New ways to measure institutionalised grand corruption in public procurement

Public procurement, one of the largest areas of public spending worldwide, gives public officials wide discretion. It is therefore unsurprising that it is also one of the government functions most often vulnerable to corruption. While there have been many qualitative accounts of high-level corruption in public contracting, it is only recently that quantitative indicators have become available. By making use of big data generated by governments on contracts, companies, and individuals, it is possible to develop a new generation of quantitative indicators which can be used to guide policy intervention and support control of corruption.

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The Proxy Challenge Series: Exploring innovative ways to measure corruption

U4’s Proxy Challenge initiative promotes methodological fine-tuning and empirical application of pioneering ways to measure types of corruption where no standardised measurement tools yet exist.

Type of corruption measured

Corruption in public procurement is distinct from corruption in other government functions because of the involvement of different actors, the specific regulatory environment, and the extensive room for discretion in decision making. Among the various forms of corruption taking place in public procurement, high-level corruption is of particular importance as it has a fundamental impact on democratic party competition, provision of public goods, and economic development. For this study we focus particularly on institutionalised grand corruption, which can be defined as follows:

Institutionalised grand corruption in public procurement refers to the particularistic allocation and performance of public procurement contracts by bending universalistic rules and principles of good public procurement in order to benefit a group of individuals while denying access to all others.

This differs from the definition of corruption most widely used by donor agencies, that is, “misuse of public office for private gain” (Rose-Ackerman 1978), in that it stresses...
the importance of open access to public resources and of universalistic formal rules that limit public discretion (Mungiu-Pippidi 2011).

**Objective indicators of grand corruption in public procurement**

Numerous qualitative case studies and reports by investigative journalists have described public procurement corruption involving politicians, bureaucrats, advisers, and influential businessmen. But it is only in the last few years that studies have examined the phenomenon across a larger set of cases using quantitative indicators.

Some authors have developed “objective” measures which rely on directly observable hard indicators of behaviour that likely indicate corrupt activities (Olken and Pande 2012). These studies make use of a variety of datasets. For example, Olken (2007) uses independent engineers to review road projects and calculates the amount and value of missing inputs to determine corruption. More closely associated with the indicators discussed in this brief are studies which exploit widely available administrative records of public procurement and registered companies. For example, Auriol, Flochel, and Straub (2011) examine the use of “exceptional” procurement procedures to gauge the abuse of formal rules by corrupt actors. Goldman, Rocholl, and So (2013) investigate how suppliers’ political connections affect their market success.

While these papers inspired the approach proposed here, they suffer from two principal limitations which must be addressed before objective indicators of institutionalised grand corruption in public procurement can be widely used in research and policy. First, some of these indicators cannot readily be scaled up, as they use very expensive measurement tools such as employing independent engineers to evaluate projects. Second, some rely on a single narrow indicator, which may or may not be the primary vehicle for corruption; such studies may not reflect the wider realities of corruption. For example, using exceptional procedure types is one means of unfairly limiting competition. But other strategies can be equally effective in achieving the same corrupt end, for example, tailoring the eligibility criteria to one company in order to effectively exclude competitors from bidding.

**The promise of new indicators**

New indicators of corruption in public procurement can provide high-quality support for policy interventions and appraisal if they

- are available on a real-time basis from electronic sources (low running costs),
- are derived solely from “objective” administrative data describing actor behaviour,
- are defined on the micro level (e.g., individual transactions),
- generate comparative findings across countries, organisations, and time, and
- are open-ended, allowing for continuous extension, improvement, and adjustment to particular contexts.

These are high standards, and the emerging indicators can only begin to approximate them. Nevertheless, indicators of institutionalised grand corruption proposed in this brief for governments and civil society provide a suitable starting point for future refinements and adaptations to specific contexts.

Three indicators of institutionalised grand corruption have been developed by the Corruption Research Center Budapest (Fazekas and Tóth 2014):

The **Corruption Risk Index (CRI)** is based on the generation and distribution of rents in the process of allocating and performing public procurement contracts. It relies on the co-variation between public procurement “red flags” or warning signals identified by a wide literature and market outcomes associated with institutionalised corruption. Many of these red flags are readily measurable, such as an extremely short submission period (i.e., number of days between publication of a call for tenders and the deadline for submitting bids) or contract performance at a price considerably higher than originally contracted. Market outcomes in line with the definition of institutionalised grand corruption include, for example, consideration of a single bid for a tender, which signals lack of competition and closed access, and a high winner’s market share, which indicates the recurrent nature of corruption. In one example of an association between red flags and market outcomes, Fazekas et al. (2013) found that the use of extremely short submission periods increased the probability of receiving a single bid by 6–10% across Central and Eastern Europe in 2009–2012. Combining these elementary risk indicators into a composite can give a risk score that is robust over time and across countries.

