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Measuring Corruption: Myths and Realities

Over the past decade measuring corruption has become an ever-growing empirical field. Since the mid-nineties, we have undertaken various projects to measure corruption at the aggregate and disaggregated level. Among the latter, we have carried out and analyzed many surveys of the enterprise sector. They have provided particular insights on the private sector role in corruption. Such analysis of this empirical work has led us to question conventional approaches to addressing private sector corruption and investment climate constraints. This empirical analysis questions the traditional notion of viewing the firm as an 'investment climate taker' and thus ignoring that powerful conglomerates can also shape the business climate and thus become 'investment climate makers'. This implies that it is warranted to move away from simply blaming government officials for prevailing corruption, and to question the value of popular initiatives such as voluntary—and often un-monitorable—codes of conduct.¹

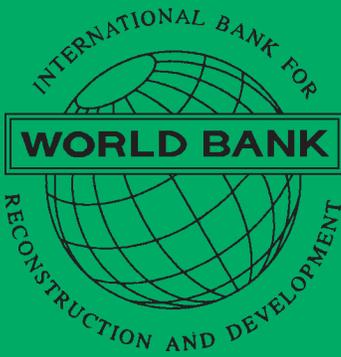
Progress in fighting corruption on all fronts requires measurement of corruption itself, in order to diagnose problems and monitor results. This recognition has renewed interest in the World Bank, and among aid donors, aid recipients, investors, and civil society, in developing measures of corruption, both in aid-financed

projects as well as more broadly in developing countries. This in turn has also sparked debate on how best to measure corruption and monitor progress in reducing it. In this context, some popular notions are espoused, which either lack clarity or are not backed up by rigorous analysis or evidence. In this article we highlight some of the main issues in these debates, in the form of seven myths and their associated realities, and conclude by also pointing to some brief implications for the private sector role in fighting corruption.

MYTH 1: Corruption cannot be measured

REALITY: Corruption can, and is being, measured in many forms. Different approaches serve different purposes, as seen in the following three broad ways of measuring corruption: ²

1) *By gathering the informed views of relevant stakeholders.* These include surveys of firms, public officials, and individuals, as well as views of outside observers in NGOs, multilateral donors, the private sector and experts in investment rating agencies and think tanks. These data sources can be used individually, or in aggregate measures which combine information from many such sources. Literally dozens of such sources are available, many of them covering very large sets of countries, often over time for several years. These are the only available data sources that currently permit large-scale



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cross-country comparisons and monitoring of corruption over time.

2) *By tracking countries' institutional features.* This provides information that can be related to opportunities or incentives for corruption, such as procurement practices, budget transparency. These do not measure actual corruption, but can provide useful indications of the possibility of corruption. In addition of not constituting a direct measure of corruption, these efforts as yet have limited country coverage, and almost no time dimension yet.

3) *By careful audits of specific projects.* These can be purely financial audits, or more detailed comparisons of spending with the physical output of projects. Such audits can provide information about malfeasance in specific projects within a very particular context within a country, but not about country-wide corruption more generally. These tend to be one-time confined to specific projects and countries, and so are not suited for cross-country comparisons or for monitoring over time.

MYTH 2: Subjective data reflect vague and generic perceptions of corruption rather than specific objective realities

REALITY: *Since corruption usually leaves no paper trail, perceptions of corruption based on individuals' actual experiences are sometimes the best, and the only, information we have.* Perceptions also matter directly: when citizens view the courts and police as corrupt, they will not want to use their services, regardless of what the 'objective' reality is. Similarly, firms will pay less taxes if they believe that they will be wasted by corruption, and they will invest less in their country. Further, while social norms might affect what people view as corruption, in practice such cultural bias in perceptions does

not appear to be substantial. It is telling that perceptions of corruption from cross-country surveys of domestic firms tend to be very highly correlated with perceptions of corruption from expert ratings in commercial risk rating agencies or multilateral development banks.³

Survey-based questions of corruption have also become increasingly specific, focused, and quantitative. For example, we have commissioned from the Global Competitiveness Survey coordinated by the World Economic Forum the following specific question: "When firms like yours do business with the government, how much of the contract value must they offer in additional payments to secure the contract?". The results can be very specific—and also sobering—pointing in this case to the extent and frequency and extent to which firms—including many multinationals—continue to pay bribes to obtain public procurement contracts. Similar specific questions are also posed by other firm surveys like the World Bank's Business Environment and Enterprise Performance Survey (BEEPS). And household surveys like the Gallup's Voice of the People and Global Barometer Surveys and the Latinobarometro ask respondents to report actual percentages of corrupt officials or actual number of times they witnessed acts of corruption. In fact, these surveys rely on citizens and firms residing in the country—even multinationals, which are a small minority in the enterprise surveys, provide responses through questionnaires administered in the subsidiary operating in the recipient country.

