

Evaluation of Transparency and Integrity

2014 Public Procurement Directives

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2014 Public Procurement Directives

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Country identification

Code	Country
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
ES	Spain
FI	Finland
FR	France
GR	Greece
HR	Croatia
HU	Hungary
IE	Ireland
IS	Iceland
IT	Italy
LI	Liechtenstein
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom

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1. Abstract

This study assesses the implementation of transparency and integrity in European public procurement, as mandated by the 2014 Directives. Analysing data from TED notices (2013–2024), it adopts an evidence-based approach using 24 key indicators to evaluate trends before and after the Directives' introduction. The findings reveal mixed progress: improvements in areas such as publication and competition are offset by persistent issues with missing or inaccurate data, particularly regarding award criteria and contract values. The study underscores the need for enhanced data governance, continuous monitoring, and further integration via the Public Procurement Data Space (PPDS). Recommendations include developing digital tools, real-time support for stakeholders, and harmonising cost-benefit analyses across Member States. Despite increased publication activity, challenges in data quality and market transparency remain, hampering the achievement of the Directives' objectives. The report concludes that while transparency has advanced, the integrity and reliability of procurement data require significant strengthening to realise the intended socio-economic benefits of public procurement reforms.

2. Executive summary

Transparency and integrity are foundational principles enshrined in the 2014 European Public Procurement Directives. These principles are indispensable due to the pivotal role of public procurement within the European public sector and its profound influence as a catalyst for socio-economic development.

Public procurement encompasses the acquisition of goods, services, and work by public entities, which constitutes substantial economic activity, representing a significant share of GDP in numerous countries. This sector's magnitude renders it particularly vulnerable to corruption and inefficiency associated with public spending. Historical episodes of malfeasance have accentuated the necessity for robust mechanisms to safeguard public funds, thereby intensifying the focus on transparency and integrity throughout procurement processes.

Several international researchers and organizations, including the European Anti-Fraud Office (OLAF), the European Court of Auditors (ECA), the World Bank, the Open Contracting Partnership (OCP), and the Organisation for Economic Co-operation and Development (OECD), have dedicated considerable effort to the development of guidelines, studies, scientific articles and standards pertaining to public procurement. These initiatives underscore the imperative of having a standardised framework of indicators for evaluating procurement performance, facilitating the monitoring and enhancement of the related practices.

The European Commission has launched an Evaluation, divided into multiple studies, to review various aspects of public procurement. This comes as the relevant Directives have now been in effect for nine years (2016-2025). Although not all countries transposed the directives at the same time, the majority (19) completed transposition by the end of 2016. The studies will cover Competition, Efficiency and Cost Benefits, EU Added Value and Relevance, Coherence, and **Transparency and Integrity**. This study focuses on the latter—Transparency and Integrity—aiming to examine the implementation of transparency and integrity principles via the data available in public procurement notices. The study employs an evidence-based assessment, leveraging TED open data sets, to discern performance trends and propose solutions to address existing limitations.

Given the lack of universally accepted definitions, this study begins by examining the interpretative framework provided in the EU Public Procurement Directives, which serves as the basis for defining the relevant concepts:

- Transparency refers to the openness and accessibility of information throughout the procurement process.
- Integrity refers to the quality of being transparent and following the principles of public procurement. It involves being ethical and fair, and ensuring the circumstances of fair competition. In the data context, integrity refers to providing accurate and reliable information.

These two concepts create the essential framework upon which our analysis is built, focusing on both **data** and **performance** aspects, which in turn were categorised into the following key elements:

- Openness and accessibility: Publication Activity, Duration Information, and Value Information.
- Accurate and reliable information: Missing Information and False Information.
- Fair competition: Open Competition, Fair Competition, and Lack of Competition.

The evidence-based assessment relies on a set of indicators applied to data available through notices published in TED, specifically those between 2013 and 2024. The latter does not include any notices that follow the eForms format that started to be used in late 2023. Data from national systems is not included in this analysis due to their governance by national legal frameworks. Although national legislation incorporates European Directives, it is difficult to distinguish, through the analysis of national data, the layers that correspond to the Directives and those that result from the specificities of each country. Furthermore, national data is often dispersed across various systems using different formats and specific content without a European-level equivalent. The Public Procurement Data Space (PPDS) aims to address these challenges by integrating data from both European and national levels into a single system. Additionally, data on procedures not governed by the Directives will be crucial for understanding performance disparities between different regulatory frameworks, both European and national.

The development of the study involved a comprehensive process that included an extensive literature review, consultations with experts and stakeholders, and several experiments with data from specific jurisdictions. These initial results provided valuable insights and highlighted the importance of enhancing public procurement governance. Specifically, they emphasised the need for a robust public procurement data governance structure to support the monitoring of performance and identify necessary improvements.

The indicators used for assessing transparency and integrity in public procurement include a set of 24 indicators, divided into two categories:

- Basic (22 indicators)
- Data Space (2 indicators)

These are cross-referenced with both the EU 2014/24 Directive articles and the mentioned data and performance categories.

A set of twelve additional indicators is suggested for implementation in the PPDS to enhance our understanding of public procurement. Additionally, eight filters are proposed to enable more detailed and specific analyses.

Basic indicators are applicable to existing TED Open Data Sets, while Data Space Indicators are calculated using PPDS data. Additionally, it is recommended that a set of future indicators relevant to both dimensions be computed once the PPDS data becomes available.

The indicators used in this study were designed in addition to those already available in the Single Market and Competitiveness Scoreboard developed by the European Commission.

Various trends have been identified based on an analysis of Contract Notices and Contract Award Notices issued between 2013 and 2024. An overview classification system based on indicator averages was created to compare performance before and after the implementation of new Directives (from 2013-2015 versus 2016-2024).

This comprehensive evaluation encompasses all 24 indicators. Comparison of the two periods reveals a positive performance change in eight indicators:

- Missing duration of contract
- Missing value of framework agreement
- Number of procedures
- Number of dynamic purchasing systems
- Number of framework agreements
- Languages
- CAN-CN connect
- Direct award value

a negative performance change in eight indicators:

- Missing awarding criteria
- Missing price weight
- Direct award with single bid
- Single bid + direct award with single bid
- Accelerated procedures
- Framework agreements with single bidder
- Duration of framework agreements
- Small value contract price

a neutral performance (almost identical or identical performance) for four indicators:

- Missing contract price
- Missing date of award
- Missing procedure type
- Missing contract type

and no defined pattern in four cases where data for the analysed first period (2013-2015) is not available:

- Non-awarded LOTS
- Framework agreements with single bidder by CPB
- Contract modification activity
- Average contract modification

It is worth noting that the indicators may have varying degrees of relevance, depending on their intended purpose. They have also been categorised into four levels in terms of their impact on transparency and integrity in public procurement.

The indicators of high importance include missing award criteria, missing contract prices, missing procedure types, missing contract types, small-value contract prices and contract modification activity. The rate of missing contract data is zero, as it is mandatory to fill in this data. In contrast, results for small value contract price are associated with a high rate of presumably invalid results. Therefore, low levels of missing information do not necessarily imply high levels of transparency and integrity. The rate of missing awarding criteria has increased since the implementation of the EU Directives, similar to the rate of excessively low-value contract prices (less than 10 EUR). The rate of missing contract price, procedure type, and contract type is almost zero or very low, remaining largely unchanged from 2013 to 2023.

While some results indicate improvements in certain areas, other aspects remain unchanged or show no significant differences. Additionally, even considering that the Directives lack specific goals, the implementation of transparency and integrity generally does not meet expectations. In summary, it is possible to say that although we have more information, its quality is questionable.

Based on the analysis, the report provides a set of recommendations organised under data and performance aspects, summarised as follows:

Data aspects

- Inform stakeholders (Contracting Authorities, Member States, etc.) about their data issues.
- Develop a digital tool to identify problems with notices that can be used by various stakeholders and benefit all.

- Provide a real-time support desk associated with the Publication Notices Systems. This may prevent many of the inconsistencies that have been found.
- Accelerate adherence to the Public Procurement Data Space. This is crucial for creating a broader and more common perspective and a deeper analysis of public procurement.
- Implement a Data Governance Framework for public procurement. This is essential for steering public procurement.

Performance patterns

- The necessity for continuous monitoring is pressing. Continuous monitoring will create the setting for agile management in a very unstable environment.
- Applying a comprehensive life cycle approach is essential for understanding, for example, the impact of public procurement on public expenditure.
- Assessing the implications of policy options is crucial to understanding the outcomes of past choices. It requires actions to be taken now because comparable data (baselines) will be required. It also requires clear identification of the intended benefits every time a new decision is made.

Although the analysis based on notice data may be considered brief, it remains relevant. After all, notices are one of the main instruments for ensuring transparency in public procurement, and their integrity is directly related to their content.

Significant challenges remain in achieving a thorough and consistent analysis. However, it is worth noting that the number of notices published on TED since 2013 has increased by 51% for Contract Notices and by 92% for Contract Award Notices, indicating a clear effort to enhance of transparency.

Despite this progress, numerous issues persist regarding data quality, including the absence of key information and incorrect entries. These problems not only affect the transparency of public procurement but also compromise the principle of integrity by distorting the information conveyed to the market at both the procedure launch and award stages.

A critical issue that is highlighted is the incorrect reporting of contractual values, which hinders the ability to accurately gauge the size of the public procurement market within the European Union. Effective monitoring and accountability of Contracting Entities are essential to address these data quality issues at their source.

Moreover, regular monitoring of public procurement performance should be complemented by impact analyses. Understanding the consequences of

procurement choices and their market influence is crucial. Thus, it is evident that this study is an initial step towards performance analysis. Specific measures should be implemented as soon as possible to facilitate more detailed future evaluations, particularly in terms of impact analysis. Such analysis requires comparison benchmarks that must be secured promptly. In other words, results and contextual information should be collected regularly to establish causality and effect.

Finally, a harmonised cost-benefit analysis should be initiated across all countries to better inform future changes to the regulatory and strategic framework.

Considering the results that have been obtained, as well as the data provided by other sources, including the European Court of Auditors' study and the dashboard available through the Opentender Portal, it is clear that we have not yet fully achieved the goals set forth in the latest generation of European Public Procurement Directives regarding the principles of transparency and integrity.

Résumé exécutif

La transparence et l'intégrité sont des principes fondamentaux inscrits dans les directives européennes sur la passation des marchés publics de 2014. Ces principes sont indispensables en raison du rôle central de la commande publique au sein du secteur public européen et de son influence majeure en tant que catalyseur du développement socio-économique.

La commande publique englobe l'acquisition de biens, de services et de travaux par des entités publiques, ce qui constitue une activité économique substantielle, représentant une part significative du PIB dans de nombreux pays. L'ampleur de ce secteur le rend particulièrement vulnérable à la corruption et à l'inefficacité liées aux dépenses publiques. Des épisodes historiques de malversations ont souligné la nécessité de mécanismes robustes pour protéger les fonds publics, intensifiant ainsi l'accent mis sur la transparence et l'intégrité tout au long des processus de passation des marchés.

Plusieurs chercheurs et organisations internationales, dont l'Office européen de lutte antifraude (OLAF), la Cour des comptes européenne (CCE), la Banque mondiale, l'Open Contracting Partnership (OCP) et l'Organisation de coopération et de développement économiques (OCDE), ont consacré des efforts considérables à l'élaboration de lignes directrices, d'études, d'articles scientifiques et de normes relatives à la commande publique. Ces initiatives soulignent l'impératif de disposer d'un cadre standardisé d'indicateurs pour évaluer la performance des marchés publics, facilitant ainsi le suivi et l'amélioration des pratiques associées.

La Commission européenne a lancé une évaluation, divisée en plusieurs études, afin de revoir divers aspects de la commande publique. Cela intervient alors que les directives concernées sont en vigueur depuis neuf ans (2016-2025). Bien que tous les pays n'aient pas transposé les directives au même moment, la majorité (19) a achevé la transposition fin 2016. Les études porteront sur la concurrence, l'efficacité et les avantages en termes de coûts, la valeur ajoutée et la pertinence de l'UE, la cohérence, ainsi que **la transparence et l'intégrité**. Cette étude se concentre sur ces deux derniers aspects, visant à examiner la mise en œuvre des principes de transparence et d'intégrité à travers les données disponibles dans les avis de marchés publics. L'étude adopte une approche fondée sur des preuves, exploitant les ensembles de données ouvertes TED, afin d'identifier les tendances de performance et de proposer des solutions pour remédier aux limites existantes.

En l'absence de définitions universellement acceptées, cette étude commence par examiner le cadre interprétatif fourni dans les directives européennes sur la commande publique, qui sert de base à la définition des concepts pertinents :

- La transparence désigne l'ouverture et l'accessibilité de l'information tout au long du processus de passation des marchés.

- L'intégrité désigne la qualité d'être transparent et de respecter les principes de la commande publique. Elle implique d'agir de manière éthique et équitable, et de garantir les conditions d'une concurrence loyale. Dans le contexte des données, l'intégrité consiste à fournir des informations exactes et fiables.

Ces deux concepts constituent le cadre essentiel sur lequel repose notre analyse, en se concentrant à la fois sur les aspects données et performance, eux-mêmes répartis en éléments clés :

- Ouverture et accessibilité : activité de publication, informations sur la durée, informations sur la valeur.
- Informations exactes et fiables : informations manquantes et fausses informations.
- Concurrence loyale : concurrence ouverte, concurrence équitable, absence de concurrence.

L'évaluation fondée sur des preuves repose sur un ensemble d'indicateurs appliqués aux données disponibles via les avis publiés dans TED, en particulier ceux entre 2013 et 2024. Ces derniers n'incluent pas les avis au format eForms, introduit fin 2023. Les données des systèmes nationaux ne sont pas incluses dans cette analyse, car elles sont régies par des cadres juridiques nationaux. Bien que la législation nationale intègre les directives européennes, il est difficile de distinguer, à travers l'analyse des données nationales, les éléments relevant des directives de ceux résultant des spécificités de chaque pays. De plus, les données nationales sont souvent dispersées dans divers systèmes utilisant des formats et des contenus spécifiques sans équivalent au niveau européen. L'Espace européen des données sur la commande publique (PPDS) vise à relever ces défis en intégrant les données des niveaux européen et national dans un système unique. Par ailleurs, les données sur les procédures non régies par les directives seront cruciales pour comprendre les écarts de performance entre différents cadres réglementaires, tant européens que nationaux.

L'élaboration de l'étude a impliqué un processus complet comprenant une revue approfondie de la littérature, des consultations avec des experts et parties prenantes, ainsi que plusieurs expérimentations avec des données de juridictions spécifiques. Ces premiers résultats ont fourni des informations précieuses et mis en évidence l'importance de renforcer la gouvernance de la commande publique. Ils ont notamment souligné la nécessité d'une structure robuste de gouvernance des données pour soutenir le suivi de la performance et identifier les améliorations nécessaires.

Les indicateurs utilisés pour évaluer la transparence et l'intégrité dans la commande publique comprennent un ensemble de 24 indicateurs, répartis en deux catégories :

- De base (22 indicateurs)

- Espace de données (2 indicateurs)

Ils sont croisés avec les articles de la directive UE 2014/24 ainsi qu'avec les catégories de données et de performance mentionnées. Un ensemble de douze indicateurs supplémentaires est proposé pour la mise en œuvre dans le PPDS afin d'approfondir la compréhension de la commande publique. De plus, huit filtres sont proposés pour permettre des analyses plus détaillées et spécifiques.

Les indicateurs de base sont applicables aux ensembles de données ouverts TED existants, tandis que les indicateurs de l'Espace de données sont calculés à partir des données PPDS. Il est également recommandé qu'un ensemble d'indicateurs futurs, pertinents pour les deux dimensions, soit calculé dès que les données PPDS seront disponibles.

Les indicateurs utilisés dans cette étude ont été conçus en complément de ceux déjà disponibles dans le tableau de bord du marché unique et de la compétitivité développé par la Commission européenne.

Diverses tendances ont été identifiées à partir de l'analyse des avis de marché et des avis d'attribution publiés entre 2013 et 2024. Un système de classification basé sur la moyenne des indicateurs a été créé pour comparer la performance avant et après la mise en œuvre des nouvelles directives (de 2013-2015 contre 2016-2024).

Cette évaluation complète couvre l'ensemble des 24 indicateurs. La comparaison des deux périodes révèle une évolution positive de la performance pour huit indicateurs :

- Durée manquante du contrat
- Valeur manquante de l'accord-cadre
- Nombre de procédures
- Nombre de systèmes d'achat dynamiques
- Nombre d'accords-cadres
- Langues
- Connexion CAN-CN
- Valeur des attributions directes

une évolution négative pour huit indicateurs :

- Critères d'attribution manquants
- Pondération du prix manquante
- Attribution directe avec une seule offre
- Offre unique + attribution directe avec une seule offre

- Procédures accélérées
- Accords-cadres avec un seul soumissionnaire
- Durée des accords-cadres
- Prix des contrats de faible valeur

une performance neutre (presque identique ou identique) pour quatre indicateurs :

- Prix du contrat manquant
- Date d'attribution manquante
- Type de procédure manquant
- Type de contrat manquant

et aucun schéma défini dans quatre cas où les données pour la première période analysée (2013-2015) ne sont pas disponibles :

- Lots non attribués
- Accords-cadres avec un seul soumissionnaire par CPB
- Activité de modification de contrat
- Modification moyenne de contrat

Il convient de noter que les indicateurs peuvent avoir des degrés de pertinence variables selon leur objectif. Ils ont également été classés en quatre niveaux selon leur impact sur la transparence et l'intégrité dans la commande publique.

Les indicateurs de grande importance comprennent les critères d'attribution manquants, les prix des contrats manquants, les types de procédures manquants, les types de contrats manquants, les prix des contrats de faible valeur et l'activité de modification de contrat. Le taux de données contractuelles manquantes est nul, car il est obligatoire de renseigner ces données. En revanche, les résultats pour le prix des contrats de faible valeur sont associés à un taux élevé de résultats présumés invalides. Par conséquent, de faibles niveaux d'informations manquantes n'impliquent pas nécessairement des niveaux élevés de transparence et d'intégrité. Le taux de critères d'attribution manquants a augmenté depuis la mise en œuvre des directives européennes, tout comme le taux de prix de contrats excessivement bas (moins de 10 EUR). Le taux de prix de contrat, de type de procédure et de type de contrat manquants est quasi nul ou très faible, restant largement inchangé de 2013 à 2023.

Si certains résultats indiquent des améliorations dans certains domaines, d'autres aspects restent inchangés ou ne présentent pas de différences significatives. De plus, même si les directives ne fixent pas d'objectifs spécifiques, la mise en œuvre de la transparence et de l'intégrité ne répond

généralement pas aux attentes. En résumé, il est possible de dire que, bien que nous disposions de plus d'informations, leur qualité est discutable.

Sur la base de l'analyse, le rapport propose un ensemble de recommandations organisées selon les aspects données et performance, résumées comme suit :

Aspects liés aux données

- Informer les parties prenantes (autorités contractantes, États membres, etc.) de leurs problèmes de données.
- Développer un outil numérique pour identifier les problèmes dans les avis, utilisable par divers acteurs et bénéfique pour tous.
- Fournir un service d'assistance en temps réel associé aux systèmes de publication des avis. Cela pourrait prévenir de nombreuses incohérences constatées.
- Accélérer l'adhésion à l'Espace européen des données sur la commande publique. Cela est crucial pour créer une perspective plus large et commune et une analyse plus approfondie de la commande publique.
- Mettre en œuvre un cadre de gouvernance des données pour la commande publique. Cela est essentiel pour piloter la commande publique.

Schémas de performance

- La nécessité d'un suivi continu est pressante. Un suivi continu créera les conditions d'une gestion agile dans un environnement très instable.
- L'application d'une approche globale du cycle de vie est essentielle pour comprendre, par exemple, l'impact de la commande publique sur les dépenses publiques.
- L'évaluation des implications des options politiques est cruciale pour comprendre les résultats des choix passés. Elle nécessite des actions immédiates, car des données comparables (lignes de base) seront requises. Elle exige également une identification claire des bénéfices attendus à chaque nouvelle décision.

Bien que l'analyse basée sur les données des avis puisse être considérée comme brève, elle reste pertinente. Après tout, les avis sont l'un des principaux instruments pour garantir la transparence dans la commande publique, et leur intégrité est directement liée à leur contenu.

Des défis importants subsistent pour parvenir à une analyse approfondie et cohérente. Cependant, il convient de noter que le nombre d'avis publiés sur TED depuis 2013 a augmenté de 51 % pour les avis de marché et de 92 % pour les avis d'attribution, ce qui témoigne d'un effort clair pour renforcer la transparence.

