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Behind the Bid Count: Procurement Competition and Politically Connected Suppliers in Hungary

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Abstract

Principals who cannot observe how public contracts are allocated often reward verifiable statistics instead. We examine what such a statistic revealed in Hungary, where lowering the share of contracts awarded after a single bid became a condition for European Union funds in 2022. We combine 3.3 million awards from eleven Central and Eastern European countries with Hungary's contract registry and a published, dated list of politically connected companies. Relative to nationally funded procurement and the regional pattern, Hungary's European Union-funded single bidding changed by −12.7 percentage points in 2016–2020 and −21.0 points in 2021–2023, with more awards attracting three or more bids and lower prices relative to buyers' estimates. This divergence began years before the conditionality commitments. After the two-tender rule was introduced, nationally funded procurement shifted mainly from one bid to exactly two, the margin the rule rewarded. Allocation followed a different pattern. Listed companies won 2.5 per cent of valued contracts above European Union thresholds over 2010–2026 but 17.5 per cent of their value. In registry procedures under European Union-level rules in 2021–2023, they received 31.0 per cent of European Union-funded value, where single bidding had fallen most, against 19.4 per cent of nationally funded value. Across buyers, the estimated relationship between changes in participation and allocation is imprecise. Improved bid counts therefore did not establish that conditionality changed who received public contracts. Monitoring political favouritism requires evidence on recipients, not only on participation.

Keywords: public procurement; single bidding; political connections; oversight; performance measurement; Hungary.

JEL classification: D72; D73; H57; D44.

1 Introduction

Public procurement turns political decisions about spending into contracts with private suppliers, and it is a well-documented channel for political rents: politically connected firms win more contracts (Goldman et al. 2013; Schoenherr 2019; Baltrunaite 2020), and procurement rents can be channelled back into political finance (Mironov and Zhuravskaya 2016). Principals who finance or oversee procurement rarely observe how specifications are written or offers evaluated. They rely instead on verifiable statistics, above all the share of awards receiving a single bid, a standard indicator of restricted competition and corruption risk (Fazekas et al. 2016; Fazekas and Kocsis 2020). When access to funds depends on such a statistic, agency theory predicts that agents will improve it along the least costly margin, which need not be the margin the principal cares about (Holmstrom and Milgrom 1991; Baker 1992). What, then, does an improvement in the single-bid rate reveal about competition, and what does it reveal about who receives public contracts?

We study this question in Hungary, where the European Union (EU) made lower single bidding a condition for access to cohesion and recovery funds in December 2022 (Council of the European Union 2022a,b). The government had defended its procurement controls by pointing to lower EU-funded single bidding, whereas the Commission's diagnosis also covered concentrated awards and politically connected recipients (European Commission 2022). A national two-tender rule, in force from March 2022, made one margin, the second bid, valuable to buyers and to the government (Government of Hungary 2022). High-value EU-funded purchases had also been subject to central procedural checks for years, while nationally funded procurement was covered only in part (Nyikos and Soós 2017; Government of Hungary 2014, 2015). The case therefore combines a sustained oversight regime, a high-stakes target defined on bid counts, and an allocation question that the target did not measure.

We combine 3,256,573 competitive awards published in Tenders Electronic Daily (TED) for eleven Central and Eastern European (CEE) countries with Hungary's national contract registry and a published, dated list of politically connected companies, which we call listed companies. A regional triple-difference design compares Hungary's gap between EU-funded and nationally funded single bidding with the corresponding gap elsewhere in the region. The full bid distribution, award prices relative to buyers' estimates and coded reasons for closing procedures distinguish wider participation from changes at the measured margin. A separate accounting exercise follows recorded contract value to recipients over the Fidesz-led period, from 29 May 2010 to 8 May 2026, and a buyer-level comparison asks whether larger falls in single bidding accompanied smaller allocation shares for listed companies.

The single-bid statistic improved in two different ways. Relative to 2014 and the regional funding gap, Hungary's EU-funded single bidding changed by −12.7 percentage points in 2016–2020 and −21.0 points in 2021–2023. More awards attracted three or more bids, and award prices fell relative to buyers' estimates. The divergence began years before the conditionality commitments, so the statistic the government cited in 2022 reflected a change already under way. Nationally funded procurement, by contrast, moved mainly from one bid to exactly two after the two-tender rule, the margin the rule rewarded. Recipient allocation showed a different pattern. Listed companies received 17.5 per cent of valued commitments above the EU thresholds over 2010–2026, despite winning only 2.5 per cent of contracts. In 2021–2023 their value share was 31.0 per cent in EU-funded procurement, where single bidding had fallen most, against 19.4 per cent in national procurement. Participation improved most in the channel where listed companies received the larger share of value.

The paper makes two empirical contributions. First, it shows that the same headline improvement can conceal distinct patterns: an EU-funded change extending beyond second bids and appearing in relative prices, and a national change concentrated at the two-tender threshold, accompanied by closures that the indicator's denominator omits. Second, it assesses how informative the indicator was about allocation, the congruence between a performance measure and the principal's objective in the sense of Baker (1992), by following recorded value to listed

recipients across funding channels and within buyers. The two analyses use different procurement frames, linked where award identifiers permit, within the same country and overlapping years.

These results connect research on political connections in procurement with the economics of performance measurement. In Hungary, favouritism increases with buyers' discretion (Szucs 2024), and contract networks are consistent with partisan access to public resources (Fazekas and Tóth 2016; Dávid-Barrett and Fazekas 2020). Recent studies relate municipal political alignment to firms' access to public subsidies (Czeczeli et al. 2026) and examine rents through sectoral profit shares (Bartha 2026). In *Public Choice*, Wittberg and Fazekas (2023) relate firms' single-bid exposure to their profitability, and Cavalieri et al. (2026) show how judicial performance shapes buyers' choice of procedure. We ask instead what monitors can infer when reported competition improves under incentives attached to that measure. Related work on EU funds documents procurement risk (Fazekas and King 2019; Tóth and Hajdu 2025); we follow commitments to a published list without treating contract value as profit or affiliation as the cause of an award.