MYTH 3: Subjective data is too unreliable for use in measuring corruption

REALITY: *All efforts to measure corruption using any kind of data involve an irreducible element of*

uncertainty. No measure of corruption 'objective' or subjective, specific or aggregate, can be 100 percent reliable—in the sense of giving precise measures of corruption. This imprecision or measurement error stems from two problems that are common to all types of data, specific, subjective or otherwise:

1) *There is measurement 'noise' in specific corruption measures.* A survey question about corruption in the courts is subject to sampling error. An assessment of corruption in procurement by a commercial risk rating agency may not be accurate. Even a detailed audit of a project cannot conclusively distinguish between corruption, incompetence and waste, and other sources of noise in the data.

2) *Specific measures of corruption are imperfectly related to overall corruption—or to another manifestation of corruption.* A survey question about corruption in the police need not be very informative about corruption in public procurement. Even if an audit turns up evidence of corruption in a project, this need not signal corruption in other projects, or elsewhere in the public sector.

Tracking particular forms of corruption, and especially overall corruption at the country level, inevitably runs into one or both types of measurement problems. Efforts to measure corruption should aim at minimizing measurement error and be transparent about what inevitably will always remain as residual error. For example, the Kaufmann-Kraay-Mastruzzi corruption indicator average many different data sources for each country, in order to reduce measurement error. Unusually, in these aggregate indicators (measuring six dimensions of governance, one of which is corruption), we also report explicit margins of error,⁴ summarizing

the remaining unavoidable noise. Unfortunately, the practice of being explicit and transparent about imprecision in estimates of corruption or other dimensions of governance is very uncommon, and thus should be generalized.

Users of governance data should not confuse the absence of explicit margins of error with accuracy: all approaches to measuring corruption and governance and investment climate more broadly (such as Doing Business indicators), involve elements of uncertainty and margin of error. Nor should they confuse specificity of corruption measures with precision or reliability. Very specific measures, such as proxying for the opportunity for corruption in procurement based on a review of procurement practices (or through specific survey questions) are affected by both types of measurement error, as illustrated above.

MYTH 4: We need hard objective measures of corruption in order to progress in the fight against corruption

REALITY: *Since corruption is clandestine, it is virtually impossible to come up with precise objective measures of it.* An innovative effort to monitor corruption in road building projects in Indonesia illustrates the difficulties involved in constructing direct objective measures of corruption.⁵ The audit compared reported expenditures on building materials with estimates of materials actually used, based on digging holes in the roads and assessing the quantity and quality of materials present. But separating sand from gravel and both from the soil present before the road was built, is difficult and inevitably involves substantial measurement error. As a result the study could not provide reliable estimates of the level of corruption, although it was still useful as it could provide good

estimates of differences in corruption across different types of interventions (such as a likely project audit).

One can also obtain objective data on institutional features such as procurement practices or budget procedures that may create opportunities for corruption, for example through the Public Expenditure and Financial Accountability (PEFA) initiative for monitoring financial management procedures in the public sector. Such approaches can usefully document the “on the books” or official description of specific rules and procedures. *But these will only be imperfect proxies for actual corruption, not least because the “on the ground” application of these rules and procedures might be very different.*⁶ Given the common gap between what procedures, policies, budgets and regulations are on the books as compared with the implementation on the ground, there should be no presumption that objective data is necessarily more informative about the concrete reality than reports from experts, citizens or firms on the ground—irrespective of the extent of ‘subjectivity’ of the latter. Indeed, we have estimated the margins of error in the so called ‘objective’ indicators to be at least as substantial as those in other indicators.

MYTH 5: Subjective measures of corruption are not “actionable” and so cannot guide policymakers in the fight against corruption

REALITY: *Several different surveys of firms and individuals ask detailed and disaggregated questions about corruption in different areas of government.* As mentioned, there are many kind of specific detail on procurement bribery for instance that can nowadays be gathered through surveys. While such detail does not always point to what specific detailed reforms needed (say, *within* procurement, or

judiciary, etc), it is very useful in identifying priority areas for action. Specific objective indicators of opportunities for corruption are no more “actionable”—in the sense of guiding specific policy interventions. For example, one can measure whether a country has an anticorruption commission or not, or whether competitive bidding is mandated by fiat (‘in the books’) for some areas of public procurement. But this does not tell us whether such reforms are effectively implemented and enforced on the ground, or whether implementing such reforms in these specific areas will necessarily have a large impact on corruption.

Moreover, tracking even quite general perceptions about corruption can also be a useful way—even if not alone—of monitoring anticorruption programs. In fact, governments in democracies around the world rely on polling data to set policy priorities and track their progress.

MYTH 6: There is no need to monitor corruption closely since many countries with high corruption have also had fast growth

Skeptics of the anti-corruption agenda are quick to point out countries such as Bangladesh that score poorly on most cross-country assessments of corruption, yet have managed to turn in impressive growth performance over the past decade. One should not confuse these exceptions to the more general strong empirical finding that corruption adversely affects growth in the medium- to long-run. Studies have shown that a one standard-deviation increase in corruption lowers investment rates by three percentage points and lowers average annual growth by about one percentage point.⁷

These results are at some level difficult to interpret when we recognize that corruption is likely

to be a symptom of wider institutional failures. A large body of recent empirical work has documented that broader measures of institutional quality explain a significant portion of income differences across countries. One widely-cited study found that an improvement in institutional quality from levels observed in Nigeria to those in Chile would translate into a seven-fold difference in per capita incomes in the long run.⁸ This type of evidence suggests that policymakers ignore corruption, and the institutional failures that permit it, at their peril.

