

MECHANISMS OF CORRUPTION IN PUBLIC PROCUREMENT: A TYPOLOGY BY STAGE OF THE PROCUREMENT CYCLE

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Executive Summary

This study proposes a typology of corruption mechanisms in public procurement organised by stage of the procurement cycle. Unlike lists of risk indicators, the typology draws a consistent distinction between mechanisms and indicators and characterises each mechanism by its signal carrier: the actor, whether an external participant in the procedure, an audit body or a person inside the contracting authority, who is in a position to notice the trace a mechanism leaves. The catalogue comprises 30 mechanisms across ten stages of the procurement cycle, grouped into six functional clusters.

The empirical analysis rests on a source unavailable to research based on the decisions of review authorities. A corpus of decisions contains only those complaints that reached review; signals lost at earlier stages leave no trace in it. The monitoring register used here, compiled through a data-exchange programme with market participants (531 completed episodes out of 643 procedures tracked in the Russian Federation), records each signal from the moment grounds for a complaint arise. It therefore captures losses that occur before filing and before review: complaints never filed because the deadline had passed, complaints that were technically impossible to file, and complaints returned without review on the merits. Such data trace the life cycle of a signal from its origin, and the same measurement can be repeated in other markets and jurisdictions.

Principal findings. A quarter of all signals are lost before a complaint is filed because the applicable challenge deadline has expired. In 54 documented cases, the deadline for challenging the procurement documentation closed before the participant learned, from the subsequent record, that the contested requirement had affected the outcome of its bid. Of the filed complaints with a known outcome, one in eight is returned on formal grounds without review on the merits. Of the complaints reviewed on the merits, one in four is upheld. None of the 22 applications to the second level of review was considered on the merits. These findings suggest that the design of the review channel is an important source of signal loss, independently of the substantive quality of individual complaints.

Recommendations. A typology coded by signal carrier locates potential corruption more precisely: which action, taken at which stage and by whom, could have produced an observed anomaly, and who is in a position to notice it. The main practical recommendation is to extend external visibility to the opening stage of the cycle and to the stages that follow the award record, through contract performance and payment. That would increase the number of mechanisms whose traces can be seen from outside and make unfair procurement easier to identify. For the review procedure, it implies that deadlines should be restorable where the moment of discovery is proved, that curable defects of form should not extinguish a signal, and that refusals at the second level of review should be reasoned and their statistics published.

Intended Readership

The study adds method and evidence to the debate on protecting those who report violations in public procurement, and continues the line of the earlier report on the legal position of the external reporter.

Procurement regulators and review authorities will find a map of how control functions are distributed among three positions of observation, together with a measurable indicator of review channel throughput suitable for evaluating reforms. For researchers of corruption and developers of indicators, the catalogue offers a coding scheme that keeps mechanisms and indicators apart. Civil society organisations that monitor procurement gain a reproducible instrument in the external signal funnel, and the data-exchange model opens access to material absent from public sources. For international organisations that assess national regimes for the protection of reporting persons, the study adds a further criterion: whether existing regimes cover every stage of the procurement cycle at which signals may arise, or protect only the insider, leaving without an effective channel the external participant who observes violations from the drafting of the documentation through to review.

Objective of the Study

The study seeks to establish which mechanisms of misconduct in the procurement cycle can be observed from the position of an external participant, and what share of that participant's signals reaches review on the merits. Three tasks serve this objective:

1. To construct a typology of corruption mechanisms by stage of the procurement cycle that consistently separates mechanisms from indicators and characterises each mechanism by its signal carrier.
2. To measure, on the monitoring register, the throughput of the review channel: how losses of the external signal are distributed along the path from the emergence of grounds for a complaint to review on the merits.
3. To draw out what follows for regimes protecting reporting persons, in the form of a testable principle of correspondence between protection and observability.

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1. Introduction

In public procurement, reports of violations fall under two legal regimes: the protection of reporting persons and the review of procurement procedures. The two define their subjects by mutually exclusive criteria. The first protects a person connected to the wrongdoer through a work-related context; the second accepts complaints from persons with no such connection. In competitive procedures, however, the signal about a violation is carried predominantly by an external third party, above all a participant in the procedure, and it is precisely this category that neither regime protects (Limarau, 2026).