Malgré ces progrès, de nombreux problèmes persistent concernant la qualité des données, notamment l'absence d'informations clés et des saisies incorrectes. Ces problèmes affectent non seulement la transparence de la commande publique, mais compromettent également le principe d'intégrité en déformant l'information transmise au marché tant au lancement de la procédure qu'à l'attribution.

Un problème critique mis en avant est la déclaration incorrecte des valeurs contractuelles, qui empêche d'évaluer avec précision la taille du marché de la commande publique au sein de l'Union européenne. Un suivi et une responsabilisation efficaces des entités adjudicatrices sont essentiels pour traiter ces problèmes de qualité des données à la source.

En outre, le suivi régulier de la performance de la commande publique devrait être complété par des analyses d'impact. Comprendre les conséquences des choix de passation de marchés et leur influence sur le marché est crucial. Ainsi, il est évident que cette étude constitue une première étape vers l'analyse de la performance. Des mesures spécifiques devraient être mises en œuvre dès que possible pour faciliter des évaluations futures plus détaillées, notamment en termes d'analyse d'impact. Une telle analyse nécessite des points de comparaison qui doivent être sécurisés rapidement. En d'autres termes, les résultats et les informations contextuelles doivent être collectés régulièrement pour établir la causalité et l'effet.

Enfin, une analyse harmonisée coûts-bénéfices devrait être lancée dans tous les pays afin d'éclairer au mieux les futures évolutions du cadre réglementaire et stratégique.

Compte tenu des résultats obtenus, ainsi que des données fournies par d'autres sources, notamment l'étude de la Cour des comptes européenne et le tableau de bord disponible via le portail Opentender, il est clair que les objectifs fixés par la dernière génération de directives européennes sur la commande publique en matière de transparence et d'intégrité n'ont pas encore été pleinement atteints.

Note: The French version was translated by Co-Pilot.

3. Introduction

3.1. Background

In accordance with the political guidelines for the next term 2024-2029, the European Commission (EC) has launched several initiatives to thoroughly evaluate Public Procurement Directives 2014/23/EU, 2014/24/EU, and 2014/25/EU. This aligns with the European Court of Auditors' (ECA) and the Council's requests, as well as the recommendations from the Letta¹ and Draghi² reports, to conduct a detailed review of the public procurement legal framework

This evaluation aims to assess the effectiveness and impact of these Directives since their implementation. This means that this exercise involves a retrospective analysis that helps understand whether and how the Directives have met their intended objectives.

The evaluation has been divided into several focused studies, each addressing different aspects of public procurement: Competition, Efficiency and Cost Benefits, EU Added Value and Relevance, Coherence, and Transparency and Integrity. Our study focuses on the latter—Transparency and Integrity—aiming to assess whether the Directives have successfully enhanced transparency and integrity in public procurement processes across the European Union.

3.2. Objectives of the study

To achieve this, the EC has requested a data-driven study for the period 2013-2024. This study should be based on data gathered from notices published in TED (Contract Notices and Contract Award Notices), which serves as the only harmonised data source for all European Economic Area (EEA) countries, ensuring consistency in both data structure and content³.

The primary objectives of this study are:

¹ <https://european-research-area.ec.europa.eu/documents/letta-report-much-more-market-april-2024#:~:text=The%20report%20encompasses%20a%20number%20of%20suggestions%20that,addressing%20the%20investment%20gap%20in%20research%20and%20innovation.>

² https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en#:~:text=Read%20Mario%20Draghi%27s%20report%20on%20the%20future%20of,on%20how%20Europe%20can%20boost%20its%20economic%20growth.

³ The data used in the study: EEA countries and UK.

- To detect relevant performance patterns over 12 years, including an overview split into two periods: before (2013-2015) and after the transposition of the Directives (2016-2024).
- To evaluate Transparency and Integrity in the context of the EU Public Procurement Directives.
- To propose recommendations that can address some of the constraints that are found.

3.3. Methodology

Given the absence of universally accepted concepts for Transparency and Integrity, our analysis starts by defining these terms, which also helps clarify the scope of the study.

These definitions are drawn not only from European Directives but also from various other instruments reviewed in the literature section.

The analysis is supported by a set of specifically designed indicators. We highlight country performance for each indicator and calculate global averages to identify major trends in Transparency and Integrity before and after the Directives were implemented.

Although not all countries managed to transpose the Directives by the April 2016 deadline, every country, except Hungary, achieved transposition from 2016 onwards, with Hungary completing this in 2015. Notably, 18 countries completed the transposition process during 2016 (ECA, 2023).

For comparative purposes, the period from 2013 to 2015 is considered as before the Directives, and from 2016 to 2024 as after the Directives.

The methodology was presented at the EXEP meeting on 27 November 2024, with feedback requested from country representatives. The comments that were received led to a revision of the indicators, and a second version was presented on 6 February 2025. Additionally, two meetings were held in February 2025 with the European Court of Auditors and the OECD's Infrastructure and Procurement Division to discuss the parameters that were used and the identified patterns. Suggestions that were received were included whenever they aligned with the scope of this study.

Based on the results of the study, a set of initial recommendations is proposed.

3.4. Structure of this report

This report is organised into seven sections as follows: **Introduction** – the background, the methodology and an overview of the objective of the report and the work that was conducted; **Literature, Guidelines, Best Practices** – supporting academic literature and similar studies by other institutions; **Methodology** – description of the calculation method and presentation of the Indicators Framework and its explanation; **Results and Evaluation** – results obtained by applying the indicators to TED notices (2013-23) and PPDS (2023-24); **Recommendations** – suggestions based on the work conducted and findings; **Conclusions** – a brief summary of the most relevant results concerning the work that was conducted and the next steps.

4. Literature, guidelines, best practices

Public procurement involves the acquisition of goods, services, and work by government entities. Given its significant economic role, accounting for a substantial portion of GDP in many countries, public procurement is particularly vulnerable to corruption and inefficiency. Historical instances of malpractice and the need for robust systems to safeguard public funds have led to an increased focus on transparency and integrity in procurement processes.

Several research groups and international bodies, including the European Court of Auditors (ECA), European Anti-Fraud Office (OLAF), the World Bank, and the Organisation for Economic Co-operation and Development (OECD), and the European Commission (Scoreboard, 2023), have developed guidelines, standards, and audit reports for public procurement. These efforts have highlighted the critical need for a standardised framework of indicators to help assess and promote transparency and integrity.

Public procurement corruption studies and ‘red flag’ tools typically create the theoretical background for indicators related to publicity and integrity. Among these, a few useful analyses have been published that have evaluated indicators used in public procurement. In our case, we assume that the indicators used are, to some extent, suitable for evaluating public procurement processes and procedural actions. Developing an understanding of the theoretical background is intended to help gather good practices and ideas based on existing research and applied tools that can be part of the present analysis.

The following are examples of analyses based on public procurement data that explicitly identify red flags in both the pre-award and post-award phases of public procurement. In this work, we have drawn on the approach of Tátrai and Németh (2015), which distinguishes between red flag tools in terms of which ones focus explicitly on public procurement and to what extent they are based on well-structured data and/or other, harder-to-find information during the procurement and performance periods.

Decarolis and Giorgiantonio (2022) examined corruption red flags in public procurement based on Italian contract notices, focusing on data related to calls for tenders. Among the 18 proposed indicators, several are identical to those used in the Public Procurement Single Market Scoreboard⁴. The identification of procedures implemented without a call for tender is of particular importance, and several indicators that capture basic information (negotiated procedure) and include sub-indicators (urgency, no tender) are included in the paper. Among the 18 indicators that are highlighted, several deal with the content of the awarding, but others also include components such as documentation verification. For

⁴ https://single-market-scoreboard.ec.europa.eu/business-framework-conditions/public-procurement_en.

example, the use of a design-and-build procurement object is also considered a risk. The list of indicators typically contains well-structured data that helps inform the ANAC's⁵ assessment of the indicators.

Fazekas and Tóth (2016) identified red flags in the public procurement process and linked them to restricted competition based on publicly available Hungarian public procurement data. The indicators they used partly overlap with the Scoreboard indicators. In addition to the basic types of procedures, tender periods, and lengths of the evaluation period, they also specifically cover contract modifications, contract period extensions, price increases, and the restart of an unsuccessful procedure. Perhaps little used is the "relative length of eligibility criteria" indicator they advocate.

Ferwerda et al. (2016) used a dataset of 192 public procurements, comprising 96 cases where corruption was detected and 96 cases where it was not. The paper addresses the identification of corruption risk indicators and lists the 28 most important indicators. There are indicators based on CN or CAN (accelerated tender, number of offers, EU funding). Further, the list includes indicators based on information from the stakeholders of the tender (artificial bids, the award contract having new bid specifications, and negative media coverage). Some of the information is non-structured (e.g., the amount of missing information, audit certificates issued by auditors without proper credentials, and conflicts of interest among members of the evaluation team). Therefore, most of the indicators require further analysis and individual assessment (connections between bidders undermine competition, and there are inconsistencies in reported turnover). In contrast, the fulfilment of many indicators can be accomplished directly from information available in CAN (e.g., the awarding authority did not complete all fields in TED/CAN).

Kenny and Musatova (2010) defined 13 indicators in their study of infrastructure projects associated with the World Bank, with separate indicators for the pre-award period (number of submitted bids, time between bid opening and evaluation) and the post-award period (ratio of non-responsive bidders to all bidders, difference between contract value and final contract amount). A particularity is that in several cases, a specific sensitivity threshold was also defined (time between bid award and actual contract signing date - less than 3 months), i.e., the definitions clarified the interpretation of certain indicators during the work.

⁵ Italian National Anti-Corruption Authority (Italian: Autorità Nazionale AntiCorruzione).

Integrity Watch's red flag tool⁶ is also based on calls. It pays more attention to the renewal and re-advertising of calls. In particular, it highlights the importance of framework agreements with single operators, excessively long-term contracts, fast-track procedures, and procedures lacking prior publication of a contract notice. Several of its indicators deal with the number of tenders received in a procedure-specific manner. Although it does not specifically address data quality, it draws attention to the bad message implied by discrepancies between the estimated value and the contract price. Among the indicators, this tool also specifically addresses unsuccessful procedures.

The World Bank (2019) publication identifies issues that typically emerge with procedures and related signs to watch out for. Overpricing, the poor quality of work or services and complaints are identified as situations that commonly occur during procurement. The publication suggests ways to address them, with a less structured focus on the information that is available.

The OECD assists in developing red flag tools in several publications (OECD Guideline, 2016; OECD Risks, 2023). The OECD (2025) addresses the importance of transparency and integrity in public procurement. OECD Risks (2023) identifies different types of risk in procurement and applies AI and the construction of validated databases to verify each risk element (E-procurement systems, supplier registers, contract performance databases, exclusion lists). In addition to uncertainties related to procedural errors, it attaches great importance to performance problems (budget exceeded by 50%) and classifies each risk (very high, high, moderate, low). In this respect, it goes further in terms of tool development and deepens the analysis of the indicators. Among the risk types, it highlights communication and supply chain risks, which are also found in other tools. However, this tool uses a different grouping format to make each risk type easier to understand.

OLAF (2013) funded a study on identifying and reducing corruption in public procurement within the EU. The analysis presented 27 indicators, many of which can be found in the procedural notices (CN, CAN), such as the accelerated tender, the awarding authority has not filled in all fields in TED/CAN or the EU funds used in the project, etc. Several indicators require further investigation (audit certificates issued by an unknown/local auditor, all bids higher than the projected overall costs), but some would require the development of an additional internal rule to assess them (substantial changes in the scope of the project or project costs after award). OLAF's (2016) very detailed red flag study pays much more attention to conflict-of-interest situations and to situations that require further analysis (the lowest bid is rejected almost inexplicably, insufficient definition of the subject matter of the contract, tenders declared null and void due

6

<https://redflags.integritywatch.eu/#:~:text=This%20online%20platform%20provides%20a%20unique%20overview%20of,and%20at%20the%20end%20of%20a%20procurement%20process>

to errors). A notable element of this study is that it contains more detailed descriptions and suggestions for identifying and addressing red flags. It also goes deeper into budgeting issues (over- or underestimation of the value of the contract), which are less focused on in other red flag tools. Several red flags are identified to ensure fair competition (e.g., discriminatory technical specifications, unusual or unreasonable specifications). This study also addresses the use of red flags that are not specific to one tender but may imply a link between procedures (high number of competitive awards to one tenderer, number of bidders is significantly lower than the average in other similar tenders).

The ECA (2023) report clearly links the issue of integrity and transparency to non-competitive contracting and publishing activity. It specifically addresses the inaccuracies, gaps, inconsistencies, and errors in TED data. The evaluation highlights that the Scoreboard primarily focuses on transparency and takes the initiative to put public procurement into a broader perspective. It suggests, for example, information-filtering possibilities such as with EU-funded projects, or using an indicator applicable to appeal procedures in public procurement.

Of the twelve indicators of the Single Market and Competitiveness Scoreboard (Scoreboard, 2023), five indicators can be directly considered transparency or integrity-oriented (single bidder, direct award, missing previous publication number, missing supplier registration number, missing buyer registration number), while two more indicators are very useful and can serve as a basis for other studies and the further development of the two indicators (publication value/GDP, decision speed). The advantage of the Scoreboard (2023) is that its methodology is publicly available, based on TED, and can serve as a logical starting point for the present analysis, similar to the one referred to in ECA (2023).

At the time of writing, the most recent analysis was published by the Open Contracting Partnership (OCP, 2024), which contains 73 indicators, some of which are derived from structured advertisement data (missing bidders), others require detailed analysis (bidder has same contact information as project official) or additional data from electronic procurement systems (late bid won). The tool also includes indicators that analyse the overall market situation (high market share). Each indicator is accompanied by a detailed description to facilitate interpretation. The tool can help closely monitor contract performance and contract modifications,.

Numerous scholarly articles address the relationship between public procurement and transparency, emphasising its significance. Based on their conclusions, there is a strong link between transparency and ensuring fair competition (Soylu et al., 2022), a finding also confirmed by the ECA (2023) report.

Several researchers (Georgieva, 2017; Bauhr et al., 2020) attribute an anti-corruption function to transparency. Accordingly, the definitions of transparency and integrity in public procurement often overlap, meaning that the use of these

terms must incorporate ethical considerations and the guarantee of fair competition.

Finally, the literature review led us to two interactive dashboard solutions closely related to this study, which are available online:

- ECA dashboard⁷
- Opentender⁸

The first is outlined in the ECA report mentioned above. It was created in conjunction with the ECA study and is divided into several ‘tabs’, one of which is the assessment of the Directives.

As mentioned in the dashboard, this tab enables the comparison of average competition and tendering practice indicators before and after two years of implementing the 2014 EU Directive in each country. It is emphasised that this comparison does not establish a causal relationship between the indicators and the regulatory change, as it is not feasible to control for all global, EU, and country-level factors that may also have influenced these indicators.

The indicators assessed in such conditions are the following, with the respective results:

- Award criteria - lowest price (-2.7%)
- Local supplier (+0.4%)
- No call for tenders (- 4.8%)
- Non-open procedure type (-2.6%)
- Single bidding (+3.4%)
- Advertisement period length (-13 days)
- Decision period length (+14 days)
- Number of bids (-0.51 bids)

The results reveal an increase in the preponderance of local suppliers, single bids, and decision period length, as well as a decreasing trend in the award criteria, including the lowest price, no call for tenders, non-open procedure type, advertisement period length, and number of bids.

The ECA analysis was based on a comprehensive data set on public procurement in the EU single market. It covered the EU-27, plus two European Economic Area countries (Iceland and Norway), and the United Kingdom (until

⁷ https://public.tableau.com/app/profile/gti1940/viz/eca_dashboard/Story.

⁸ <https://opentender.eu/start>

its withdrawal from the EU in 2021). It is based on TED data as presented by the Commission at data.europa.eu and was complemented with additional, detailed open data on public procurement (from [Opentender.eu](https://opentender.eu)).

Due to this reference, the second dashboard that is covered is the [Opentender.eu](https://opentender.eu) Portal, which presents two specific tabs on Transparency and Integrity indicators, respectively, allowing for a global score to be awarded based on a set of indicators supported by sub-indicators.

Transparency Indicators measure the availability of crucial information in public procurement notices. The Integrity Indicator methodology refers to the allocation and performance of public contracts that distort the principles of open and fair government, i.e., contracting to benefit some at the expense of others.

The average score for Transparency and Integrity is calculated based on the following sub-indicators.

Table 1 – Transparency and Integrity sub-indicators of Opentender

Transparency	Integrity
Implementation location available	Bidder number
Subcontract information available	Call for tenders
Funding information available	Procedure type
Award criteria available	Advertisement period
Product codes available	Length of decision period
Duration available	Tax haven
Eligible bid languages available	Supplier's contracted share of the buyer's spending on public procurement
Selection method available	Benford's law
Bidder name available	Distinct markets
Contract value available	

In both cases, this average score can be recalculated by adjusting the weight of each sub-indicator. Using the dashboard with the same full weight for all sub-indicators, either for Transparency or Integrity, we obtain the average score per country, as shown in the table below.

The calculation⁹ was split into the same two periods used in our analysis:

- 2013-2015 - before the entry into force of the 2014 Directives
- 2016-2024 - after the entry into force of the 2014 Directives

⁹ Data extraction on 04.05.2025

Table 2 – Average score per country based on Opentender Integrity and Transparency sub-indicators

	Transparency			Integrity		
Countries***	2013-2015	2016-2024	Delta	2013-2015	2016-2024	Delta
Austria	59.48	46.47	-13.01	79.37	60.78	-18.59
Belgium	59.47	63.73	4.26	81.98	83.73	1.75
Bulgaria*	68.85	55.98	-12.87	78	82.71	4.71
Croatia	70.62	68.77	-1.85	75.27	69.42	-5.85
Cyprus*	73.14	74.92	1.78	66.44	70.48	4.04
Czechia*	57.99	67.22	9.23	90.08	86.45	-3.63
Denmark*	59.97	61.04	1.07	73.17	81.92	8.75
Estonia*	77.76	71.78	-5.98	73.33	74.92	1.59
Finland*	54.45	61.59	7.14	73.93	80.95	7.02
France**	34.59	50.21	15.62	79.79	82.35	2.56
Germany*	63.72	68.06	4.34	72.4	72.11	-0.29
Greece*	71.03	74.28	3.25	80.28	80.03	-0.25
Hungary	88.15	78.4	-9.75	55.85	63.27	7.42
Iceland*	45.53	64.64	19.11	92.59	90.83	-1.76
Ireland*	22.59	27.73	5.14	69.45	70.5	1.05
Italy	29.61	39.24	9.63	60.7	53.13	-7.57
Latvia	60.16	62.36	2.2	59	66.32	7.32
Lithuania	24.25	50.22	25.97	58.1	63.03	4.93
Luxembourg*	61.78	71.64	9.86	82.92	84.1	1.18
Netherlands	53.37	52.92	-0.45	75.32	78.45	3.13
Norway*	48.51	37.29	-11.22	73.28	72.16	-1.12
Poland	49.26	55	5.74	60.82	64.54	3.72
Portugal	56.06	56.11	0.05	42.66	46.93	4.27
Romania	39.33	56.68	17.35	67.56	68.65	1.09
Slovakia	37.28	57.04	19.76	79.61	67.05	-12.56
Slovenia	30.9	66.83	35.93	52.65	59.16	6.51
Spain	95.71	95.96	0.25	50.11	49.9	-0.21
Sweden*	60.77	64.48	3.71	81.44	81.07	-0.37
UK	48.5	38.69	-9.81	66.62	57.42	-9.2
Total Delta			136.45			9.64

*No 2024 data

**No 2023 and 2024 data

***Missing Malta and Liechtenstein

It is worth noting that the Transparency Score finds a substantial overall increase of 136.45% after 2016, while the Integrity Score indicates an overall increase of 9.64% after 2016. However, as we can see from the figures in the Table below, the average scores for Transparency and Integrity are 55.27% and 70.78%, respectively.

Table 3 – Average score based on Opentender Integrity and Transparency sub-indicators

	Transparency	Integrity
mean	55.27	70.78345
std	17.88675	11.9522
min	22.59	42.66
25%	45.53	60.82
50%	57.99	73.28
75%	63.72	79.61
max	95.71	92.59

Despite the value and interest of these indicators, drawing concrete conclusions is challenging due to some unclear premises. National data representation is highly asymmetric in terms of volume of records. Moreover, extracting the same data on different dates yielded varying results, which may be attributed to regular updates in the supporting database.

5. Methodology

5.1. The EU Public Procurement legal framework

The European Public Procurement Directives address the issue of transparency and integrity from several angles. Among the public procurement Directives, Directive 2014/24/EU,¹⁰ which applies to several contracting authorities and therefore has a greater impact, will be discussed first. The following important provisions of Directive 2014/24/EU refer to transparency and integrity in a way that directly or indirectly relates to the data available on TED:

In 2014/24/EU, Recital 1 outlines the general principles, including equal treatment, non-discrimination, mutual recognition, proportionality, and transparency. It emphasises what information must be available to ensure competition (Recital 45) and that, in order to ensure transparency and traceability of the process, all stages should be duly documented. Furthermore, all tenders throughout the procedure should be submitted in writing.