For public-choice research, the implication concerns conditional transfers and oversight more broadly. Incentives attached to a verifiable procedure can change the procedure, and can even widen competition, while leaving the allocation of contracts unobserved. The allocation evidence is descriptive, and the buyer-level relationship is imprecise. With one treated country and sensitivity to pre-period trends, the observed divergence is more secure than its causal interpretation. The paper therefore identifies the information supplied by a monitored statistic, rather than deliberate gaming, political rents or the causal effect of conditionality.

2 Oversight incentives and procurement outcomes

2.1 Delegation and measurable performance

Procurement oversight addresses a delegation problem. It is intended to make public purchases accountable to taxpayers and funders, while buyers choose procedures, specifications, evaluation criteria and suppliers. A higher-level monitor cannot observe every offer or execution decision. Standardised indicators economise on verification: a bid count can be compared across thousands of awards, while establishing whether specifications favoured a particular supplier requires documents and market knowledge. These differences in observability make the choice of a monitored outcome consequential.

Multitask incentive theory shows why rewarding a measurable activity can redirect effort across dimensions of performance (Holmstrom and Milgrom 1991), and a performance measure is valuable to a principal only insofar as actions that improve it also advance the principal's objective (Baker 1992). This article does not estimate these models or assume that procurement actors share a single objective. It applies the distinction between measured performance and other outcomes to public purchasing. A rule rewarding a second bid may induce useful

market consultation and genuine entry, but it can also leave the allocation of valuable contracts unchanged. Different objectives and measurement costs can therefore produce procedural improvement without a parallel change in recipients.

Funding conditionality makes this distinction explicit. Under the EU's Recovery and Resilience Facility, milestones and targets condition payments (Bokhorst and Corti 2024; Thinus 2025). Hungary's commitments included single-bidding targets under both its recovery plan and the Rule of Law Conditionality Regulation (Council of the European Union 2022a,b). Such commitments make a reported statistic relevant to access to funds. They do not make every other procurement outcome observable, and their assessment may also weigh institutional reforms and other commitments. Conditionality also adds a second tier of delegation: the external principal finances procurement through a government that controls both the buyers and the reporting of their statistics. If the government values allocating contracts to particular firms, a target defined on bid counts rewards improving the count at the least cost to that allocation; if it does not, the same target can simply widen competition. Bid counts alone cannot distinguish these cases. We treat conditionality as part of the monitoring environment rather than an intervention whose causal effect can be isolated here.

2.2 Participation, allocation and the measured margin

Single bidding is a ratio among completed awards. It falls when additional competitors enter, but also when a non-competing second tender is added, single-bid procedures end without an award, projects change, or procedures move to another funding source. Some of these routes widen independent competition; others change the ratio without doing so. Consequential targets can create pressure at the measured margin (Campbell 1979; Bevan and Hood 2006). The EU compliance literature describes symbolic and creative responses to external pressure (Batory 2016), but a numerical response alone does not reveal intent. We use *indicator compliance* as a descriptive possibility: approaching a quantified commitment through changes at the margin it rewards. A genuine second bidder can produce that pattern too.

Supplier allocation raises another question. Specifications, qualification requirements and evaluation can favour a supplier even when several bids arrive; capable firms can also win repeatedly through scale, specialisation or experience. Concentration and political connections therefore require interpretation, not an automatic inference of corruption. Wider participation and concentrated allocation can coexist even if the additional bids are genuine, so the congruence between the two outcomes is an empirical question. Examining both prevents a change in one from being treated as evidence about the other.

2.3 Observable implications

Three expectations organise the evidence. Under broader competition (E1), a fall in single bidding should accompany bids beyond the second and lower award prices relative to buyers' estimates. Under a response concentrated at the two-tender threshold (E2), awards should move primarily from one bid to exactly two; calls without awards and lots closed for one admissible

tender provide complementary diagnostics. These patterns cannot by themselves distinguish genuine entry from supporting offers.

The allocation expectation (E3) is a compatibility claim: listed firms' share of value need not fall where participation improves. We examine funding-channel shares and changes within buyers, measuring single bidding on awards to non-listed firms in the latter comparison. An imprecise relationship does not establish independence or an absence of an allocation response. E1 and E2 can hold in different channels of the same system, and E3 can coexist with either. These observable patterns organise the evidence on the scope of monitoring; they do not recover buyers' intentions, firm profitability or political rents, and E3 is not a test that oversight had zero effect on allocation.

3 Hungarian procurement oversight

Hungary subjected high-value EU-funded procurement to central control before the conditionality procedure. A central body checked tender documents before launch and certified completed procedures; certificates are recorded from 2012 (Nyikos and Soós 2017). For the 2014–2020 programmes, Government Decree 272/2014 added an observer with access to evaluation meetings and required a supportive closing certificate before a contract entered into force (Government of Hungary 2014). A similar regime covered designated central-government bodies and state companies in nationally funded procurement from November 2015 to 2020, while local governments remained outside it (Government of Hungary 2015). Monitoring therefore differed across funding channels and buyers.

The 2022 dispute concerned what those arrangements had achieved. The Commission notified Hungary under the Rule of Law Conditionality Regulation on 27 April and proposed measures in September (Council of the European Union 2022a; European Commission 2022). Hungary defended its controls by citing lower EU-funded single bidding. The Commission's concerns extended to concentration and the success of politically connected suppliers (Council of the European Union 2022a, recitals 11–13). On 15 December the Council suspended 55 per cent of the commitments of three cohesion programmes. Hungary's 17 remedial measures included targets for single bidding, a reporting tool, a performance framework and an action plan to increase competition (Council of the European Union 2022a, Arts 1–2; recital 26).

The commitments required EU-funded single bidding below 15 per cent from 2022 and national shares below 32, 24 and 15 per cent in 2022–2024. The recovery plan, approved on the same day, also made these targets payment conditions (Council of the European Union 2022b). Domestic law already supplied a direct incentive at the second bid. From 15 March 2022, Decree 63/2022 required covered buyers either to consult the market before launch or to commit to declaring a procedure unsuccessful if fewer than two tenders arrived. Coverage was selective initially and extended to most procedure types in March 2024 (Government of Hungary 2022, 2024). The Integrity Authority subsequently identified supporting tenders as a continuing risk where two bids are required (Integrity Authority 2026, pp. 76–77). That warning

motivates examination of the full bid distribution; it does not classify the extra bids in our data as supporting offers.

