

Measuring Corruption: Myths and Realities

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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. At the aggregate level, we have been constructing the Worldwide Governance Indicators that capture six dimensions of governance: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. These indicators cover over 200 countries for the decade 1996-2005, and are based on the views of a very diverse group of sources, including survey respondents, commercial risk rating agencies, NGOs, and multilateral organizations. With the latest release of the Worldwide Governance Indicators, we have also for the first time made available on our website (www.govindicators.org) data from virtually all of the 31 individual data sources underlying the aggregate indicators. This represents one of the largest collections of freely-available data on governance in the world.

At the disaggregated level, we have carried out and analyzed many surveys of the enterprise sector. Such empirical work forces a rethink of the conventional approaches to addressing corruption. It also suggests moving away from simply blaming government officials for corruption, or advocating 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 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.

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Myth 1: Corruption cannot be measured

Reality: Corruption can, and is being, measured in three broad ways:ⁱⁱ

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. These efforts as yet have very 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 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: 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.ⁱⁱⁱ

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?”. Such specific question is

complemented by others, including on bribe payment amounts, as well as on frequency of bribe payments for various services. As illustrated in recent articles, the results can be very specific (as well as sobering), pointing to the extent and frequency to which firms – including many multinationals – do pay bribes to obtain public procurement contracts for instance.

Similar specific questions are also posed 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 Latinobarometro 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 noise in specific 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 after a detailed audit of a project cannot conclusively distinguish between corruption, incompetence 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 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.^{iv} Unusually, in these aggregate indicators (measuring six dimensions of governance, one of which is corruption), we 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 is very uncommon.

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, involve an element of uncertainty. *Nor should they 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.

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.^v 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 good estimates of differences in corruption across different projects.

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 fiscal 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.*^{vi} There should be no presumption that objective data is necessarily more informative than reports from experts, citizens or firms on the ground—irrespective of their extent of perception or subjectivity.

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.* 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 competitive bidding in procurement. But this does not tell us that reforms in these specific areas will necessarily have large impacts on corruption.

Moreover, tracking even quite general perceptions about corruption can be a useful way – even if not alone-- 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: 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.^{vii}

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.^{viii} This type of evidence suggests that policymakers ignore corruption, and the institutional failures that permit it, at their peril.

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, in order to monitor results on the ground, assess the concrete reality of corruption, and develop anticorruption programs.

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Notes

ⁱ For details on the rationale for rethinking conventional approaches to address corruption, see "Investment Climate: 'Click Refresh Button: Investment Climate Reconsidered", by D. Kaufmann, in *Development Outreach*, March 2005 issue.

ⁱⁱ 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).

ⁱⁱⁱ 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.

^{iv} 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.

^v Olken (2005).

^{vi} 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.

^{vii} Mauro (1995). See also Knack and Keefer (2005).

^{viii} 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)