Recital 59 specifically addresses the issue of publicity in centralised public procurement. Accordingly, the aggregation and centralisation of purchases should be carefully monitored to avoid the excessive concentration of purchasing power and collusion, and to preserve transparency, competition, and market access opportunities for SMEs.

Linked to this is the requirement in Recital 61 that to ensure transparency and equal treatment, contracting authorities should indicate in the procurement documents for the framework agreement the objective criteria that will govern the choice between those two methods of performing the framework agreement. Such criteria could, for instance, relate to the quantity, value, or characteristics of the work, supplies, or services concerned, including the need for a higher degree of service or an increased security level, or to developments in price levels compared to a predetermined price index.

Recital 90 further states that contracts should be awarded on the basis of objective criteria that ensure compliance with the principles of transparency, non-discrimination and equal treatment, with a view to ensuring an objective comparison of the relative value of the tenders in order to determine, under conditions of effective competition, which tender is the most economically advantageous. To ensure compliance with the principle of equal treatment in the awarding of contracts, contracting authorities should be obliged to create the necessary transparency to enable all tenderers to be reasonably informed of the

¹⁰ Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC.

criteria and arrangements that will be applied in the contract award decision. Contracting authorities should therefore be required to specify the contract award criteria and the relative weighting assigned to each of these.

The requirement set out in Art. 22 of the Rules applicable to communication requires that "In all communication, exchange and storage of information, contracting authorities shall ensure that the integrity of data and the confidentiality of tenders and requests to participate are preserved."

The communication rules apply primarily to communications between the CA and the EO, but also to the general conditions of disclosure and accessibility of information to interested economic operators.

This also implies that the information communicated is genuine and that the contracting authority is responsible for ensuring that no false or incomplete invitation is issued. Although this responsibility exists under the Directives, it does not apply in the absence of monitoring; i.e., there are no consequences for publishing invalid information.

Art. 84 is general and treats framework agreements and dynamic purchasing systems as an exception, for which publicity is accordingly not enforced in the Member States, and the data cannot be searched for all the Member States.

The reporting requirements for a Member State are formulated in general terms in Art. 85, which does not specifically address the measurement of the Member State's performance in terms of publicity or integrity.

As regards Annex. I. about Central Government Authorities, Directive 2014/24/EU does not make it compulsory for the Member States to keep a list of contracting authorities, to make databases used in public procurement freely accessible, or to make contract registries publicly available.

In addition to the general publicity requirements relating to the procedures, the Directive specifies in Annex V the information which must be made public. These annexes cover the disclosure of notices of initiation of the procedure and contract award notices, as well as the requirements for contract modification.

Directive 2014/25/E,¹¹ in line with the abovementioned 2014/24/EU Directive, highlights the role of preliminary market consultations in ensuring publicity (Art. 58), the need for equal opportunities and transparency when requesting further information (Art.76(4)) and the need to ensure publicity of the outcome (Art.

¹¹ Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC.

93(1)). Directive 2014/23/EU¹² specifically addresses transparency (Art. 3) and availability of concession documents (Art. 35) as basic principles in the normative text. The importance of integrity in communication is highlighted in both Directives 2014/25/EU (Art. 40(3)) and 2014/23/EU (Art. 29(2)). For the remainder of this study, we always refer to the 2014/24/EU Directive as the basis for the analysis, which is consistent with the factors highlighted by the other two Directives.

In light of the above, the following aspects of transparency and integrity must be taken into account

- missing or invalid information;
- centralised procurement;
- use of framework agreements, dynamic purchasing systems;
- contract performance and modification;
- the relationship between competition and publicly available information.

Given this context, we have developed a set of indicators complementary to the Single Market and Competitiveness Scoreboard indicators. These new indicators can help assess the performance of these aspects using information published in TED notices before and after the 2014 Directives over the past twelve years.

5.2. Main definitions and structure of indicators

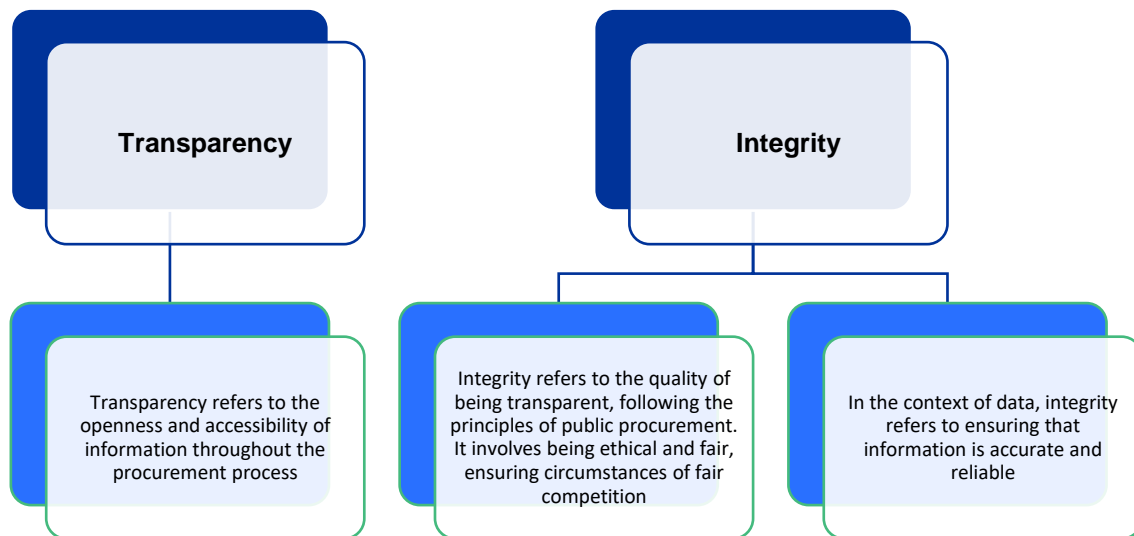
During the development process, we sought a coherent treatment of the transparency and integrity indicators. The indicators have been developed for the whole process of public procurement, taking into account the entire life cycle, including the preparation and conduct of the procedure and the performance of the contract.

The available data naturally limited the possibilities for indicator development, as we could only use the variables currently available in contract notices and contract award notices. However, the possibilities will be extended in the future with the introduction of eForms, and much more useful information will be available in the national systems. Accordingly, basic indicators (Basic type) were defined for the TED 2013-2023 period, followed by Data Space indicators (DS type), which can already be calculated from the Public Procurement Data Space, and further indicators that will be able to be calculated in the future and require much more data, which are typically calculated from national data (Additional type). In the development process, we propose using several types of filters to allow for a more diverse data analysis. The filters can be applied to the main

¹² Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of concession contracts.

indicators to better understand them, for example, allowing policymakers to tackle potential causes using relevant solutions. The basic indicators are based on international research results, the Scoreboard, and practices of international organisations, which are typically red flag tools. In our case, we have drawn on the indicators in red flag tools, but our indicators are designed with transparency and integrity in mind. It was essential to identify what areas are covered by Transparency and Integrity. Based on the existing references, including the EU Directives, we use in this research the following concepts:

Figure 1 Transparency and Integrity concepts



The interpretation of transparency in a general sense relates to access to information and the provision of publicity regarding the preparation, conduct, and post-award phase of the procedure, as well as the conclusion, performance, and possible modification of the contract. A lack of information in the present study refers to a deficiency identified in the analysis of the content of a notice. This also implies that providing publicity means that the information is directly available in the notice.

This is because links in the notices may lead to the required data content. The provision of publicity is not limited to using a link to a service provider's website; it also requires the opening of several documents, which may necessitate registration. In itself, the use of different website layouts, the need to search for data, and the use of foreign languages in uploaded documents may be sufficient to prevent the interested party from easily accessing the information being sought, or misunderstanding it. This study's approach to disclosure refers to information that is directly available in the same format, irrespective of the fact that some national rules do not require disclosure in a notice.

Integrity is closely linked to transparency since accurate and reliable information is the basis for conducting proper analyses and examining market processes. Integrity implies a higher level of transparency since it also implies the application of principles that allow for the structured publication of quality data. Ethical

behaviour and fair competition are the basis of transparency and integrity, as the publication of accurate data directly impacts market players' decisions, activities, and behaviour in the public procurement market.

In this respect, the triple condition of fair competition, transparency, and integrity must be ensured when notices are completed and data published. Together, transparency and integrity aim to promote fairness, competition, and accountability, while minimising corruption and waste.

The identified dimensions, data and performance, were then used to develop indicators, each of which was subjected to a validation process to ensure reliability and accuracy. The framework was piloted in several jurisdictions to test its applicability and refine the indicators based on practical feedback.

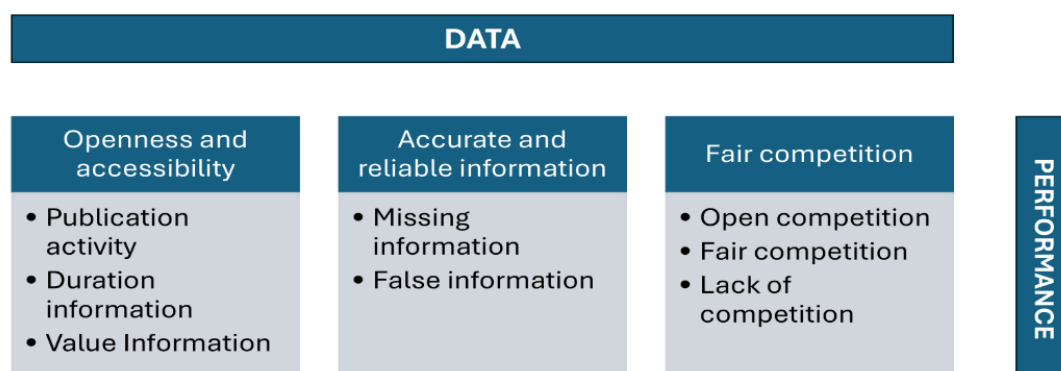
The indicators were developed based on the Contract Notice and Contract Award Notice databases for the period from 2013 to 2023. They do not contain any notices that follow the eForms format that started to be used in late 2023. The available data were downloaded from www.ted.europa.eu and then compiled into a single database. The database was not cleaned. Based on the TED Codebook (2024), the variables that could serve as a basis for the indicators were selected.

Cancelled procedures (relevant until 2016) were deleted from the database. In cases where CAN data were multiplied because the contracting authority uses a procurement method such as framework agreements or dynamic purchasing systems, these notices had to be excluded from the calculation, as the data are published in different ways across different Member States.

The indicators where we exclude these methods in fact relate to the types of contracts where it is not clear whether the value or amount of the contract has been spent (FA), and there is no information on the actual spending (FA, DPS). This reduces uncertainty, since we only have information on a preliminary procedure for FA and a participation phase for DPS.

Our assessment is founded on two dimensions: data and performance. We evaluate data from a technical perspective, focusing on its quality and quantity. Additionally, we examine performance by analysing the patterns detected in the results of the indicators. Based on the previously developed definitions of integrity and transparency, we have grouped each indicator following the terminology used in the definitions (openness and accessibility, accurate and reliable information, fair competition):

Figure 2 Indicators designed based on the key elements of the definition of transparency and integrity



The 12 indicators of the Single Market Scoreboard were an important starting point for this work, as many of them can be further developed. Accordingly, four of the Scoreboard's indicators are listed in the study among the suggested indicators, and the study follows the logic of the Scoreboard's calculation (e.g., direct contracts, single-bidder calculation method) from a methodological perspective.

5.3. Links to the Scoreboard's indicators

The following Scoreboard indicators are related to the topic of this study:

Table 4 Implementation of the Scoreboard indicators

	Testing the Scoreboard indicator without change	Analysis of the indicator for testing the Scoreboard indicator	Further development of the Scoreboard indicator
Single bidder	x – Scoreboard Indicator SB1		x – Basic Indicator B14, B15, B16
Direct award	x – Scoreboard Indicator SB2		x – Basic Indicator B14
Missing previous publication number			x – Basic Indicator B13, Additional Indicator A4
Missing supplier registration number	x – Scoreboard Indicator SB3		
Missing buyer registration number	x – Scoreboard Indicator SB4		
Publication value/GDP		x- Basic Indicator B3, B22	x – Basic Indicator B14
Decision Speed		x – Basic Indicator B7	x – Additional A6, A12

Here, the Scoreboard was utilised as a preliminary framework to select indicators suitable for data analysis within the context of this study, or as a basis for creating an enhanced version for examining transparency and integrity.

Based on the Scoreboard methodology, we either created the data in a similar manner or, to obtain more precise information and achieve the objective defined in the Scoreboard, we further developed some Scoreboard indicators.

Eight of the proposed indicators focus on missing data, based on the Scoreboard methodology.

By further developing the Single Bidder and Direct Award indicators, the relationship between the two Scoreboard indicators may be examined, and their cumulative value analysed.

For Publication value/GDP, we also considered the availability of contract prices and the potential for the publication of false information, given that the available information is so varied that it is difficult to support data claims on the size of the public procurement market.

In the context of Decision Speed, the first additional indicator to be considered is the Decision Speed condition, referring to (the lack of) information on the time of the decision, any weakness thereof that has a strong impact on the length of the decision. Second, we propose that the Decision Speed indicator should not refer to the currently available TED contracting data, but to the time that elapses between the bidding submission deadline and the decision on the contract. In effect, this is a clarification of Decision Speed from a different perspective, one that does not focus on the date of signing the contract.

For the Missing previous publication number indicator, a different method was developed that allows the assessment of the relationship between CN and CAN. Thus, we investigate the proportion of CNs to all CNs that have a connected CAN and the proportion of CANs to all CANs that have a connected CN. In this way, the data relationship between the beginning and the end of the procedure can be expressed more precisely.

5.4. Links to the European Directives

The following is a summary of the indicators that were constructed, tagged according to the three criteria (openness and accessibility, accurate and reliable information, and fair competition) above. For each indicator, we have identified the relevant provisions of the 2014/24/EU Directive that directly refer to the publication of information or information concerning which the indicator can be

generated. The rules contained in Directives 2014/23/EU¹³ and 2014/25/EU are also in line with those of Directive 2014/24/EU and are therefore not indicated separately below. The additional indicators require additional process and performance data, which are typically not available in the same format.

Table 5 Summary table of the constructed indicators

	Indicators	EU DIR 2014/24/EU	Missing information	Publication activity information	False information	Value information	Duration information	Open competition	Fair competition	Lack of competition
B1	Missing awarding criteria	Art. 49; C/18	x						x	
B2	Missing duration of contract	Art. 49; C/10	x				x		x	
B3	Missing contract price	Art. 50; D/13	x						x	
B4	Missing MEAT awarding criteria, price weight	Art. 49; C/18	x						x	
B5	Missing procedure type	Art. 49; C/12	x						x	
B6	Missing contract type	Art. 49; C/7	x						x	
B7	Missing date of award	Art. 50; D/10	x						x	
B8	Missing value of framework agreement	Art. 49; C/8	x			x			x	
B9	Number of procedures	Art. 49; C/12		x						
B10	Number of dynamic purchasing systems	Art. 49; C/13		x						
B11	Number of framework agreements	Art. 49; C/13		x						
B12	Languages	Art. 49; C/22						x		
B13	CAN-CN connect	Art. 49; C; Art. 50; D		x						
B14	Direct award value	Art. 50; D/7, D/13				x				x
B15	Direct award with single bid	Art. 50; D/7, D/13								x
B16	Single bid + direct award with single bid	Art. 50; D/7, D/13								x
B17	Non-awarded LOTS	Art. 50; D/11		x						
B18	Accelerated procedures	Art. 49; C/12					x	x	x	
B19	Framework agreements with single bidder	Art. 49; C/10						x	x	x
B20	Framework agreements with single bidder by CPB	Art. 49; C/3, C/10						x	x	x
B21	Duration of framework agreements	Art. 49; C/10					x		x	
B22	Small value contract price	Art. 50; D/11				x				
DS1	Contract modification activity	Art. 72(1); G							x	x

¹³ The specific rules under this Directive are not examined in the course of this research, as procedures falling under the scope of the Directive are not available in the TED database.

DS2	Average contract modification	Art. 72(1); G							x	x
A1	Referring to documentation instead of publishing content	Art. 49; C/11, 18	x						x	
A2	Missing remedy-related information	Art. 50; D/16	x						x	
A3	Direct link to the documentation	Art. 49; C/2							x	
A4	CN-CAN	Art. 49; C; Art. 50; D		x						
A5	Number of contract cancellations	Art. 49; C/26		x						
A6	Procurement process duration	Art. 49; C/21 Art. 50; D/10					x			
A7	Contract amendments to increase price	Art. 72(1); G				x			x	x
A8	Submission period	Art. 49; C/21					x		x	
A9	Extension of the submission period	Art. 49; C/21					x		x	
A10	Tender has a complaint	Art. 50; D/16			x				x	
A11	Contract transactions exceed contract amount	Art. 72(1); G				x				x
A12	Time between award date and contract signature date	Art. 50; D10					x		x	

5.5. Indicator evaluation process

The variables were tested, and those whose (lack of) data provided relevant information were selected. In interpreting the results, we did not distinguish between the size of the public procurement market in each country.

Some indicators are examined at the procedural level, but, where possible, mainly at the LOT level. The unit of measurement is the number of units and the value in EUR. We did not utilise both measures in our analysis; however, there is scope for developing value-based and unit-based indicators. From a methodological point of view, indicators based on contract values are less appropriate; therefore, a separate indicator was introduced for very low-value contracts (less than 10 EUR), drawing attention to one of the main risks of value-based studies, namely the risk of erroneous data entry.

In the design of the indicators, we assumed that the visualisation of the indicators could be facilitated by so-called filters, which can be used to examine further, more refined versions of a given indicator. In some cases, we have proposed several indicators that provide useful additional information by applying filters.

The indicators are described according to their most important attributes, and the corresponding variables have been verified to ensure they contain the expected

data content as outlined in the TED CodeBook (2024). The indicators were queried on a country-specific basis for the period 2013-2023. Where some data did not exist for a given year, this is nevertheless presented, as this may provide additional information on the extent to which more data becomes available over time.

In the visualisations, we have ensured that the results for each country are comparable, and we also report the averages for most indicators in the period 2013-2023. As mentioned, beyond the TED 2013-23 period, we also explored the possibility of developing additional indicators using best practices and research results from international organisations and researchers. Of the indicators that may be used, where data is available, we use PPDS data as a basis for examining the results for the years 2023-24. In cases of data gaps, Additional Indicators are presented from a theoretical perspective, as international experience may indicate the need to extract additional information in the future that will help analyse the content of data releases.

In assessing the performance of each indicator, we identified its impact level. Different levels are assigned based on the purpose of the indicator, designated as having a very low, low, medium, or high impact on transparency and integrity, or providing additional information.

Level 0 - The indicator mainly indicates magnitude, providing additional information. The impact of this indicator refers to the overall market activity associated with the publication of notices.

Level 1 – Limited impact:

Fair competition is adequately ensured, and integrity and transparency are not compromised, or only to a very limited extent.

Level 2 – Moderate impact:

Fair competition is not adequately ensured, and integrity and transparency are compromised to a moderate degree.

Level 3 – Substantial impact:

The principles of integrity or transparency are not respected, and fair competition is not ensured.

5.6. Transparency and Integrity Indicators

In the first phase of the research, parameters were investigated that could be analysed from the 2013-2023 TED database using CN or CAN data at LOT or procedure/method level for the purpose of this study.

During the analysis, attention was paid to designing indicators that focus on data gaps, those that overlap with the CN-CAN database, or the characteristics of long-term procurement methods (framework agreements, dynamic purchasing systems). In describing the indicators that were developed and tested, we progress from basic information to more developed versions of the indicators presented earlier.

The first group consists of indicators associated with missing information, followed by those for the group of long-term procurement models that allow for competition in a manner different from standard procedures. In this respect, several framework agreements and DPS do not consider these two widespread phenomena to be unfair. Still, we are interested in how actively contracting authorities use other procurement methods to ensure fair competition in terms of the number of procedures and how much this practice has changed over the last ten years.

This is followed by indicators that are less commonly used based on the current and studied international practices, and which specifically examine the relationship between the data in the TED database and/or compare it with other databases.

There must be a logical link between the notice of the end of the procedure and the notice of the beginning of the procedure. Otherwise, it will not be possible to follow the course of the procedure; only the details of each stage may be known individually.

Likewise, the acceptance of tenders in more languages suggests a more competitive environment that ensures equal opportunities for non-local contractors.

