



Controlling corruption risks in public procurement with big data

Standing up to State Capture
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Overview

1. The background

- Corruption in public procurement: definition to work with
- Available datasets to use
- Indicator development methodology

2. Possible applications – with examples

Corruption definition

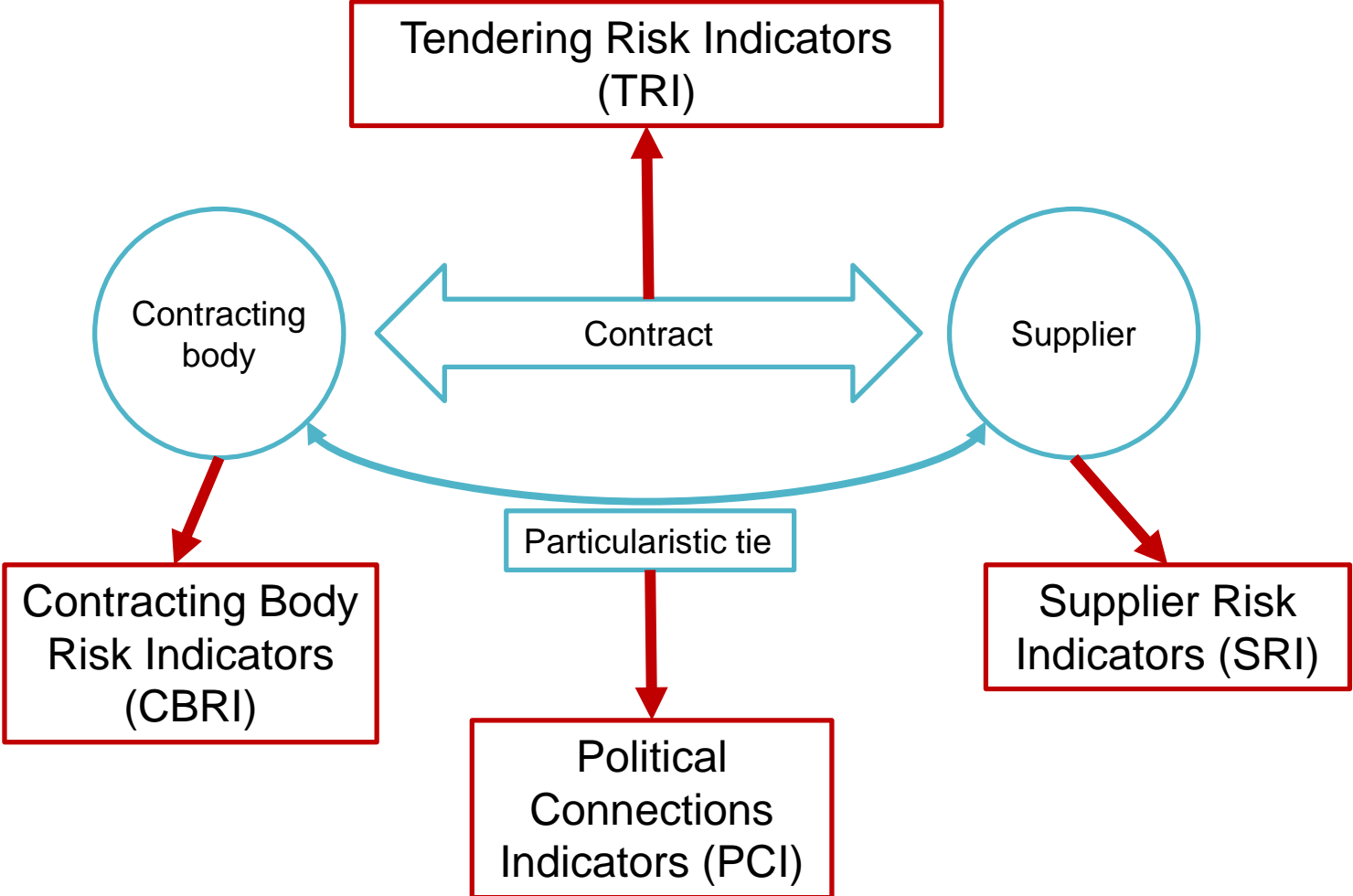
In public procurement, the aim of corruption is to steer the contract to the favored bidder without detection.

This is done in a number of ways, including:

- ***Avoiding competition*** through, e.g., unjustified sole sourcing or direct contract awards.
- ***Favoring a certain bidder*** by tailoring specifications, sharing inside information, etc.

See: World Bank Integrity Presidency (2009) Fraud and Corruption. Awareness Handbook, World Bank, Washington DC. pp. 7.

