

TRANSPARENCY AND MONITORING OF PUBLIC PROCUREMENT CONTRACT PERFORMANCE*

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* **Acknowledgment:** This paper is based on the research of NALED (2022) about Monitoring the Performance of Public Procurement Contracts.



Abstract

This study analyzes the monitoring of public procurement contracts' performance in six countries under EU public procurement rules: Finland, Portugal, Slovenia, Italy, Hungary, and Serbia. Through an in-depth comparative analysis, we explore the nexus between perceived corruption in these countries and the contract performance monitoring systems established or in the making.

The analysis centers on four key aspects: the organizational framework, the redress system, the IT infrastructure, and the level of data publicity in each country's procurement landscape. Expert evaluations conducted by national specialists unveil which countries pay less attention to public contract performance monitoring and transparency.

Our findings indicate that countries facing higher corruption rates tend to place greater emphasis on transparency and contract performance monitoring. Moreover, countries greatly differ in their organizational setup, objectives, and monitoring tools, including IT adoption.

The insights derived from this study can influence policy and reform efforts focused on the contract phase of public procurement, leading to a more accountable and efficient procurement landscape across Europe.

Keywords: public procurement, monitoring, contract performance, contract modification, corruption.

1. Introduction

Corruption is believed to be highly prevalent in the field of public procurement due to the substantial financial stakes, intricate contractual arrangements, and discretionary powers granted to public officials (Baldi *et al.*, 2016). However, the public contracts execution phase is one of the least researched topics (Chiappinelli, 2020), despite corruption during the implementation of procurement contracts leading to the most significant cost overruns (Piga, 2011).

The existing body of literature addressing corruption in public procurement primarily focuses on other aspects. For instance, Bauhr *et al.* (2020) demonstrated that transparency during the tendering phase significantly reduces corruption risks, but they focus on the pre-award phase. While some other articles touch upon the content of public contracts, their primary focus lies in the method of data analysis. For example, Georgieva (2017) conducts a comparative analysis of German and Austrian procurement transparency models, briefly discussing contracts without placing explicit emphasis on them (Muñoz-Soro, 2016). Similarly, the analysis by Man *et al.* (2014) and Ochrana and Pavel (2013) concentrates on the transparency of public procurement, without explicitly delving into the contract execution phase. It is worth noting that Halonen (2017) sheds light on excessive transparency, specifically in relation to the tendering phase.

Furthermore, from an e-procurement perspective, Panda *et al.* (2010) point out that responsibilities such as technical evaluations, inspections, quality control, and contract performance monitoring typically fall within the domain of the user department. The coordination of tendering, procurement, and payment activities involves collaboration among different departments, highlighting the importance of internal cooperation rather than external monitoring. This underscores the need for further research in understanding and evaluating contract performance.

To fill these gaps, we conduct a comparative analysis of six European countries' experiences to investigate the nexus between perceived corruption and the monitoring systems of public procurement contracts execution. Our research questions are accordingly: Is there a link between the systems in place to monitor contract performance or contract modification, whether they are established or under construction, what are the available data, and what are the corruption perceptions in the country concerned?

To understand public contracts' performance, it is necessary to monitor the execution of contracts, to know the details of performance, to see if there are significant deviations from planned implementation, and to measure the results achieved to have a complete picture of the performance of procurement. Thus, it is important to see how public contract performance monitoring systems can be established to function properly and effectively as a tool for improving transparency and as a corruption prevention and control mechanism.

To address our research question we review the organizational, IT, and control practices related to the execution of public procurement contracts in six countries, highlighting the most important rules and solutions. In the first part of the analysis, we focus on the transparency of the data available, and the responsibilities of the control and review bodies,

while in the discussion part, we compare the systems and solutions of the countries under study. The study concludes with a summary of the analysis and its findings.

2. Theoretical background

We propose an analytical framework underpinning our comparative analysis based on the most relevant literature that deals with contract monitoring, data disclosure, and searchability in public procurement. In drawing our framework, we considered the extent to which researchers' interest has been directed towards public procurement and the key aspects that emerged. We contend that countries, where perceptions of corruption are higher, will have established stronger public contract execution monitoring systems, able to track public contracts' performance data, in particular those related to contracts' modifications, and make them publicly available.

