

New ways to measure institutionalised grand corruption in public procurement

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.



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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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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.

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

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

mean that an office holder is corrupt, it nevertheless signals the risk that political connections may be exploited to gain undue advantage in competing for government contracts.

While these indicators have already been developed in a number of transition economies such as Hungary or Slovakia, each needs to be adapted to fit the particular regulatory and economic context in which it is used. Regulation of public procurement tendering differs across countries in many crucial details, such as the minimum permissible submission period, which naturally needs to be taken into account when defining which tenders deviate from prevailing norms. In a similar vein, some political groups may take longer than others to tilt market dominance to companies linked to them. Hence, the Political Influence Indicator has to take into account such differences in timing.

Nevertheless, the indicators are comparable across countries as well as time because the underlying behaviour is universal. Even if an extremely short submission period is defined as three days in one country and four days in another, any period much shorter than the prevailing market norm signals corruption risks. Similarly, no matter how quickly market dominance is achieved, the difference between company performances at the “equilibrium” signals the likely weight of political influence in public contracting.

Data and analytical requirements of new indicators

Developing these indicators of corruption risk requires the availability of sufficiently rich and reliable data. Fortunately, such data are available in a wide range of countries, including most developing countries, as well as from development organisations financing projects across the globe. Public procurement data are at the heart of the complex template used by the Corruption Research Center Budapest. These derive from public announcements about public procurement procedures conducted under national public procurement law. Specifically, variables come from calls for tenders, contract award notices, contract modification notices, contract completion announcements, and administrative correction notices. A quantitative database can be compiled by, first, capturing the text files of the announcements from the official online source, such as a public procurement gazette; and second, applying both automatic and manual text-mining strategies, leading to variables with clear meaning and well-defined categories. Variables of interest include, among others, the name of the supplier, the value of the contract, and the deadline for submitting bids. For further discussion see Fazekas, Tóth, and King (2013).

In addition, several types of administrative data can greatly increase the usefulness of public procurement data by providing information about institutional and individual actors. These data sets, which are available in many countries, include:

- Company financial and registry data: annual turnover, annual profit, date of incorporation.

Data come from official company registries and annual financial statements that companies submit to government.

- 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	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 administrations 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,



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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, policy-makers 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.

References

- Auriol, E., T. Flochel, and S. Straub. 2011. *Public Procurement and Rent-Seeking: The Case of Paraguay*. Working Paper 11-224. Toulouse: Toulouse School of Economics.
<http://ideas.repec.org/p/tse/wpaper/24174.html>.
- Fazekas, M., J. Chvalkovská, J. Skuhrovec, I. J. Tóth, and L. P. King. 2013. *Are EU Funds a Corruption Risk? The Impact of EU Funds on Grand Corruption in Central and Eastern Europe*. CRC-WP/2013:03. Budapest: Corruption Research Center.
- Fazekas, M., and I. J. Tóth. 2014. *Three Indicators of Institutionalised Grand Corruption Using Administrative Data*. Budapest: Corruption Research Center.
- Fazekas, M., I. J. Tóth, and L. P. King. 2013. *Anatomy of Grand Corruption: A Composite Corruption Risk Index Based on Objective Data*. CRC-WP/2013:02. Budapest: Corruption Research Center.
- Goldman, E., J. Rocholl, and J. So. 2013. "Politically Connected Boards of Directors and the Allocation of Procurement Contracts." *Review of Finance* 17, no. 5: 1617–48. doi:10.1093/rof/rfs039.
- Mungiu-Pippidi, A., ed. 2011. *Contextual Choices in Fighting Corruption: Lessons Learned*. Report 4/2011. Oslo: Norad.
- Olken, B. A. 2007. "Monitoring Corruption: Evidence from a Field Experiment in Indonesia." *Journal of Political Economy* 115, no. 2: 200–49.
- Olken, B. A., and R. Pande. 2012. *Corruption in Developing Countries*. NBER Working Paper 17398. Cambridge, MA: National Bureau of Economic Research.
- Rose-Ackerman, S. 1978. *Corruption: A Study in Political Economy*. New York: Academic.
- Fazekas, M., I. J. Tóth, and L. P. King. 2013. *Corruption Manual for Beginners: Inventory of Elementary "Corruption Techniques" in Public Procurement Using the Case of Hungary*. CRC-WP/2013:01. Budapest: Corruption Research Centre.
- Fazekas, M., I. J. Tóth, and L. P. King. 2013. "Hidden Depths: The Case of Hungary." In *Controlling Corruption in Europe*, vol. 1, edited by A. Mungiu-Pippidi, 74–82. Berlin: Barbara Budrich.
- OECD (Organisation for Economic Co-operation and Development). 2007. *Integrity in Public Procurement: Good Practice from A to Z*. Paris.