The relationship between single bids and direct awards is close, as the degree of competition is low in both cases. We examine the relationship between the two indicators, which are currently used independently in the EU, and determine the true degree of competition by analysing direct awards on their own and in conjunction with the single bid variable. Although contract values are highly uncertain due to numerous data gaps, we take the analysis of direct awards a step further and explicitly use the available information to examine the value of direct contracts relative to total contract value. From a methodological perspective, analysing unsuccessful (non-awarded) procedures is a novelty and is also proposed for use as a filter. Equally interesting is the accelerated procedure, which creates an explicitly uneven playing field by allowing a shorter time to bid and thus putting bidders in a position where they must bid without proper preparation, thereby giving incumbents an advantage. Finally, the type of framework agreements where the contracting authority contracts with one bidder for a long term (thus impacting competition over the long term) is discussed in more detail. An interesting sub-analysis in this regard is the study of the largest players in the public procurement market, central purchasing organisations.

These organisations, if they do not ensure fair competition, also have the potential to distort the market; it is therefore interesting to examine their practice of dealing with framework agreements.

Finally, taking into account the weaknesses of the previously mentioned value-based indicators and further developing the previously missing contract data indicator, we examine the share of incorrect contract values, particularly those with low values (less than 10 EUR), which may provide additional information relevant to the value-based indicators. The EUR 10 threshold was defined mainly because at such a low value, the likelihood of the contracting authority launching a procurement procedure is extremely small, as the cost of doing so is significantly higher than this value. A value higher than this could, of course, be tested; in practice, such very low values are typically not valid, and the methodology has been developed based on related experience.

Table 6 List of basic indicators

B1	Missing awarding criteria	B12	Languages
B2	Missing duration of contract	B13	CAN-CN connect
B3	Missing contract price	B14	Direct award value
B4	Missing MEAT awarding criteria, price weight	B15	Direct award with single bid
B5	Missing procedure type	B16	Single bid + direct award with single bid
B6	Missing contract type	B17	Non-awarded LOTS
B7	Missing date of award	B18	Accelerated procedures
B8	Missing value of framework agreement	B19	Framework agreements with single bidder
B9	Number of procedures	B20	Framework agreements with single bidder by CPB
B10	Number of dynamic purchasing systems	B21	Duration of framework agreements
B11	Number of framework agreements	B22	Small value contract price

The available data from the period following the introduction of eForms has enabled the development of new indicators for which no information was previously available. The best examples of this are the following indicators related to contract amendments. These indicators cannot be analysed using the previous TED data, but eForms allows them to be analysed using Data Space data. (Table 7)

Table 7 List of Data Space Indicators

DS1	Contract modification activity
DS2	Average contract modification

Finally, additional indicators have been designed considering the recommendations of international organisations.

6. Results and Evaluation

This section details the results obtained by applying the indicators to the collected data. It begins with an evaluation of the fluctuations in the volume of notices published throughout the specified period, followed by an analysis of the performance outcomes for each type of indicator.

6.1. Publication activity of Member States

Publication activity for contract notices decreased for DK and UK in the period 2016-2023¹⁴ but increased in all other Member States. For contract awards, there was a decrease in FR, with an increase in all other countries. As the data includes all notice publications, including those related to the second part of the Framework Agreements and the Dynamic Purchasing System, the change in the two figures is not meaningful in nominal terms. The assessment of the differences depends on when the Member State implemented the Directives and the total number of public procurement procedures it engaged in, i.e., the size and coverage of its public procurement market. In all cases, the data refer to procurements with a value above the EU threshold,¹⁵ as these are available on TED. The rate of growth is therefore of interest and can be analysed on a Member-State-by-Member-State basis. Croatia joined the EU in 2013, which explains the disproportionately high growth rate. In contrast, LI is a very small market, where the change in the number of procedures is highly volatile due to the low base (therefore it was not possible to include HR data in figure 4 and LI in figure 3 and 4)

Publication activity is shown in the graphs below. The base year used for the calculation was 2013, i.e. the number of calls in nominal terms is compared to the starting date for both periods (2013-15 and 2016-2023).

¹⁴ The UK left the Single Market in 2020/21.

¹⁵ Including those public procurement notices published in TED that are below the EU threshold.

Figure 3 Average indices of CN for 2 periods

Average indices of CN notice numbers for 2 periods, %
(2013 = 100%)

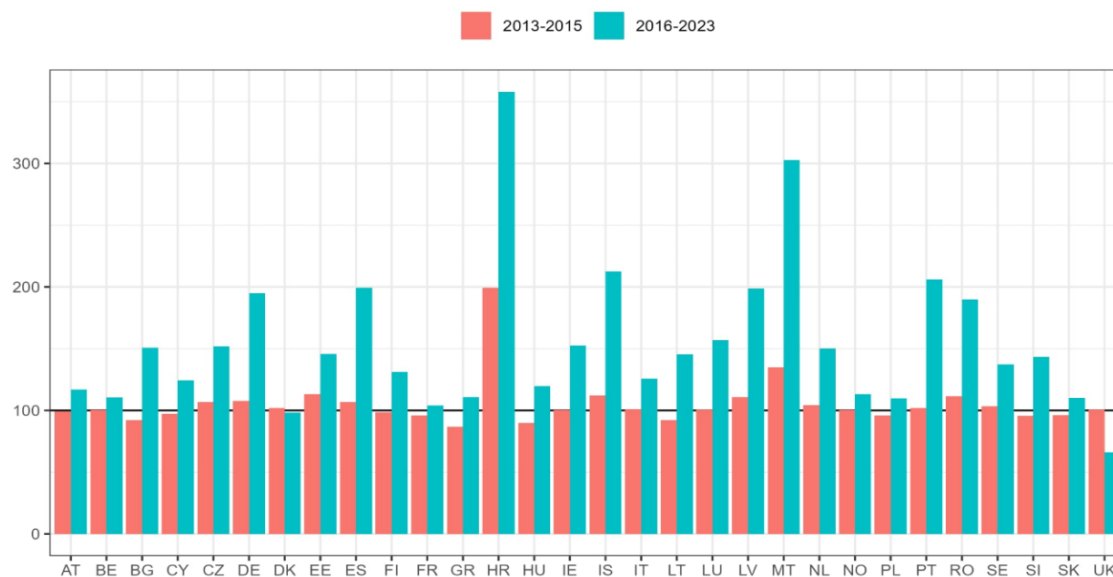
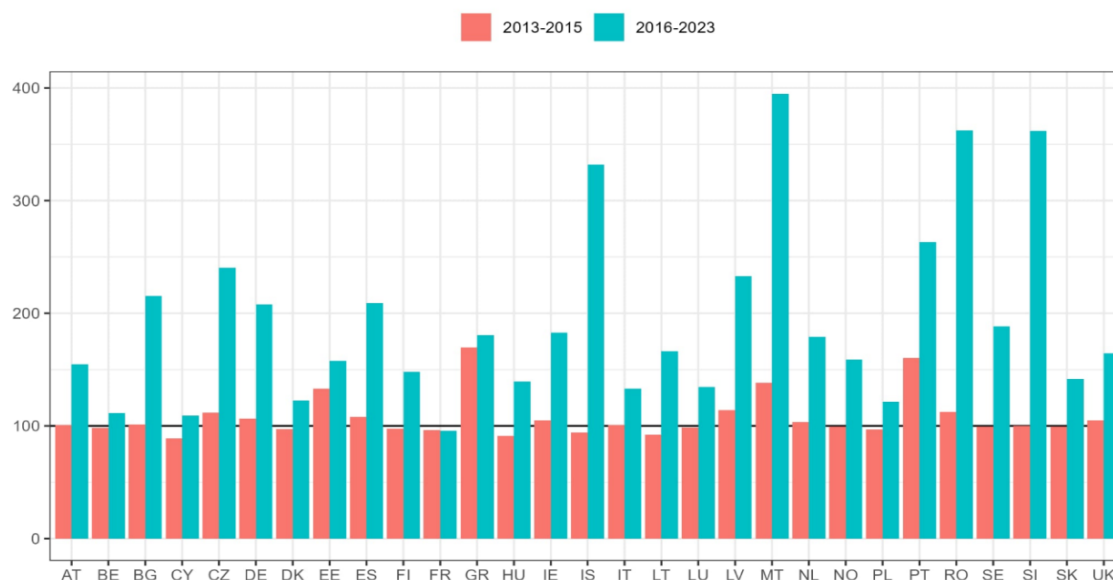


Figure 4 Average indices of CAN for two periods

Average indices of CAN notice numbers for 2 periods, %
(2013 = 100%)



6.2. Scoreboard indicators

The following presents the four relevant indicators from the scoreboard (2023) for the entire period under consideration, providing data on existing indicators relevant to the topic of this study.

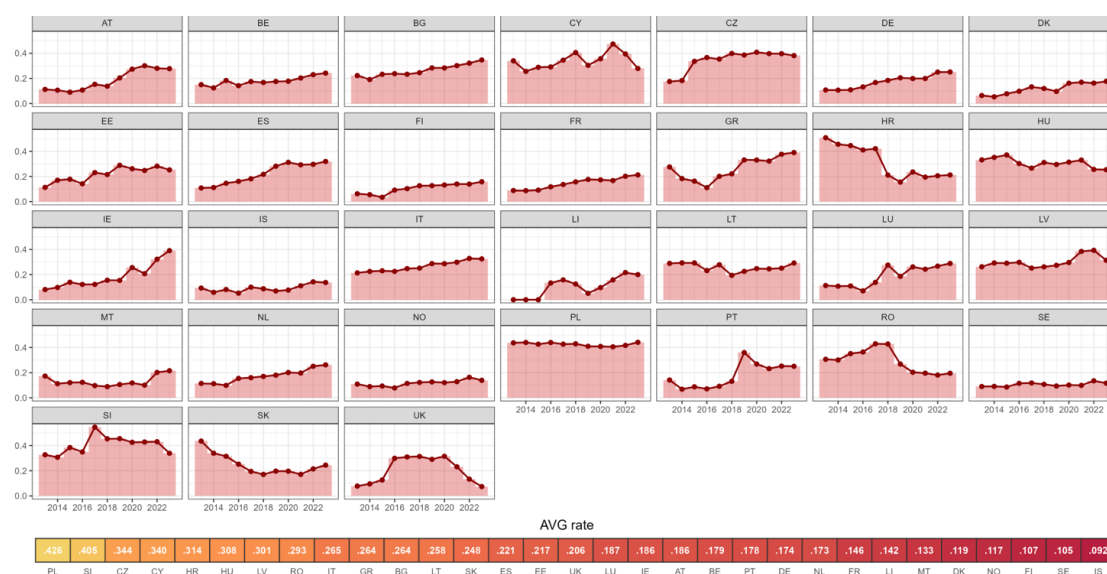
The methodology has been slightly modified. For example, in the assessment, the thresholds that we summarised were set differently from the acceptability thresholds used in the Scoreboard.

SB1 Single bidder

Name of indicator	SB1. Single bidder
Explanation	This indicator measures the proportion of single-bid LOTs relative to the total number of LOTs
Brief description	No. of single bid LOTs / Total number of LOTs
Data excluded	Cancelled, FA, DPS, Design contest
Data field used	NUMBER_OFFERS
Steps for calculation	$N_CAN_AW_SINGLEBID / N_CAN_AW$
Source of Data	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of LOTs

The proportion of single-bidder procedures increased by an average of 3.8 % over the two periods under review. As the indicator does not include framework agreements and direct awards, it only partially covers procurement practices in the context of single tender procedures.

Figure 5 SB1 Single bidder



SB1 Evaluation: Level 3

Single-bidding procedures are an indication of a lack of competition, which may result from a lack of confidence on the part of market participants, a failure to ensure competitive conditions, and other circumstances, such as niche markets with few suppliers, that affect the behaviour of market participants. To this end, it is necessary to conduct procedures on public and fair terms.

Before 2014 EU Directives: 15.66% = High

The proportion of single-bidder procedures exceeded 25% in six Member States.

After 2014 EU Directives: 19.43% = High

The proportion of single-bidder procedures exceeded 25% in seven Member States.

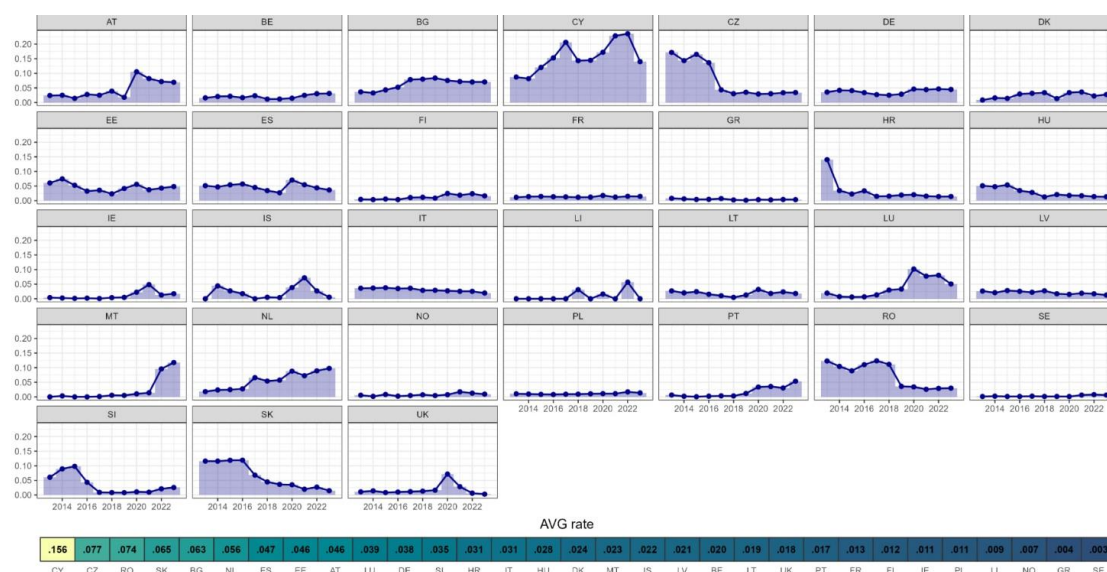
Trend: Negative

The increase in the proportion of single-bidder procedures indicates a reduction in the level of competition.

SB2 Direct award

Name of indicator	SB2. Direct award
Explanation	This indicator measures the proportion of direct award LOTs in relation to all LOTs
Brief description	No. of direct award procedures / Total number of procedures
Data excluded	Cancelled, FA, DPS
Data field used	TOP_TYPE
Steps for calculation	$N_CAN_AW_DIR / N_CAN_AW$
Source of Data	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of LOTs

In the case of direct award procedures, the performance of Member States is diverse. On average, CY, CZ, and RO have very high scores. During the two periods under review, 16 countries saw an increase in their average, indicating that the change is not uniformly positive across all Member States.

Figure 6 SB2 Direct award

SB2 Evaluation: Level 2

Procedures that do not involve the prior publication of a contract notice, despite the possibility provided by legislation, do not allow for competitive tendering and contracting in a transparent manner. They also pose a risk to integrity in this respect.

Before 2014 EU Directives: 3,87% = Low

The proportion of direct awards exceeded 5% in nine Member States.

After 2014 EU Directives: 3,44% = Low

The proportion of direct awards exceeded 5% in five Member States.

Trend: Positive

On average, the use of direct award procedures in the Member States has decreased by 0.43%, a small positive change.

SB3, SB4 Missing CAE ID, Missing Winner ID

Name of indicator	SB3 Missing CAE ID	SB4 Missing WIN ID
Explanation	This indicator measures the proportion of contract award notices that did not include the CAE registration number relative to the total number of contract award notices	This indicator measures the proportion of contract award notices that did not include the Winner registration number relative to the total number of notices.
Brief description	Number of LOTS where the CAE ID is missing / Total number of LOTS	Number of LOTS where the WINNER ID is missing / Total number of LOTS
Data excluded	Cancelled, Non-awarded	Cancelled, Non-awarded
Data field used	CAE_NATIONALID	WIN_NATIONALID
Steps for calculation	$\frac{N_CAN_AW_MISS_CAEID}{N_CAN_AW}$	$\frac{N_CAN_AW_MISS_WINID}{N_CAN_AW}$
Source of Data	CAN 3, 6, 21, 22, 23, 25	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of contract award notices	Number of contract award notices

The two indicators have in common that one is used to identify the contracting authority and the other to identify the winning tenderer. Since there is no uniform identification system in the European Union, the absence of this information actually complicates subsequent data analysis and often leads to inaccuracies if other information on the contracting authority/entity is not provided. This omission causes transparency problems in particular. A comparison of the two periods for the registration data on contracting authorities indicates that the values for each country improved. No data was available for the winning bidders in the first period, so the change cannot be evaluated.

Figure 7 SB3 Missing CAE registration number

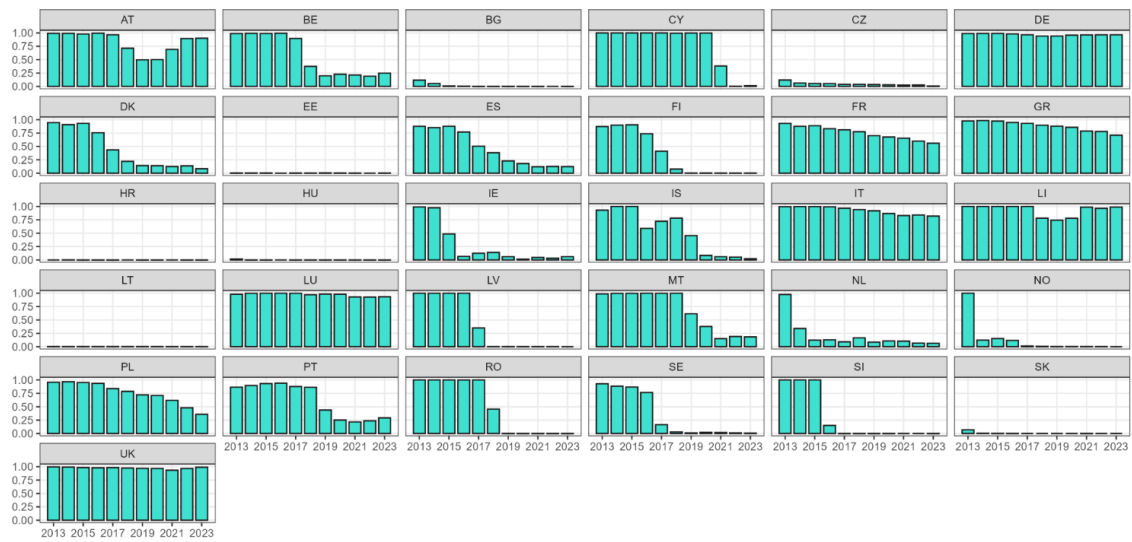
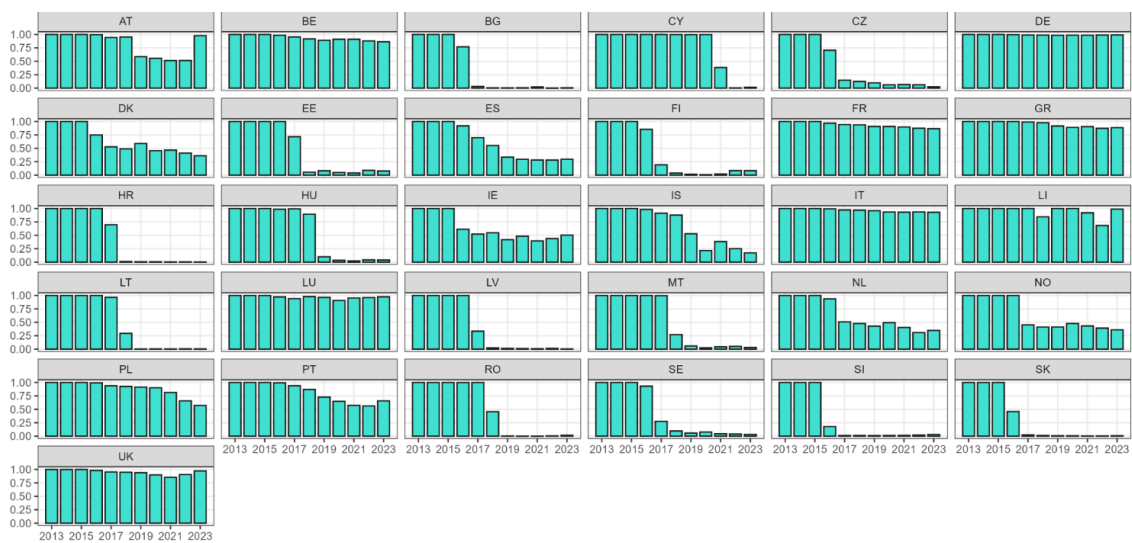


Figure 8 SB4 Missing Winner registration number



SB3-4 Evaluation: Level 2

The two indicators contain data on the identification of the contracting authority and the successful tenderer, the absence of which makes it difficult from a data analysis point of view to assess the activity of market players and partly constitutes a barrier to publicity.