As a baseline, the research aims to assess and test whether the link between transparent public procurement and corruption goes hand in hand, as formulated by Coppier and Piga (2006). The research has shown that typically the states with the highest levels of corruption are the most concerned with transparency and do their utmost to promote it. We will therefore use the selected countries' scores in corruption perceptions indexes as a benchmark for our comparative analysis.

Several policy initiatives in Europe and across the globe have been carried out to tap into the potential of open data to increase public scrutiny and public contract monitoring via increased data access. However, recent empirical studies found that open data helps curb corruption in public procurement only when accompanied by strong regulatory frameworks and freedom of information laws (Park and Kim, 2020; Žuffová 2020). As transparency and public scrutiny increases with tenders and contract data availability and publicity, in our comparative analysis we consider the extent to which the public has access to public contracts data and to which type of data, against the legal background and public contracts monitoring governance system.

Lastly, a prominent issue in the context of the performance of public contracts is the question of contract modification, given its impact on contract performance. In his seminal work on corruption control, Klitgaard (1988) lists corruption in contract modification as one of the three most important types of corruption, which he considers applicable to corruption research in general, not only in the context of public procurement. The literature discusses contract modification mainly from a legal perspective. Legal analyses typically draw attention to the impact of the modification on competition (Halonen, 2019; Hudon and Garzón, 2016; Jaramillo Villacis and Peiro Baquedano, 2021), while quantitative analysis appears less frequently on the topic (Szűcs, 2023; Fazekas *et al.*, 2016). An example is Fazekas *et al.* (2016), who explicitly found a link between contract modifications and single-bidder procedures. A fair process and control of contract modifications is therefore equally part of ensuring competition. It is not by chance that Hudon and Garzón (2016) draw attention to the importance of contract modification in the context of public

procurement corruption in their theoretical work. It is, therefore, reasonable to include contract modification and its circumstances, and the possibilities for stakeholders, in the analysis of public contract execution.

3. Methodology

After a preliminary analysis of the EU countries’ contract monitoring regulations, the following countries were selected for the study: Finland, Hungary, Italy, Portugal, Slovenia, and Serbia. We were looking for countries that follow the rules implemented under the EU public procurement regime to reduce results bias coming from the implementation of different regulatory frameworks.

In public procurement, it is common for researchers to reach conclusions in the form of comparative analysis. Sometimes completely different legal backgrounds (Ancarani *et al.*, 2019) are the basis for comparisons in the study of SMEs’ procurement success (Ancarani *et al.*, 2019), or transitional economies are examined based on the same questionnaire, mainly in terms of procurement efficiency and ethical attitudes (Rodionova *et al.*, 2022). Tátrai and Vörösmarty (2020) examine EU Member States from a non-compliance perspective with the same legal background, in which they also discuss the institutional background in detail. Several analyses compare public procurement with procurement by for-profit companies (Arlbjørn and Freytag, 2012; Vörösmarty and Tátrai, 2018). When looking at the functioning of control systems, it makes sense to choose countries at different levels of development. In making this choice, we can use international corruption indicators as a guide to the level of corruption in a given country, and accordingly, the need to pay more attention to public procurement irregularities and to do more to prevent them, for example in the area of contract monitoring. In our research, the countries’ selection was based on the Transparency International Corruption Perception Index (TI CPI), which measures public perceptions of corruption worldwide, and the World Bank Control of Corruption Index (WB COC), which captures the perceptions of the extent to which public power is exercised for private gain. Our choice is aligned with the study’s aim, which is to investigate whether the way public contracts’ execution is monitored is linked to the overall perception by citizens that their country is doing good or bad in tackling corruption. Thus, we decided to include countries with a particularly good TI CPI/WB COC index (Finland, Portugal), countries with a medium score (Slovenia, Italy), and countries with a poorer score (Hungary, Serbia).