Conceptualizing public procurement corruption indicators



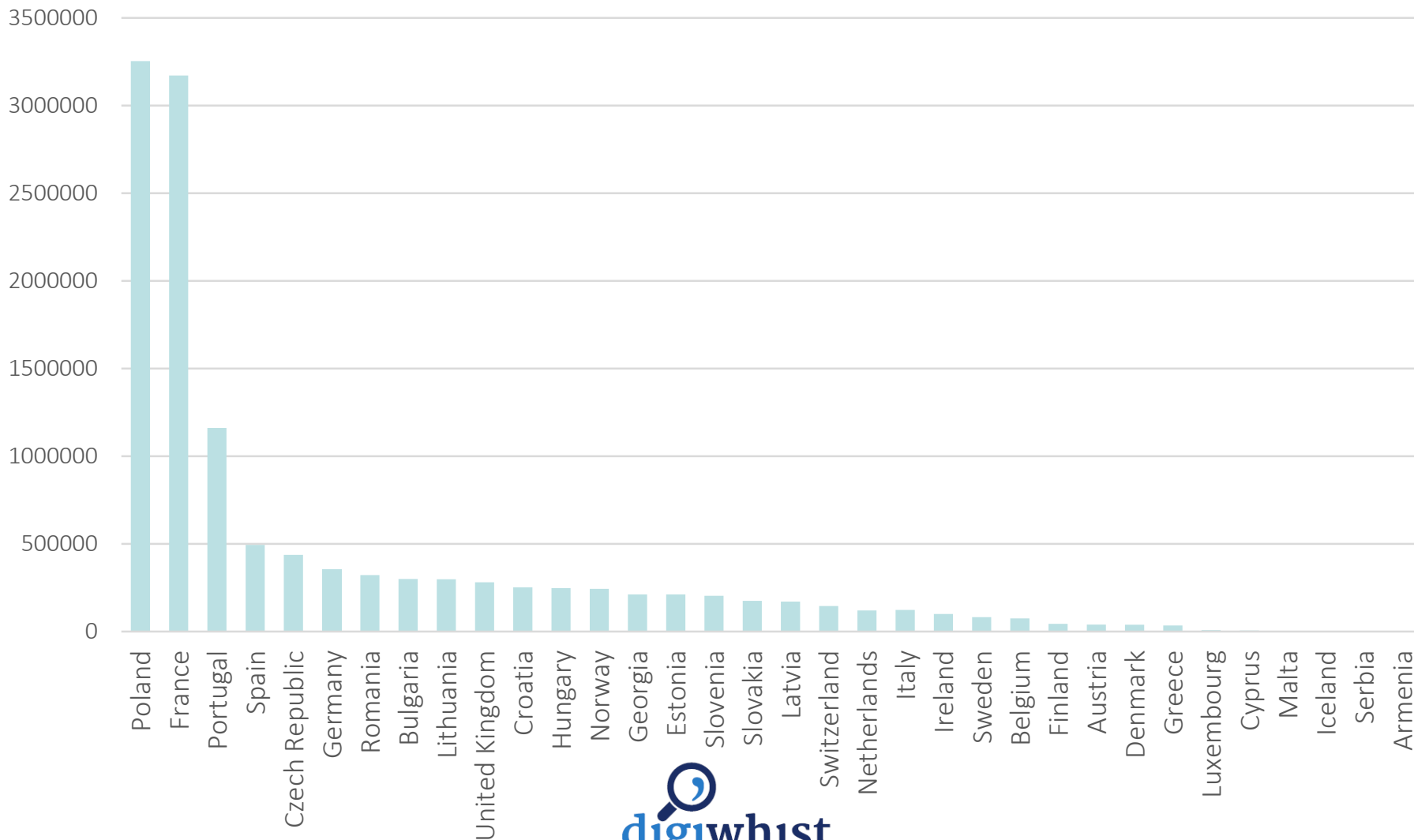
Source: Fazekas, M., Cingolani, L., & Tóth, B. (2016). A comprehensive review of objective corruption proxies in public procurement: risky actors, transactions, and vehicles of rent extraction: GTI-WP/2016:03. Government Transparency Institute. Budapest.

Data

Data we have and do not have

- Tendering documents: call for tenders, contract awards
- Ownership data from company registries
- Financial data of companies
- Information on political officeholders, and public institutions
- Often missing: information on planning and implementation
- Value threshold exemption rules affect the quantity of data available
- Data quality issues

Data Scope: Number of contracts processed by DIGIWHIST per country (TED+national)



Open data available: DIGIWHIST, BA/DFID & beyond

Unprecedented open data available!