Verification emphasised the indicator's calculation. The EU-funded target was audited against the Single Market Scoreboard methodology; the recovery plan required an unqualified opinion confirming a share below the threshold (Council of the European Union 2022a, recital 48; Council of the European Union 2022b, Annex, targets 185–194). The target series covered procedures above and below EU thresholds in a national reporting tool, whereas the Scoreboard uses eligible TED records (Council of the European Union 2022b; European Commission 2025). Coverage, denominators and data vintages differ. We therefore compare our design with official series without treating them as identical populations.

Implementation and later revision provide context rather than additional outcome observations (Table 1). Hungary reported meeting the EU-funded target every year, and the Council accepted the measure as fulfilled. Later national steps were missed; the notified national share remained 22 per cent in 2025 (Council of the European Union 2026a, recitals 127–132). After the change of government in May 2026, the July replacement recovery plan retained the EU-funded target and dropped the national targets (Council of the European Union 2026b, recital 25; Annex, milestone 65). On 13 October the Council lifted the conditionality measures. It acknowledged that the final national target had been 'never achieved', while weighing its relative importance and broader anti-corruption, prosecutorial and beneficial-ownership reforms (Council of the European Union 2026a, recitals 132, 188–194). Our observations end on 8 May 2026, so they cannot assess those later reforms or the lifting decision's effects.

Table 1: Oversight, commitments and conditionality: the chronology used in the analysis

Date	Event
2012 onwards	Central certification of EU-funded procurement recorded
2015–2020	Decree 272/2014 controls for the 2014–2020 programmes; Decree 320/2015 controls part of national procurement (November 2015 – 2020)
2016	The 2014–2020 programmes finance all modelled programme spending: start of the early period (2016–2020)
15 March 2022	Decree 63/2022: market consultation or a fewer-than-two-tenders clause in covered national procedures
27 April 2022	Commission notification under Regulation 2020/2092
September 2022	Hungary's 17 remedial measures, including single-bid targets: EU-funded below 15% from 2022; national 32%, 24% and 15% for 2022–2024
15 December 2022	Council suspends 55% of the commitments of three cohesion programmes; Hungary's recovery plan makes the single-bid targets payment conditions
15 March 2024	Decree 53/2024 extends the two-tender requirement to most procedure types
8–9 May 2026	End of the observation period; Parliament elects a new prime minister
10 July 2026	Replacement recovery plan keeps the EU-funded single-bid target and drops the national targets
13 October 2026	Council lifts the measures: EU-funded measure fulfilled, national target 'never achieved'

Sources: Nyikos and Soós (2017); Government of Hungary (2014, 2015, 2022, 2024); European Commission (2026a); Council of the European Union (2022a,b, 2026a,b); Government of Hungary (2026).

4 Data and research design

4.1 Competition: a regional triple difference

The competition analysis uses TED award notices for the eleven CEE member states: standard-form records for 2010–2023 and eForms notices published from October 2023 to 8 May 2026 (European Commission, DG GROW 2024; Publications Office of the European Union 2026). Each observation is an awarded contract or lot in a procedure with a call for competition. Following the Commission's indicator and Fazekas and Kocsis (2020), framework agreements and dynamic purchasing systems are excluded. The sample contains 3,256,573 awards from 791,349 notices and 42,237 buyers. Awards are weighted inversely by their notice's award count; exclusions can leave a notice with less than unit weight. The main outcome is whether an award received exactly one tender. The distribution of bids, award prices relative to buyers' pre-tender estimates, the share of calls without a reported award and, in eForms notices from late 2023, the coded reasons for closing lots without a winner distinguish wider participation from changes in what is counted. The EU-funding flag is reported by buyers. Country-years in which bid counts are reported for fewer than 70 per cent of competitive awards are omitted. National identifiers change across reporting systems, so buyer keys use transliterated and normalised names within countries. Name changes can still interrupt continuity. The series reproduces the broad pattern of official single-bidding statistics, although national figures after 2022 have not been fully

reconciled with our sample and weights (Online Appendix, Table S12). The switch to eForms in late 2023 coincides with a shrinking pool of EU-funded procedures, so comparisons after 2023 are read cautiously.

The design compares Hungary's gap between EU-funded and nationally funded procurement with the same gap elsewhere in CEE, within buyers and markets:

$$SB_{ibct} = \sum_{s \neq 2014} \delta_s \, \mathbf{1}[t = s] \, HU_c \, EU_i + \mu_b + \lambda_{ct} + \kappa_{c,EU_i} + \theta_{t,EU_i} + \mathbf{z}'_{it}\boldsymbol{\phi} + u_{ibct}, \qquad (1)$$

where SB indicates a single bid (in percentage points), HU_c Hungary and EU_i EU funding for award i of buyer b in country c and year t. Buyer effects (μ_b) absorb permanent differences between buyers; country–year effects (λ_{ct}) absorb national shocks common to both funding sources; country–funding effects (κ) absorb permanent funding gaps; and year–funding effects (θ) absorb changes common to EU-funded procurement across the region, including the Commission's own audits. Controls ($\mathbf{z}$) cover the market (CPV division) and value decile, each by year, and the procedure, contract and buyer type. Standard errors are clustered by buyer. The coefficients δ_s trace the Hungary-specific change in the funding gap relative to 2014. We summarise them for two periods: 2016–2020, when the 2014–2020 programmes financed all modelled programme spending, and 2021–2023, which also contains the conditionality commitments (European Commission 2026a). The transition year 2015 is excluded from both.

The design identifies a Hungary-specific divergence under the assumption that, without Hungary's arrangements, its funding gap would have followed the regional gap. It compares an oversight bundle with earlier arrangements; it cannot separate domestic controls from Commission scrutiny directed at Hungary, and it does not measure corruption. Because only one country is treated, conventional standard errors cannot capture country-level uncertainty. We therefore compare Hungary with placebo estimates in which each other CEE country is treated as if it were Hungary, extrapolate pre-period trends, and report synthetic difference-in-differences and synthetic control estimates in the Online Appendix (Arkhangelsky et al. 2021; Abadie et al. 2010). The partial central control of national procurement in 2015–2020 offers a further comparison within Hungary, between controlled central-government buyers and uncontrolled local governments. For the national two-tender rule, we compare Hungary's nationally funded procurement with nationally funded procurement elsewhere in CEE, relative to 2021. The alternative routes described in Section 2.2 are tested with linked calls without awards, separate estimates by funding source and the full distribution of reported bids (Online Appendix, Section S2).