Table 1: TI CPI 2022 of the analyzed countries

	Finland	Portugal	Slovenia	Italy	Hungary	Serbia
Score TI CPC (0–100)	87	62	56	56	42	36
Rank (1–180)	2	33	41	41	77	101
Score change 2012–2022	-3	-1	-5	+14	-14	-3

Source: Transparency International, Corruption Perception Index 2022

Table 2: WB COC 2021 of the analyzed countries

Rank WB COC (0–100)	99,5	77,9	76	69,2	56,3	36,1
Score (between -2,5–+2,5)	2,3	0,8	0,7	0,5	0	-0,4
Score change 2012–2021	0,1	-0,2	-0,1	+0,3	-0,3	0

Source: World Bank, Control of Corruption Index

We used corruption incidence to refer to the information available based on the TI CPI and WB COC Index, considering the change in data not only over the last year but also over the last decade, as systems are typically built over a longer time period, which may lead to an improvement in the data. Accordingly, we selected Finland and Portugal as good performers, Slovenia as a medium performer with slightly deteriorating data, Italy with a strong improvement in recent years, Hungary as a high-risk country with a large deterioration, and Serbia as a stable poor performer.

For each country, an expert was assigned to work on the country report for 6 months. Each expert completed and revised the baseline report several times to ensure comparability, and then validated the conclusions for the country after the comparison.

The experts were selected based on their experience with the specificities of public procurement, rules, institutional scope, and relevant networks in the country concerned. The analysis was based on a structured questionnaire including the most salient information categories determined following the review of the literature on public contract monitoring and agreed with the experts. The template was designed to include all relevant information drawn from our analytical framework, such as public contracts data sources and infrastructure (including e-procurement), public contract monitoring system and governance, transparency and accountability mechanisms established. Moreover, since in each country, the organization of contract performance monitoring is different, the questions developed are partly about the specialized organization of contract and contract amendment monitoring and partly about ensuring transparency.

From a substantive point of view, we have examined not only the public procurement rules but also the organizational frameworks, and the regulatory and institutional systems as a backdrop for our analysis of public procurement contracts performance monitoring. The analytical framework was tested by each of the national experts based on their own national rules and jointly developed criteria. During validation, checks were carried out to ensure that relevant information was included in the comparison table.

Additionally, we scored factors like publicity of contracts, contract amendments, availability of data, electronic data flow, implementation of monitoring systems, and tracking of performance information. Thus, conclusions were drawn from qualitative analysis and a simple scorecard assessment (see Table 3) of key features derived from our analytical framework. Scoring and final conclusions were made by the authors following the expert reports, taking into account the literature and the use of the same terminology.

4. Research results

Below we highlight the most important features of contract performance control in the six countries under review, which will serve as a basis for comparison.

4.1. Finland

In Finland statistics on the performance of public procurement contracts are available. However, there is no template available for publishing the execution or performance of contracts and procurement entities are not obliged to publish a contract award notice above the national threshold value.

The use of the Hilma portal for procurement notifications is mandatory. The Hilma portal is owned and essentially developed by the Ministry of Employment and Economy, and it is maintained and technically developed by Hansel Ltd, which is the most significant central purchasing body in Finland. While there is no centralized system, Hansel's customers utilize Cludia, an e-tendering provider, which offers a contract management tool as part of total lifecycle management. However, this tool does not include solutions for ordering or invoicing. Additionally, information on the contract performance phase is not publicly available even if it exists.

There is no public register encompassing all public procurement contracts in Finland. There is no obligation to publish the signed agreement or any modifications thereof. Although the Procurement Act requires the publication of the notice, failure by the contracting authority to publish the modification notice is not sanctioned.

In Finland, there is no special monitoring system for the performance of public procurement contracts in the sense that a single body would be responsible for that. The Finnish Competition and Consumer Authority (FCCA) supervises compliance with the Procurement Act. The focus of the FCCA is on key principles of procurement legislation such as transparency and non-discrimination, primarily addressing significant mistakes and negligence. The FCCA has intervened in cases such as contract modifications, incorrect calculation of the estimated value of the procurement, and incorrect application of both grounds for direct procurement and in-house provisions of the Procurement Act. Nevertheless, FCCA is not required to investigate all contract modifications. As a result, the previously described process does not systematically apply to all contract modifications, but only to those that the FCCA investigates upon its own initiative or based on a request or a hint, for which it deems appropriate to submit the issue to the Market Court.