1. Full European data&indicators on DIGIWHIST watchdog portals: <https://opentender.eu>
17.5 million contracts, **32 countries+EC**
2. Development aid funded procurement+selected developing countries: **World Bank, IDB, Europeaid + Tanzanian national data** (www.govtransparency.eu/index.php/category/databases)
3. Approach scaleable and standardized: ongoing work in
 - Selected developing countries' national data: **Brazil, Chile, Columbia, India, Indonesia, Jamaica, Mexico, Paraguay, South Africa , Uganda**
 - Selected developed countries: **US(federal contracting)**

If you are interested, get in touch, happy to share data and collaborate!

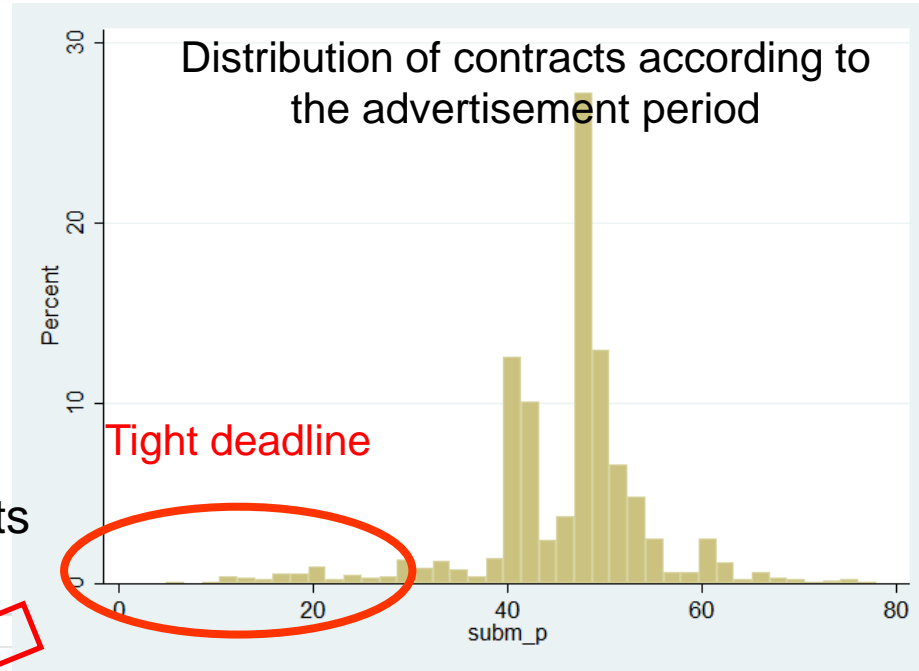
About indicator development

Potential indicators at first glance

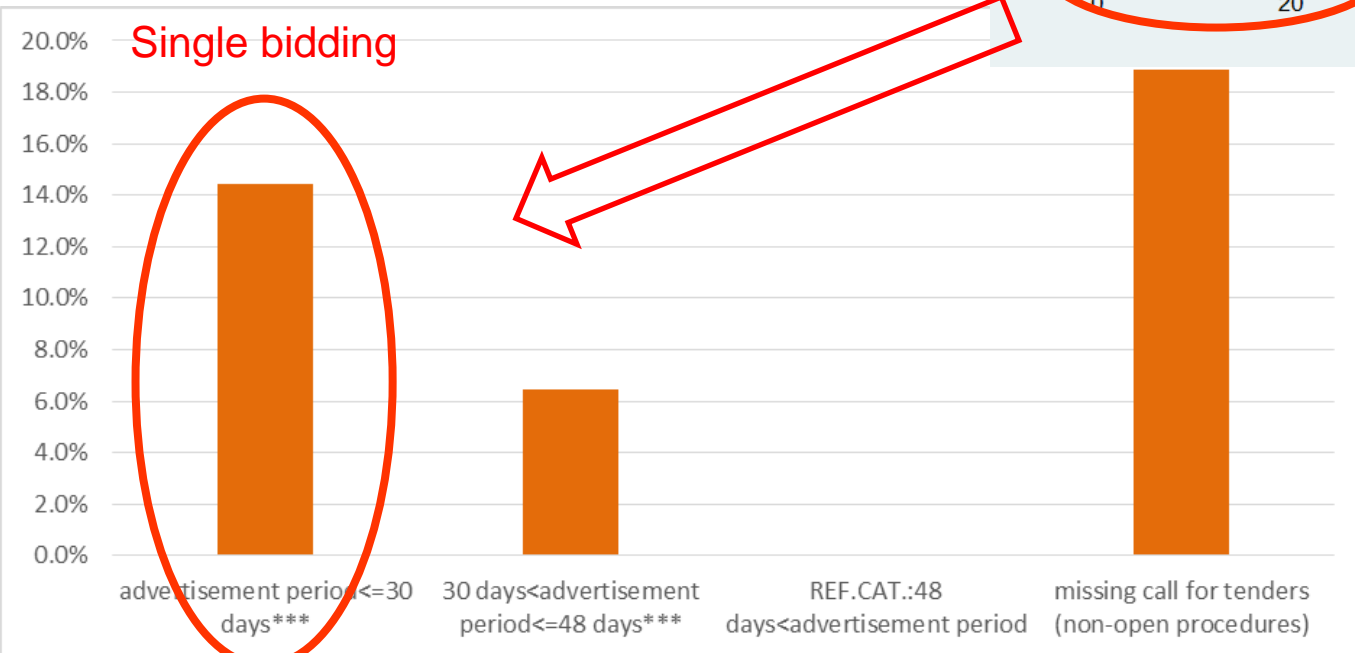
- Tendering risk indicator examples
 - Single bidding
 - Too short advertisement period
 - Unnecessarily detailed requirements toward the bidders...
- Supplier risk indicator examples
 - Strange pattern in total value of tenders won and the age of the company
- Contracting body risk indicator examples
 - Details of agency-level expenditure
 - Structural brakes over time in asset declarations of agency officials
- Political connection risk indicator examples
 - Company owner holds political position