4.2 Allocation: following contract value

The allocation analysis follows contract value from buyers to recipients over the Fidesz-led period, from 29 May 2010 to 8 May 2026. It uses TED award notices above the EU thresholds to 2023 and, from 2024, Hungary's national contract registry (EKR), which identifies contracting

parties by tax number (Elektronikus Közbeszerzési Rendszer 2026a). TED award values can use a lowest-bid fallback, so not every amount is a verified winning commitment. Framework ceilings and concessions are excluded, and consortium awards are divided equally among their members. Political connections follow the 63 companies that the Corruption Research Center Budapest (CRCB) associates with named political actors through ownership, family or business ties, within the periods it specifies (Corruption Research Center Budapest 2026, Annex A3), together with documented predecessor entities. We call them listed companies; the term refers to CRCB's list, not to a stock-exchange listing. The list is a published, dated classification, neither a census of political connections nor a finding of misconduct, and the resulting shares describe where commitments went, not payments or personal receipts. From 2018 the registry also allows a closer view of owner-linked recipient groups and of procurement channels outside the competition design (Transparency International Hungary 2026; Nemzeti Adó- és Vámhivatal 2026).

A documentary follow-up, finally, examines 26 award-lot outcomes in 22 procedures from published tender, contract and execution records (Elektronikus Közbeszerzési Rendszer 2026b). It is purposive, not representative. See the data availability statement for access and historical-snapshot limitations.[1]

5 Findings

Table 2 summarises the evidence for each expectation; the subsections below present it in turn.

5.1 Participation and relative prices

Hungary's EU-funded procurement became markedly less prone to single bidding than its nationally funded procurement, while the rest of the region showed no comparable divergence (Figure 1). Relative to 2014 and to the regional funding gap, Hungary's gap changed by −12.7 percentage points in 2016–2020 (standard error 3.2) and by −21.0 points in 2021–2023 (4.0). The coefficients for 2010–2013 average −0.2 points and are jointly indistinguishable from zero. The divergence begins with the 2014–2020 programmes, years before the conditionality procedure, and grows gradually; the largest estimates are in 2022 and 2023, spanning the year of the commitments and the next. Buyer-by-funding fixed effects give larger estimates with a flat pre-period (Online Appendix, Table S5). The statistic the government cited in 2022 thus reflected a change already under way, consistent with the earlier oversight regime, although it cannot be attributed to any single instrument.

The EU-funded change extended beyond the second-bid margin. In 2021–2023, compared with 2010–2013, the share of Hungarian EU-funded awards with three or more bids changed by +19.7 points relative to the regional pattern and the share with four or more by +14.2 points, while the share with exactly two barely moved (+1.0 points; Figure 2a). Linked calls show no

[1] Claude Opus 5.5 and ChatGPT-6.1 Sol assisted literature search, manuscript drafting and editing, code review, and numerical and source checks. The full disclosure appears in the title-page acknowledgements.

Table 2: Expectations and evidence

Expectation	Main estimates	Reading
E1: wider competition in EU-funded procurement	Single bidding −12.7 pp (2016–2020) and −21.0 pp (2021–2023); in 2021–2023, three or more bids +19.7 pp, exactly two +1.0 pp; relative prices −5.3 and −11.1 log points	Reported participation widened; attribution uncertain (−6.5 and −6.3 pp after trend adjustment)
E2: indicator compliance under the national two-tender rule	2023–2026: single bidding −12.9 pp, exactly two bids +8.7 pp, three or more +4.2 pp; calls without an award +7.1 pp in 2022; 2024–2025: 3.7% of national lot results closed for one admissible tender (+3.1 pp on single bidding if counted)	Consistent with E2; genuine and supporting bids cannot be separated; closure calculation is descriptive
E3: listed allocation need not fall where the indicator improves	Listed value share: 8.6% (2010–2013) to 22.6% (2018–2021); in 2021–2023, 31.0% EU-funded versus 19.4% national. Buyer-level slope: −0.08 [−0.66, +0.33]	Consistent; buyer-level link imprecise; descriptive, not evidence of improper awards

Notes: pp: percentage points. Competition estimates are triple differences (E1) or differences from the regional pattern relative to 2021 (E2), with buyer-clustered standard errors in the text and the Online Appendix. Allocation shares are of contract commitments above the EU thresholds (TED to 2023, EKR from 2024) or, for the funding contrast, of EKR procedures under EU-level rules; consortium awards are split equally. Sources: TED, EKR, Corruption Research Center Budapest (2026); own calculations.