There is no specific redress forum dedicated to public procurement contracts. While the Procurement Act regulates the procurement process, it fails to address the actual terms of a contract or the consequences of non-compliance with those terms. The Market Court investigates the legal basis of contract modifications in appealed cases. Non-compliance with the contract terms usually falls within the jurisdiction of general district courts.

4.2. Portugal

In Portugal, the Instituto dos Mercados Públicos do Imobiliário e da Construção (IMPIC) is the public institute responsible for monitoring procurement activities of contracting authorities, encompassing both the procedural and contract performance phases. Contracting authorities are required to publish information on the BASE website – under the supervision of IMPIC – including tender documents, contracts, and contract modifications concerning their contracts if preceded by a procurement procedure.

IMPIC issues an annual report on public procurement activities, which includes a section on contract performance regarding both price and time duration deviations. Even though the latter report separates the data concerning deviations in price and time duration, depending on the type of contract, procedure, or the contracting authority, it lacks quality since no relevant conclusion can be extracted from it. No systemized data is available regarding the exclusion of contracts, such as in-house contracts or other contracts also excluded from public procurement.

The Portuguese legal system does not provide a centralized database on appeals related to public procurement contracts. The annual reports of the Superior Council for the Judiciary of Administrative and Tax Courts do not provide that level of detail. Most of the Superior Administrative Courts' case-law can be found only on their website.

IMPIC publishes annual reports on procurement activities in Portugal and is responsible for licensing, monitoring, and supervising electronic platforms for public procurement, as well as issuing guidelines on good practices. A report is published on the BASE portal every year. The first report was issued by IMPIC in 2010, and the latest in 2020, along the same structure, and only a small section is dedicated to the performance of contracts.

Concerning data on contract performance, unfortunately, the report only mentions at point 10 the price and time duration deviations. The report for the year 2020 provides data breakdowns by contract type (works, goods, or services), procedure (open or restrictive), and type of contracting authority (central, local, or body governed by public law).

Furthermore, the Court of Auditors publishes annual reports on the performance of specific public contracts.

Finally, the Portuguese legal framework has a duality of civil jurisdiction and administrative and tax jurisdiction. Public procurement disputes including contract modifications are mostly settled under the administrative and tax jurisdiction, namely in the administrative courts.

4.3. Slovenia

In Slovenia, the national public e-procurement system does not cover the contract performance phase. However, there are two additional e-procurement systems operating in the country – one provided by 'www.s-procurement.si' (powered by the global provider Vortal) and the other one by 'ePonudbe.si'. The S-Procurement system covers the end-to-end procurement process, including proof of performance and invoicing. However, these modules are not (yet) used in Slovenia by contracting authorities, as there is neither a legal obligation nor the culture to do so.

The notice of modification is a form that is published on the public procurement portal, which is easily accessible and is linked to the dossier of an individual contract. The responsible party shall publish an electronic copy of the addendum to the contract within eight days from its conclusion.

There is no annual report or detailed analysis dedicated to public procurement performance. However, the open contracting principle is fully enforced, albeit with only unstructured data available on these public contracts. Searching has to be made contract-by-contract on the notification portal (www.enarocanje.si).

Additionally, the Commission for the Prevention of Corruption has developed an application called 'Erar.si'. The purpose of the application is to show the use of public money in the Republic of Slovenia in the most transparent way possible.

No specific database exists on appeals concerning public procurement contracts. However, a case-law search engine was set up, where a detailed search of all the case-laws is available. It is possible to search by courts.

Slovenia lacks a systematic monitoring system whether institutional, IT-based, or legal for public procurement contract performance. As a result, not all contracts are controlled. Any disputes arising from cases concerning public procurement contracts, including relevant claims for damages, fall within the jurisdiction of the general (civil) courts. Disputes are resolved according to general jurisdiction rules, and the lawfulness of contractual modifications is established through specific disputes handled by the general courts.

4.4. Italy

In Italy, the e-procurement system comprises different platforms created by the mandated institutions to meet user requirements and technical specifications. Despite the different platforms, the system enables central and decentralized administrations to provide information about contract performance, which is eventually collected in the National Database of Public Contracts (BDCNP). The BNCNP includes data on contracts' variations, litigations during performance, time delays during contract performance, contract termination, verifications of performed contracts, and payments.