MYTH 7: Country level aggregated indicators of corruption refer specifically to the extent of corruption within the public sector, as assessed by a few experts.

The interpretation of country indicators of corruption tends to ignore the role of the private sector in corruption. Specifically, often the measure for corruption in our aggregate governance indicators tends to be associated exclusively with the extent of corruption within the public sector, often because there is a mistaken perception that these aggregate governance indicators are solely based on assessments by a few experts (residing in selected capitals of the rich world). This is incorrect. First, the dozens of institutions from which we gather data for our governance indicators are based in many countries and regions around the globe. Second, the data does not only draw from expert assessments, but also prominently from the responses from surveys of citizens and of firms worldwide, who report on their experience with corrupt practices.

Firm surveys report on firms' behavior regarding payment of bribes, as mentioned above. Such individual measures of corruption that serve as an input to our

aggregate governance indicators provide specific information on the private sector propensity to pay bribes to public officials from the perspective of the private-sector "briber". Indeed, there is a very high correlation between the extent of corporate ethics by firms in a country and overall country corruption as measured by our aggregate country indicator on corruption. Further, the bribing practices by firms (which we do measure, including bribes for licenses, connection to utilities, tax evasion, procurement, judicial rulings, capture of policies, laws and regulations, and the like), are explicit inputs into the corruption index in the aggregate governance indicators. Unethical behavior by the private sector in its conduct with the public sector is thus also encompassed within the overall cross-country corruption indicators.

In conclusion, for monitoring purposes, corruption can and is being measured through a wide variety of innovative approaches. Given the imperfections of any individual approach, it is appropriate to rely on a wide variety of different indicators, both subjective and objective, individual as well as aggregate, cross-country as well as country-specific. This is important to monitor results on the ground, assess the concrete reality of corruption, and develop anticorruption programs. We continue to further refine the aggregate indicators of governance and corruption. With the latest release of these indicators in September 2005 we are also making public a vast dataset of virtually all of the underlying individual data sources that go into our aggregate governance indicators. This data, and accompanying papers, and web-based analytic tools, are available at www.worldbank.org/wbi/governance/govdata.

Such data, with the accompanying dose of caution for interpretation

(as detailed in the papers, in the web, and in this article), may continue to serve a useful purpose for governance and anti-corruption monitoring and analysis. They will also challenge conventional notions—often devoid of empirical evidence—on what actually is transpiring on the public and private side of the corruption equation, and what can be done about it.

This article was authored by Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi. It has been excerpted from the World Bank Institute's Development Outreach, September 2006.

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Endnotes

1 For details on the rationale for rethinking conventional approaches to address corruption, and the specific recommendations as an alternative to conventional initiatives to mitigate the private sector side of corruption (which overall have not been seen as bearing results), see "Click Refresh Button: Investment Climate Reconsidered," by D. Kaufmann, in *Development Outreach*, March 2005 issue.

2 Kaufmann, Kraay and Mastruzzi (2005) provide an exhaustive list of 22 different data sources that provide perceptions data on corruption. Examples of measuring institutional features that create opportunities for corruption include the Public Expenditure and Financial Accountability (PEFA) framework, and the Public Integrity Index of Global Integrity. Examples of audits include Olken (2005), Hsieh and Moretti (2006).

3 The correlation between corruption ratings from the Global Competitiveness Surveys and expert polls such as Economist Intelligence Unit, and Global Insight, or Multilateral Institution ratings such as the World Bank's Country Policy and Institutional Assessments (CPIA) are very high. A related critique is that assessments of corruption produced by think-tanks and commercial risk-rating agencies display ideological biases, generally pro-market and pro-right-wing. In Kaufmann, Kraay, and Mastruzzi (2004) we develop a test for such ideological biases and find that they are quantitatively unimportant.

4 How much measurement error is reduced by aggregation depends on the extent to which individual data sources provide independent estimates of corruption. In Kaufmann, Kraay, and Mastruzzi (2006) we develop tests of this independence assumption and show that it is not unreasonable.

5 Olken (2005).

6 See for example Kaufmann, Kraay, and Mastruzzi (2005) who show that much of the difference between objective measures of business entry based on statutory requirements and firms' perceptions of the ease of business entry, can be explained by the extent of corruption.

7 Mauro (1995). See also Knack and Keefer (2005).

8 Acemoglu, Johnson and Robinson (2001). Other studies include Knack and Keefer (1995), Rigobon and Rodrik (2005), Rodrik, Subramanian and Trebbi (2004), Hall and Jones (1999), and Kaufmann and Kraay (2002).