corruption not only reduces FDI, it also attracts lower-quality investment in terms of the governance standards of the investing companies. In fact, where domestic governance is poor to start with, the FDI attracted tends to work toward magnifying governance problems—for instance, state capture and procurement kickbacks.

Another important effect, already alluded to, is the impact of corruption on *financial stability.* Kaufmann (2003) finds a broad correlation between countries' performance on the corruption index and the stability of their domestic banking systems. Wei (2000) and Gelos and Wei (2002) show that countries with poorer scores on surveys of corruption and transparency tend to attract a larger proportion of capital inflow in the form of easily reversible short-term lending (instead of foreign direct investment), and that capital flight tends to be heavier during crises from countries that have relatively poor transparency.

While Treisman (2002) finds that lack of *openness of trade* is a causative factor of corruption—and corruption in customs is a widely observed phenomenon[29]—Lee and Azfar have found evidence that runs in the other direction: namely, that tariff rates—in the context of a generally liberalizing trend in world trade—have tended to decrease less rapidly in more corrupt countries. This is a particularly interesting finding because the well-known phenomenon of corruption in connection with border trade has ambiguous effects on the volume of trade. Whether trade rises depends on the balance between a possibly positive effect on trade of corruption as "greasing the wheels of commerce"—which could even lower

[28] As Wei points out, this effect is compounded by the fact that the type of assistance extended by international financial institutions, in the event of a currency crisis, tends to bail out creditors of bank loans rather than those losing value on their foreign direct investment.

[29] See, for example, Klitgaard 1988, Ch. 5, and Lanyi, Guevara and Bell 2000.

the effective cost of imports to residents[30]—and a possibly negative effect of corruption, which could raise the effective costs of foreign trade (by adding bribes, such as "speed money," on top of official import taxes that must also be paid). Whether one or the other scenario prevails depends on the particular circumstances in each country.

The conclusion from this broad range of studies is that corruption is a phenomenon that includes both government-created impediments to business generally and business-induced creation of special privileges that tend to suppress competition and thus skew resource allocation. Attack on the latter type of corruption must be based on examination of the roles of both the public and private sectors.

D. Impact on Poverty, Public Goods and Income Distribution

Because of the negative impact on growth discussed above, corruption necessarily also worsens poverty. But in addition to this, there is a general consensus among economists that corruption tends to worsen income *inequality*. Among the reasons why this is supposed to be true are (1) tax evasion tends to favor the rich and well-connected; (2) social programs tend to get mistargeted, with funds siphoned off to benefit the middle and upper classes; (3) initial inequities in asset ownership are magnified by the wealthy class's ability to use their influence to obtain rents from the government; (4) corruption (as already noted) reduces education, health and other government expenditures that help improve incomes of the poor; and (5) wealthy urban elites use their influence to bias social expenditure toward higher education and tertiary health care. Direct evidence of the impact of corruption on income distribution is provided by Gupta, Davoodi, and Alonso-Terme (2002), who use a combination of BI and ICRG corruption indicators as well as the TI Corruption Perception Index. Their statistical work also confirms that income inequality can be ameliorated by reallocation of government resources toward social programs and health and education, provided that health and education expenditures are used efficiently and directed toward lower-income groups.

Gupta et al. do not formally explore the relationship between their corruption indicators and such variables as education expenditures and their distribution. The impact of corruption on the health and education sectors in most developing and transition economies is widely reported by donor agencies, if not always statistically documented. An IRIS Center study for the World Bank (Azfar, Kähkönen, and Meagher 2000) demonstrates econometrically that corruption can lead to poorer health and education outcomes resulting from reduced public sector services in those areas; this study also illustrates that decentralization of public service provision does not, in and of itself, either decrease or increase corruption, but rather can be made to work better or worse depending upon a number of factors, including local government capacity, access to resources, and corruption. World Bank public expenditure surveys show that often shockingly low percentages of funds appropriated for local-level expenditures on health and education actually reach their intended uses. DiTella and Savedoff (2001), in a series of studies, show how corruption undermines the efficacy of health care in Latin America.

[30] This would occur if bribing officials to allow undervaluation of imports (or unregistered importation) lowered the effective tax (including bribes) on imports.

There is a presumption among those writing on governance that a properly functioning democracy—with free media, independent NGOs, rule of law, and accountable elected officials—would avoid the extreme cases of corruption undermining government programs aimed at the welfare of the most vulnerable groups in the society. There is not, however, to my knowledge, any strictly quantified evidence in this regard.