The **Political Influence Indicator (PII)** gauges the degree of political influence on companies’ market success. It treats a change of government as a natural experiment, postulating that companies’ success in the procurement market (without corruption) should depend on economic factors rather than on which government is in power. In order to develop this indicator, each procurement supplier’s contract volume is observed and explained using standard economic factors such as change in overall spending in the firm’s main market or prior firm investment. However, in a systematically corrupt environment where political favouritism drives procurement markets, a government change will make some companies “unexpectedly” much more successful than their peers while others “unexpectedly” lose ground.

The **Political Control Indicator (PCI)** measures the direct political control of public procurement suppliers, that is, whether a supplier has or had political office holders among its owners and managers. While holding a stake in or managing a public procurement supplier does not necessarily
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Variables of interest include, among others, the name of companies, company ownership and management data: name, position, and stake. Data come from official company registries. 
- Political office holder data: name, office/position, and party affiliation. Data come from official lists of elected officials and appointed office holders.

The three indicators introduced above have different data requirements, although all three of them require public procurement data (Table 1). This implies that data collection can be prioritised depending on which indicator is more valuable, with a smaller data scope already delivering tangible results. Typical of the “big data” era, keeping data and indicators open-ended and gradually improving them is the most fruitful approach.

| TABLE 1. DATA SOURCES NEEDED FOR INDICATOR BUILDING |
|---------------------------------|---------|---------|---------|-------------------------------|
| Corruption indicator            | Procurement data | Company financial data | Company ownership data | Political office holder list |
| Corruption Risk Index (CRI)     | X       |         |         |                               |
| Political Influence Indicator (PII) | X     | X       |         |                               |
| Political Control Indicator (PCI) | X     |         | X       |                               |

Even though the data underlying the indicators are widely available, governments and civil society face many implementation challenges. First, data collection and database creation require skills that are not always readily available in the public administration of developing countries. Second, while data may be available, coverage and quality are an issue in many contexts. Procurement regulations and transparency requirements may be selectively applied only to certain tenders, resulting in incomplete data and making the indicators potentially too narrow. Moreover, ensuring that what is announced is in fact what happens on the ground requires substantial administrative and controlling capacity which cannot be taken for granted in many countries. Finally, public procurement data are not generated for the purpose of indicator building and analysis. Hence, creating a structured database of tenders may require substantial investment. Nevertheless, investment in data and indicators, including skills development, is mostly upfront; maintenance and updating is typically much less costly, as data management procedures can be automated. Adoption of the Open Contracting Data Standard (www.open-contracting.org) can promote public disclosure of contracting information in machine-readable formats, thus minimising costs.

Limitations

Even with high-quality, rich, and wide-coverage data, there are limitations to the use of quantitative indicators. First,
indicators of institutionalised grand corruption measure only one form of corruption; they should not be taken as indicating the general level of corruption in a country. Specificity is their strength, as they are actionable and relate to real-world transactions directly, but specificity should also be recognised as a limitation. Second, such indicators deliver only a lower-bound estimate of the total prevalence of institutionalised grand corruption, given that sophisticated actors can easily find ways to avoid detection. Third, the setup of the indicators is sensitive to gaming; once some corrupt actors learn how the indicators are monitored, they can adjust their behaviour. In order to keep indicators valid, a constant improvement of measurement practice is necessary.

**Potential uses**

As these indicators are defined at the micro level and are available over long periods for many countries, there are many possibilities for using the indicator set to evaluate corruption risks, anti-corruption policies, and market performance. These uses include, but are not limited to:

- **Evaluating countries** against each other or evaluating the same country over time. For example, it is possible to track over time the average incidence of public procurement corruption and link it to significant policy changes.

- **Evaluating large funding programmes** or spending lines such as World Bank prior-reviewed contracts across Africa. This can be done, for example, by comparing similar public procurement tenders which only differ in the source of financing in terms of their corruption risks.

- **Identifying focal points for policy intervention.** By assessing the network structure of corruption, policymakers aiming to improve governance performance can identify those organisations and individuals which are located at central points of high-corruption-risk networks. Targeting interventions to central actors may amplify policy impact throughout a country.

- **Evaluating the impact of single regulatory or organisational changes on corruption.** For example, research can compare public organisations which have implemented an integrity management system with similar organisations which have not.

- **Conducting risk-based audits of actors and transactions.** While no corruption risk indicator can tell with certainty whether corruption has occurred in a particular instance, indicators of institutionalised grand corruption can guide auditors to the sites where they are most likely to find corruption.