- Not all indicators work in all context, they have to be tested

Example: advertisement period and single bidding



Probability of single bid submitted for contracts compared with the market norm of 48+ days



Source: EU's Tenders Electronic Daily (TED), Portugal, 2009-2014

Using indicators for risk management

Using data for corruption prevention

1. Risk assessment for targeting an intervention

- Mezo-level (e.g. sectoral, regional)
- Organisation-level
- Project/tender-level

2. Risk assessment of partners, grantees

- Organisation-level

3. Automatic compliance checks: e.g. applying procurement rules

Sectoral risk scoring: infrastructure subsectors

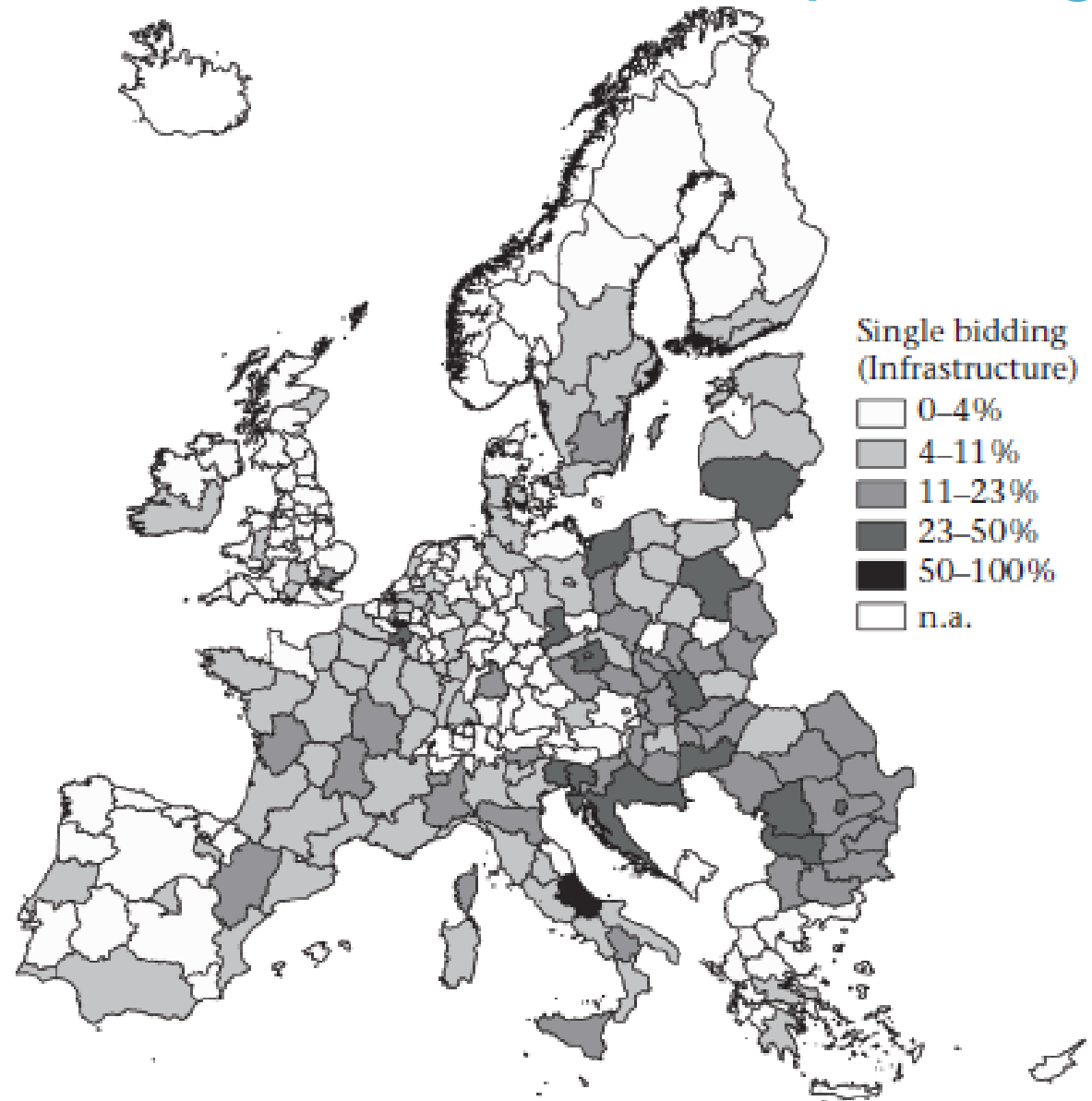
Table 9.3. Descriptive statistics of different infrastructure types according to per cent of single bidders and CRI