IV. Conclusions

All the econometric results reviewed in this paper point in the direction that corruption is bad for economic growth, and also bad for a number of economic factors that tend to be correlated with growth: domestic investment, the quantity and composition of foreign direct investment, government expenditure on health and education, the quantity and quality of government investment in infrastructure, and generally the returns to business and trade. Similarly, governance institutions that are likely to be associated negatively with corruption—such as the transparency and fairness of the legal system, civil liberties, enforcement of contracts, security of property rights, a free and independent press, free and fair elections, a high-quality government bureaucracy, a low relatively low regulatory burden, and "the rule of law"—are associated positively with economic growth.

Yet it is obviously also true that "measurement" of governance institutions is still at a very early stage—as Knack et al. (2002) have pointed out. And it might be added that other factors contributing to (or affected by) corruption—such as cultural factors and social norms, which some quite legitimately regard as of great importance and possibly of policy relevance—are extremely difficult, if not impossible, to measure. Because economic variables are so much easier to measure, they may tend to play a disproportionate role in empirical work on this subject, and thus empirical results may tend to overstate the importance of economic factors as compared to cultural and political ones.

There is an important caveat attaching to all these econometric results, and that is that corruption "data" are often subject to quite a large range of statistical error. Moreover, data collected may relate to certain types of corruption and not to others; while the underlying reality may be that some types of corruption undermine economic growth more than others, and corruption may take different forms in different countries. It follows that corruption rankings among countries based on general perceptions of corruption may in fact be based on comparisons of apples and oranges. Furthermore, even if we knew more than we do about the relationships of different forms of corruption to growth, those relationships might depend on a country's stage of economic development: i.e., the effect of corruption on such variables as investment and economic growth may be different at different stages, and the prevalent forms of corruption may be different, too (see discussion below).

This brings up the complex topic of *corruption dynamics*. There is a clear dynamic implication inherent in the simple econometric exercises which suggest that corruption is a causative factor of lower levels of domestic and foreign investment, less productive government expenditures, and lower rates of economic growth; the implication of these results is that strenuous efforts to reduce corruption will be rewarded by more growth. This scenario would be even more benign were it the case—as found by Treisman (2000)—that higher income levels were found to lead to less corruption—for example, if growth in turn reduced corruption by increasing opportunities and incentives to participate in productive

economic activity rather than private rent-seeking or public office.[31] But if Kaufmann and Kraay (2002) are right that higher incomes do not necessarily lead to lower corruption, then economic development may create new and larger possibilities for corruption, as new areas of investment (and therefore new rent-seeking opportunities) open up. In the absence of strong leadership in the anti-corruption and anti-monopoly fields, this impact of growth on corruption might be especially perverse. Nevertheless, economic growth over the long run influences political development—although in ways that differ among countries and are difficult to predict, and there is the real possibility—proven by historical examples[32]—of strong political leadership changing the administrative culture and social norms of a society. Such social and political evolution has so far been the province of the historian or political scientist, not the econometrician.

The dynamics of corruption emerges from this survey as largely *terra incognita.* Since the World Bank results—like most of the others—are based on cross-country data rather than time series for individual countries, they leave unanswered questions about what happens to a particular country as it traverses the various stages of economic development. For one thing—as Thomas and Meagher (2003) suggest—even the definitions of corruption may be in effect modified as economic and political structures and arrangements evolve. This will certainly be true, also, of *corruption perceptions*—including those of the experts and business executives who are surveyed for the key governance and corruption indicators cited earlier in this paper. But this means that country "scores" for various corruption and governance variables, aside from not being easily comparable across countries, may also be poorly comparable across years for the same country.

If all this is true, it makes all the more difficult tracing the *impact* of corruption on a country's economic development. In addition, while data on corruption is barely two decades old, the processes of economic development play out over long periods. One hopeful sign is the "Second Generation Indicators" being developed by Steven Knack and his collaborators at the World Bank (see above), which might make it possible to look backward over a meaningful period and trace the parallel movement of governance indicators and economic variables.

A final complication is that, as the evolutionary processes of economic and political development move forward, the effect of particular types of corruption on economic growth may change—in some cases, from good to bad. For instance, the East Asian cronyism cited earlier, which may play a useful coordinating role at earlier stages of economic development, may at later stages become an impediment to the transparency required for participation in global markets (Indonesia provides a dramatic example in this regard).[33] In view of these conceptual problems, combined with the data limitations earlier described, researchers may have to be content with a relatively descriptive, qualitative approach.