Before 2014 EU Directives:

Missing CAE reg.no. 73.06% = High; Missing Winner reg.no. = No data

The proportion of missing CAE ID was more than 50% in 24 Member States.

After 2014 EU Directives:

Missing CAE reg.no. 41.37% = High; Missing Winner reg.no. = 54.96 % = High

The proportion of missing CAE registration numbers was more than 50% in 14 Member States. The proportion of missing Winner ID was more than 50% in 16 Member States.

Trend: Positive

There has been a clear improvement for contracting authorities (more than 32%) in terms of data disclosure, while the rate for successful registered tenderers is high (for which no data was available previously).

6.3. Basic indicators

B1 Missing awarding criteria

Name of indicator	B1. Missing awarding criteria
Explanation	This indicator measures the proportion of LOTs that did not include the awarding criteria relative to the total number of LOTs.
Brief description	Number of LOTs where the awarding criteria are missing/Total number of LOTs
Data excluded	Cancelled
Data field used	CRIT_CODE
Steps for calculation	$N_CN_AW_CRIT_CODE_NA / N_CN_AW$
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of LOTs

The indicator is calculated from the call for notices and shows the proportion of the LOTs where the type of awarding criterion is not identified.

If the awarding criteria are missing and the contracting authority does not identify the chosen type of awarding criteria, the inexperienced tenderer is less likely to continue dealing with that notice and look for this information in the tender documents. The awarding criterion is the basis of the evaluation, so it is essential for the publicity and integrity of the process to make the information easy to interpret and access. In many countries, the awarding criteria have been less available since 2016 and 2017. In IE, NO and SE, contracting authorities have not published information on the awarding criterion in the relevant part of the contract notice (more than 75% on average from 2016 to 2023). There may be several practical reasons for this, such as publishing information in procurement documents instead. Still, we assume that it would be preferable for Member

States to fill in the contract notices in a relatively similar manner to increase the volume of cross-border procurement.

Figure 9 B1 Missing awarding criteria

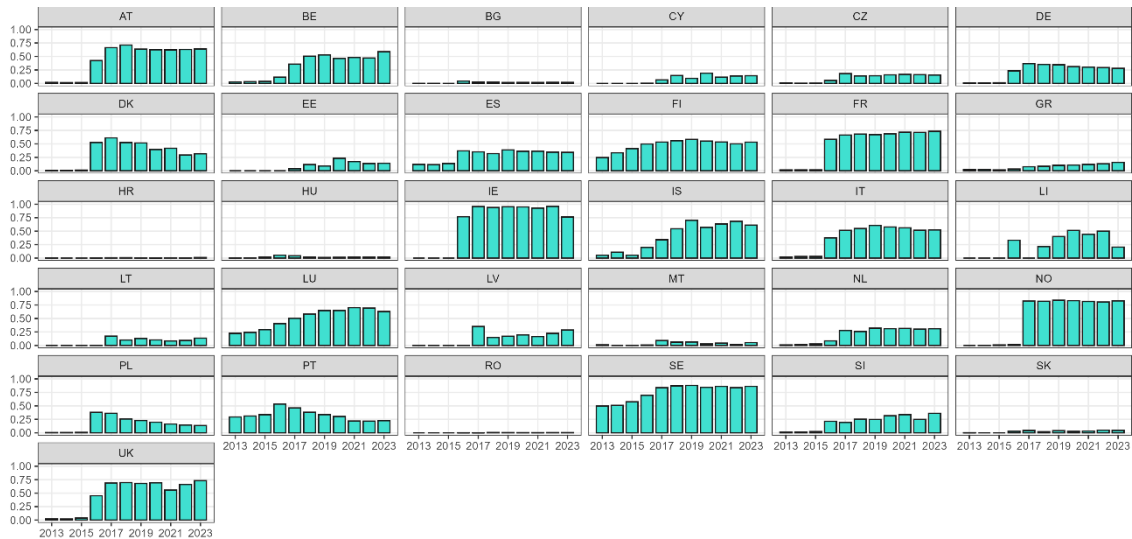


Figure 10 B1 Missing awarding criteria high – medium – low countries



B1 Evaluation: Level 3

The absence of an awarding criterion has a direct impact on competition, as the decision of tenderers is strongly influenced by whether such information is directly available in the call for notice or additional efforts must be made to obtain basic information on the conditions of a particular procedure. If the information is elsewhere in the notice, it still affects the bidder's decision. Based on the patterns observable in Member States, the absence of this information affects competition, and increased monitoring of the missing information is justified.

Before 2014 EU Directives: 8.37% = Low

The level of missing information was typically low in most Member States.

After 2014 EU Directives: 34.14% = Diverse

The level of missing information exceeded 25% in 18 Member States.

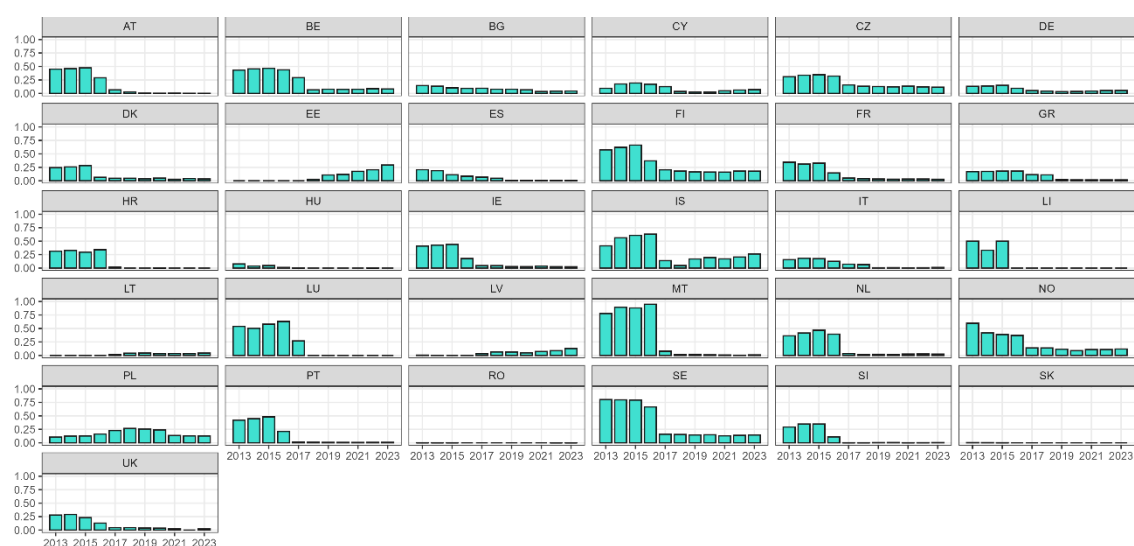
Trend: Negative

The level of missing information has increased in most Member States, showing a less favourable picture after 2016.

B2 Missing duration of contract

Name of indicator	2. Missing duration of contract
Explanation	This indicator measures the proportion of LOTs that did not include information about the duration of the contract relative to the total number of LOTs.
Brief description	Number of procedures where the duration of the contract is missing/ Total number of procedures
Data excluded	Cancelled, FA, DPS
Data field used	DURATION
Steps for calculation	$N_CN_DUR_NA / N_CN$
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of Procedures

The length of a contract is the information that an economic operator uses to decide how much energy and attention to invest in a procurement procedure. The scope of the contract is important in terms of stable revenue, the complexity of the subject matter, learnability, and, thus, competitive advantage. The data that were analysed show that, since 2016, the disclosure rate has improved in all countries that were surveyed, although there are a few countries where the lack of data is still more than 10% (2016-2023), indicating a problem. This indicator shows that most contracting authorities understand this data, find it useful, and fill it in. However, the survey data show that not everyone indicates the duration of "months", making statistical analysis based on this indicator much more difficult. The most serious problem here is the content of the data and its multiple potential interpretations. As there is no information on the actual duration of the contract at the European level, since any changes to the contract affecting duration cannot be tracked, the data available is certainly suitable for this purpose, and contracting authorities typically transparently publish this information, thus ensuring fair competition.

Figure 11 B2 Missing duration of contract**B2 Evaluation: Level 1**

The absence of information about the contract duration has a direct impact on competition, as tenderers' decisions are strongly influenced by whether this information is directly available in the contract notice. If the information is located elsewhere in the notice, it still affects the bidder's decision (the latter may occur if the Contracting Authority indicates the starting date of contract completion). Based on the pattern in the Member States, the absence of this information affects competition, and increased monitoring of the missing information is justified.

Before 2014 EU Directives: 32.4% = Diverse

The level of missing information exceeded 25% in 18 Member States.

After 2014 EU Directives: 9.51% = Low

The level of missing information was less than 10% in 18 Member States.

Trend: Positive

The level of missing information has decreased in most Member States, showing a favourable picture after 2016.

B3 Missing contract price

Name of indicator	3. Missing contract price
Explanation	This indicator measures the proportion of contract awards that did not include the contract price in relation to the total number of contract awards.
Brief description	Number of LOTS where the contract price is missing/Total number of LOTS
Data excluded	Cancelled, FA, DPS. Non-awarded LOTS
Data field used	AWARD_VALUE_EURO
Steps for calculation	$N_AW_NOVALUE / N_AW$
Source of Data	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of LOTS

The lack of a contract value is an indication that the contracting authority does not wish to share the outcome of the competition with the public, even though competitors and other market players have the right to do so as a result of the procedure. This shortcoming indicates a lack of transparency and information on the procedure's outcome, a risk to integrity that should be emphasised.

If we exclude non-awarded LOTS, we identify practically zero omissions, which is a consequence of the compulsory completion of this part of the notice. This indicates that some value is always entered by Member States, although we cannot verify its actual content. We have therefore developed another indicator (B20) that is linked to this one.

B3 Evaluation: Level 3

The absence of a contract price has a direct impact on the perception of bidders regarding the fairness and transparency of the competition. Whether the economic operator is fully informed of the results of previous procedures is a factor in the decision to proceed to the next procurement procedure. The pattern across the Member States suggests that the lack of information affects competition, and increased monitoring of missing information is justified.

Before 2014 EU Directives: 0% = Low

The level of missing information was zero in all Member States.

After 2014 EU Directives: 0% = Low

The level of missing information was zero in all Member States.

Trend: Neutral

The level of missing information remained zero in all Member States.

B4 Missing MEAT awarding criteria, price weight

Name of indicator	4. Missing price weight
Explanation	This indicator measures the proportion of LOTS that did not include the price weight in relation to the total number of LOTS.
Brief description	Number of LOTS where price weight is missing/Total number of LOTS
Data excluded	Cancelled, FA, DPS
Data field used	CRIT_PRICE_WEIGHT
Steps for calculation	$N_CN_AW_CRIT_PRICE_WEIGHT_NA / N_CN_AW$
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of LOTS

The indicator in this case shows the weight of the price-based indicator. In most countries, the practice of completion changed between 2016 and 2017. This highlights the fact that missing data does not necessarily indicate a transparency problem, but rather, its interpretation is different. This information may be classified by contracting authorities as unnecessary, even though price is typically part of the awarding criteria. The indicator reached the 50% level of data completeness in average just in some cases, so a reconsideration of the variable's interpretation is probably necessary.

Figure 12 B4 Missing MEAT awarding criteria price weight

It should be noted that if the weighting of the awarding criterion is divided between the lowest price and the most economically advantageous tender, the picture becomes diverse for MEAT. For price-based award criteria, the weight does not need to be published; therefore, it is sufficient to examine only the missing data for the MEAT criterion, which is very high in most Member States.

B4 Evaluation: Level 2

The lack of information on the weighting of an awarding criterion can influence the tenderer's decision if there are multiple awarding criteria. Given the pattern across Member States, the lack of this information in the case of the MEAT awarding criteria affects competition.

Before 2014 EU Directives: No data available

No information is available from this period about the Most Economically Advantageous Tender Awarding criteria, price weight.

After 2014 EU Directives: 57.24% = high

The level of missing information is high, exceeding 50% in 18 Member States.

Trend: Negative

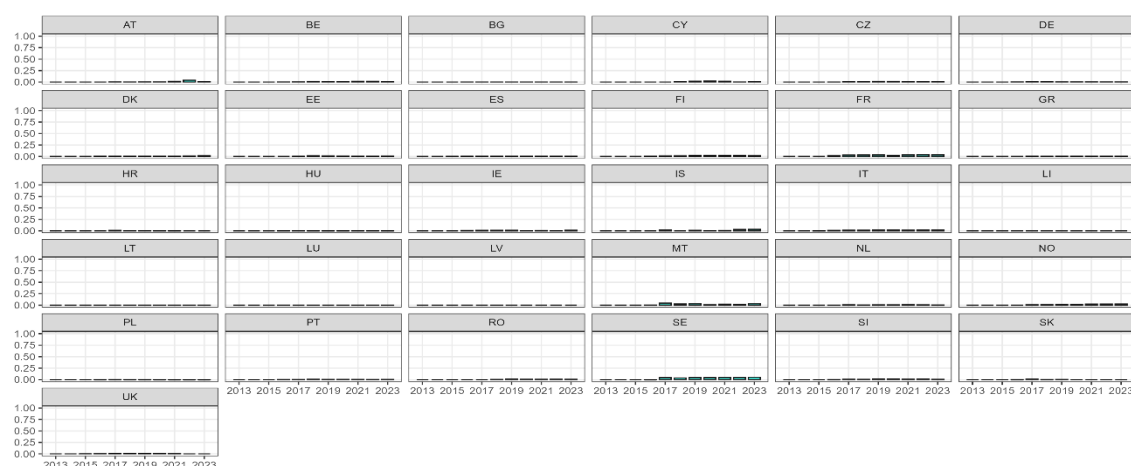
The level of missing information is high in almost all Member States.

B5 Missing procedure type

Name of indicator	5. Missing procedure type
Explanation	This indicator measures the proportion of procedures that did not include the procedure type in relation to the total number of procedures.
Brief description	Number of procedures where procedure type is missing/Total number of procedures
Data excluded	Cancelled, FA, DPS
Data field used	TOP_TYPE
Steps for calculation	TOP_TYPE_NA / N_CN
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of Procedures

Information about the type of procedure is considered to be useful; its lack prevents the tenderer from being able to calculate whether there will be a negotiation, how long the procedure will take, and what administrative requirements are expected at a given stage of the procedure. Experienced tenderers can nevertheless draw conclusions about the actual process and requirements of the procedure, but this should not be considered a basis for accepting the absence of this basic information. The issue refers not only to a transparency problem but also to the lack of basic information necessary for an economic operator to make an informed decision, posing an integrity risk to the procedure. Fortunately, the lack of this information is relatively rare. It is not entirely unprecedented, however, that information is missing that could be made mandatory for contracting authorities to provide. This omission is relatively easy to address when filling in the contract notice.

Figure 13 B5 Missing procedure type



B5 Evaluation: Level 3

The absence of information about the procedure type has a direct impact on competition, as tenderers' decisions are strongly influenced by whether this information is directly available in the contract notice. If the information is elsewhere in the notice, it still affects the bidder's decision. Based on the pattern across Member States, the absence of this information is atypical.

Before 2014 EU Directives: 0% low

The level of missing information was almost zero in most Member States.

After 2014 EU Directives: 0.9% low

The level of missing information was almost zero in most Member States.

Trend: Neutral

The level of missing information has been very low, and the change is quite small in almost all Member States. Based on the pattern across Member States, the absence of this data is quite exceptional.

B6 Missing contract type

Name of indicator	6. Missing contract type
Explanation	This indicator measures the proportion of contract awards that did not include the contract type in relation to the total number of contract awards.
Brief description	Number of procedures where the contract type is missing/Total number of procedures
Data excluded	Cancelled
Data field used	TYPE_OF_CONTRACT
Steps for calculation	$N_CN_TYPE_OF_CONTRACT_NA / N_CN$
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of LOTs

In this case, we found some missing elements in the millions of notices, which also means that CAs fully disclose this information. This variable is indispensable for enabling the contracting authority to decide whether to include other similar purchases in its estimate. In this case, therefore, there is practically no point in carrying out a separate examination, as ensuring the completeness of this information is so clear to all Member States.

B6 Evaluation: Level 3

The absence of the type of contract has a direct impact on competition, as the decision of tenderers is strongly influenced by whether the information is directly available in the call for notice. If the information is elsewhere in the notice, it still affects the bidder's decision. Based on the pattern across Member States, the absence of this information is atypical.

Before 2014 EU Directives: 0% = Low

The level of missing information was almost zero in all Member States.

After 2014 EU Directives: 0% = Low

The level of missing information remained almost zero in all Member States.

Trend: Neutral

The level of missing information has remained very low. Based on the pattern across Member States, the absence of this data is quite exceptional.

B7 Missing date of award

Name of indicator	7. Missing date of award
Explanation	This indicator measures the proportion of contract awards that did not include the date of award in relation to the total number of contract awards.
Brief description	Number of LOTS where the date of award is missing/Total number of LOTS
Data excluded	Cancelled, FA, DPS, Non-awarded LOTS
Data field used	DT_AWARD
Steps for calculation	N_AW_NODATE / N_AW
Source of Data	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of LOTS

The Contract Award Notice-based indicator refers only and exclusively to procedures: data from framework agreements, and dynamic systems are not included. Information on the date of the procedure's outcome can be misleading, as the "date of conclusion of the contract" records the date when the contract was signed. This information is a typical example of the many ways in which a variable can be interpreted.

The result of the absence of this information is that tenderers do not know when the contract was signed, which, for example, in the case of a negotiated procedure without prior publication of a contract notice, hampers enforcement. If we exclude non-awarded procedures, we find practically zero examples of this in the data, which is a consequence of compulsory completion. This indicates that some value is normally entered by Member States, although we cannot verify its validity.

B7 Evaluation: Level 2

The absence of an award date has a moderate impact on bidders' perception of the fairness and transparency of the competition. Whether the economic operator is fully informed of the results of previous procedures is a factor in the decision to proceed to the next procurement procedure. Since the information in the notice refers to the date of signature of the contract, its effect is in fact different if the economic operators were informed of the date of the decision.

Before 2014 EU Directives: 0% = Low

The level of missing information was zero in all Member States.

After 2014 EU Directives: 0% = Low

The level of missing information was zero in all Member States.

Trend: Neutral

The level of missing information was zero in all Member States.

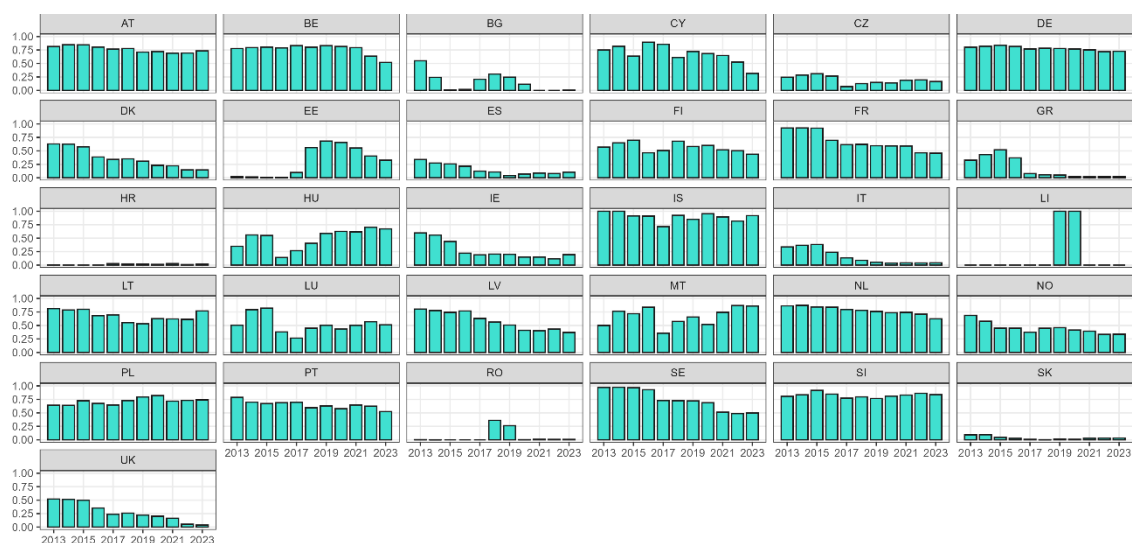
B8 Missing value of the framework agreement

Name of indicator	8. Missing value of framework agreement
Explanation	This indicator measures the proportion of Framework Agreements that did not include the estimated value in relation to the total number of Framework Agreements.
Brief description	Number of framework agreements where the value is missing/Total number of Framework agreements
Data excluded	Cancelled, DPS, non-FA
Data field used	VALUE_EURO; B_FRA_AGREEMENT
Steps for calculation	$N_CN_FRA_NOVALUE / N_CN_FRA$
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of Procedures

The estimated value of public procurement contracts is not publicly available data, although it is not uncommon for countries to publish estimated values.