This study takes the problem down to the level of individual corruption mechanisms and asks two connected questions. Which mechanisms of misconduct in the procurement cycle can an external participant observe, and which are visible only to audit bodies or to people inside the contracting authority? And what share of the external participant's signals reaches review on the merits, and where along the way are signals lost?

A typology organised by stage of the procurement cycle, with each mechanism tied to the position from which its trace can be noticed, addresses the first question (Section 4). The second question draws on an empirical source that records the fate of a signal from the moment grounds for a complaint arise, rather than from the moment a review authority registers the complaint (Section 6). The distribution of mechanisms among signal carriers then translates into requirements for protection regimes (Section 5).

That measurement, the external signal funnel, quantifies the loss of signals before review on the merits, an estimate that cannot be obtained from corpora of review decisions and that, to our knowledge, has not been published before. Correspondence between protection and observability gives a criterion for assessing national regimes protecting reporting persons: whether protection reaches the positions from which violations are in fact visible.

2. Existing Approaches and Their Limitations

The systematisation of corrupt practices in procurement has developed mainly as lists of risk indicators, or red flags: observable features of a procedure that are statistically associated with the likelihood of misconduct. Guidance from international organisations has entrenched the approach. The OECD describes integrity risks stage by stage as a list of typical situations, from technical requirements drafted around a

particular company to substitution of the subject matter during performance (OECD, 2016). World Bank handbooks apply similar lists in audits of financed projects (World Bank, 2013). A study for the European Commission operationalised 27 indicators and tested them on 192 cases in eight EU member states, showing that certain combinations of indicators statistically predict the likelihood of corruption in a procedure (PwC, Ecorys, 2013). Later work scaled the approach to large data sets: a composite corruption risk index built on features of the procedure, including its type, the absence of a published notice, the length of the submission period, the weight of non-price award criteria and the length of the decision period, was computed on more than 2.8 million contracts from the TED database for 2009 to 2014 and validated against established country-level perception indicators (Fazekas, Toth, 2016; Fazekas, Kocsis, 2020). A separate strand developed econometric methods for detecting bid rigging from the structure of submitted bids: bids from firms outside a cartel track their costs, whereas cover bids do not (Porter, Zona, 1993).

The indicator approach works well for screening large data sets, and this study does not seek to replace it. Its concern is a structural limitation of the list format itself: the conflation of indicator and mechanism. An indicator is an observable feature of a procurement procedure. A mechanism is a way of distorting the procedure, carried out by a particular actor at a particular stage of the cycle. The two do not map onto each other one to one.

A single bid, for instance, may result from requirements drafted around a predetermined bidder, from an agreement among competitors not to take part, or from an artificially shortened submission period. The first and third are open to an external participant's observation; the second, for practical purposes, is not. The relation is equally loose in the other direction: requirements tailored to a predetermined bidder may show up as a single bid, as the rejection of competing bids, or as the systematic victory of the same company. And where potential competitors simply stay away, the restriction of competition may leave no visible trace in the materials of the procedure at all.

The conflation runs through the literature as well. The authors of the European Commission methodology note that indicators point to the likelihood of corruption but do not by themselves confirm it in a particular case (PwC, Ecorys, 2013). The authors of the composite index, meanwhile, describe its components both as indicators and as techniques of corruption (Fazekas, Toth, 2016), leaving the line between an observable feature and a way of distorting the procedure undrawn.

As long as the two levels remain merged, a list of indicators cannot say which action produced an observed outcome, assign that action to a stage of the cycle and an actor, or identify the position from which its trace can be detected. The last point is central to the analysis of reporter protection: it determines which signal carrier can detect a given violation and therefore needs a working transmission channel and protection.

Risk maps organised by stage of the procurement cycle also exist. The OECD, for example, lists typical integrity risks for each stage, from needs assessment to payment (OECD, 2016). Such maps, however, remain lists of situations: they neither separate mechanisms from indicators nor say from which position each mechanism's trace can be detected. To our knowledge, a systematic classification of mechanisms by signal carrier has not been undertaken before, and this study is directed at that gap.