A well-known example of such descriptive work is provided by the case studies of Robert Klitgaard (1988), which examine episodes of anti-corruption initiatives in several Asian countries. These case studies illuminate the key role of government policies in the historical evolution of corruption in a country. For example, Hong Kong, up to the early 1970s, suffered—despite its economic success—from an extremely corrupt police force. The

[31] See Johnston 1997.

[32] See, for instance, examples of Hong Kong and Singapore described in Klitgaard 1988.

[33] See Lanyi and Lee (1999, 2003) for further analysis of this point.

subsequent clean-up of the police, to become a model of institutional integrity, was brought about by a concerted, high-profile, well-designed and rigorously enforced initiative by the Hong Kong government. The factors tested by econometricians (Section II.E) played no part in this success story. What this and other case studies demonstrate is that the stance of the political leadership, and their administrative capabilities, can be a major factor in the evolution of corruption and therefore of its impact on the national economy.[34]

[34] I am indebted to Shang-Jin Wei for pointing out the relevance of this point to this discussion.

Works Cited

Abed, George T. and Sanjeev Gupta (eds.) 2002. *Governance Corruption and Economic Performance.* Washington, DC: International Monetary Fund.

Ades, Alberto and Rafael Di Tella, 1997. "National Champions and Corruption: Some Unpleasant Interventionist Arithmetic." *The Economic Journal*, Vol. 107, No. 443 (July), 1023-1042.

Azfar, Omar, Satu Kähkönen, and Patrick Meagher, 2000. "Conditions for Effective Decentralized Governance: A Synthesis of Research Findings." College Park, MD: IRIS Center. (Research financed by World Bank grant.)

Bardhan, Pranab, and Dilip Mookherjee, 2002. "Relative Capture of Local and Central Governments: An Essay in the Political Economy of Decentralization." Institute of Business and Economic Research, Center for International Development Economics Research, Paper C99-109. Berkeley, CA: University of California, Berkeley.

Batra, Geeta, Daniel Kaufmann, and Andrew Stone, 2002. "Voice of the Firms 2000: Investment Climate and Governance Findings of the World Business Environment Survey (WBES)." Washington DC: World Bank.

Bhagwati, Jagdish, 1982. "Directly Unproductive, Profit-Seeking (DUP) Activities." *Journal of Political Economy,* Vol. 90 (October), 988-1002.

Broadman, Harry G. and Francesca Recantini, 2002. "Corruption and Policy: Back to the Roots." *Policy Reform*, Vol. 5, 37-49.

De Mello, Luis and Matias Barenstein, 2002. "Fiscal Decentralization and Governance: A Cross-Country Analysis." In Abed and Gupta (2002).

Di Tella, R. and W.D. Savedoff, eds., 2001. *Diagnosis Corruption: Fraud in Latin America's Public Hospitals.* Washington, DC: Inter-American Development Bank.

Easterly, William, and Ross Levine, 1997. "Africa's Growth Tragedy: Policies and Ethnic Divisions." *The Quarterly Journal of Economics,* Vol. 112, Issue 4 (November), 1203-1250.

Fisman, Raymond, and Roberta Gatti, 1999. "Decentralization and Corruption: Cross-Country and Cross-State Evidence." Washington DC: World Bank. (draft paper)

Gatti, Roberta, 2000. "Corruption and Trade Tariffs, or a Case for Uniform Tariffs." Draft paper. Washington, DC: The World Bank.

Gelos, R. Gaston, and Shang-Jin Wei, 2002. "Transparency and International Investor Behavior." *Draft paper.* Washington , DC.

Gupta, Sanjeev, Hamid Davoodi and Rosa Alonso-Terme, 2002. "Does Corruption Affect Income Inequality and Poverty?" in Abed and Gupta (2002), 458-486.

Gupta, Sanjeev, Luiz de Mello, and Raju Sharan, 2001 (2002). "Corruption and Military Spending." *European Journal of Political Economy*, Vol. 17, 749-777. Reprinted in Abed and Gupta (2002), 300-332.

Hellman, Joel S., Geraint Jones, Daniel Kaufmann, 2002. "Far From Home: Do Foreign Investors Import Higher Standards of Governance in Transition Economies?" World Bank Draft Paper, August 2002. At www.worldbank.org/wbi/governance.

Henderson, James and Richard Quandt, 1958. *Microeconomic Theory: A Mathematical Approach.* New York: McGraw-Hill.