	Mean single bidder in per cent	Mean CRI	Number of contracts
Road construction	9	0.185	25,581
Railway construction	12	0.228	2,822
Airport construction	24	0.263	635
Water transport	12	0.223	3,328
Power plant construction	13	0.269	408
Water distribution and sewer system	7	0.151	6,527
Sewage processing	10	0.206	3,471
Other public works	7	0.186	162,551

Source: Fazekas, M. & Tóth, B. (2017), Infrastructure for whom? Corruption risks in infrastructure provision across Europe. In Hammerschmid, G, Kostka, G. & Wegrich, K. (Eds.), The Governance Report 2016. Oxford University Press, ch 11.

Corruption risks in infrastructure spending by region

Some regions in otherwise low corruption risk countries carry high risks



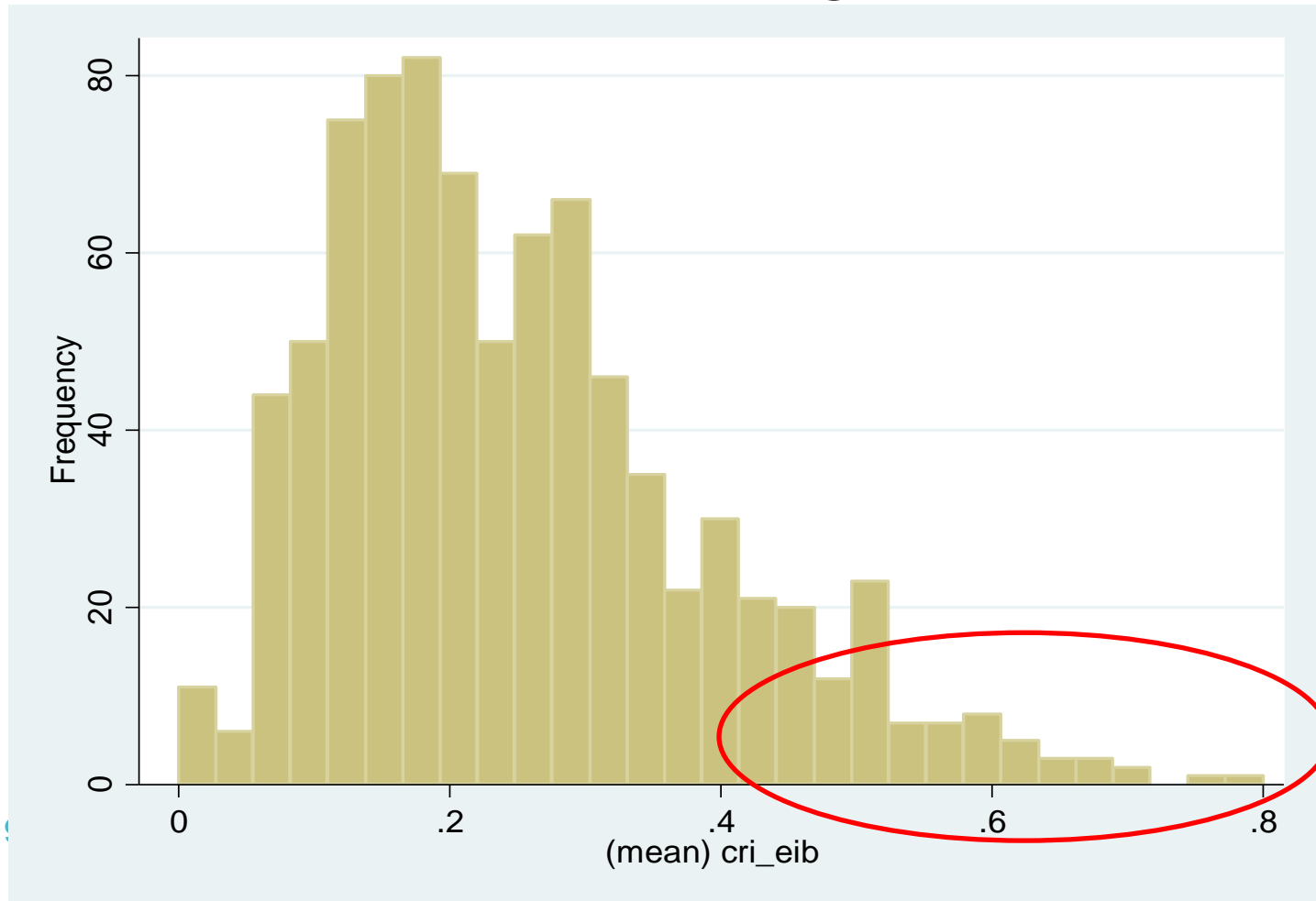
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Organisational risk scoring: EIB example