However, in the case of framework agreements, the publication of the estimated value or estimated quantity is mandatory, as it is this information that tenderers use to decide whether they wish to be a party to the framework agreement and, for example, to participate in re-tendering procedures. The available data show that for 16 countries, the estimated value was not published in more than half of the framework agreements (2016-2023). This data could, of course, vary, but the general lack of data shows that interested economic operators are encountering a large data gap in relation to framework agreements, while for three countries, the data gap is very small (less than 10%). This suggests that country policies vary widely, and in many countries, there is an explicit requirement to publish the value or a figure indicating the estimated volume of the framework agreement. The content and rationale of this information certainly need to be examined in more detail, as this information not only affects the bidder's decision to enter into a framework agreement but it is also a matter of trust whether to enter into an administratively more burdensome framework agreement if the contracting authority does not disclose essential information in its invitation to tender.

Figure 14 B8 Missing value of framework agreement

**B8 Evaluation: Level 1**

The absence of information about the contract value has an impact on competition, as tenderers' decisions are influenced by whether this information is directly available in the contract notice. If the information is elsewhere in the notice, it may still affect the bidder's decision. However, other information can be substituted for the value of the framework contract, so not disclosing this may, in fact, be a legal solution.

Before 2014 EU Directives: 59.16% = Diverse

The level of missing information exceeded 50% in 20 Member States.

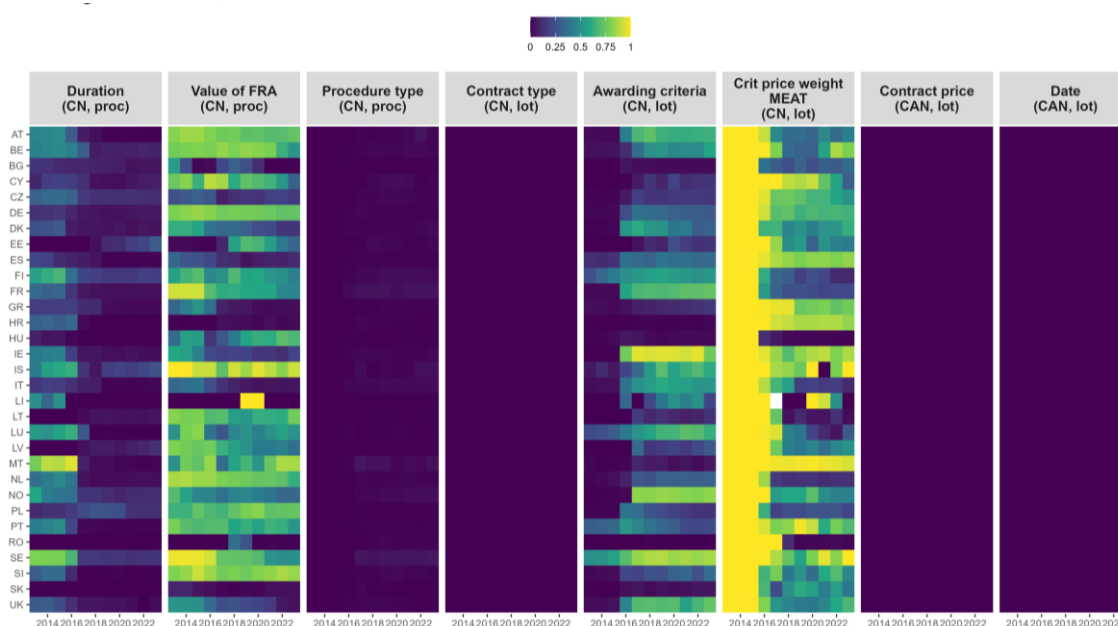
After 2014 EU Directives: 45.95% = Diverse

The level of missing information was still higher than 50% in 16 Member States.

Trend: Positive

The results are better in two-thirds of Member States (by 12.4% on average), but the level of missing information is still very high in 16 Member States.

The summary below indicates which of the 'missing' indicators have improved and which have remained unchanged or declined. The years 2015-2016 clearly demonstrate an improvement in terms of duration, contract price, and award date. However, indicators for award criteria and value of the framework agreement indicate a mixed trend, while price weight has become less publicly available recently. The procedure type and contract type are clearly disclosed, with very little missing information, and this situation has remained unchanged in recent years.

Figure 15 Missing data indicators**B9 Number of procedures**

Name of indicator	9. Number of procedures
Explanation	This indicator measures the total number of procedures.
Brief description	Number of procedures
Data excluded	Cancelled, DPS, FA
Data field used	TOP_TYPE
Steps for calculation	N_CN
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of procedures

The level of public procurement activity in a given country is also an indicator of how transparently it publishes its notices and the extent to which it does not launch its procedures without notice or in an accelerated manner. The number of procedures explicitly indicates the activity of contracting authorities at the procedure level in nominal terms. This figure is of little use on its own, but in relation to the size and GDP of the countries, these procedure volumes are, in fact, much more informative. This basic indicator can therefore be used to show which countries in the survey engage in more than 10,000 public procurement procedures per year above the EU threshold. In addition to the activities of the larger countries, the level of public procurement expenditure can also be considered; however, the available data on this is very imprecise. Thus, the number of procedures compared to the number of contracting authorities, or the distinction between work, supply, and service procurement, may reveal specificities that make much more sense when applying filters.

The number of procedures alone does not necessarily indicate the degree of transparency; however, an increasing trend, for example, in DE, BG, CZ, PT, and

RO, suggests a more active European publication practice. The average number of proceedings typically increased, only decreasing for BE and FR over the period 2016-2023.

Figure 16 B9 Number of procedures



B9 Evaluation: Level 0

The number of procedures and their evolution reflect the dynamics of the market, the activity of contracting authorities, and the uptake of public procurement. A larger number contributes indirectly to transparency and the degree of fair competition, as more successful public procurement procedures actually indicate a growing public procurement market and more active compliance.

Before 2014 EU Directives: 4,077 on average/country

The average number of proceedings per Member State per year during this period was 4,077.

After 2014 EU Directives: 5,638 on average/country

The number of procedures increased in 28 Member States.

Trend: Positive

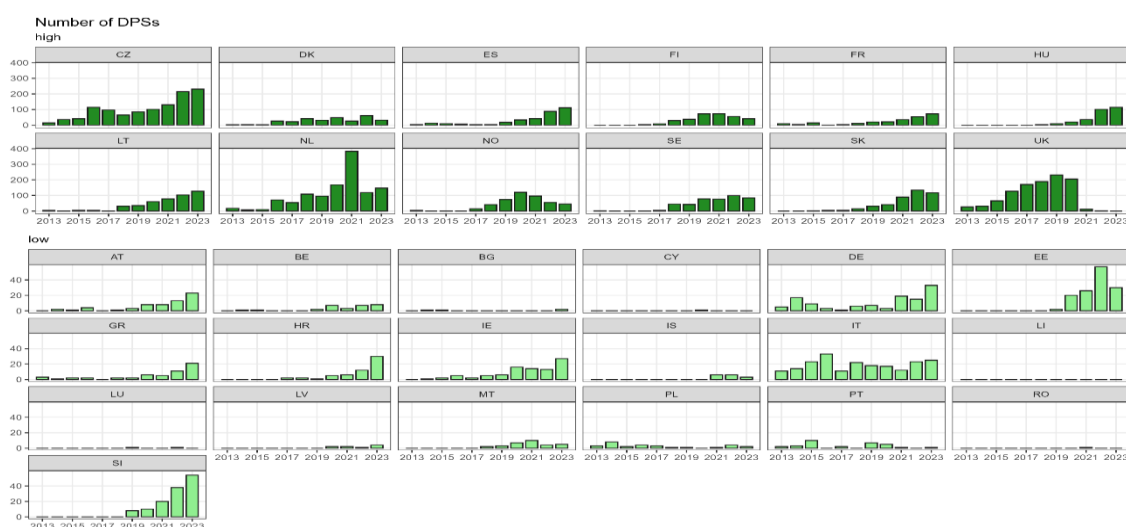
The average increase in the number of procedures was 1,561 per year per country, indicating the more active behaviour of contracting authorities.

B10 Number of DPSs

Name of indicator	10. Number of DPSs
Explanation	This indicator measures the total number of DPSs.
Brief description	Number of DPSs
Data excluded	Cancelled, FA, non-DPS
Data field used	B_DYN_PURCH_SYST
Steps for calculation	N_CN_DPS
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of methods

Dynamic Procurement Systems allow contracting authorities to accept candidates using a continuously ‘open’ system. Regardless of how complex or understandable the conditions for participation are, DPS provides market players with access to subsequent re-competitions. The use of DPS does not in itself represent innovation; the activity shows the extent to which contracting authorities are launching increasingly newer open systems (all DPS) rather than individual, more administratively burdensome procedures. The data does not show the active maintenance of DPSs, but only and exclusively newly launched systems. Depending on the degree of transparency that e-procurement systems provide to those not part of DPS, their use may be positive or less positive in terms of transparency. The following data illustrate the activity of individual Member States in establishing new DPSs. In this, the leaders are CZ, LT, NO, SE, SK, and the UK.

Figure 17 B10 Number of DPSs



B10 Evaluation: Level 0

The number of Dynamic Purchasing Systems and their evolution reflect the dynamics of the market, the activity of contracting authorities, and the uptake of public procurement. This contributes indirectly to transparency and the degree of fair competition, as more successful public procurement methods indicate a growing public procurement market and more active compliance.

Before 2014 EU Directives: Nine on average/country

The average number of DPSs per Member State per year during this period was very low, at nine.

After 2014 EU Directives: 39 on average/country

The number of DPSs increased in 17 Member States.

Trend: Positive

The average increase in the number of DPSs was 34 / year/country, indicating the more active behaviour of contracting authorities.

B11 Number of Framework Agreements

Name of indicator	11. Number of FAs
Explanation	This indicator measures the total number of Framework Agreements.
Brief description	Number of FAs
Data excluded	Cancelled, DPS, non-FA
Data field used	B_FRA_AGREEMENT
Steps for calculation	N_CN_FRA
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of methods

The use of framework agreements is widespread in many countries. It is favoured by public service providers, central purchasing bodies, and smaller contracting authorities, who want the flexibility to obtain products and services more quickly through re-tendering or direct ordering. The nature of a framework agreement is that it is a long-term procurement model, forming a closed system. The tenderers with whom the contracting authority concludes a framework agreement cannot be changed, except in the event of a framework agreement partner being excluded. This inflexibility may result in collusion between framework agreement partners or a long-standing system that is closed to new entrants.

However, framework agreements can be very efficient and benefit the contracting authority and its institutions. Framework agreements sometimes operate with capped prices and mandatory bidding, i.e., contracting authorities often limit bidders, leading to bogus bidding. The practice of operating framework agreements, which depends on the competition that the contracting authority can generate, is largely influenced by their terms and conditions and the contracting authority's strategy. Accordingly, the use of framework agreements can be diverse, the latter element of which (above) we have virtually no information on, since procurement according to framework agreements cannot be researched using TED data. The notices published by contracting authorities often take the

form of an unstructured set of data with multiple sets of identical data, so that overall, the procurement activity under framework agreements is not known; only the number, length, and value of framework agreements, i.e., the basic data, can be examined, which in itself indicates a transparency problem. The use of framework agreements per se is positive, as their increase indicates that contracting authorities are more actively choosing long-term procurement models.

The use of framework agreements is prominent in FR, followed by DE, RO, BE, NL, NO, SE, and UK (2016-2023). In quantitative terms, the active use of framework agreements is not a specific feature of smaller or larger Member States.

Figure 18 B11 Number of FAs



B11 Evaluation: Level 0

The number of frameworks and their evolution reflect the dynamics of the market, the activity of contracting authorities, and the uptake of public procurement. They contribute indirectly to transparency and the degree of fair competition, as more successful public procurement procedures actually indicate a growing public procurement market and more active compliance.

Before 2014 EU Directives: 1,224 on average/country

The average number of FAs per Member State per year during this period was 1,224.

After 2014 EU Directives: 1,796 on average/country

The number of FAs increased in 28 Member States on average.

Trend: Positive

The average increase in the number of FAs was 587 per year per country, indicating the more active behaviour of contracting authorities.

B12 Number of languages

Name of indicator	12. Languages
Explanation	This indicator measures the average number of languages permitted for use in public procurement procedures and methods.
Brief description	Average number of languages in which applications can be submitted
Data excluded	Cancelled
Data field used	ADMIN_LANGUAGES_TENDER
Steps for calculation	LANG_NUMBER
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of languages

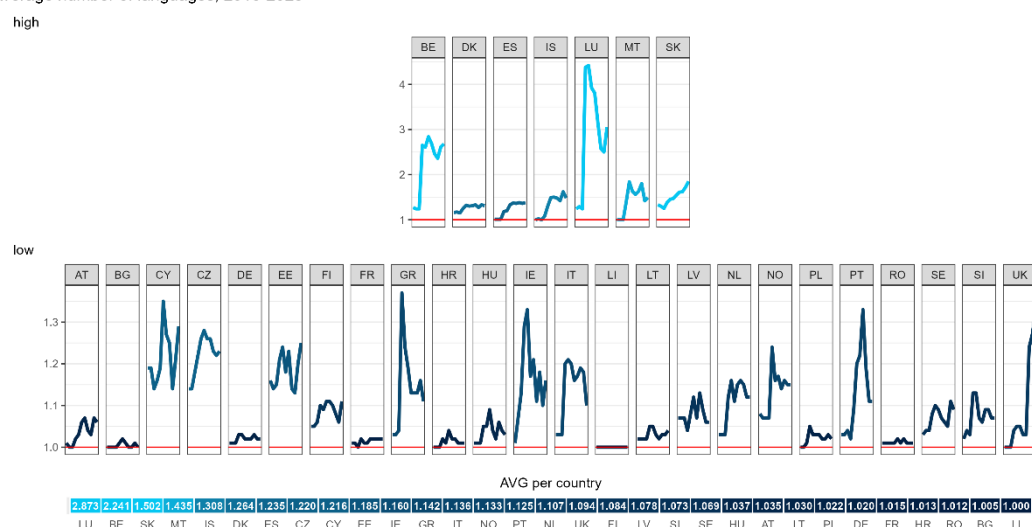
The indicator shows the practice of submitting bids in the official EU languages. One element of ensuring fair competition is to include cross-border procurement in this category, allowing tenders to be submitted in as many languages as possible. The indicator does not apply to non-official EU languages.

Most contracting authorities make their documents available and allow tendering in one language. The analysis does not consider the number of official languages in a country. BE and LU achieved outstanding results, with scores of 1.5 or higher also recorded for MT and SK.

The data are volatile due to different country practices, but it can be said that contracting authorities do not typically allow tendering in more than one language in the EU.

Figure 19 B12 Number of languages

Average number of languages, 2013-2023



B12 Evaluation: Level 1

Allowing multilingual tendering has an impact on competition and sometimes on the decision-making process of tenderers, as it is easier and cheaper for them to bid when there are no language barriers, although AI translation tools may now facilitate interpretation. This also affects publicity, as it allows for clearer communication, but it is only one of the options that contracting authorities may support in this regard.

Before 2014 EU Directives: 1,0639 = Diverse

No Member State has an average number above 1.5.

After 2014 EU Directives: 1.2806 = Diverse

Three Member States achieved an average score of above 1.5.

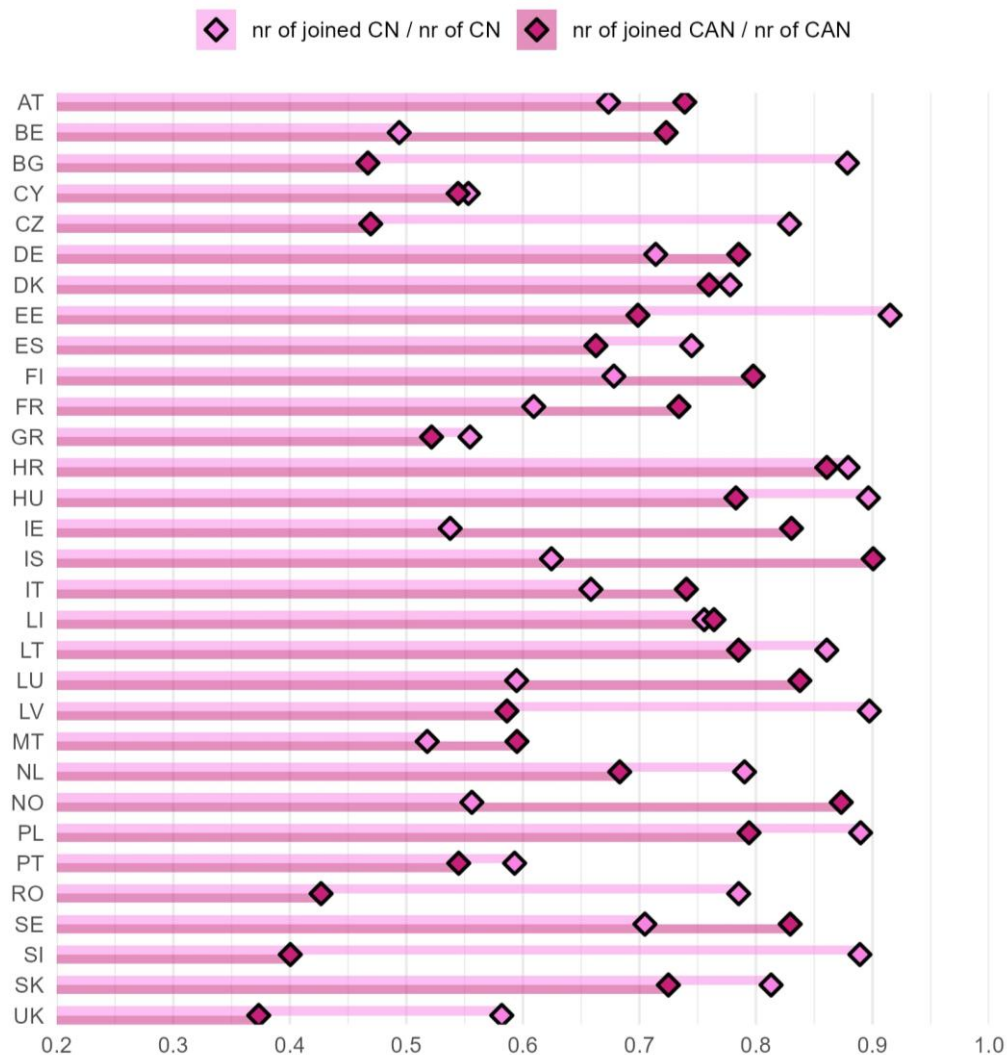
Trend: Positive

The choice of languages allowed by Member States has increased by 21.67% on average, which is clearly a positive trend.

B13 CN-CAN connection

Name of indicator	13. CAN-CN Connect
Explanation	The indicator measures the overlap between the contract award notices and contract notices, i.e., the extent to which the beginning and the end of the procedure can be linked.
Brief description	Connection of CAN-CN/whole period
Data excluded	Cancelled, FA, DPS, procedures without call for notices (NOC, NOP, AWP)
Data field used	ID_NOTICE_CAN
Steps for calculation	$N_CN_IJOIN / N_CN, N_CAN_IJOIN / N_CAN$
Source of Data	CN 2, 5, 21, 22, 24 and CAN 3, 6, 21, 22, 23, 25
Unit of Measure	% of overlap

The link between a Contract Notice and Contract Award Notice seems natural. Still, this is not the case, as with framework agreements and DPSs, we lack sufficient information on how many purchases may be attributed to these methods. This is precisely why it is important to be sure of the link between the launch of the procedure and its outcome in the case of standard procedures (open, negotiated). In the calculation of the indicator, procedures without a notice are not taken into account, as these procedures do not have a CN-CAN notice link. In this case, we do not break down the subject of the analysis by year but instead examine the period 2013-2023 in terms of the overlap between the two databases. Data gaps for recent data may indicate that the procedure is not yet over. However, it may also indicate that the contracting authority has not published the contract notice, for example, which indicates a real integrity problem. The lower the value for CN and CAN, the more likely it is that a notice has not been published or that a data error has led to failure to establish a link between the two notices. It is expected that this problem will disappear with E-forms, but it is nevertheless interesting to note that for GR, PT, and UK, for example, both values are below 60%.

Figure 20 B13 CN-CAN connection**B13 Evaluation: Level 2**

The indicator allows the assessment of the relationship between CN and CAN. The proportion of CNs to all CNs that have a connected CAN, and the proportion of CANs to all CANs that have a connected CN, indicate the level of data relationship between the beginning and the end of the procedure. If the indicator is lower, this may have a moderate impact on transparency and integrity, as an economic operator is less likely to find both key notices for a given procedure, which would be useful even if the economic operator concerned has not started the procedure.