The monitoring and oversight of public contract performance are linked to the anti-corruption functions and laws attributed to the National Anti-Corruption Authority (ANAC). The ANAC is an independent body responsible for overseeing the entire public procurement system at both the state and regional levels, to ensure compliance with competition rules, the principles of legitimacy and transparency in award procedures, and the effective performance of contracts.

Contracting authorities are required to publish a notice in cases where a contract has been modified. Within 30 days of completing a contract modification, the contracting authority must notify ANAC. In case of failure or late communication, ANAC shall impose an administrative sanction on the contracting authority. ANAC publishes the list of communicated contractual changes indicating the work, the contracting authority administration, the contractor, the designer, and the value of the modification on the website. This information is accessible to the broader public free of charge.

ANAC presents an annual report to the Italian Parliament stressing the main problems arising in the fight against corruption in public procurement and the dysfunctions of the rules. It analyses the preventive activities and details the supervisory measures undertaken and their overall effectiveness in the fight against corruption. However, there is no dedicated database specifically for appeals.

To perform its supervisory functions effectively, ANAC has been collecting, analyzing, and publishing all relevant procurement information since 1999. ANAC has the authority to request data and information from contracting authorities and economic operators regarding ongoing contracts, design, and public contract awards. Such data are collected in BDNCP, which has been established at ANAC and managed by the Observatory. The Observatory, hosted within ANAC, acquires data and information electronically in BDNCP, and formulates standardized costs, and provides statistical and economic analyses.

The flow of public contract data involves decentralized contracting authorities submitting data to the Regional Observatory, while central government authorities file data through the Public Procurement Authority web portal. These data are eventually combined in the BDNCP managed by ANAC. Through the quality of data made available by BDNCP, ANAC improved its activities, notably its supervision and regulatory functions. ANAC provides guidelines on measures to promote transparency, simplification, and competition in the entire procurement process and, particularly, in the pre-bidding and post-bidding phases.

Disputes related to the awarding procedures of public works, services, and supplies, including claims for damages, fall under the exclusive jurisdiction of the Administrative Courts (with seats in every regional capital and greater provincial capital). The decisions issued by a regional administrative court may be further appealed before the Council of State (the Administrative Supreme Court, based in Rome). After a contract is signed, any disputes arising from its performance fall within the jurisdiction of the Italian civil courts, except those connected to the awarding procedure. Only administrative courts have the authority to set aside award procedures and to declare the invalidity of an awarded contract as provided by law.

4.5. Hungary

In Hungary, the publication of public procurement contracts is mandatory. Contracting authorities are required to upload their contracts to the only mandatory Electronic Public Procurement System (EPS), from which they are entered into the Contract Repository maintained by the Public Procurement Authority (hereinafter: Authority). The Contract Repository is searchable and accessible for contracts concluded as a result of a public procurement and for contracts concluded in-house by way of exception. Contract modifications and contract performance notices are also uploaded and monitored by the system in such a way that it aggregates the contract performance and indicates if the contract is performed at a higher value than the original contract value. However, this is a very simple

automatism. It is not suitable for tracking contract performance based on qualitative and truly structured data. In principle, invoices can be uploaded, but as this is not mandatory, it is not possible to track the flow of public money in the EPS for the invoices received.

The Hungarian regulation requires contracting authorities to keep written records of their public procurement procedures, from their preparation to the performance of the contract concluded under the procedure. The written documentation also applies to the publication of notices of contract modification and contract performance, which is mandatory in Hungary. However, the fee is quite high for the publication of the contract notice, which is paid by the contracting authority for the control of notices.

The public procurement appeals database is directly accessible and searchable on the Public Procurement Authority's website. As regards public procurement contracts, if the contracting authority has accepted performance that is not in conformity with the contract or if there has been a breach of the provisions of the Public Procurement Act relating to contracts, the Public Procurement Arbitration Committee (PPAC) will act. As it is not a civil court that decides on the above cases, public procurement remedies also include remedies relating to public contracts. The PPAC also has the power to declare a contract null and void. The decisions and appeals against the decisions of the PPAC and the decisions of the Court of Justice are also searchable and available on the website.

