



Mobilizing Big Data to prevent corruption in public procurement

Public Integrity Network Meeting on
Preventing Corruption in
Public Procurement
8th November 2018



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Corruption definition in public procurement (PP)

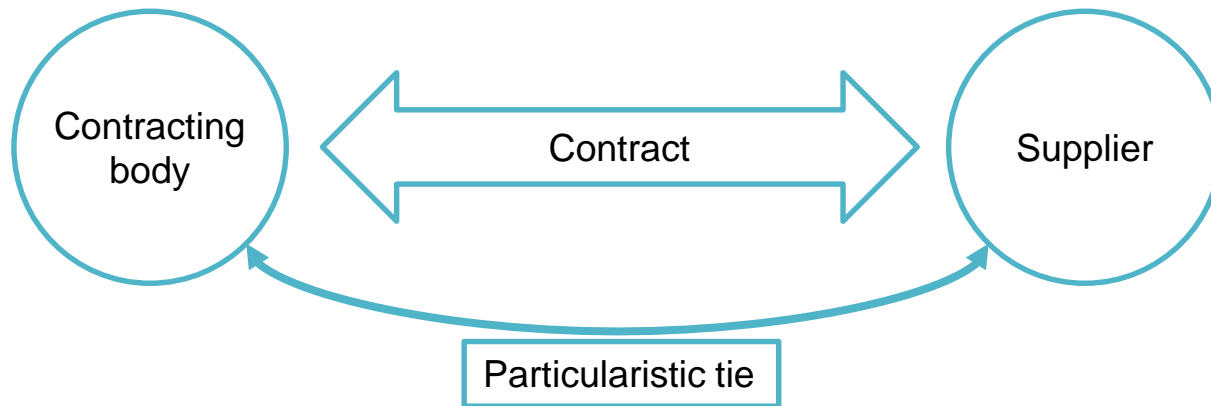
In public procurement, the aim of corruption is to steer a contract to the favored bidder without detection.

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



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Conceptualizing PP corruption



Steering the contract to the pre-selected company can be done in a number of ways, including:

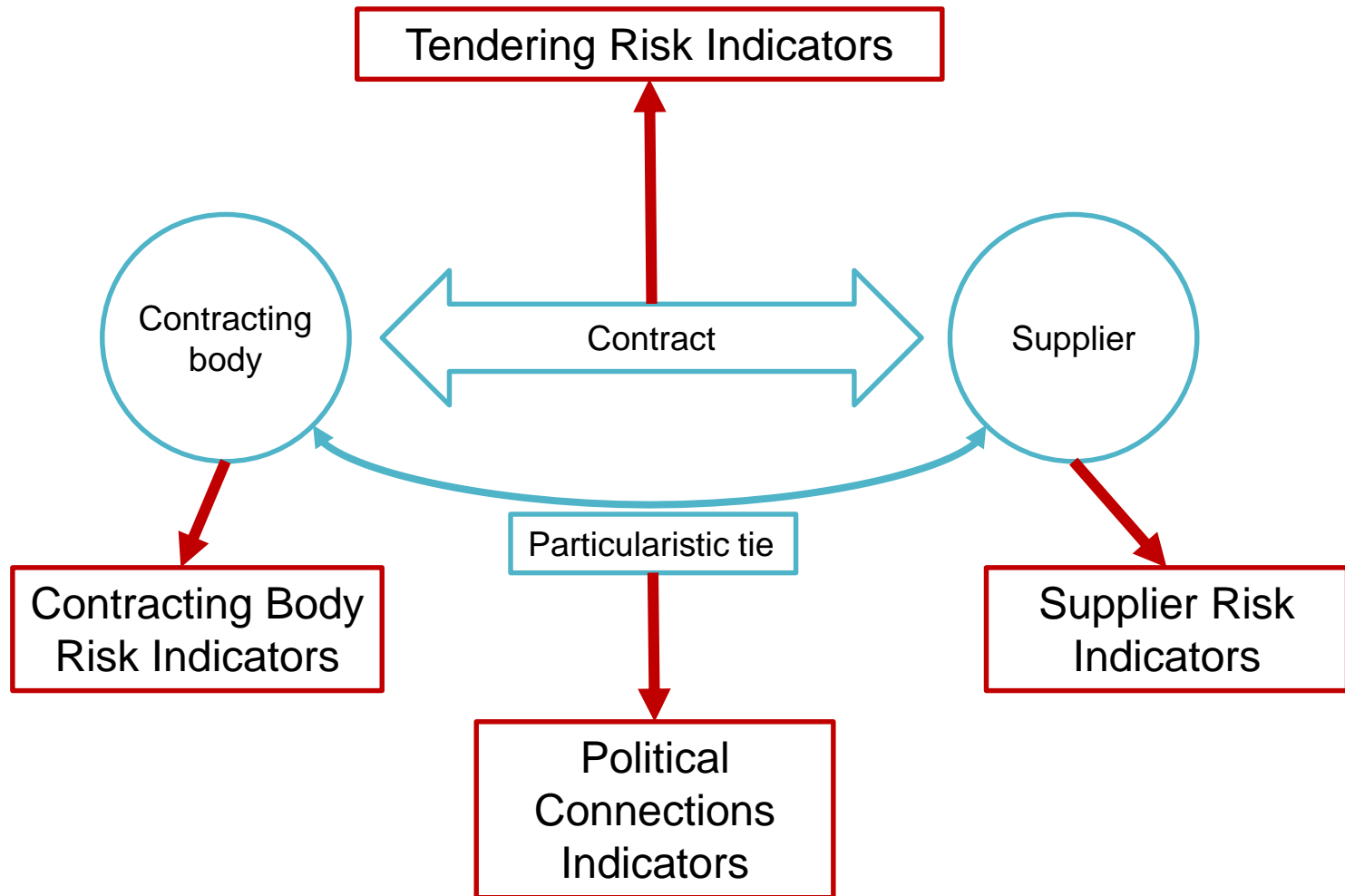
- **Limiting set of bidders** (e.g. direct contract awards, sharing inside information)
- **Unfairly assessing bidders** (e.g. tailoring specifications)
- **Ex-post modifying conditions** of performance