EIB counterpart avg. organisational risk scores

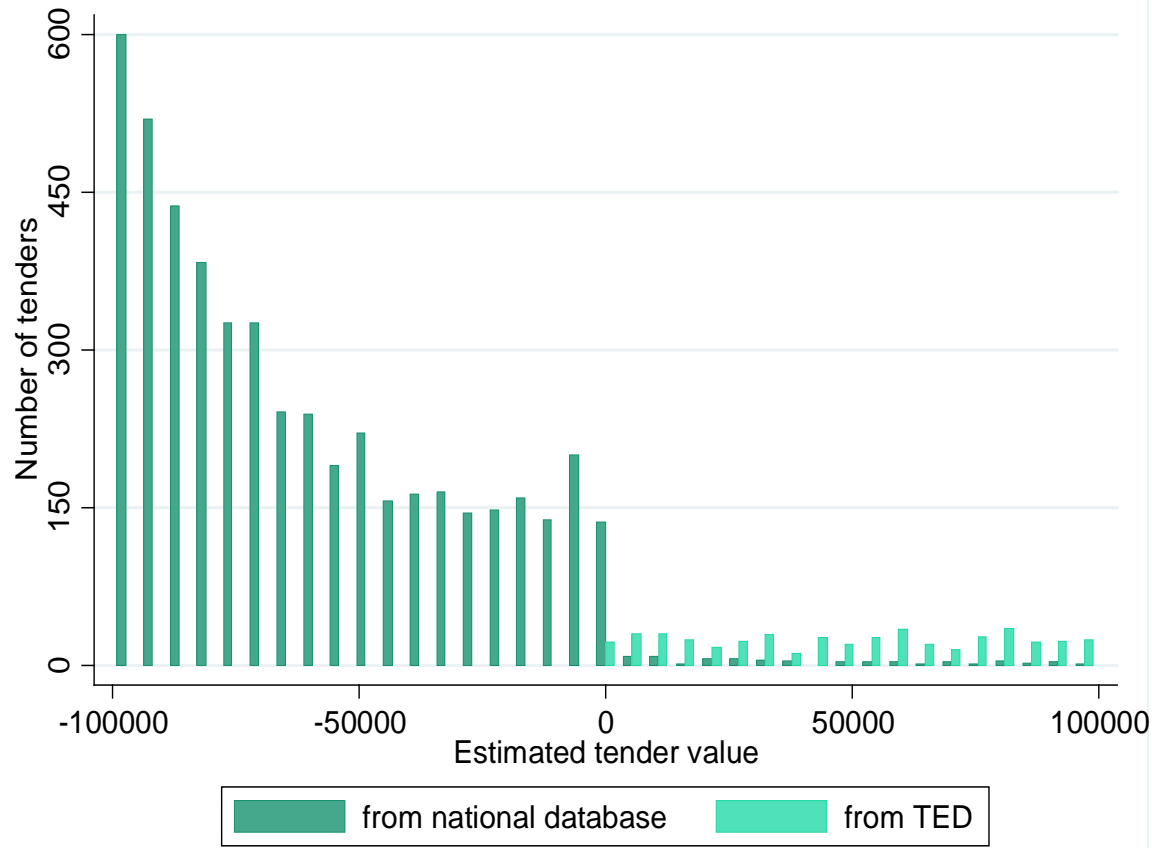
General PP behavior ~ Eib funded procurement behavior