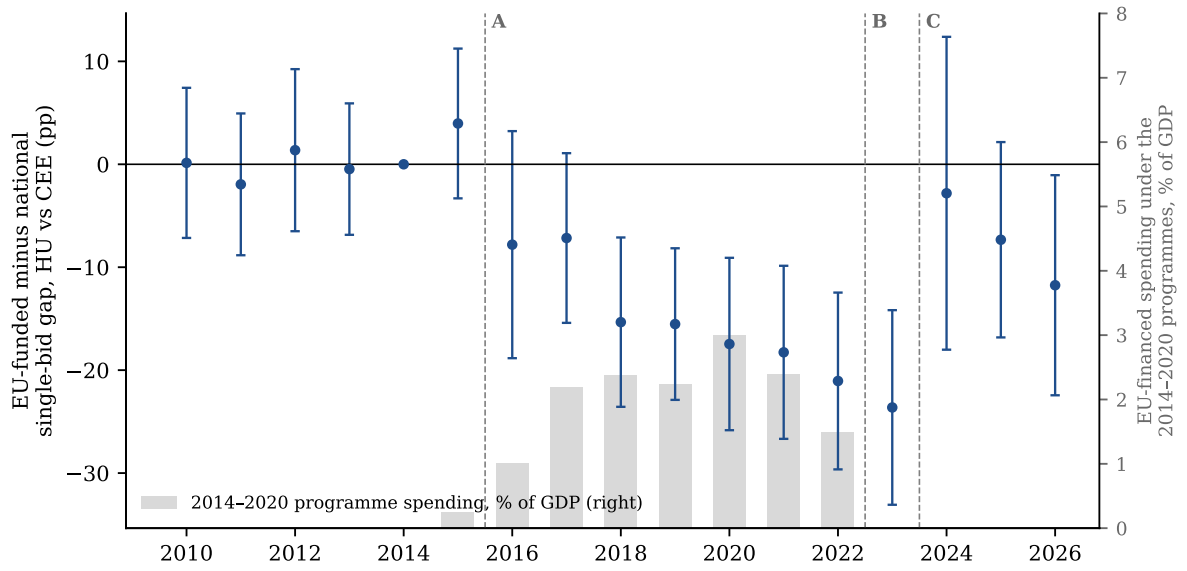


Figure 1: Hungary's EU-funded single bidding diverged from the regional pattern. Hungary × EU-funded × year coefficients from equation (1), relative to 2014 (percentage points), with 95 per cent buyer-clustered confidence intervals. Grey bars: spending under the 2014–2020 programmes (per cent of GDP). A: programme transition; B: conditionality commitments and national two-tender rule; C: end of programme eligibility and change to eForms. 2026: notices to 8 May. Source: TED; own calculations.

large differential increase in EU-funded procedures ending without an award, and nationally funded procurement shows no clear inflow of single-bid procedures. Prices moved in the same direction. Within buyers and markets, award-to-estimate ratios are 14.1 per cent higher for single-bid than for multiple-bid awards across CEE and 9.2 per cent higher in Hungary. In the

same triple-difference design, Hungarian EU-funded award-to-estimate ratios changed by −5.3 log points in 2016–2020 and −11.1 in 2021–2023, with no individually resolved pre-period coefficients. Removing single-bid awards alone, at a constant premium, would have lowered them by only about 1.7 and 2.8 log points; the observed falls are 3.2 and 4.0 times as large (Online Appendix, Table S3). Taken together, the bid and relative-price patterns are consistent with E1. Estimates are set by buyers and the price sample thins over time, so the results do not establish savings or the validity and independence of the additional bids.

A comparison within Hungary qualifies what the change can be attributed to. From late 2015 to 2020, the nationally funded procurement of central-government bodies was controlled in much the same way as EU-funded procurement, while that of local governments was not. No relative fall was statistically resolved in controlled national procurement (+6.6 points, standard error 5.4). The test has little power, but it gives no sign that procedural control alone produced the improvement. What remains specific to Hungary's EU-funded channel is the control regime as a whole or scrutiny by the Commission directed at Hungary, and the design cannot separate the two (Online Appendix, Section S2).

The advantage narrowed once the conditionality measures were in force. After 2023, when the 2014–2020 programmes had ended, much EU funding was suspended and the national rules tightened, the coefficients shrink to −7.3 points on average and become imprecise (Figure 1). The narrowing reflects improvement in national procurement as well as a smaller and more selected pool of EU-funded procedures, and it spans the change to eForms. It is therefore a weak comparison of stable regimes, and it cannot show whether the EU-funded improvement would have persisted under normal funding.

5.2 National procurement around the two-tender rule

Nationally funded procurement followed a different pattern (Figure 2b). In 2023–2026, after the 2022 commitments and the two-tender rule, Hungary's national single bidding changed by −12.9 points relative to 2021 and the region. Most of the shift went to exactly two bids (+8.7 points); the share with three or more bids changed by +4.2 points. In 2022, the rule's first year, the share of national calls without a reported award changed by +7.1 points (standard error 1.6), enough under an extreme scenario to account for much of that year's fall in single bidding (Online Appendix, Table S2). This is the pattern E2 predicts: the indicator improved at the margin the rule rewards. It is compatible both with genuine second bidders and with supporting tenders, and the data cannot separate the two.

From late 2023 the closures can be counted directly, because eForms notices code why a lot closed without a winner. In 2024 and 2025, Hungarian buyers closed 774 nationally funded lots above the EU thresholds, in 288 award notices, because only one admissible tender had arrived: 3.7 per cent of national competitive lot results. Counting these closures as single-bid outcomes would raise national single bidding in the two years from 29.6 to 32.7 per cent. Closures after a single tender, whatever the coded reason, were more common in Hungary than elsewhere in the

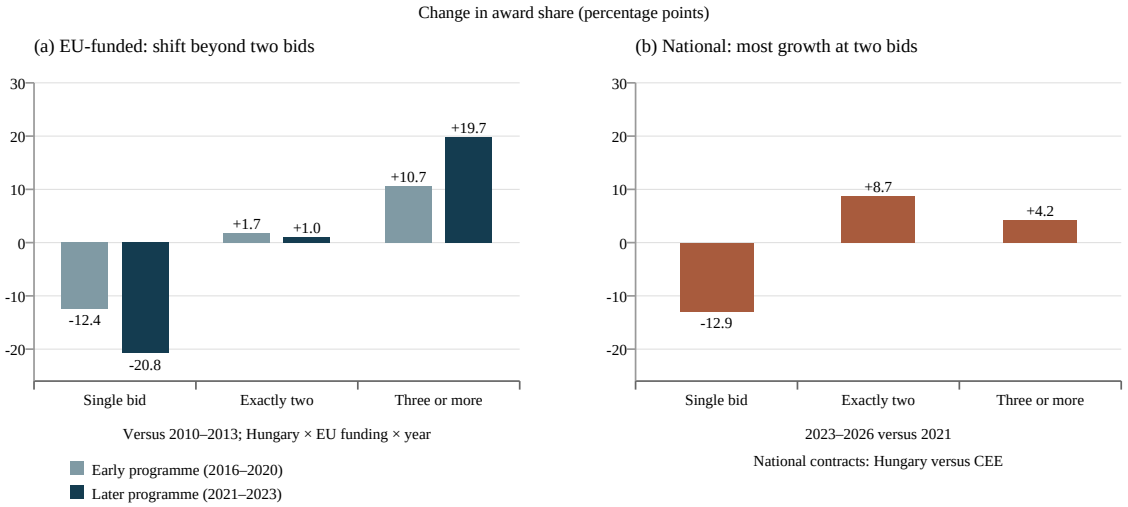


Figure 2: A similar fall in single bidding, different bid distributions. (a) EU-funded awards: Hungary × EU-funded period means relative to 2010–2013. (b) Nationally funded awards: Hungary relative to CEE, 2023–2026 against 2021. Categories exhaust awards with known bid counts, so each set of changes sums to zero. Point estimates of reported participation, not measures of independent competition. Source: TED; own calculations.