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.



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Conceptualizing corruption indicators



Using indicator analytics for corruption prevention

1. **Risk assessment:**

- Meso-level (e.g. sectoral, regional)
- Counterpart-level
- Project/tender-level

2. **Policy advice:** assessing reforms & identifying vulnerabilities, trends

3. **Automatic compliance checks:** 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

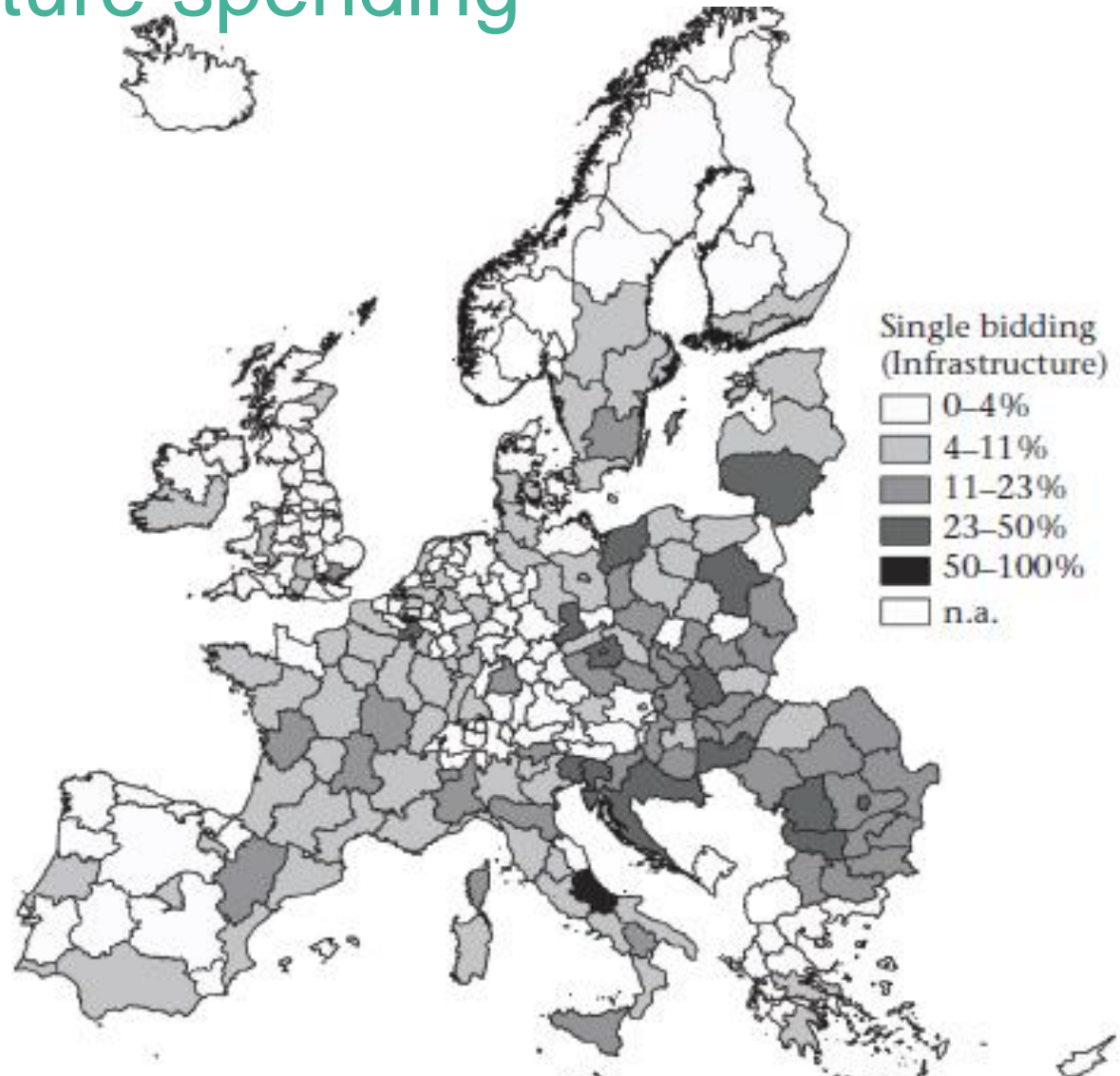
Source: Fazekas, M. & Tóth, B. (2017), *Infrastructure for whom? Corruption risks in infrastructure provision across Europe*. In Hammerschmid, G, Kostka, G. & Wegrich, K. (Eds.), *The Governance Report 2016*. Oxford University Press, ch 11.