250,000+ tenders, 10 tailored red flags



Automatic compliance checks: Misplaced tenders: avoiding TED

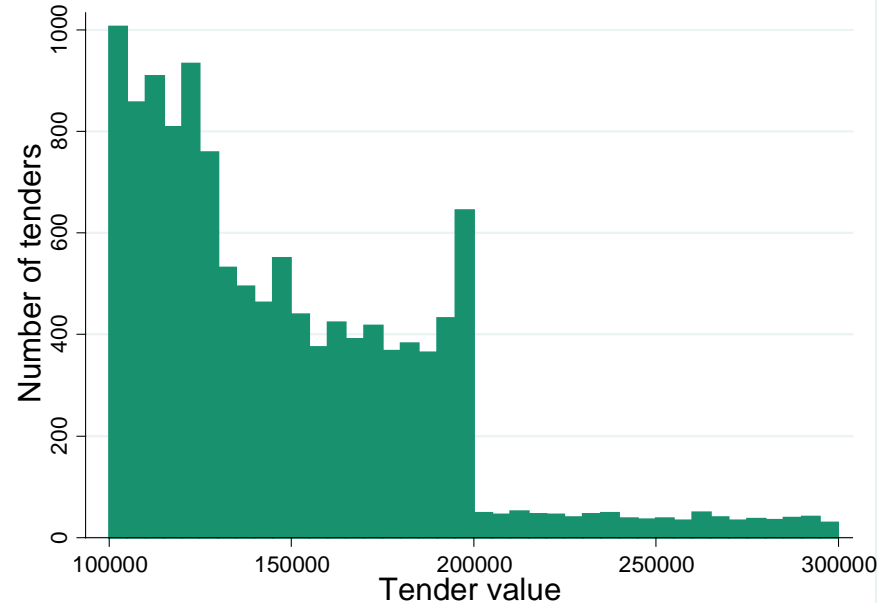
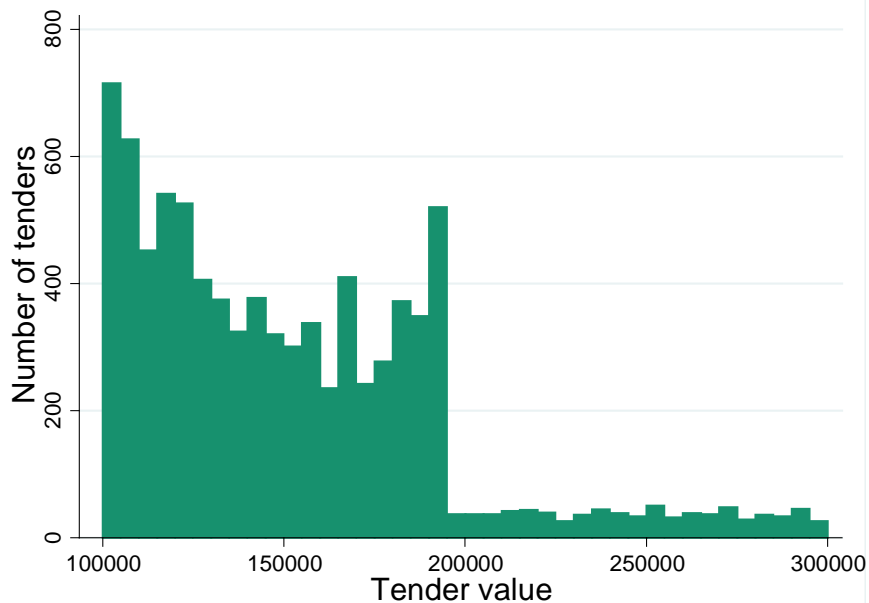
Number of contracts around the EU publication threshold – Services, central government, Poland



Source: Tóth, B., Fazekas, M. (2017): *Compliance and strategic contract manipulation around single market regulatory thresholds – the case of Poland*. GTI-WP/2017:01, Budapest: Government Transparency Institute. See: <http://www.govtransparency.eu/index.php/2017/08/28/compliance-and-strategic-contract-manipulation-around-single-market-regulatory-thresholds-the-case-of-poland/>