region (5.3 against 3.4 per cent of national lot results), but the excess is modest (Online Appendix, Section S3). This adds about three points to the observed 2024–2025 rate; it does not identify closures' contribution to the earlier change. Because the rule's coverage was selective until 2024, the comparison also measures a commitment period with uneven legal exposure rather than a uniform rule. That additional bids can be coordinated is not hypothetical: the Hungarian Competition Authority found that three medical-device suppliers coordinated prices, designated winners and divided markets in connection with a 2014 procurement, and in December 2022 the Kúria upheld the judgment rejecting one supplier's challenge (Gazdasági Versenyhivatal 2021; Kúria 2022).

Bid counts do not reveal validity either. In a waterworks framework call-off in Kecskemét, outside the estimation sample, the buyer's evaluation accepted only two of four bids, while the corresponding TED notice reported four tenders and none inadmissible (Kecskemét Megyei Jogú Város Önkormányzata 2025, 2026). An indicator built from such notices registers the procedure as competitive whatever happened in evaluation.

5.3 Supplier allocation and political connections

Following contract value changes the picture. Over the Fidesz-led period, listed companies won EUR 20.2 billion of the EUR 115.0 billion recorded above the EU thresholds: 17.5 per cent of value but only 2.5 per cent of contracts with a reported value (Figure 3a). Their value share rose from 8.6 per cent in 2010–2013 to 22.6 per cent in 2018–2021 and remained high thereafter. The rise occurred mostly within contract types, and it survives dropping large awards, capping values, changing the allocation of consortium awards and taking the later years from TED rather than the registry (Online Appendix, Section S4). The classification omits some

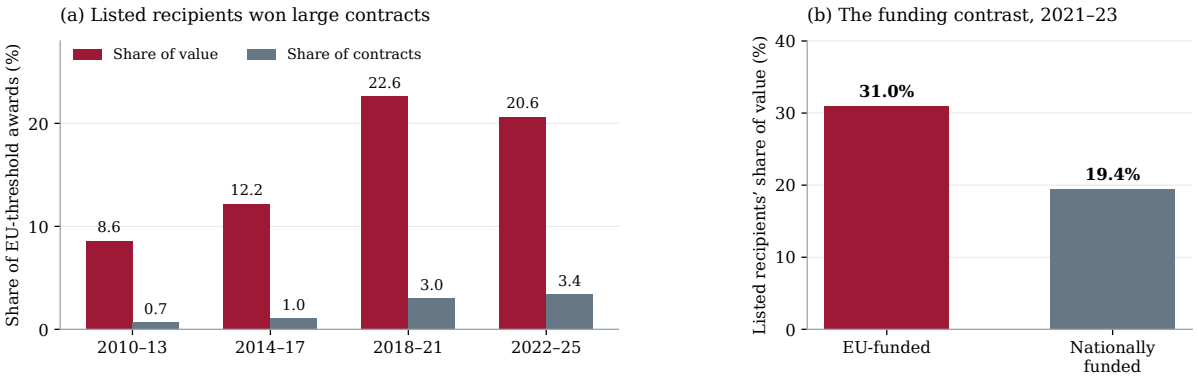


Figure 3: Allocation behind the competition indicator. (a) Listed companies' shares of contract value and of contracts with a reported value above the EU thresholds (TED to 2023, EKR registry from 2024; consortium awards split equally). (b) Listed companies' shares of EU-funded and nationally funded value in EKR procedures under EU-level rules, 2021–2023, including framework call-offs. Values are commitments; framework ceilings and concessions are excluded. Sources: TED, EKR, Corruption Research Center Budapest (2026); own calculations.

associated entities. RM International, the Hungarian member of the consortium that won the Budapest–Belgrade railway contract, is a joint subsidiary of two listed companies according to its parent's own disclosure, but it is not on the list itself (Kínai–Magyar Vasúti Nonprofit Zrt. 2019; Opus Global Nyrt. 2020); adding such entities would raise the listed shares.

The funding contrast speaks directly to the indicator. In 2021–2023, when EU-funded single bidding was lowest relative to the region, listed companies received 31.0 per cent of EU-funded contract value in procedures under EU-level rules, against 19.4 per cent of nationally funded value (Figure 3b). Alternative identity, consortium and value choices give ranges of 25.0–37.1 and 15.9–21.4 per cent. The contrast is not permanent: earlier periods show no robust difference, and the listed share of EU-funded value falls in the restricted funding setting after 2023. The linked records do not resolve a difference in single bidding between listed and other winners: within buyer–year cells and contract categories, neither listing nor its interaction with EU funding produces a statistically resolved difference (Online Appendix, Table S7). Lower single bidding and a large allocation share for listed companies thus coexisted in the same funding channel, as E3 anticipates.

A buyer-level test examines whether the changes are related (Online Appendix, Section S5). For the 35 Hungarian buyers with at least 5 units of EU-funded notice weight on non-listed awards in both 2010–2014 and 2016–2023, we relate the change in their single bidding to the change in listed companies' share of their EU-funded value. Single bidding is measured on awards to other companies, so that the listed companies' own contracts cannot drive both measures. The estimated relationship between the two changes is imprecise. The value-weighted slope is −0.08 (bootstrap 95 per cent interval −0.66 to +0.33), and listed shares rose among buyers with above-median falls in single bidding (from 11.8 to 28.5 per cent) and among the others (from 18.6 to 34.8 per cent). The largest EU-funded buyer, the road and rail investment agency, shows the pattern most clearly: single bidding on its awards to other companies fell

from 11.9 per cent in 2010–2014 to 5.7 per cent in 2021–2023, while listed companies' share of its EU-funded value rose from 23.6 to 74.6 per cent. The agency carries 67 per cent of the main regression's weight. The buyer-year coefficient is +0.10 (standard error 0.06); these associations do not identify allocation's response to oversight.