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Regional risk scoring: Corruption risks in infrastructure spending

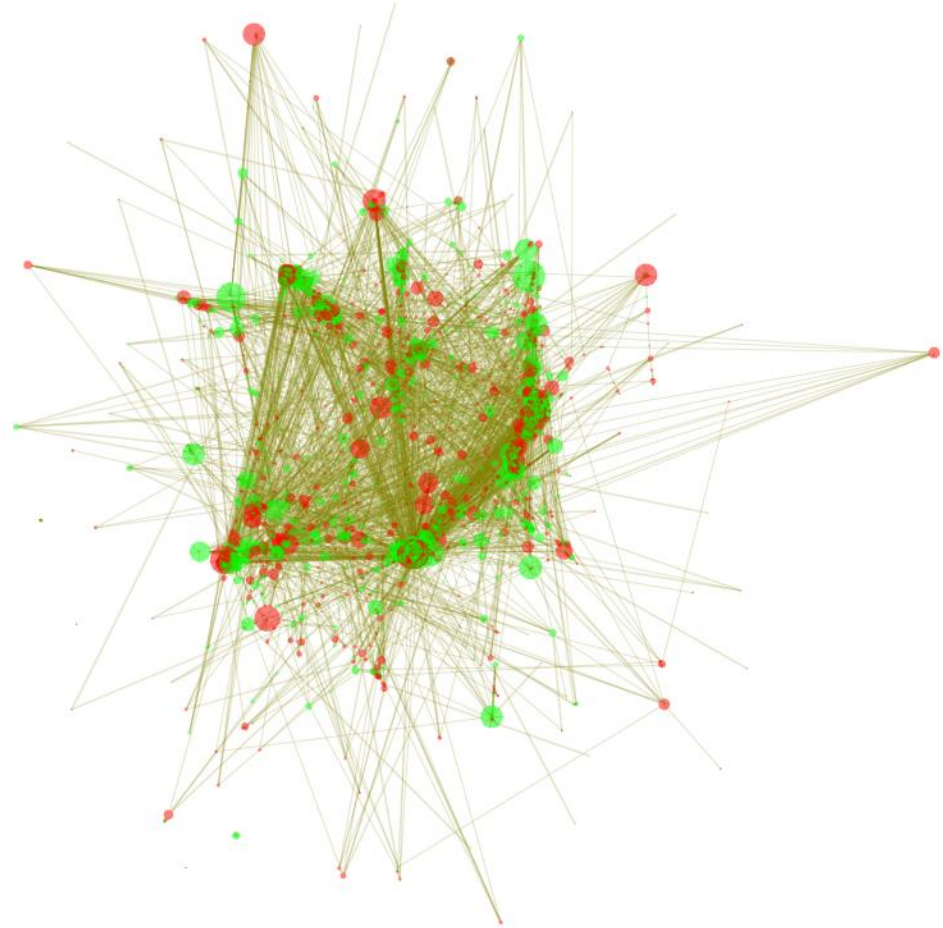
Some regions in otherwise low corruption risk countries carry high risks