Potential contract slicing

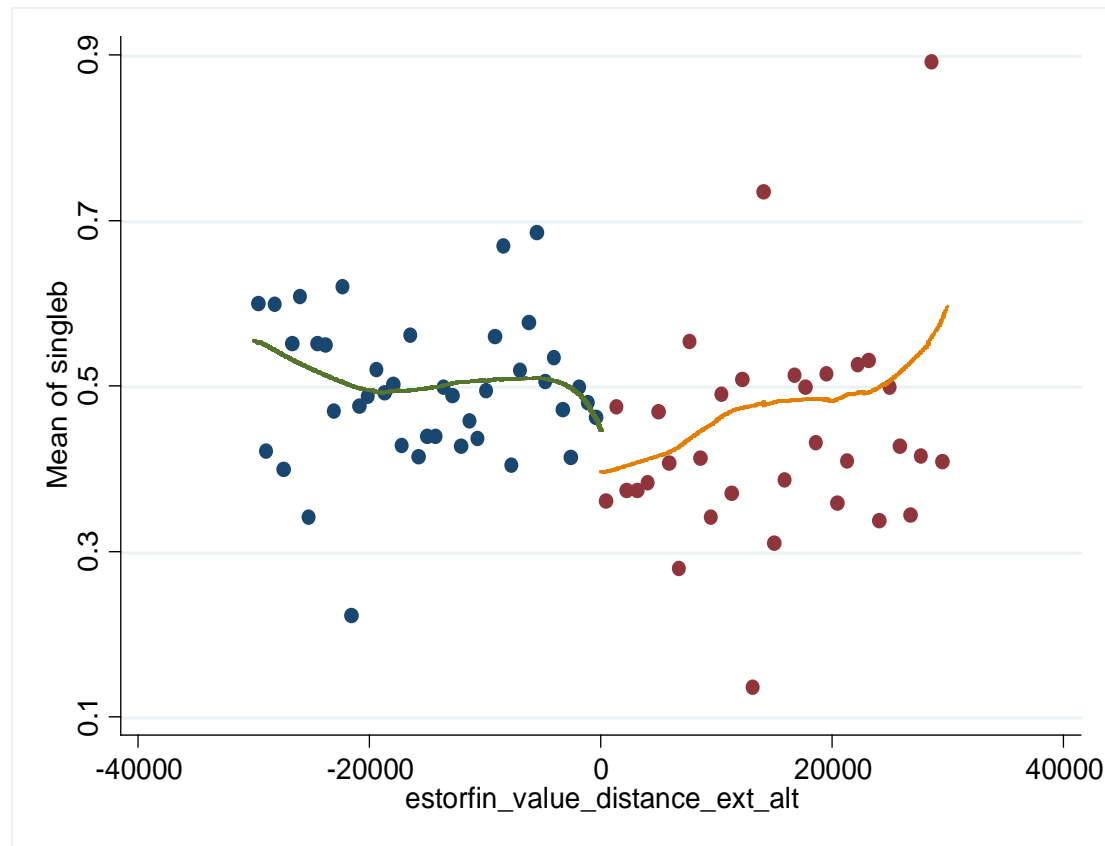
Number of tenders around the EU publication threshold in 2010-2011 (left) and 2012-2013 (right) – Services, local government, Poland



Source: Tóth, B., Fazekas, M. (2017): *Compliance and strategic contract manipulation around single market regulatory thresholds – the case of Poland*. GTI-WP/2017:01, Budapest: Government Transparency Institute. See: <http://www.govtransparency.eu/index.php/2017/08/28/compliance-and-strategic-contract-manipulation-around-single-market-regulatory-thresholds-the-case-of-poland/>

Does gaming matter?

Ratio of single bidder contracts around the EU threshold (2010-2015) – local authorities, services, Poland



Source: Tóth, B., Fazekas, M. (2017): *Compliance and strategic contract manipulation around single market regulatory thresholds – the case of Poland*. GTI-WP/2017:01, Budapest: Government Transparency Institute. See: <http://www.govtransparency.eu/index.php/2017/08/28/compliance-and-strategic-contract-manipulation-around-single-market-regulatory-thresholds-the-case-of-poland/>

Further readings: digiwhist.eu/resources

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- Fazekas, M. and Tóth, I. J. (2016). From corruption to state capture: A new analytical framework with empirical applications from Hungary. *Political Research Quarterly*, 69(2).