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

Johnston, Michael, 1997. "Public Officials, Private Interests, and Sustainable Democracy: When Politics and Corruption Meet." In Kimberly Ann Elliott (ed.), *Corruption and the Global Economy.* Washington, DC: Institute of International Economics. 61-82.

Johnston, Michael and Sahr J. Kpundeh, 2002. "The Measurement Problem: A Focus on Governance." *Forum on Crime and Society*, Vol. 2, No. 1, December 2002, 33-44.

Kaufmann, Daniel, 2003. "Rethinking Governance: Empirical Lessons Challenge Orthodoxy." Discussion Draft Paper, March 11, 2003. Washington, DC: World Bank.

Kaufmann, Daniel and Aart Kraay, 2002a. "Growth Without Governance." *Economia*, Fall, 2002. Washington, DC: World Bank.

_____, 2002b. "Governance Indicators, Aid Allocation, and the Millenium Challenge Account." [Draft Paper December]. Washington, DC: World Bank.

Kaufman, Daniel, Aart Kraay, and Pablo Zoido-Lobaton, 1999. "Governance Matters." *Policy Research Working Paper 2196* (October). Washington, DC: World Bank.

_____, 2002. "Governance Matters II: Updated Indicators for 2000/01." *Policy Research Working Paper 2772* (February). Washington, DC: World Bank.

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi, 2003. "Governance Matters III: Governance Indicators for l996-2002." June 30, 2003 draft. Washington, DC: World Bank. Available at www.worldbank.org/wbi/governance.

Kaufmann, Daniel and Shang-Jin Wei, 1999. "Does 'Grease Money' Speed Up the Wheels of Commerce?" *Working Paper 7093 (April).* Cambridge, MA: National Bureau of Economic Research.

Klitgaard, Robert, 1988. *Controlling Corruption.* Berkeley and Los Angeles, CA: University of California Press.

Knack, Stephen and Philip Keefer, 1995. "Institutions and Economic Performance: Cross Country Tests Using Alternative Institutional Measures." *Economics and Politics*, Vol. 7, No. 3 (November), 207-227.

Knack, Stephen, Mark Kugler and Nicholas Manning, 2002. "Second Generation Indicators." *Draft report.* Washington DC: World Bank.

Krueger, Anne, 1994. "The Political Economy of the Rent Seeking Society." *American Economic Review*, Vol. 64 (June), 291-303.

Lambsdorff, Johann Graf, 1999. "Corruption in Empirical Research—A Review." Paper presented at 9th International Anti-Corruption Conference, Durban, South Africa, 10-15 December, 1999.

Lanyi, Anthony, Walter Guevara, and Sarah Bell, 2000. "Bolivian Customs Reform: A Case Study of Consolidating Democratic Institutions." *Report for USAID*. College Park, MD: IRIS Center.

Lanyi, Anthony and Young Lee, 1999 (2003). "Governance Aspects of the East Asian Financial Crisis." *IRIS Working Paper #226.* College Park, MD: IRIS Center. Reprinted in Omar Azfar and Charles Cadwell, eds., *Market-Augmenting Government.* Ann Arbor, MI: University of Michigan Press.

La Porta, Rafael, Florencio Lopez-de-Silanes, and Guillermo Zamarripa, 2003. "Related Lending." *Quarterly Journal of Economics*, Vol. CXVII (February), 231-268.

Lee, Young and Omar Azfar, 2003. "Does Corruption Delay Trade Reform?" *Draft paper*. College Park, MD: IRIS Center.

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

Lipset, Seymour, and Gabriel S. Lenz, 2000. "Corruption, Culture, and Markets," in Lawrence E. Harrison and Samuel E. Huntington, eds., *Culture Matters*. New York: Basic Books.

Mauro, Paolo, 1995. "Corruption and Growth." *Quarterly Journal of Economics*, Vol. CX (3), 681-712.

_____, 1998. "Corruption and the Corruption of Government Expenditure." *Journal of Public Economics*, Vol. 69, 263-279. Reprinted in Abed and Gupta (2002), 225-244.

O'Driscoll, Jr., G.P., E.J. Feulner, and M.A. O'Grady, with A.I. Eiras and B.D. Schaefer, 2003. *2003 Index of Economic Freedom*. Washington, DC and New York: The Heritage Foundation and The Wall Street Journal.

Olson, Mancur, 2000. *Power and Prosperity.* New York: Basic Books.

Radelet, Steven, 2002. "Qualifying for the Millenium Challenge Account." Draft Paper, December. Washington, DC: Center for Global Development.