Concentration also extends beyond the list. In the registry, the ten largest owner-linked recipient groups' share of annual contract value rose from 29.3 per cent in 2019 to 43.7 per cent in 2024, before declining in 2025, when the level is sensitive to two unusually large power-plant contracts (Transparency International Hungary 2026; Nemzeti Adó- és Vámhivatal 2026). Commitments to listed companies were channelled through a few public buyers: five buyers or buyer groups awarded 64 per cent of their value, led by the agency responsible for road and rail investment (Figure 4). Important channels lay outside the indicator altogether. Call-offs under framework agreements, whose attribution the 2022 decision listed among the Commission's findings (Council of the European Union 2022a, recital 11), account for 14.6 per cent of registry contract value. Written consultations among framework parties carried EUR 4.1 billion, of which 54 per cent went to one group of communication agencies, mainly through the National Communications Office. Following the money further runs into the limits of the record. Duna Aszfalt planned substantial subcontracts on motorway and bridge projects for companies bearing the Duna name, and the tax authority's register confirms that two of them joined its VAT group on 15 November 2024 (Nemzeti Adó- és Vámhivatal 2026; European Commission 2026b). Such plans show why tracing only the prime contractor is insufficient, but they do not establish realised transfers. Contracts carrying any payment record account for only 36 per cent of registry value from 2018 to 8 May 2026, so execution cannot yet be traced systematically.

These are descriptive findings about allocation. They are consistent with the Commission's concern about concentration and connected recipients, but they cannot distinguish preferential treatment from scale, experience or specialisation in EU-funded infrastructure, and they do not show that any individual award was improper. Their implication concerns measurement: a declining single-bid rate described recorded tendering but was insufficient to establish a shift away from listed recipients. The allocation evidence addresses that separate question directly.

5.4 Evidence from contract records

Contract records narrow the questions without settling them. The documentary follow-up examined 26 award-lot outcomes: 19 selected because a listed company won after all rival offers were reported inadmissible, and seven comparators selected without that filter (Elektronikus Közbeszerzési Rendszer 2026b). It found unresolved evaluation and accounting discrepancies in some contracts. In one buyer's regional maintenance contracts, for instance, three signed contracts print an evaluated parts discount below both of the component discounts from which it should be derived, which an ordinary average of the two cannot produce; the buyer's workbook and the submitted price schedules were not part of the public record examined. The follow-up also found technical reasons for rejections, valid losing offers by listed companies and buyer-

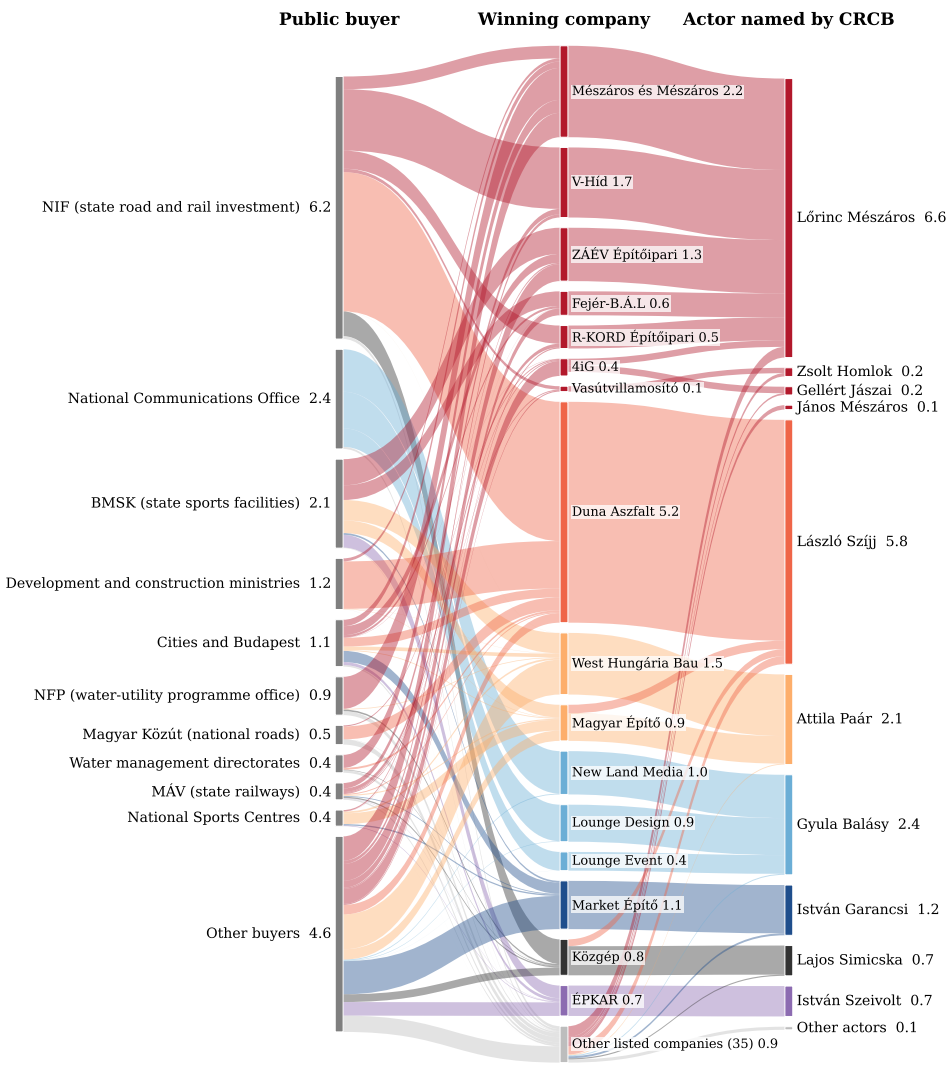


Figure 4: From public buyers to listed companies and the actors with whom CRCB associates them, 29 May 2010 – 8 May 2026 (EUR billion). Band widths are contract values above the EU thresholds won by listed companies; consortium awards are split equally. The right-hand column shows CRCB's association of a company with a person through ownership, family or business ties, not personal receipts. Sources: TED, EKR, Corruption Research Center Budapest (2026); own calculations.

reported outputs. None of these observations establishes misconduct, and the selection does not support estimates of prevalence. Together they show what verifying allocation would require: original offers, evaluation versions, dated ownership, amendments and payments, none of which enters a bid count (Online Appendix, Section S6).

