Measuring Corruption: Myths and Realities

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Draft, May 1st, 2006

There is renewed interest in the World Bank, and among aid donors and aid recipients in monitoring corruption, both in aid-financed projects as well as more broadly in developing countries. This in turn has sparked new debate on how best to measure corruption and monitor progress in reducing it. This note highlights some of the main issues in these debates, in the form of six myths and their associated realities.

Myth 1: Corruption cannot be measured

Reality: Corruption can, and is being, measured in three broad ways:[i]

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, and the private sector. 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 cross-country comparisons and monitoring of corruption over time.

2. *By tracking countries' institutional features.* This provides information on opportunities and/or incentives for corruption, such as procurement practices, budget transparency, etc. These do not measure actual corruption, but can provide useful indications of the possibility of corruption. There efforts as yet have relatively limited country coverage, especially among developing countries, and as yet have almost no time dimension.
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, but not about country-wide corruption more generally. These tend to be one-time confined to specific projects and countries, and, while they are very valuable to learn about the specifically audited project, they 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, responses about corruption based on individuals' actual experiences are sometimes the best available, and the only, information we have.* Perceptions also matter directly: if for example citizens believe the courts and police to be corrupt, they will not want to use their services regardless of what

the objective reality is. While social norms might affect what people view as corruption, in practice such cultural bias in perceptions does not seem to be very important. It is telling for example that the correlation of perceptions of corruption from cross-country surveys of domestic firms tend to be very highly correlated with perceptions of corruption from commercial risk rating agencies or multilateral development banks.[ii]

Survey-based questions of corruption have also become increasingly specific, focused, and quantitative. For example, the 2004 Global Competitiveness Survey commissioned by the World Economic Forum asks the following two questions: 1) "When firms in your industry do business with the government, how much of the contract value must they offer in additional payments to secure the contract?"; 2) "On average, what percentage of annual revenues do firms like yours typically pay in unofficial payments to public officials?". Similar specific questions are also presented by other firm surveys like the World Bank's Business Environment and Enterprise Performance Survey (BEEPS). Similarly, household surveys like the Gallup's Voice of the People and Global Barometer Surveys and the Latino-Barometro ask respondents to report actual percentages of corrupt officials or actual number of times they witnessed acts of corruption.

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 can be 100% 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, subjective or otherwise:

1. *There is imprecision in specific measures*. A survey question about corruption in the courts is subject to random variation in respondents' perceptions of the same phenonmenon An assessment of corruption in procurement by a commercial risk rating agency may not be accurate if it is based on imperfect information. Even after a detailed audit of a project cannot distinguish between corruption, incompetence and other sources of noise.
2. *Specific measures of corruption are imperfectly related to overall corruption*. A survey question about corruption in the police need not be 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 make efforts both to minimize measurement error and be transparent about what inevitably remains. For example, the Kaufmann-Kraay-Mastruzzi corruption indicators average many different data sources for each country to reduce measurement error. Unusually, they also report explicit margins of error summarizing the remaining unavoidable noise. Unfortunately, this practice of being explicit and transparent about imprecision in estimates of corruption or other dimensions of

governance and the investment climate is very uncommon, in spite of the fact that all measures are subject to margins of error.

Users of governance data should not confuse the absence of explicitly disclosed margins of error with actual accuracy: all approaches to measuring corruption, and governance more broadly, will involve margins of error an element of inaccuracy, whether transparently disclosed, or not. *Nor should one confuse specificity of corruption measures with precision or reliability.* Very specific measures, such as estimates of the opportunity for corruption in procurement based on a review of specific procurement practices, or specific survey questions, are affected by both types of measurement error:. for example corruption in procurement itself is hard to measure, and it also need not be informative about corruption elsewhere in the public sector.

Imprecision also does not mean that indicators are unreliable. Rather, explicit margins of error allow users to be clear about the conclusions that can and cannot be made with confidence based on available data. Consider for example categorizing countries according to their corruption level, as is done in the eligibility requirements for the US government's new grant aid from the Millenium Challenge Account. In 2004 70 low-income countries were potentially eligible, but countries below the median for this group on the Kaufmann-Kraay-Mastruzzi Control of Corruption indicator were considered ineligible. Based on the explicit margins of error available for this one can conclude with 90 percent confidence that 17 poorly-performing countries were almost certainly below the median, and another 23 good performers were almost certainly above the median.

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.[iii] 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 precise estimates of the *level* of corruption, although it could provide better estimates of differences in corruption across different project interventions. And clearly such efforts would be prohibitively costly to replicate in many countries over time.

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 PEFA project for monitoring fiscal procedures. 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 official rules and procedures might be very different in practice*.[iv] While very useful, there should be no presumption that objective data is

necessarily more informative than data that relies on survey responses from firms or citizens about the reality on the ground.

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 do ask detailed and disaggregated questions about corruption in different areas of government.* While such detail does not always point to specific reforms, it is very useful in identifying priorities. Specific objective indicators of opportunities for corruption are on their own no more "actionable" in the sense of guiding specific policy interventions. For example, one can measure whether a country has an anticorruption commission, or that the law requires competitive bidding in many public procurement contracts. But this does not tell us that reforms in these specific areas will necessarily have large impacts on corruption.

Moreover, tracking perceptions about corruption can be a useful way of monitoring the success of a government's anticorruption strategy. After all, governments in democracies around the world rely on polling data to set policy priorities and track their progress: why should the area of good governance and anti-corruption be any different?

Myth 6: Monitoring corruption closely is not a priority 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. Of course, before 1998 the same skeptics might have pointed to Indonesia, whose rapid growth under a corrupt regime turned out to be spectacularly fragile in the case of the East Asian financial crisis. One should not confuse exceptions with 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.[v]

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.[vi] Conversely, studies have found very little evidence that higher income levels led to better corruption. This type of evidence suggests that policymakers ignore corruption, and the institutional failures that permit it, at their peril.

References

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Notes

[i] 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), as well as countless financial audits of projects performed by donors and governments as part of their standard fiduciary obligations.

[ii] 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 indeed very high, ranging between values of 0.66 and 0.90.

[iii] Olken (2005).

[iv] 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.

[v] Mauro (1995). See also Knack and Keefer (2005).

[vi] Acemoglu, Johnson and Robinson (2001). Other studies include Knack and Keefer (1995), Rigobon and Rodrik (2005), Rodrik, Subramanian and Trebbi (2004), and Hall and Jones (1999)