3. Methodology

3.1. Constructing the typology

The typology was constructed conceptually from three groups of sources: the prohibitions of procurement legislation, read as a list of the ways they can be expected to be circumvented; the standard categories of violation in the practice of review authorities; and mechanisms described in the literature. Section 4.1 sets out the rules of construction.

Because the typology is conceptual, the catalogue is neither derived from the empirical register nor limited by it. This relation between typology and data calls for an explicit line between the confirmed and the unconfirmed. Each mechanism therefore carries one of three statuses: confirmed in the register; observable by an external participant but not recorded; or outside the external participant's field of observation.

3.2. Empirical testing and its limits

The empirical analysis tests not the whole typology but only the segment open to an external participant's observation: a register compiled from that position can test only propositions about what is visible from it. Mechanisms outside this segment retain conceptual status; testing them requires sources of a different kind, above all audit materials and criminal cases, and is a research task in its own right.

The register serves a single methodological purpose: to measure the throughput of the review channel, the share of signals that arise and go on to be reviewed on the merits. Every quantitative statement in the study concerns the fate of signals, not the prevalence of violations.

3.3. A limitation of the coding method

Mechanisms were matched to register episodes by a single researcher; agreement between independent coders was not assessed. Verifiability rests instead on documentation: every mechanism marked as confirmed is accompanied by the specific episodes, their procedural outcome and the rules found to have been violated, so the coding can be checked independently. The catalogue's completeness reflects the state of the sources at the time of writing; it is open, and changes are recorded under version numbers.

4. A Typology of Mechanisms by Stage of the Procurement Cycle

4.1. Principles of construction

The unit of the typology is the mechanism: a way of distorting a competitive procedure, not an observable anomaly. One mechanism can generate several indicators and one indicator can point to several mechanisms, so a list that merges the two levels cannot establish what was done or by whom.

Each mechanism belongs to the stage at which the distorting decision is taken, not the stage at which its effect appears. Understating the initial price in the expectation of later increases, where a price that drives out bona fide bidders is subsequently made up to the winner through contract amendments, belongs to the price justification stage even though its effect shows during performance.

Each mechanism also carries the mark of its signal carrier: an external participant in the procedure, an audit body or a person inside the contracting authority. This is the dimension tested in Sections 5 and 6.

A mechanism's status in the register takes one of three values. Confirmed: a trace of the mechanism appears in the monitoring register; what this establishes is the conduct and its procedural assessment, not the intent behind it. Not recorded: the mechanism is observable by an external participant but was not encountered during the observation period. Outside the field: the mechanism is not observable from an external participant's position, so its absence from the register carries no information.

4.2. The catalogue of mechanisms

Stage I. Needs Planning

Code	Mechanism	Signal carrier	Register
PLN-01	Creation of a fictitious or inflated need	insider, audit	outside the

Code	Mechanism	Signal carrier	Register
			field
PLN-02	Agreement of requirements with the future winner before the procedure is announced	insider	outside the field

Stage II. Initial Price Justification

Code	Mechanism	Signal carrier	Register
BUD-01	Inflation of the initial price through controlled price quotations	audit, partly external participant	not recorded
BUD-02	Understatement of the initial price in the expectation of an increase through contract amendments	audit	outside the field

Stage III. Choice of Procurement Method

Code	Mechanism	Signal carrier	Register
PRC-01	Unjustified recourse to a single supplier	external participant, audit	not recorded
PRC-02	Artificial splitting of the volume below the threshold for a competitive procedure	audit, external participant	not recorded
PRC-03	Abuse of urgency as a ground	external participant, audit	not recorded

Note. The register does not capture the full reach of the mechanisms of this stage: a procurement moved out of the competitive space never enters observation. This reflects the observer's position, not the rarity of such mechanisms.