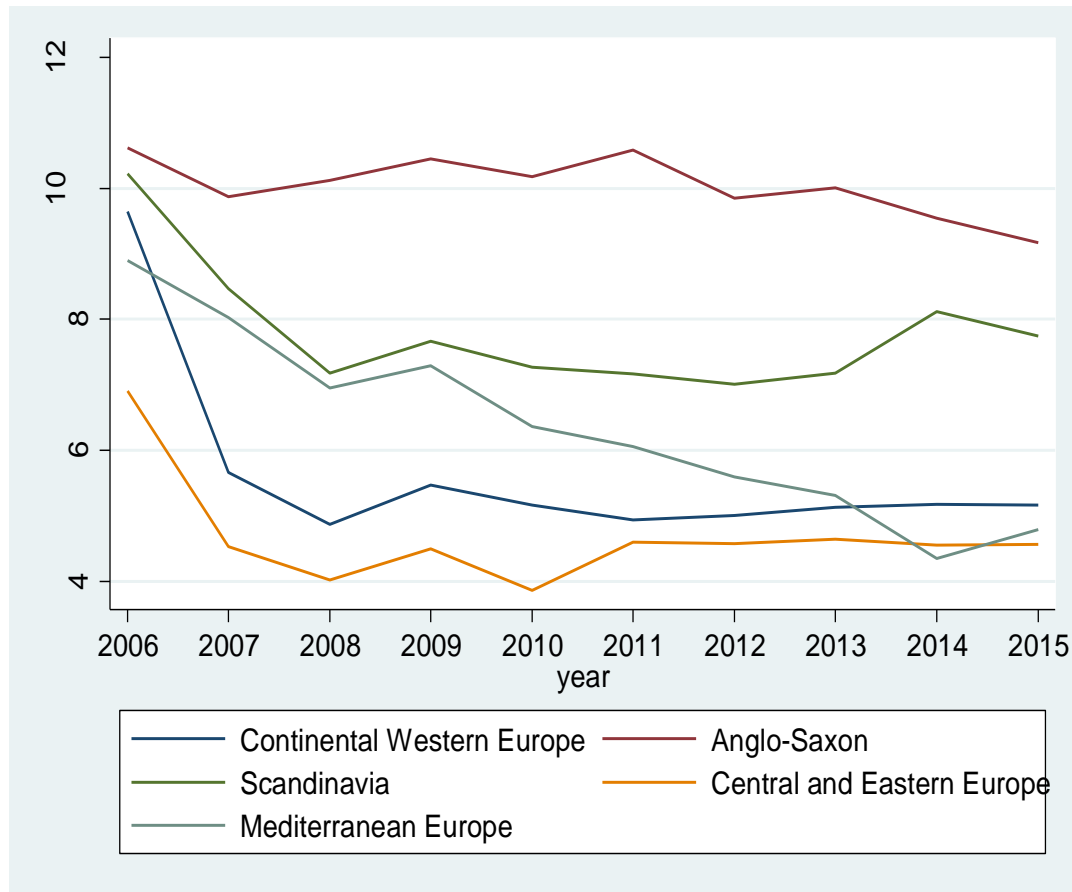
Source: Fazekas, M. & Tóth, B. (2017), *Infrastructure for whom? Corruption risks in infrastructure provision across Europe*. In Hammerschmid, G, Kostka, G. & Wegrich, K. (Eds.), *The Governance Report 2016*. Oxford University Press, ch 11.

Complex risk scoring: Corruption risks cluster in contracting networks

Considerable clustering of risks in buyer-supplier bimodal network



Quality of governance change over time



Source: Fazekas, Mihály, (2017): *Assessing the Quality of Government at the Regional Level Using Public Procurement Data*. WP 12/2017, Brussels: European Commission, Directorate-General for Regional Policy.



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What kinds of data can help anticorruption?

- Public procurement data: contract-level
- Company data: registry, financials, ownership
- Political officeholder data
- Treasury accounts, audits of public organisations
- Legal cases, prosecutions

see DIGIWHIST.eu for data template

3 options for tapping into Big Data analytics

1. Use existing national systems: many countries have sufficient national data
2. Invest into national systems: e.g. WB's work in Bangladesh
3. Build on donor PP system



Thank you!

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



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Further readings: digiwhist.eu/resources

- Fazekas, M., & Kocsis, G. (2017). Uncovering High-Level Corruption: Cross-National Corruption Proxies Using Government Contracting Data. *British Journal of Political Science*, available online.
- Fazekas, Mihály, (2017): Assessing the Quality of Government at the Regional Level Using Public Procurement Data. WP 12/2017, Brussels: European Commission, Directorate-General for Regional Policy.
- Dávid-Barrett, Elizabeth, Fazekas, Mihály, Hellmann, Olli, Márk, Lili, & McCorley, Ciara, (2017): Controlling Corruption in Development Aid: New Evidence from Contract-Level Data. SCSC Working Paper No. 1. Sussex Centre for the Study of Corruption, University of Sussex.
- 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.
- Fazekas, Mihály , & Tóth, Bence, (2017), Proxy indicators for the corrupt misuse of corporations. U4 Brief. October 2017:6. U4 - Chr. Michelsen Institute, Bergen, Norway
- 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.
- 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.
- 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).
- Dávid-Barrett, Elizabeth and Fazekas, Mihály, (2016). *Corrupt Contracting: Partisan Favouritism in Public Procurement*. GTI-WP/2016:02, Budapest: Government Transparency Institute.