Shleifer, Andrei and Robert Vishny, 1998. *The Grabbing Hand.* Cambridge, MA: Harvard University Press.

Svensson, Jakob, 2003. "Who Must Pay Bribes and How Much? Evidence from a Cross Section of Firms." *Quarterly Journal of Economics.* Vol. CXVIII (February), 207-230.

Swamy, Anand, Stephen Knack, Young Lee and Omar Azfar, 2001. "Gender and Corruption." *Journal of Development Economics*, Vol. 64, 25-55.

Tanzi, Vito, 1998, 2002. "Corruption Around the World: Causes, Consequences, Scope and Cures." *IMF Staff Papers*, Vol. 45 (December), 559-94. Reprinted in Abed and Gupta (2002), 19-58.

Tanzi, Vito and Hamid R. Davoodi, 2001 (2002). "Corruption, Growth and Public Finances." In Arvind K. Jain, *Political Economy of Corruption*, London: Routledge, 2001. Reprinted in Abed and Gupta (2002), 197-222.

Thomas, Melissa and Patrick Meagher, 2003. "A Corruption Primer: A Policymaker's Overview of Concepts in the Corruption Literature." In this volume.

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

Van Rijckeghem, Caroline and Beatrice Weder, 2001 (2002). "Bureaucratic Corruption and the Root of Temptation: Do Wages in the Civil Service Affect Corruption, and by How Much?" *Journal of Development Economics*, Vol. 65, 307-331. Reprinted in G.T. Abed and S. Gupta (2002), 59-88.

Wei, Shang-Jin, 2000. "Local Corruption and Global Capital Flows." *Brookings Papers on Economic Activity*, 2000(2): 303-354.

_____, 2001. "Cost of Opacity: Lost Foreign Investment and Extra Cost of Doing Business." Draft paper.

Appendices

Table 1. Selected Sources of Governance Data

Source and publication	Type of poll or survey	Country coverage	Content coverage
Business Environment Risk Intelligence (BERI): Business Risk Service	Poll of panels of worldwide experts, including diplomats and political scientists, plus data from international network.	50	Political risk index includes social conditions, restrictive govt. measures, fractionalization; operation risk index includes enforceability of contracts, various economic conditions, bureaucratic delays, policy continuity
Economist Intelligence Unit (EIU): Country Risk Service	Poll of global network of >500 information gatherers, checked by panel of regional experts	115	Country Risk Service: defines seven categories of country risk—political, economic policy, economic structure, liquidity, currency, sovereign debt, and banking sector. Political risk divided into "political stability" and "political effectiveness," latter includes corruption, transparency, and bureaucracy.

Table 1 (Cont.). Selected Sources of Governance Data

Source and publication	Type of poll or survey	Country coverage	Content coverage
Freedom House: Freedom in the World	Poll of team of academic advisors, in-house experts, published resources and local correspondents (including human rights activists, journalists, politicians.)	192	Freedom in the World assessment divided into Political Rights, Civil Liberties, and Freedom of the Press. Civil Liberties includes "freedom from extreme government indifference and corruption"
Freedom House: Nations in Transit	Poll of team of in-house experts and outside advisors (academics, journalists, etc.)	27	Nations in Transit "Democratization Rankings" are limited to former USSR republics, COMECON members, Yugoslav successor states, and Albania. A "democratization score" covers electoral processes, civil society, independent media, and governance, and a "rule of law" score covers human rights, judicial independence and reform, and corruption.
Gallup International: Gallup Millenium Survey	Survey of large number of citizens in countries covered	60	Surveys the degree of corruption perceived among: 1) politicians, 2) trade unionists, 3) public officials, 4)businessmen, 5) judges, 6) ordinary citizens, 7) clergy/priests, 8) journalists

Table 1 (Cont.). Selected Sources of Governance Data

Source and publication	Type of poll or survey	Country coverage	Content coverage
Heritage Foundation/ Wall Street Journal: Economic Freedom Index	Assessment draws on a large number of public and private sources	161	Large number of economic and governmental factors, including protection of property rights, enforcement of contracts, corruption in the judiciary, corruption within the bureaucracy, regulatory burden, black markets (in various sectors), and smuggling
Political Risk Services: International Country Risk Guide (ICRG)	Assessment based on poll of a worldwide network of experts and peer review at subject and regional levels	140	Political Risk components include government stability, internal conflict, corruption, military in politics, law and order, ethnic tensions, democratic accountability and bureaucratic quality, as well as some economic and external factors
PriceWater-houseCoopers: Opacity Index	Survey of international experts	35	Constructs indices for corrupt practices, effect of legal and judicial opacity (including shareholder rights), economic policy, accounting and corporate governance, and regulatory opacity