Stage IV. Documentation and Requirements

Code	Mechanism	Signal carrier	Register
SPC-01	Drafting of requirements around the characteristics of a predetermined bidder	external participant	confirmed
SPC-02	Excessive qualification requirements that cut off part of the market	external participant	confirmed
SPC-03	Award criteria with a high weight and an indeterminate scoring procedure, allowing the ranking outcome to be steered	external participant	confirmed
SPC-04	Onerous bid or contract security	external participant	not recorded
SPC-05	Indeterminate requirements for the content of a bid, allowing any bidder to be rejected at the commission's discretion	external participant	confirmed

Stage V. Publication and Submission Period

Code	Mechanism	Signal carrier	Register
PUB-01	Artificially shortened submission period	external participant	not recorded
PUB-02	Publication without the mandatory identifiers (identification	external participant	confirmed

Code	Mechanism	Signal carrier	Register
	code, registration fields) or outside the regular channel, impeding participation or challenge		
PUB-03	Material amendment of the documentation at the end of the submission period	external participant	not recorded

Stage VI. Bidder Coordination

Code	Mechanism	Signal carrier	Register
BID-01	Cover bids and the simulation of competition	external participant, review authority	not recorded
BID-02	Concealed affiliation among bidders or with the contracting authority	external participant, audit	not recorded

Stage VII. Bid Evaluation and Award

Code	Mechanism	Signal carrier	Register
EVL-01	Discriminatory application of the grounds for rejecting bids	external participant	confirmed
EVL-02	Rejection without proper reasons stated in the record	external participant	confirmed
EVL-03	Award of points in breach of the established evaluation procedure, or unequal application of criteria to comparable bids	external participant	not recorded
EVL-04	Undisclosed conflict of interest within the commission	insider, investigation	outside the field

Stage VIII. Review and Oversight

Code	Mechanism	Signal carrier	Register
RVW-01	Closure of the period for challenging the documentation before the results are announced, depriving a bidder of the opportunity to challenge a violation it learns of from the record	external participant	confirmed
RVW-02	Return of a complaint on formal grounds without review on the merits	external participant	confirmed
RVW-03	Refusal at the second level of review to consider complaints on the merits	external participant	confirmed
RVW-04	Conclusion of the contract before review of the complaint is completed, depriving that review of practical effect	external participant	not recorded

Stage IX. Contract Performance

Code	Mechanism	Signal carrier	Register
IMP-01	Contract amendments increasing the price or altering the subject matter	audit, partly external observer	outside the field
IMP-02	Acceptance of works not performed or performed poorly	insider, audit	outside the

Code	Mechanism	Signal carrier	Register
			field
IMP-03	Selective non-application to the supplier of the sanctions provided for by the contract (penalties, fines, termination)	audit	outside the field

Stage X. Payment and Post-Award Control

Code	Mechanism	Signal carrier	Register
PAY-01	Payment against fictitious primary documents	insider, investigation	outside the field
PAY-02	Sale of the order of payment: acceleration of payments for a consideration, or deliberate delay of payments to others	insider	outside the field

4.3. Coverage summary

The catalogue comprises 30 mechanisms across ten stages. The table shows their distribution by register status.

Status	Number	Stages
Confirmed in the register	10	documentation, publication, evaluation, review
Observable by an external participant, not recorded	11	price, procurement method, documentation, publication, coordination, evaluation, review
Outside the external participant's field of observation	9	planning, price, evaluation, performance, payment

All ten confirmed mechanisms fall within the segment that runs from the drafting of the documentation to review, with confirmations at four of its stages. This is where the external participant is procedurally present: it studies the documentation, submits a bid, receives the award record and challenges the results. At the planning, performance and payment stages the external participant is simply not positioned to observe the relevant signals, and no strengthening of the review channel will change that; observing those stages requires other signal carriers, above all audit bodies and protected insiders.

4.4. Functional clusters of mechanisms

Organising the catalogue by stage answers the question of where the distorting decision is taken. Grouping mechanisms by function answers a different one: how a mechanism acts on competition. On this basis the 30 mechanisms form six clusters.