Before 2014 EU Directives: 63.33% CN / 57.33% CAN = Diverse

CN was above 75% in ten Member States, and CAN reached 75% in one Member State.

After 2014 EU Directives: 74.07% CN / 71.56% CAN = Diverse

CN was above 75% in 14 Member States, and CAN reached 75% in 17 cases.

Trend: Positive

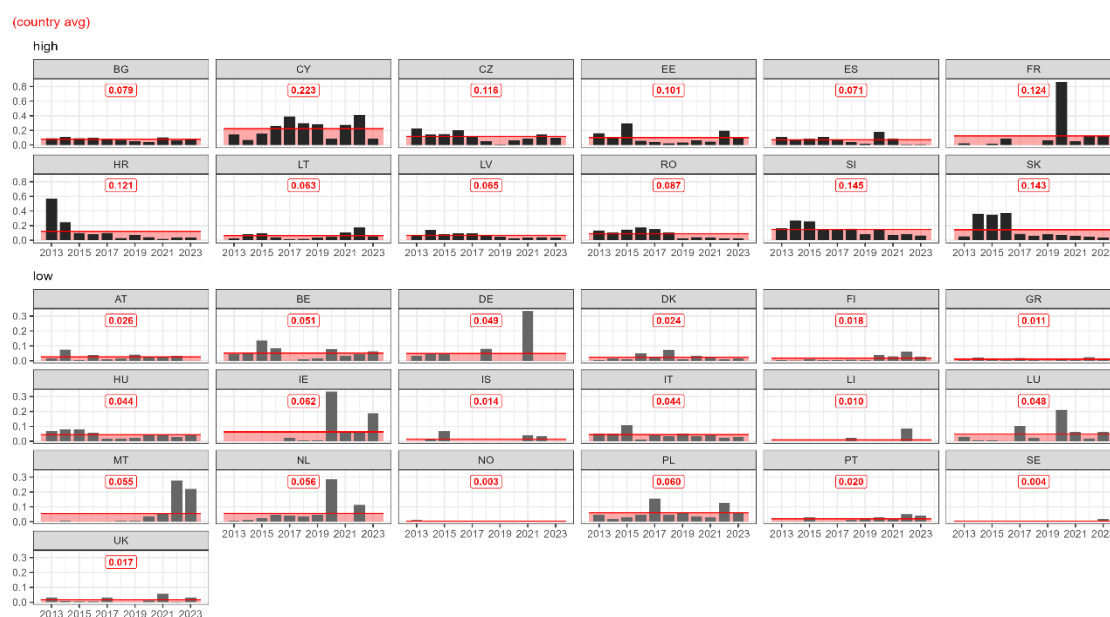
Data connection has improved, particularly for CAN (14.23 on average) and for CN (10.79%), while the number of notifications has also increased.

B14 Direct award value

Name of indicator	14. Direct award value
Explanation	The indicator measures the cumulative value of direct award contracts relative to the total value of all contracts.
Brief description	Value of the direct award LOTs/Value of all the LOTs
Data excluded	Cancelled, FA, DPS
Data field used	TOP_TYPE
Steps for calculation	VALUE_DIRECT_AW / VALUE_ALL
Source of Data	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of LOTs

Generally, value-based indicators are less precise since the results are highly distorted by the lack of precision, inaccuracy, and data errors in the value of contracts. Country-specific data also show that they are volatile in some countries, so a separate average value was also examined. As the indicator includes the value of all public procurement procedures, excluding framework agreements and dynamic purchasing systems, the data we present should be analysed with caution. Based on averages, this is above 10% in many countries for the years 2013 to 2023 (CY, EE, FR, HR, SI, SK). At the same time, there are countries where this value was 2% or less from 2013 to 2023 (GR, IS, NO, SE, and UK). The overuse of negotiated procedures without prior publication of a contract notice is evident in several countries based on the Single Market Scoreboard (above the 10% threshold in 2024: NL, EE, MT, BG, RO, CY). The values indicate that it is insufficient to examine the number of direct contracts alone; for reasons of transparency, it is necessary to consider the direct award value, even though the data are likely to be more imprecise due to the ad hoc filling in of the notice.

Figure 21 B14 Direct award value



B14 Evaluation: Level 2

In the use of procedures without prior publication of a contract notice, there is typically only one tenderer (See B15), which means that the conditions for fair competition are not met. The use of this type of procedure should be exceptional, but it is also lawful; however, the level of transparency in the process is limited.

Before 2014 EU Directives: 7.59% = Low

In six Member States, the cumulative direct contract value exceeded 10%.

After 2014 EU Directives: 6,19%= Low

In four Member States, the cumulative direct contract value exceeded 10%.

Trend: Positive

The value of negotiated procedures without prior publication of a contract notice fell slightly (1.16%), with 13 Member States showing an improvement, while the remaining Member States performed worse. The slight improvement is promising in the context of the increase in the number of notices.

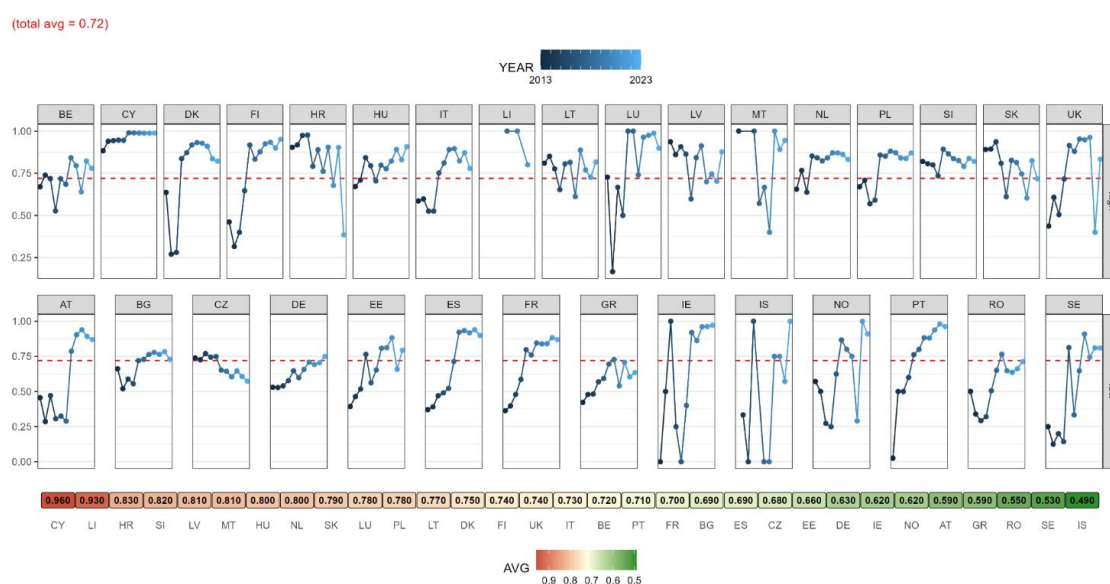
B15 Direct award with single bid

Name of indicator	24. Direct award with single bid / direct award
Explanation	This indicator measures the proportion of direct-award LOTs with a single bid in relation to the number of direct-award LOTs
Brief description	No. of direct award LOTs with one supplier / No. of direct award LOTs
Data excluded	Cancelled
Data field used	TOP_TYPE, NUMBER_OFFERS
Steps for calculation	$N_CAN_AW_DIR_SINGLE_OP / N_CAN_AW_DIR$
Source of Data	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of LOTs

In cases where procedures lack prior publication of a contract notice, the contracting authority determines which firms or entities to invite to tender. It naturally raises integrity concerns if the contracting authority must select potential tenderers. Based on the data that were examined, even for negotiated procedures without prior publication of a contract notice, the contracting authority must invite one or at least three tenderers to participate; in more than half of all countries, these procedures typically end with one tender.

This suggests that contracting authorities are typically not interested in ensuring effective competition, or are unable to do so during a pandemic or war situation, and it is not by chance that only one bid is received from the bidders they invite to tender. The average for 13 countries is 75% or above for the entire examined period, indicating that this type of procedure is abusive and uncompetitive.

Figure 22 B15 Direct award with single bid



B15 Evaluation: Level 2

In the case of negotiated procedures without prior publication of a contract notice, the transparency of the procedure is limited, especially if it is possible in principle to have more than one bidder, thereby ensuring fair competition. The contracting authority may have the right to invite only one bidder to participate. However, if this is not the case and only one bid is received as a result of the technical specification, minimum requirements, etc., the contracting authority has not taken sufficient steps to ensure fair competition.

Before 2014 EU Directives: 59.24% = High

In 17 Member States, more than 50% of direct contracts were concluded with a single bidder.

After 2014 EU Directives: 77.44% = High

In all Member States, more than 50% of direct contracts were concluded with one bidder.

Trend: Negative

The proportion of direct contracts with a single bidder has increased by almost 20% on average in the Member States, indicating that this type of procedure is less likely to ensure fair competition.

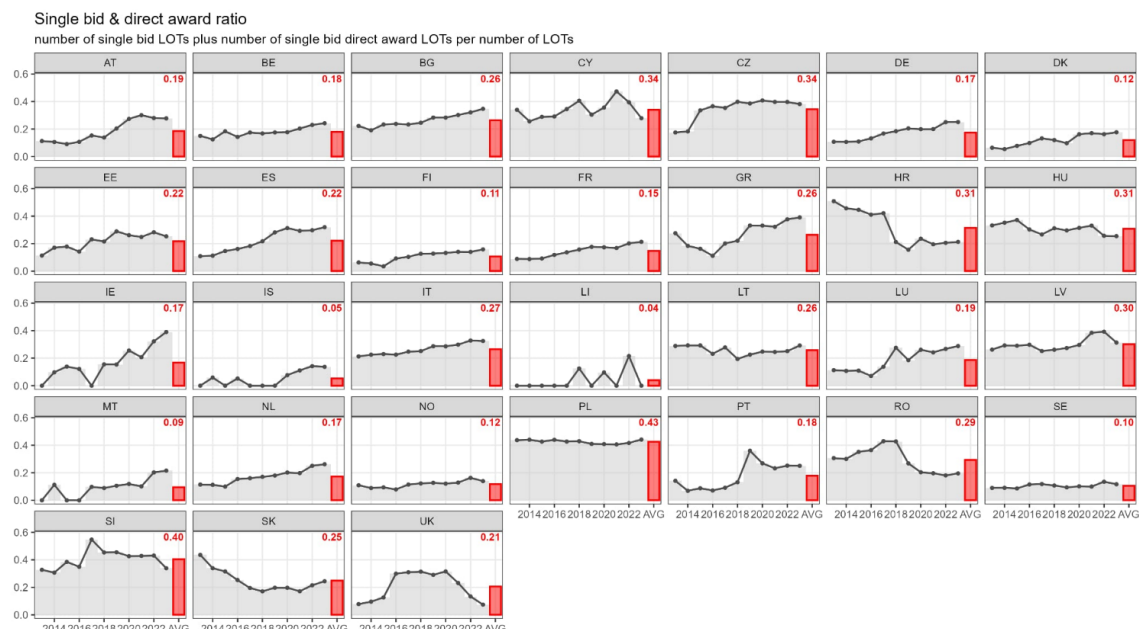
B16 Single bid and Direct award with single bid

Name of indicator	16. Single bid and Direct award with single bid
Explanation	The indicator shows the proportion of contracts awarded to a single contractor in relation to the total number of awards.
Brief description	No. of Single bid LOTs and direct award with single bid LOTs/Total No. of LOTs
Data excluded	Cancelled, FA, DPS
Data field used	TOP_TYPE; NUMBER_OFFERS
Steps for calculation	$N_{AW_SINGLEBID_AND_DIR} / N_{AW}$
Source of Data	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of LOTs

Based on the methodology of the Single Market Scoreboard, the Single Bid Indicator does not include negotiated procedures without prior publication of a contract notice (direct awards). Thus, in addition to the Single Bid Indicator, the conduct of a non-publicly competitive procedure is a uniform indicator of which procedures were not subject to public competition. Based on our findings in the case of B15, there is a high likelihood that if the contracting authority assumes there is only one market player, it will initiate a negotiated procedure without prior publication of a contract notice. In this case, there will certainly be one bidder in the procedure, which is typical of a direct contract.

The two elements can thus be cumulated in relation to fair competition. This does not mean that the contracting authority has not been fair to a tenderer or that a negotiated procedure without prior publication of a contract notice when granting an exclusive right is unlawful. It merely means that competition in these procedures is limited, as evidenced by the small number of bidders in the case of a single bid and the nature of the procedure itself in the case of direct award. The data show that some countries have a higher direct award rate, which is the highest (more than 30%) for CY, CZ, HR, HU, LV, PL, and SI based on the average of the 10 years examined. For some countries, the trend decreased from 2016 to 2023 (HR, HU, LT, PL, RO, SK, UK), while for the majority, the trend increased, which paints a very negative picture of the practice in the majority of EU Member States.

Figure 23 B16 Single bid and Direct award with single bid¹⁶



¹⁶ The red bar shows the average of all years.

B16 Evaluation: Level 2

For single-bidder procedures including direct awards, this indicator indicates a lack of fair competition and partial transparency. In the latter case, no contract notice is published in the case of a direct contract, and only one bidder is submitted in the case of a contract notice, which means that the procedure has failed to take advantage of market dynamics

Before 2014 EU Directives: 19.8% = High

In 9 Member States, more than 25% of single-bidder procedures were observed.

After 2014 EU Directives: 23.88% = High

In 12 Member States, more than 25% of single-bidder procedures were observed.

Trend: Negative

The proportion of contracts with a single bidder (including direct awards) increased by 4%, showing a further deterioration in the initially high figures, and indicating a lack of fair competition in more than a fifth of all LOTs in the EU.

B17 Non-awarded LOTs

Name of indicator	17. Non-awarded lots
Explanation	This indicator measures the proportion of non-awarded contract awards in relation to the total number of contract awards.
Brief description	No of non-awarded LOTs/All No. of LOTs
Data excluded	Cancelled, FA, DPS
Data field used	INFO_ON_NON_AWARD; LOTS_NUMBER
Steps for calculation	N_AW_VOID / N_AW
Source of Data	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of LOTs

The analysis of inefficiencies is interesting not only because of the information on the efficiency of the procedures but also because the published inefficiency data show that a significant amount of additional information is not provided by contracting authorities, making it difficult to determine whether the bidders whose bids were ultimately invalid were SMEs. The possibilities for examining this indicator are, therefore, limited. The variable concerned has two sub-variables, one regarding cases when no tenders or requests to participate were received or all were rejected (unsuccessful), and the other when the procedure is discontinued for some other reason. The variable 'Unsuccessful' is primarily responsible for the inefficiency associated with the two sub-variables that were examined. The reasons are complicated to identify, but the results of this indicator alone highlight the need to pay more attention to ensuring fair competition, which in turn leads to successful procurement. Almost half of the countries have an unsuccessful LOT rate of more than 10% for the entire examined period. RO, SI, BG, SK, and MT show the worst average results over the period, with a value above 20%. This indicates that despite a regulated process and publicity, in most countries, at least one in ten procurements will be unsuccessful for some reason. The reasons for this are quite specific to each Member State. This indicator is primarily intended to highlight the problem, which may occur for several reasons, such as integrity issues, lack of competition or even a lack of knowledge about the subject of procurements, etc.

Figure 24 B17 Non-awarded LOTs



Figure 25 B17 Unsuccessful and discontinued non-awarded LOTs

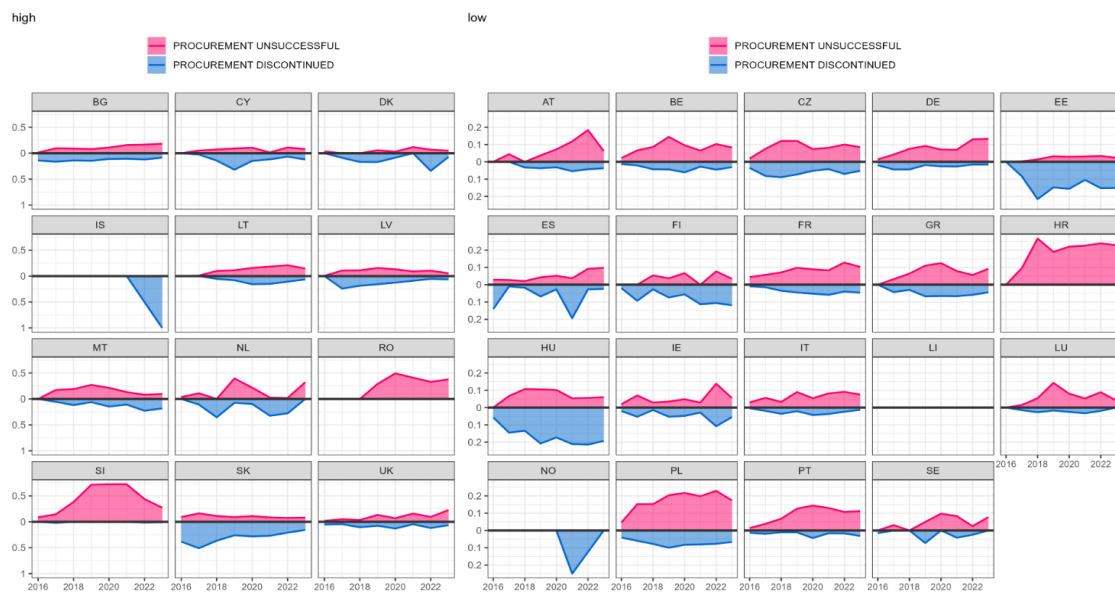
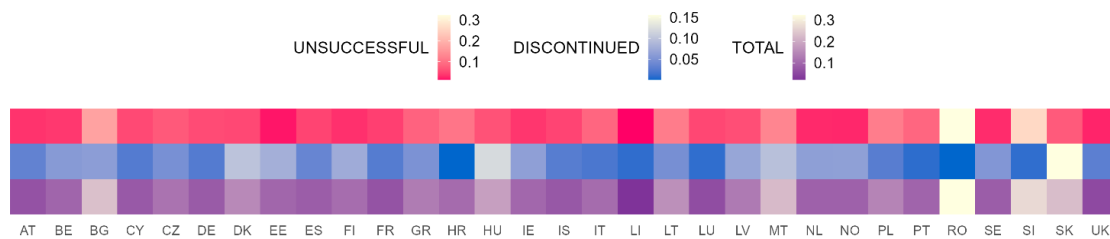


Figure 26 B17 Unsuccessful and discontinued non-awarded LOT ratios



B17 Evaluation: Level 2

Non-awarded LOTs are destructive to competition, as there are many reasons why no bids are received or all bids become invalid during the procedure. Invalidity raises concerns about fair competition and integrity, but may also occur for several other reasons, such as the unpreparedness of the contracting authorities or tenderers.

Before 2014 EU Directives: No Data

Data on this variable only became available later.

After 2014 EU Directives: 14.57%= High

In four Member States, more than 25% of LOTs were unsuccessful or discontinued.

Trend: Not identified

We do not have data on Non-awarded LOTs from the previous period, but the average is considered high. In the second period (2016-2023), there was also no overall decrease when looking at individual Member State data.

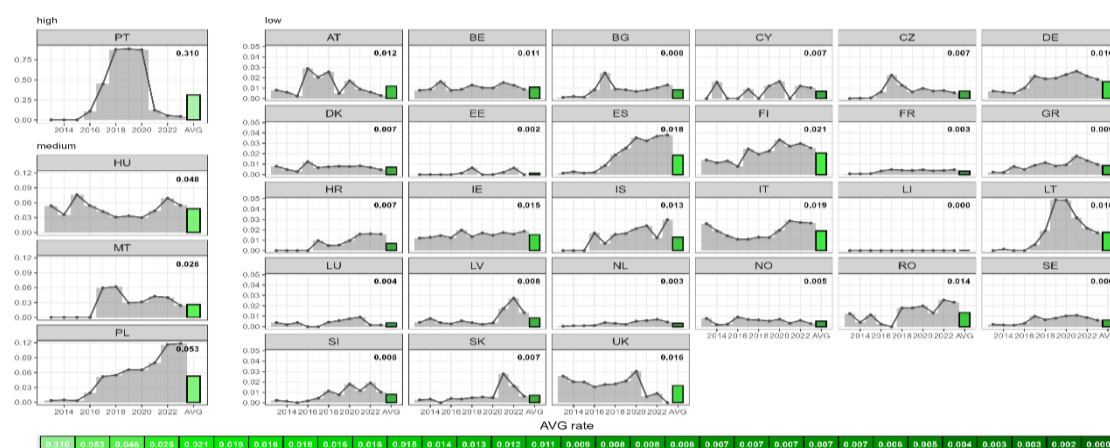
B18 Accelerated procedures

Name of indicator	18. Accelerated procedures
Explanation	This indicator measures the proportion of accelerated procedures in relation to the total number of procedures.
Brief description	Number of accelerated procedures/Total number of procedures
Data excluded	Cancelled, DPS, FA
Data field used	B_ACCELERATED
Steps for calculation	N_CN_ACCEL / N_CN
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of procedures

Accelerated procedures are particularly bad for competition. Their excessive use also involves integrity-related risks, as complex procurements or very rapid tendering and delivery are typically carried out by a market player who has already obtained information about a procedure.