The Public Procurement Authority's statutory tasks are to monitor the performance and modification of contracts resulting from public procurement procedures, to control the publication of notices, and to control the legality in respect of negotiated procedures without prior publication of notices. The control of notices is the first control point in the public procurement process. The purpose of the control is to ensure that the notices are published in compliance with the requirements of the regulations. As part of the control activity, the control of contract notices also includes the control of contract modification notices and contract performance notices, the publication of which is mandatory. In addition to the above, the Authority also carries out the so-called capacity organization checks: a set of procedural actions aimed at establishing and verifying that tenderers and the capacity providers used in a given procurement procedure comply with the suitability requirements laid down by the contracting authority and that they effectively and substantially participate in the performance of the public contract in accordance with the commitments made in their tenders.

The Authority is responsible for compiling official statistics on public procurement and reporting to the Parliament annually. The Authority is also responsible for maintaining a control system of public procurement contracts which is the second control point. It carries out random checks on invoices and documents relating to the performance of contracts and decides on the basis of these checks whether to initiate legal proceedings. If an appeal is launched, a fine is typically imposed. The remedies resulting from the audits are published in the Authority's annual report to the Parliament.

The control of the contract performance by the Authority is based on legal, technical, and professional aspects, considering whether the performance of the contract (and

any amendment thereto) complies with the PPA and the relevant implementation decrees. The control extends to the examination of the quality of contract performance and also aims to reveal other infringements (for example, competition law – cartel) and criminal acts as well.

The Public Procurement Arbitration Committee and civil courts decide on cases concerning public procurement contracts. The modification of public contracts can only and exclusively be brought before the PPAC, as it is explicitly considered a public procurement infringement.

4.6. Serbia

In Serbia, there are currently no statistics on the performance of public procurement contracts, even though the current Law on Public Procurement stipulates that the Contracting authority is obliged to control the performance of public procurement contracts in accordance with the conditions set forth in the procurement documentation and the selected offer.

The data are only available to the contracting authority, but not to the public. The Ministry in charge of finance affairs supervises the performance of public procurement contracts. The Public Procurement Portal (jnportal.ujn.gov.rs) is now the official platform for conducting public procurement, which is suitable for reviewing and analyzing public procurement data including contract performance. The Public Procurement Portal now covers only one aspect of the public procurement process – its ‘entrance’ where, after awarding the tender to a particular bidder, there is a whole range of complex and interconnected activities that need to be followed and controlled until the completion of the assigned contract.

Since the public procurement portal did not cover contract performance, the Ministry of Finance implemented a software, whose modules cover codes, monitoring the implementation of the contract and monitoring the contractual implementation of the budget.

The official report from the Public Procurement Office has a section regarding contracts that were excluded from public procurement regulation. The elements that are represented in the report include the value of each exclusion, the precise article that is subject to the exclusion, and the percentage of each exclusion in value terms.

The current annual report on public procurement by the Public Procurement Office of Serbia provides details on several aspects of public procurement, including central public procurements, bidders, participation of SMEs, the largest contracting authorities, and activities of the Public Procurement Office. However, there is no information on contract performance in the report due to the lack of coverage in the e-procurement portal. There is no database on appeals concerning public procurement contracts. The competent court to handle disputes related to public procurement contracts is the territorially competent commercial court.

In Serbia, there is a Budget Inspection and State Audit Institution. The Budget Inspection within the Ministry of Finance supervises public contract performance, while

the State Audit Institution audits the purpose of spending public funds in part or in full, financial management and budget system control, and systems of other bodies that are subject to its audit.

The State Audit Institution's audits cover also how public procurement has been executed, from the procurement procedure to contract performance and their findings are published in their report. However, it only audits a certain amount of public fund users in a year, because of limited resources. It must be pointed out that recently the resources of the State Audit Institution have been increased more than ever to improve the audit of public procurement and contract performance, which resulted in better transparency. However only a certain number of the users of public funds can be audited in a year, therefore there is no complete picture of contract performance at all contracting authorities.