Cluster	Function	Codes
C1. Avoidance of competition	the supplier is determined without competitive selection	PRC-01, PRC-02, PRC-03
C2. Restriction of access	the circle of bidders is narrowed to the intended one	SPC-01, SPC-02, SPC-04, PUB-01, PUB-03
C3. Simulation of competition	bidders are present, contest is absent	BID-01, BID-02

Cluster	Function	Codes
C4. Distortion of choice	access is granted, the outcome is determined by manipulation	SPC-03, SPC-05, EVL-01, EVL-02, EVL-03, EVL-04
C5. Neutralisation of control	the signal about a violation is suppressed	PUB-02, RVW-01, RVW-02, RVW-03, RVW-04
C6. Removal of the benefit beyond the competitive phase	the benefit is extracted at stages not covered by the competition	PLN-01, PLN-02, BUD-01, BUD-02, IMP-01, IMP-02, IMP-03, PAY-01, PAY-02

The ten mechanisms confirmed in the register fall within three clusters: restriction of access (C2), distortion of choice (C4) and neutralisation of control (C5). These are the mechanisms that bear directly on the external participant: they restrict its access, distort the outcome of its participation or suppress its signal. Mechanisms that avoid competition, simulate it or move the benefit outside the competitive phase (C1, C3, C6) do not appear in the register. Neutralisation of control is the most fully confirmed cluster, which reflects the observer's position: these mechanisms act against the very review channel used by the market participants in the data-exchange programme, so each use left a record.

5. Signal Carriers and the Detection of Mechanisms

5.1. Three carriers, three segments

Asking who can notice each of the 30 mechanisms divides the procurement cycle into three segments, each with its own observer.

The opening segment, needs planning and price justification, and the closing segment, performance and payment, are hidden from the external participant. Collusion in shaping a need, acceptance of work never performed and payment against fictitious documents leave no trace visible outside the relationship between the contracting authority and its supplier. These segments are observable by an audit body working with the authority's documents and by an insider present at the acts themselves; the nine mechanisms marked outside the field all fall here.

The middle segment, from the drafting of the documentation to review, is primarily observable by the external participant. It is the only actor that, in the course of the procedure itself, studies the requirements, compares them with the state of the market, receives the records and suffers direct harm from distortion: its bid is rejected, its offer loses to a cover bid. That the ten confirmed mechanisms all lie here is a property of the observer's position, not of the register.

Observability alone is not control: what is seen must reach a body able to respond. For the external participant there is one such route, the complaint, and its throughput is measured in Section 6.

5.2. Data disclosure and segment coverage

In principle, the external participant's limited position could be offset by data disclosure: what cannot be seen from inside the procedure can be made visible by publication, for example of data on contract amendments, acceptance and payment. Disclosure could extend the externally observable part of the cycle beyond what a participant sees for itself.

In practice it does not. In the OECD's 2024 survey of 40 countries, all 40 publish procurement notices, but only 5 publish reports on contract performance and final audits (OECD, 2025). The same boundary appears within a single system in the OECD's audit of the e-procurement system of the Buenos Aires judiciary (JUC, Justicia Compra), reported in 2026: the system was rolled out quickly but covers the tender phase

only, leaving out the stages before a procedure is announced and after the contract is concluded, while the search available to an outside user is limited to procedures of the last 30 days, so completed procedures drop out of public view (OECD, 2026). Published procurement data thus reproduce the boundaries of what a participant already sees instead of extending them, and leave out the stages where observation from outside is missing altogether.

Extension is feasible and recommended: the JUC audit proposes covering the stages before announcement and after contract conclusion and moving to the OCDS open data standard (OECD, 2026). Coding mechanisms by signal carrier makes the task concrete: for each catalogue mechanism it specifies which data would have to be disclosed for its trace to become visible from outside. Only what is recorded in the authority's documents or information systems can be disclosed, however. A mechanism that leaves no documentary trace, such as agreeing terms with the future winner before the procedure is announced, will not become observable under any disclosure policy; for such mechanisms only other signal carriers work.

5.3. Conditions for workable signal routes

Each segment has its own route for transmitting a signal.

For the middle segment the route is the review procedure, and it works only if at least three conditions hold: deadlines must allow filing after grounds for a complaint arise; a curable defect of form must not extinguish a signal that can be verified from the materials of the procedure; and first-instance decisions must be open to review on the merits by a higher authority. Section 6 measures all three on the monitoring register.