Table 1 (Cont.). Selected Sources of Governance Data

Source and publication	Type of poll or survey	Country coverage	Content coverage
Standard and Poor's DRI ; McGraw-Hill: Country Risk Review	Poll of country analysts, reviewed by regional review committees	111	Short-run and long-run risk events: based on policy risks (tax and non-tax factors); outcome risks (price and non-price); domestic political risks; external political risks; and economic risks
World Bank: World Business Environment Survey	Survey of local businessmen	81	Surveys the perception of firms on the constraints imposed upon them by government actions (or inactions), including taxation, bribery, regulation and infrastructure
World Economic Forum: Global Competitiveness Report	Executive Opinion Survey	75	Questions relate to various aspects of trade barriers, government bureaucracy, tax system, financial system, legal and judicial system, bribery, crime, and market competition

Table 2 (a). Illustrative Governance Data from the 2002 World Bank Indicators

	Voice and Accountability		Political Stability		Government Effectiveness	
	Est.	S.E	Est.	S.E	Est.	S.E.
Argentina	0.12	0.17	-0.74	0.19	-0.49	0.15
Australia	1.5	0.17	1.18	0.20	1.84	0.16
Austria	1.32	0.17	1.29	0.21	1.79	0.16
China	-1.38	0.17	0.22	0.20	0.18	0.15
Congo	-1.1	0.21	-1.64	0.31	-1.25	0.24
Denmark	1.72	0.17	1.26	0.20	1.99	0.16
France	1.29	0.17	0.73	0.20	1.67	0.16
Hungary	1.17	0.13	1.08	0.20	0.78	0.13
India	0.38	0.17	-0.84	0.20	-0.13	0.15
Indonesia	-0.49	0.17	-1.37	0.20	-0.56	0.15
Italy	1.11	0.17	0.81	0.21	0.91	0.16
Japan	0.99	0.17	1.2	0.20	1.07	0.16
Malaysia	-0.27	0.17	0.51	0.20	0.92	0.15
Mexico	0.33	0.17	0.22	0.19	0.15	0.15
Pakistan	-1.1	0.18	-1.26	0.22	-0.5	0.17
Singapore	0.51	0.18	1.28	0.21	2.26	0.16
South Africa	0.73	0.17	-0.09	0.20	0.52	0.15
United States	1.32	0.17	0.34	0.21	1.7	0.16
Venezuela	-0.41	0.17	-1.2	0.19	-1.14	0.15
Zimbabwe	-1.5	0.18	-1.62	0.23	-0.8	0.17

Table 2 (b). Illustrative Governance Data from the 2002 World Bank Indicators

	Regulatory Quality		**Rule of Law**		**Control of Corruption**	
	Est.	S.E.	Est.	S.E.	Est.	S.E.
Argentina	-0.84	0.17	-0.73	0.13	-0.77	0.14
Australia	1.64	0.18	1.85	0.13	1.91	0.15
Austria	1.67	0.18	1.91	0.13	1.85	0.16
China	-0.41	0.17	-0.22	0.13	-0.41	0.15
Congo	-1.0	0.23	-1.22	0.19	-0.94	0.21
Denmark	1.74	0.18	1.97	0.13	2.26	0.15
France	1.25	0.18	1.33	0.13	1.45	0.15
Hungary	1.21	0.16	0.9	0.12	0.6	0.13
India	-0.34	0.17	0.07	0.13	-0.25	0.15
Indonesia	-0.68	0.17	-0.8	0.13	-1.16	0.15
Italy	1.15	0.18	0.82	0.13	0.8	0.16
Japan	0.97	0.18	1.41	0.13	1.2	0.15
Malaysia	0.58	0.17	0.58	0.13	0.38	0.15
Mexico	0.49	0.17	-0.22	0.13	-0.19	0.14
Pakistan	-0.77	0.19	-0.7	0.14	-0.73	0.17
Singapore	1.89	0.18	1.75	0.13	2.3	0.16
South Africa	0.6	0.17	0.19	0.13	0.36	0.15
United States	1.51	0.18	1.7	0.13	1.77	0.16
Venezuela	-0.54	0.17	-1.04	0.13	-0.94	0.14
Zimbabwe	-1.61	0.18	-1.33	0.14	-1.17	0.16

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