There is no specific organization responsible for examining the legal basis for the modification of contracts, although the contracting authorities are required to send notifications of contract modification to be published on the Public Procurement Portal. The State Audit Institution does examine the legal basis of contract modifications in the course of audits involving public procurement. The audit report for concrete users of public funds states its findings based on the evidence found and the analysis completed. There are specific redress fora dealing, among other things, with public procurement contracts and the territorially competent commercial court settles disputes.

5. Discussion

Our findings show that the practice in the analyzed countries greatly varies in the level of transparency and monitoring of public contract execution. Some countries, like Portugal and Italy, have dedicated institutions or authorities responsible for monitoring contract performance and publishing reports. Others, like Finland and Serbia, lack centralized systems and comprehensive data on contract performance. Dispute resolution mechanisms also vary, with administrative, tax, or civil courts handling different aspects of public procurement disputes. The use of IT diverges as well: in Hungary, the public contracting phase is strongly and directly controlled in many ways mainly by using human resources. In Serbia, the emphasis on public procurement monitoring is gradually shifting towards the management of public procurement, especially in IT terms.

To best compare the selected countries' experiences against our analytical framework we build a simple scorecard. If a system is in place and the answer is clearly yes, 1 point is awarded. If there is no system in place and the answer is no, zero points are awarded. Instead, if it is partially in place, half a point is awarded.

The scorecard highlights that each country offered something new and interesting in some respect. The cultural differences are apparent, and it can be observed that countries with higher perceptions of corruption pay more attention to public contract monitoring and transparency of the contract phase.

Table 3: Comparison of the contract monitoring and transparency results of the countries under study

	Finland	Portugal	Slovenia	Italy	Hungary	Serbia
CPI Score	88	62	57	56	43	38
CPI Rank	1	32	41	42	73	96
Do you have an existing monitoring system for public procurement contract performance?	No	Partially	No	Yes	Yes	Partially
Is there a certain monitoring/controlling body for it?	No	Partially	Partially	Yes	Yes	Yes
Do you have statistics on the performance of public procurement contracts?	No	Partially	No	Yes	Partially	Partially
Do you have information about contracts excluded from public procurement regulation (in-house contracts)?	No	No	Partially	Yes	Yes	No
Do you have annual reports or detailed analyses about public procurement performance in your country?	No	Partially	No	Partially	No	No
Is there a specific redress forum dealing with public procurement contracts?	Yes	No	No	No	Yes	Yes
Is there a database on appeals concerning public procurement contracts?	Yes	No	Yes	No	Yes	No
Does an e-procurement system in your country cover the contract performance phase (proof of performance, invoice)?	Yes	Partially	Partially	Yes	Partially	Yes
Should a contract modification and performance notice be published?	No	Yes	Yes	Yes	Yes	Yes
Is there any organization/body responsible for examining the legal basis for the modification of contracts?	No	No	No	No	Yes	Yes
	3	3,5	3,5	6,5	8	6

For example, in Finland, where the perception of corruption is lower, the rules are much more flexible and relaxed than in countries with high levels of corruption (Italy, Hungary). According to the description of each system, Italy has been the most active for a long time with significant improvements. Organizationally, it set up a monitoring system and data links that really delivered results and reached Slovenia within 10 years. Slovenia's data show that it has so far been less focused on its organizational aspects, mainly trying to increase transparency, while its TI CPI and WB COC data are slowly but surely deteriorating. Serbia is in a difficult situation by comparison, so its activity and planned improvements are promising, clearly following the Hungarian and Italian models. Hungary built up an ineffective monitoring system against a backdrop of extremely deteriorating TI CPI and WB COC data. In particular, IT support is lacking and Serbia is developing much faster in this respect. By comparison, Portugal is holding its ground with a relatively simpler but existing monitoring system, while Finland, with a very good track record of TI CPI and WB COC, is operating within a very flexible framework with less transparency.

Moreover, Finland and Slovenia do not have a public register encompassing all public procurement contracts. In contrast, Portugal has the BASE website, and Hungary has the Contract Repository for storing and accessing contracts. In line with our study's analytical framework, it thus seems that countries presenting low corruption perceptions have made fewer efforts to develop strong public contract monitoring systems.