5.5 Identification and robustness

With one treated country, buyer-clustered standard errors understate country-level uncertainty (Conley and Taber 2011; Ferman and Pinto 2019). When each other CEE country is treated in turn as if it were Hungary, Hungary's mean change over 2016–2023 (−15.8 points) ranks first of eleven, against −9.0 to +12.8 elsewhere. The rank fraction of 0.09 is the smallest possible and describes a ranking rather than a calibrated test. Hungary's country-level funding gap

was already narrowing before 2014; extrapolating that trend reduces the two period estimates to about −6.5 and −6.3 points. The earlier decline may reflect controls that were beginning to work or an unrelated trend, and the data cannot distinguish the two. Sample restrictions and weighting choices move the estimates within a narrow band: across the baseline and six variants, including samples without Czechia and Slovenia, whose TED reporting shows breaks, without Poland, which supplies 44 per cent of comparison notices, and without Slovakia, the triple difference ranges from −16.1 to −10.1 points in 2016–2020 and from −24.9 to −20.8 points in 2021–2023. Value-weighted estimates are imprecise and sensitive to the reference year. The descriptive divergence persists across these specifications; its causal size and reach to the largest contracts remain uncertain (Online Appendix, Tables S4 and S5). A simpler comparison within buyers points the same way. Between 2010–2014 and 2020–2023, the gap between the same buyers' EU-funded and nationally funded single bidding changed by −16.6 points in Hungary, the largest change among the eleven countries. Slovakia, which also subjected EU-funded procurement to controls by managing authorities and its procurement office in 2014–2020 (Centrálny koordinačný orgán 2022), came second (−14.1 points; Online Appendix, Table S1). Slovakia provides a descriptive parallel, rather than an independently identified oversight effect. The allocation shares rest on a published classification and on recorded commitments rather than payments.

6 Implications for procurement accountability

The findings distinguish procedural competition from supplier allocation. In EU-funded procurement, the improvement extended beyond second bids and appeared in relative prices as well. In national procurement, the shift concentrated at the margin the two-tender rule rewarded. Listed suppliers' large value share coexisted with the former improvement. These findings describe different patterns within one system; they do not establish that oversight left rents unchanged, that second bids were collusive, or that concentration proves preferential treatment.

For public-choice research, the important question is how monitoring shapes the information available to principals. A verifiable quantity can constrain buyers and support useful entry while leaving other allocation decisions difficult to assess. The multitask perspective predicts a need to consider what remains outside the rewarded measure (Holmstrom and Milgrom 1991); the procurement evidence documents that distinction without identifying an intentional substitution of effort. A target can accurately describe one aspect of performance and still provide an incomplete account of where public commitments go.

Three monitoring implications follow. First, the bid-count distribution should be examined together with unsuccessful procedures, frameworks and award-to-estimate prices. The national closures show why a ratio among completed awards needs a view of procedures excluded from its denominator. These diagnostics should preserve differences in coverage and observation dates rather than be combined into an unexplained composite index.

Second, recipient accounting should complement participation statistics. Registry identifiers,

dated ownership and consortium membership allow contract value to be followed across legal entities and funding channels. Concentration and political-connection measures can direct documentary scrutiny, but should not become mechanical ceilings on firms' market shares: specialisation can create concentration, and ownership fragmentation can change a numerical measure without changing economic control. The purpose is to identify contracts for verification, not to substitute another ratio for evidence.

Third, verification requires execution records. Offers and evaluation files establish whether rival bids were admissible and assessed consistently; amendments and payments help establish what was delivered and paid. The purposive follow-up illustrates both the information these records supply and the questions left open by missing documents. The administrative distinction between commitments, payments and personal receipts remains essential.

The same logic applies when procurement indicators enter funding conditions. Hungary's 2026 assessment weighed procurement targets alongside broader institutional reforms (Council of the European Union 2026a). Our earlier observations cannot evaluate that package. They do show why meeting a participation condition is insufficient evidence of changed allocation. Effective accountability requires specifying which outcome a commitment addresses and examining complementary records before drawing conclusions about the rest of the procurement system.

7 Conclusion

The paper supplies two pieces of evidence on the informational value of procurement oversight. The distribution of reported bids and relative prices distinguishes the broader EU-funded participation change from the national shift towards second bids around a two-tender rule. Direct recipient accounting then shows that improved reported participation coexisted with a large share of commitments going to companies on a published list of politically connected firms; their share was larger in the EU-funded channel in 2021–2023. The EU-funded divergence began before the 2022 conditionality commitments and cannot be attributed to them alone.

The evidence establishes coexistence, not the causal relationship between these outcomes. One treated country, pre-period trends and an imprecise buyer-level link limit causal interpretation. Recorded bids do not establish independent competition, a listed connection does not establish an improper award, and commitments do not measure payments or rents.

For the political economy of public purchasing, the contribution is to separate what a monitored participation statistic establishes from what requires evidence on recipients and execution. A principal may observe better reported competition while remaining unable to infer a change in the allocation of public commitments. Monitoring who wins, how offers are evaluated and how contracts are executed makes that distinction observable. Procurement accountability requires that broader evidence even when the measured participation statistic improves.

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Data and code availability. Analysis code, aggregate reference results, curated inputs and source metadata are openly available in Zenodo (Olah 2026). The underlying records are public: TED notices, the Hungarian contract registry, the CRCB list and the documents cited in the references. The archive's `DATA_ACCESS.md` and source catalogue link each original source and record hashes of the snapshots used. Full third-party raw datasets and record-level panels are not redistributed. Because live sources change, exact historical re-estimation requires the preserved input snapshots. The Online Appendix documents data construction.

Ethics approval and consent. Not applicable. The study uses publicly available administrative records and published documents; no human participants were recruited and no information was requested from the bodies or firms concerned.

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