For the opening and closing segments the routes are audit and reports from inside the contracting authority, and their working conditions differ: the coverage and frequency of inspections for audit, protection from retaliation for the reporting person. The legal regimes protecting reporting persons, built around the figure of the employee (EU Directive 2019/1937 and national whistleblower protection laws), serve precisely these segments. The external participant rarely falls within the definition of a protected person, and its route is governed by the logic of protecting a commercial interest rather than of transmitting information about a violation. The comparative legal analysis of this mismatch (Limarau, 2026) concludes that the passage of an external participant's complaint is protected neither by the rules of review nor by the regimes protecting reporting persons.

6. Empirical Analysis: The External Signal Funnel

6.1. Data

The empirical analysis draws on a source that is not publicly available: a monitoring register of participation in public procurement procedures, compiled through a data-exchange programme with market participants. The data were transferred on condition of anonymisation, and only aggregate figures appear in this publication. The composition of the data sources, their identifying features and the details of individual procedures are withheld to protect them.

The study rests on 531 completed episodes: procurement procedures in the professional services segment for state and municipal contracting authorities in which the question of filing a complaint was finally resolved (the definition is given in Section 6.2). The material comes from a single jurisdiction. Episodes were drawn from a register covering 643 procedures under Russian procurement legislation, laws 44-FZ (472 procedures) and 223-FZ (171), between March and July 2026; 112 procedures in which the question of whether a complaint would be filed had not yet been resolved at the time of extraction were excluded. Each episode records the stage and result of bid consideration, the presence of grounds for a challenge, whether and how a complaint was filed, the reviewing body, the procedural outcome and any application to the second level of review.

The register differs from a corpus of review decisions in its point of observation. A corpus contains only complaints that reached review; signals that drop out earlier leave no trace in it. The monitoring register picks up a signal at the moment grounds for a complaint arise and therefore includes three categories invisible to a researcher working from decisions alone: complaints never filed because the deadline had passed, complaints that could not be filed by the prescribed technical means, and complaints returned on formal grounds without review.

The register covers one market segment, a short period and a narrow circle of sources with similar participation profiles; it is not a sample of the general population of procurement participants. The data measure the throughput of the review channel, not the prevalence of violations. That quantity characterises the design of the channel rather than the behaviour of complainants, and may be more transferable beyond this register than any estimate of violation frequency.

6.2. Definitions

Two terms are kept apart throughout. The catalogue is the codified list of mechanisms presented in Section 4. The register is the running record of procurement episodes that forms the study's empirical base.

A completed episode is a procedure in which the question of filing a complaint was finally resolved in one of two ways: a complaint was filed, or the filing deadline passed with no complaint filed. Procedures in which the filing deadline was still open at the time of extraction are excluded from the funnel. Among filed complaints, those whose outcome was still unknown at extraction remain within the count of completed episodes but are excluded from the outcome shares, which are calculated on the 298 complaints with a known outcome; the implications of the 100 pending complaints are discussed in Section 6.5.

An effective signal is a complaint in which the review authority upheld at least one of the complainant's arguments, or found a violation in an unscheduled inspection triggered by the complaint. The definition is substantive rather than formal: partial satisfaction means that a violation in the procedure has been officially confirmed, while the split between full and partial reflects how much of the complainant's claim was confirmed, not whether a violation occurred. Cases in which a complaint was formally rejected but the inspection it triggered recorded violations are flagged separately and left out of the main calculation; counting them would raise the channel's effectiveness figures.

6.3. The funnel

The monitoring register contains 531 completed episodes. The table shows their distribution across the steps of the funnel.

Step of the funnel	Number	Share
Completed episodes	531	100%
Challenge deadline expired before a complaint was filed	133	25%
Complaint filed	398	75%
of these: outcome not known at the time of extraction	100	
Complaint filed, outcome known	298	100%
Returned without review on the merits	35	12%
Reviewed, arguments not confirmed	200	67%
Violation confirmed in part	45	15%
Violation confirmed in full	18	6%

One signal in four is lost before filing, not because the complainant dropped the claim but because the deadline expires before there is any opportunity to raise the violation. Among filed complaints with a known outcome, 35 came back without review on the merits. The 263 that were reviewed produced 63 effective signals, or 24 per cent. Measured against all completed episodes, a violation is officially confirmed in roughly one case in eight.