Based on our data and analysis, the answer to our research question is that a nexus exists between the monitoring and transparency of public procurement contracts performance and countries' level of perceived corruption. However, it is not the current state of play, but rather the historical perspective that is of relevance, as complex organizational backgrounds are built up in every country for how they report and publish information on their procurement performance and contract modifications. This is why the team of experts designed the template to cover the existence and availability of contract remedies, contract modification data, and official reports. Likewise, we were not only interested in perfectly functioning systems, but also in the solutions that were implemented or were in the process of being rolled out, and we were interested to know what obligations contracting authorities have and what data are flowing in relation to the performance of contracts, whether there is a contract register and, if so, whether structured data can be searched. Based on our findings, it can be concluded that countries are reacting and are becoming more interested in the performance and modification of public contracts, especially in the case where they perceive greater public scrutiny and discontent.

Policymakers should take the results of this comparative analysis into account when regulating the monitoring of contract performance at the national or EU level. Although no one model or national solution can be adopted in a one-to-one approach, the examples of countries with different levels of development can serve as useful examples when developing organizational systems, IT development, and training programs. It is not only the national examples that are of importance, but also the shifts in emphasis in each country. There is a relevant message where information is less available or national reports do not include information on the performance of public procurement contracts. In this respect, the extension of monitoring activities is in itself information that our study justifies the need for.

6. Conclusion

The research examined the performance of public procurement contracts in six European countries. Questions were developed by national experts according to our analytical framework, encompassing published data, structured reports, public access, control systems, and bodies mandated with public procurement contracts monitoring. Based on our data, we can conclude that direct monitoring of public contracts and structured data reporting on contract performance are not widespread. The selected countries' attitudes vary, with the more corruption-ridden states placing greater emphasis on control. Italy, which has a strong track record, has been successful both in organizational terms and IT

development, while administratively it is still burdensome in its public procurement market. In contrast, Finland, which has low corruption perceptions, is flexible on the issue of publicity and its advanced e-procurement system does not focus on contract performance monitoring. At the extremes, we find outdated solutions with a strong reliance on human resources (Hungary) and emerging innovators (Serbia), while Slovenia is making only moderate progress in this area and Portugal, despite its low corruption perceptions, maintains an active control system.

The study reveals that there is a link between the monitoring and transparency of public procurement contract performance and the level of perceived corruption, as countries with lower corruption perceptions have made less effort to develop robust public contract monitoring tools. This suggests that countries with higher corruption levels are more motivated to address corruption issues through enhanced monitoring and transparency measures.

Overall, the historical perspective of each country's organizational background, including how they report and publish information on procurement performance and contract modifications, is crucial. Based on the collected information and verification of websites and organizations mentioned by the experts, it can be concluded that in Europe countries are becoming more interested in monitoring the performance and modifications of public contracts. This increased interest can be driven by perceived public scrutiny and pressures related to corruption in the respective countries. Finally, this study shows that in the future it would be important to pay at least as much attention to the fate of public contracts, as to the preparation and conduct of procedures, since the success of public procurement depends as much on the quality of performance as on the quality of the contract.

The findings and conclusions drawn from the selected countries may not be directly applicable or generalizable to other countries with different regulatory frameworks, corruption perceptions, or institutional systems, which is the limitation of the study. The study focused primarily on the monitoring of contract performance and the availability and publicity of contract data. Other important aspects related to public contract execution, such as risk assessment, anti-corruption measures, or enforcement mechanisms, have not been explored, providing future avenues for further research.

Given the greater emphasis on strict rules in countries generally considered to be corrupt, the question arises whether this actually leads to less corruption. This article has not discussed the effectiveness of monitoring systems, nor has it examined or developed specific indicators, but given the myriad of indicators of the effectiveness of public procurement procedures, there would in fact be a similar need to rate public procurement monitoring activities. After all, these activities aim to reduce abuses and negligent behavior as much as to provide feedback, resulting in more efficient use of public money in the future. Future related research could be devoted to the results that the system setup can achieve and the resources used to achieve them. However, this comparison requires the active involvement of legislators and policymakers in each of the countries under study, as it is extremely difficult to obtain such data.

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