Losses before review on the merits also include episodes in which the contracting authority cancelled the procedure after receiving a request for clarification but before a complaint was filed: at least 10 episodes in the register, and up to 37 on a broader reading of the evidence. Cancellation ends the procedural history of a signal, whatever later happens to the defect it identified. How often cancelled procedures are republished with the contested conditions intact requires separate observation and is left to further research.

External participants can provide substantiated signals: one complaint in four reviewed on the merits was upheld, and over the observation period complaints from the register led to 44 annulments of records or procedures by decision of the review authority and to 99 suspensions of procedures. At the same time, a large share of signals never reaches assessment on the merits, cut off by deadlines or formal filing requirements. The problem of the unprotected external reporter lies in the combination of the two, not in either alone.

6.4. Three loss mechanisms

Because the register is a monitoring source, it shows not only how much is lost but how. Three mechanisms of the typology appear directly in the data.

The largest loss is the expiry of the challenge deadline before grounds for a complaint arise (RVW-01). Of the 133 episodes with an expired deadline, 54 contain a reasoned decision not to file, and the reasoning repeats the same bind. The violation sits in the documentation or the notice, but the documentation can be challenged only until the bid submission deadline. That the violation affected the outcome of its participation, the bidder learns later, from the record rejecting its bid or announcing the results of the selection. By then the challenge is procedurally closed, and the law provides no restoration of the deadline. Grounds for a complaint arise only after the time for filing it has run out, and this sequence is built into the design of the time limits, not into the circumstances of any single case: a violation embedded at an early stage of the procedure takes effect against the bidder only after the deadline for challenging it has passed.

Challenging the commission's actions after the record is signed remains formally available, but a violation embedded in the documentation lies outside its scope: a commission that applies a defective requirement acts in conformity with it, and no grounds for complaint against its actions arise. The register contains no such challenges; the route was not used during the observation period. Information obtained through the data-exchange programme indicates that such complaints were filed in earlier periods and did not lead to reconsideration, the commission being held to have acted lawfully. The reasoned decisions not to file recorded in the register cite exactly this: the route is judged futile from prior practice, not from conjecture.

A publication defect can also rule out filing by the prescribed means (PUB-02 combined with RVW-02). In 41 episodes a complaint could not be filed as the law requires: the procurement lacked an identification code in the unified information system, so electronic filing through the regular channel was technically impossible. The complainant sent the complaint by email. The standard reply was that screenshots do not prove dispatch and that a complaint without a qualified electronic signature is not equivalent to a paper document; the complaint was then returned without review. A single observed trace here links two stages of the cycle: incomplete identifiers at publication make challenge impossible at the oversight stage. Under the indicator approach the case splits into two unrelated features, incomplete notice identifiers and a returned complaint, each with its own indicator in its own data set; the causal chain between them, no identifiers, hence no regular filing, hence return, has to be reconstructed outside the list. A typology tied to stages carries that chain within it.

At the second level of review the loss is complete (RVW-03). Over the observation period, 41 complaints against the actions of the territorial offices were filed with the central apparatus of the review authority. The outcome is known for 22; all 22 were returned without review on the merits. Whatever those complaints contained, first-instance decisions were not in practice open to checking at an external complainant's initiative: the channel exists on paper but did not work during the observation period. Of all the funnel's figures this one depends least on the quality of the individual complaints, since a refusal to review is not a judgement on their merits.

6.5. Limitations of the data

Some limitations have already been noted: the register cannot measure the prevalence of violations and is not meant to (Section 6.1). It covers a single jurisdiction: the funnel's figures reflect the deadlines and filing forms set by Russian legislation and travel to other jurisdictions as a method, not as values; testing them elsewhere is the first task of the research programme (Section 7). Some bid rejections were lawful, including failures to meet qualification requirements, and the data record this. The share of unsuccessful complaints therefore says nothing about error on the part of the review authority; the funnel measures throughput, not which side was right. Its key figures, the losses before review on the merits and the absence of any second-level review, hold whether or not the complainant was right in a given episode. The observation window is short and covers one seasonal procurement cycle in the segment studied; whether the figures reproduce over other periods and segments is a question for the next stage of the programme.

The funnel shares are calculated on the 298 complaints whose outcome was known at extraction; a further 100 filed complaints were still pending, and their resolution could shift the shares by several percentage points in either direction. The register did not track the reissue of procedures cancelled by the contracting authority after a request for clarification. Finally, challenges to the commission's actions after signature of the record are not measured in the funnel: the route was not used during the observation period, and information on its earlier use, obtained through the data-exchange programme, was not included in the calculations. No numerical estimate of that route is offered.

7. Applications and Further Research

As a coding scheme, the catalogue with its rules of assignment can be used to code review decisions, monitoring materials and case studies, the status column keeping the confirmed apart from the conceptual whatever the source. Extensions to new jurisdictions and sources are recorded under version numbers.

For e-procurement systems it offers a yardstick: coding by signal carrier shifts the question from how much a system publishes to which catalogue mechanisms its published data can reveal. For systems extending their coverage of the cycle, as the JUC audit recommends (OECD, 2026), it also suggests an order of priority: performance and payment data first, since those stages are currently invisible from outside altogether, whereas the tender phase is visible to a bidder even without publication.

The external signal funnel, defined operationally, can be tracked as a monitoring indicator across periods, market segments and jurisdictions; changes in the design of the review channel should show up in its shape.

The questions the study leaves open set the tasks that follow: reproducing the funnel in other market segments, periods and jurisdictions, including systems with a different institutional model, to test how far the figures travel; tracking the reissue of procedures cancelled after requests for clarification, to distinguish correction from evasion of the signal; extending the funnel to the later steps, namely challenges to the commission's actions after signature of the record and the judicial stage; matching the catalogue of mechanisms against the fields of open procurement data, to determine which codes lend themselves to automatic detection and which inherently require an observer's signal; testing the mechanisms of the opening and closing segments on audit and investigation materials, the sources of the carrier to whom those

segments are visible; and mapping signal routes, that is, establishing which institutional channel, complaint, audit or internal report, covers which catalogue codes, and for which codes no working route exists.

8. Conclusion

This study has proposed a typology of procurement corruption mechanisms organised along two dimensions: the stage of the cycle at which the distorting decision is taken, and the position from which the trace of the mechanism can be observed. The second dimension distinguishes the typology from lists of indicators. The opportunities for observation are divided among three positions of control, the external participant, the audit body and the person inside the contracting authority, and the middle segment of the cycle, from the drafting of the documentation to review, is observable almost exclusively by the external participant.

The empirical analysis measured the path by which that observer's signal reaches review. External participants can provide substantiated signals: one complaint in four reviewed on the merits was upheld in full or in part. Yet a large share of signals never gets that far: a quarter are lost because deadlines expire before grounds for a complaint arise, some are returned on formal grounds, and of twenty-two applications to the second level of review with a known outcome, not one was considered on the merits. Formally the escalation channel exists; in the outcomes observed it carried nothing.

Because the typology separates mechanism from indicator and ties each mechanism to its own stage of the procurement procedure, an observed anomaly can be traced back to the actions that could have produced it and to the positions from which they would be visible. The empirical results are consistent with the approach: the mechanisms the typology predicts for the middle segment were found in the monitoring register, and the pattern of signal losses matched the one implied by the design of deadlines and filing forms. The boundaries of visibility drawn by the typology agree with independent OECD evidence on the coverage of e-procurement systems (OECD, 2025; OECD, 2026). Hence the main practical recommendation: extending external visibility to the opening stage of the cycle and to the stages that follow signature of the award record, through performance and payment, would increase the number of mechanisms whose traces can be noticed and make unfair procurement easier to detect.

The limitations set the next steps, listed in Section 7. Reproducing the funnel where deadlines and filing rules differ comes first, since the figures reported here are tied to the procedural design of a single jurisdiction; the cluster structure, too, needs testing on an extended register.

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