The perception of fast-track procedures among economic operators is negative, as they have significantly less time available for application, and therefore, more operators tend to stay away from them. Acceleration, where justified, can indeed be used; however, disproportionate acceleration generally indicates the development of poor practice in a given Member State or region. Accordingly, in most Member States, the proportion of accelerated procedures is below 2%, with PT being the only Member State with a particularly high proportion, where, on average, 31% of the procedures that were examined were published as accelerated ones over the whole period of examination. The average use of accelerated procedures exceeds 2% in MT, HU, and PL, with PL showing a notable upward trend in this type of procedure.

Figure 27 B18 Accelerated procedures



B18 Evaluation: Level 1

If there is not enough time, the contracting authority is effectively restricting the conditions for fair competition. As this type of procedure is permissible, given that it can be used in justified cases, the aim should be to minimise its use as much as possible.

Before 2014 EU Directives: 0.87% = Low

19 Member States used this type of procedure in less than 1% of cases.

After 2014 EU Directives: 3.16% = Low

11 Member States applied this type of procedure in less than 1% of cases.

Trend: Negative

The use of this type of procedure is rare, but its use has increased by 0.81% on average over the last period.

B19 Framework agreements with a single supplier

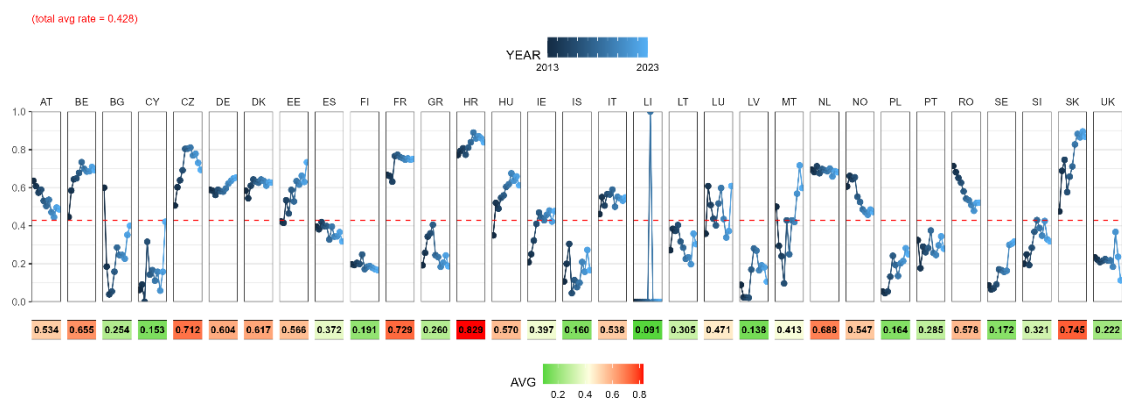
Name of indicator	19. Framework agreements with a single supplier
Explanation	This indicator measures the proportion of Framework agreements with a single supplier relative to the total number of framework agreements.
Brief description	Framework agreement with one supplier/No. of Framework agreements
Data excluded	Cancelled, DPS, all procedures
Data field used	B_FRA_SINGLE_OPERATOR; B_FRA_AGREEMENT
Steps for calculation	$N_CN_FRA_SINGLE_OP / N_CN_FRA$
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of framework agreements

A framework agreement can be established in two ways: with a single supplier or multiple bidders. A framework agreement with several tenderers enables the contracting authority to 'recompete' the procedure later, thereby making competition between the parties to the framework agreement more dynamic. When contracting with a single framework agreement partner, it either orders directly or, after consultation, concludes an individual contract with a single partner. The individual contracts associated with the framework agreement may

not be transparent; little, poorly structured information may be published in the second part of the framework agreement.

In addition to the lack of transparency, individual agreements pose an integrity risk, as contractors individually price the projects defined by the contracting authority. In this case, there is no competition or possibility for a single supplier to compete. There is a place for this solution; however, if contracting authorities typically use this model, they are engaging in competition over the long term without giving other economic operators the opportunity to participate. The overall average is 42.8%, while AT, BE, CZ, DE, DK, EE, FR, HR, HU, IT, NL, NO, RO, and SK rank higher. In many Member States, contracting authorities typically initiate framework agreements with a single tenderer. In 2023, BE, CZ, DE, DK, EE, FR, HR, HU, NL, and SK were the most prominent actors in this regard, with a value above 60%.

Figure 28 B19 Framework agreements with a single supplier



B19 Evaluation: Level 1

While a framework agreement allows for the award of a contract to a single supplier, it is ultimately up to the contracting authority to decide to what extent it fosters fair competition in the second part of the framework agreement and to what extent it relies on a single actor. As framework agreements are typically concluded for a longer period (See B21) by contracting authorities, the impact on fair competition is also stronger.

Before 2014 EU Directives: 40.85% = High

In 12 Member States, more than 50% of framework agreements were with a single supplier.

After 2014 EU Directives: 45.53% = High

In 14 Member States, more than 50% of framework agreements were with a single supplier.

Trend: Negative

The use of this type of procedure is frequent, and its use has increased by 4.8% on average over the last period.

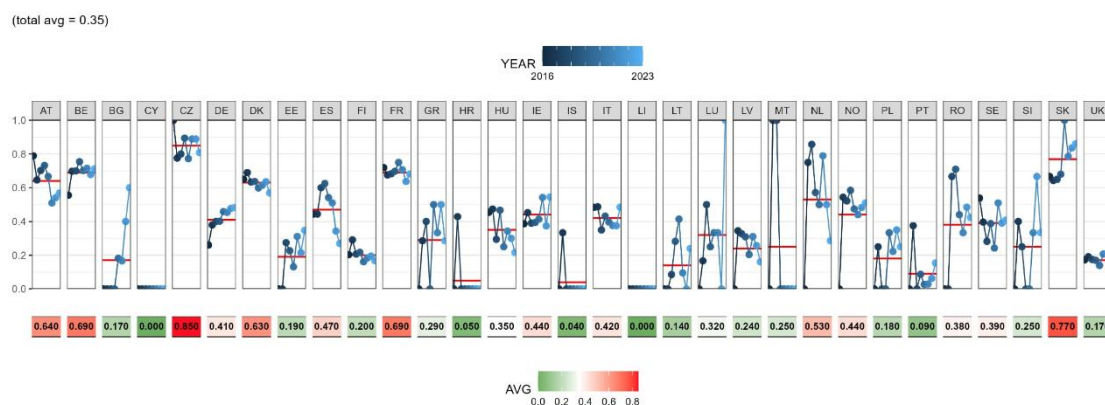
B20 Framework agreements with a single bidder by CPB

Name of indicator	20. Framework agreements with a single supplier by CPB
Explanation	This indicator measures the proportion of framework agreements by CPB with a single supplier in relation to the total number of framework agreements by CPB
Brief description	No. of Framework agreements with one supplier by CPB / No. of Framework agreements by CPB
Data excluded	Cancelled
Data field used	B_FRA_SINGLE_OPERATOR; B_FRA_AGREEMENT; FRA_ESTIMATED
Steps for calculation	$N_CN_FRA_CPB_SINGLE_OP / N_CN_FRA_CPB$
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Number of framework agreements

Central purchasing organisations successfully operate in most Member States, supplying market players typically through framework agreements and dynamic purchasing systems. The impact of central purchasing bodies on the market is strong, as they conclude framework agreements and organise supply for large contracting authorities and other contracting entities. It is important to understand their practices, which show the proportion of framework agreements concluded per supplier. The results depend on how active central purchasing organisations are in a given country and their supply obligations, as well as on the conditions under which contracting authorities are required to use the services of central purchasing organisations. Based on the data for the period under review, AT, BE, CZ, DK, FR, NL, and SK are associated with a rate of more than 50% compared to the total number of framework agreements. In 2023, BG, IE, and NO also had figures above 50%. In the case of central purchasing organisations, compared to overall national market practice, more extreme practices are found, where organisations typically contract with a single bidder.

As we can see here, the practices of a few of these actors impact the overall functioning of the market and provide a template for contracting authorities within the market.

Figure 29 B20 Framework agreements with single bidder by CPB



B20 Evaluation: Level 1

While framework agreements allow for the award of a contract to a single supplier, it is in fact up to the Central Purchasing Body to decide to what extent it allows fair competition in the second part of the framework agreement and to what extent it relies on a single actor. As framework agreements are typically concluded for a longer period (See B21) by contracting authorities, the impact on fair competition is also stronger, especially in the case of CPBs.

Before 2014 EU Directives: No data

Data on this variable only became available later.

After 2014 EU Directives: 41.99%= High

In 9 Member States, more than 50% of framework agreements were concluded with a single supplier initiated by a CPB.

Trend: Not identified

The use of this type of procedure is also frequent among Central Purchasing Bodies.

B21 Duration of framework agreements

Name of indicator	21. Duration of framework agreements
Explanation	This indicator measures the average duration of framework agreements.
Brief description	Average duration of framework agreements
Data excluded	Cancelled, DPS, all procedures
Data field used	DURATION
Steps for calculation	AVG_DUR_FRA
Source of Data	CN 2, 5, 21, 22, 24
Unit of Measure	Day

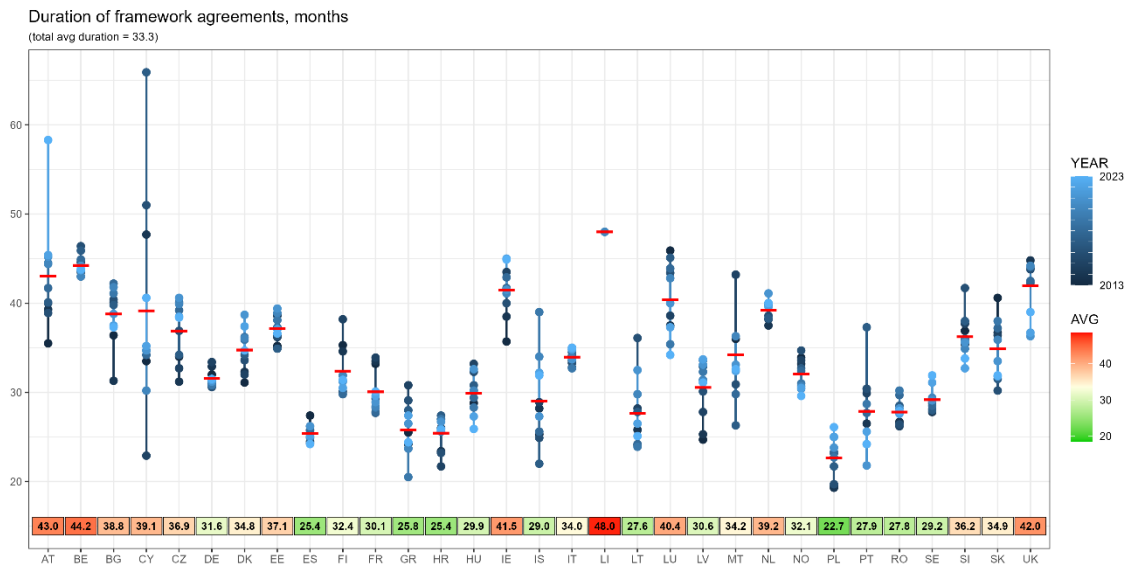
In the case of framework agreements, it is possible in the longer term to establish a closed system under which the contracting authority can re-compete or directly award contracts to operators, depending on the criteria it defined when launching the procedure. Framework agreements can be used to ensure the possibility of re-competition for a given group of suppliers in the long term. Thus, when considering framework agreements, a long-term definition may be advantageous and convenient for the contracting authority, but this long-term procurement model is not suitable for the admission of new entrants.

As the re-tendering and ordering process within framework agreements is not public, it is not transparent to market players who could be potential bidders what happens during this period. Published data are poorly structured and difficult to find for market participants. It is therefore worthwhile understanding what practices have developed, typically including the length of framework agreements launched by contracting authorities in each Member State. It is important to underline that large contracting authorities (public service providers, central purchasing bodies, large municipalities) prefer to use this procurement method to meet their needs.

The graph shows averages over the years, which help understand the variation in country-level practice. During the examined period, CY, AT, IS, MT, and PT exhibited the largest variation in practice; however, 10 Member States averaged

more than 36 months per framework agreement over the period under review. The duration in AT is particularly high, with an average framework agreement period of nearly 60 months in 2023. The average typically varies between 20 and 45 months, with no consistent trend across Member States.

Figure 30 B21 Duration of framework agreements



B21 Evaluation: Level 1

Framework agreements are closed systems, which typically involve a large proportion of single bidders for large amounts (See B19). Since it is up to the contracting authority to decide how often to allow competition, framework agreements concluded for too long a period do not allow competition to be reopened, hindering fair competition by limiting the entry of new players.

Before 2014 EU Directives: 33.06 = Medium value

The average duration of framework agreements in 10 Member States was above 36 months.

After 2014 EU Directives: 33.72 = Medium value

The average duration of framework agreements in 10 Member States was above 36 months.

Trend: Negative

The duration of framework agreements increased by 0.54 months on average over the last period, which is not a large value, but together with the spread of single supplier practices in terms of framework agreements can be seen as a negative trend.

B22 Small value contract price

Name of indicator	22. Small value contract price
Explanation	This indicator measures the proportion of small-value contract awards relative to the total number of contract awards.
Brief description	Number of small value LOTs with equal or less than 10 EUR/Total number of LOTs
Data excluded	Cancelled, FA, DPS
Data field used	AWARD_VALUE_EURO
Steps for calculation	$N_AW_NOVALUE \leq 10 \text{ EUR} / N_AW$
Source of Data	CAN 3, 6, 21, 22, 23, 25
Unit of Measure	Number of LOTs

In addition to the lack of disclosure of contract values, it is also necessary to inspect one indicator that captures unrealistically low contract values. Indeed, if the contract value is filled in but the information is inaccurate and unrealistic, its disclosure is misleading and creates integrity-related problems. As it is difficult to define a value that is certainly unrealistic, the indicator has been set at an extremely low value precisely because if the contracting authority adds a value of less than 10 EUR to the contract value, it is assumed that the information provided is not genuine. Our investigations reveal two Member States where this rate is very high, exceeding 25% (DE, NL) of all contracts, and one Member State with a rate above 10% (DK).

For the other Member States, the rate is below 5% and has remained relatively stable in recent years. In this case, it is the contracting authority that must fill in the data, which is value-based. It is possible that there is a technical reason for the frequent incorrect data entry, or that the importance of publishing accurate data is unclear to contracting authorities, although it is highly misleading if the contract notice does not accurately reflect the true value. For this indicator, framework agreements and dynamic purchasing systems are also excluded from the definition of value, as we may only accept a contract value to which the contracting authority has committed itself. The value of orders or re-tenders under framework agreements and the value of special procurements under dynamic systems cannot be researched or examined, as the relevant CANs are published in various ways in the Member States. Thus, the data for this indicator refer only to LOTs whose results are published within framework procedures. Similarly, the indicator does not include results where contracting authorities have failed to publish the outcome of the procedure.

Figure 31 B22 Small value contract price high medium low

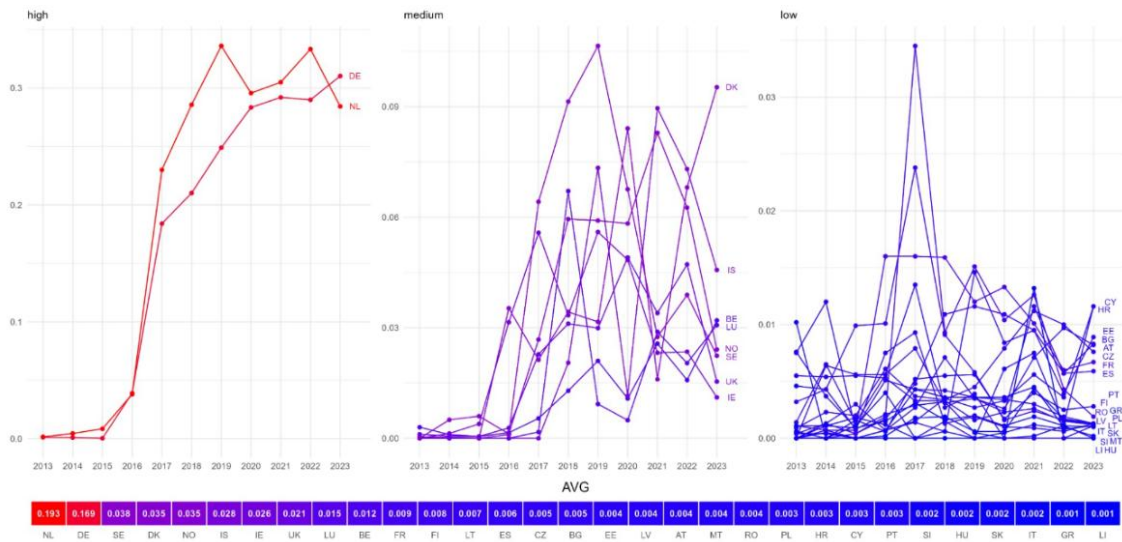
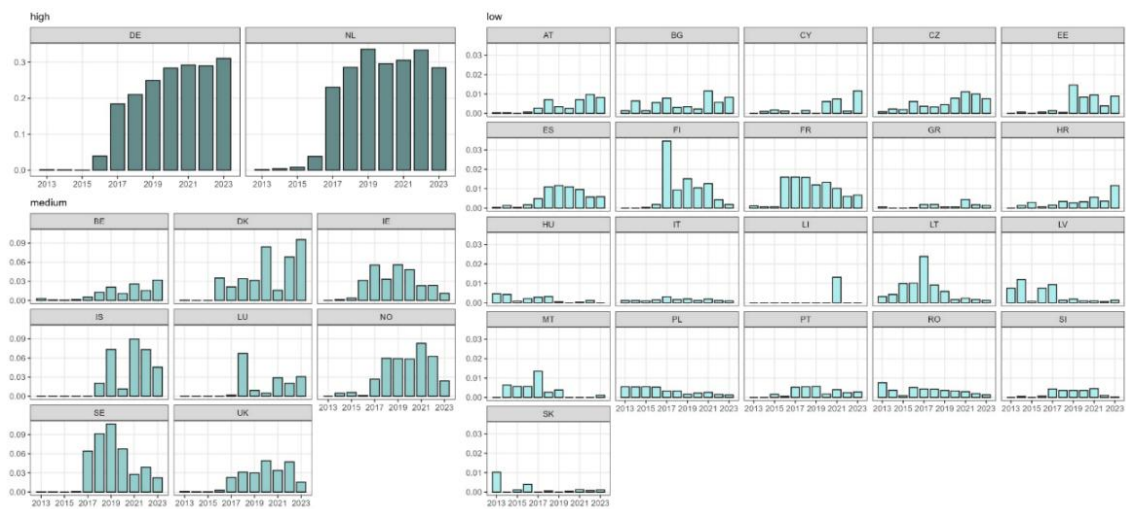


Figure 32 B22 Small value contract price per country



B22 Evaluation: Level 3

The absence of a contract price has a direct impact on the perception of tenderers regarding the fairness and transparency of the competition (see B3). If the contracting authority does not publish truthful information, it has the same effect. If the economic operator is fully informed of the results of previous procedures, this will influence the decision to proceed to the next procurement procedure. If the economic operator identifies an invalid value, its confidence in the public procurement process is reduced, leading to an integrity issue.

Before 2014 EU Directives: 0.27% = Low

There were no Member States where more than 1% of contract values were less than 10 EUR.

After 2014 EU Directives: 3,07% = High

In 11 Member States, more than 1% of contract values were less than 10 EUR.

Trend: Negative

There has been more than a tenfold increase in the reporting of false contract values, a trend that affects the subsequent decisions of market participants, as clearly invalid information is being reported in the contract awards.

6.4. Data Space indicators

The following indicators have been developed because notices uploaded to the Public Procurement Data Space will in the future be linked to contract modification notices. Contract modification is closely linked to the procedure's integrity, as bidders may have made a more advantageous offer if they had known of changes in the contract's content at an earlier stage. Developing contract variation practice in line with the contract variation rules is paramount. The publication of a contract variation notice is a key condition for this. In many cases, unfortunately, these notices are not prepared, or contracting authorities do not bother to ensure their publicity. It is, therefore, essential to link the data on contract modification to the procedure and pay attention to the performance phase when developing indicators.

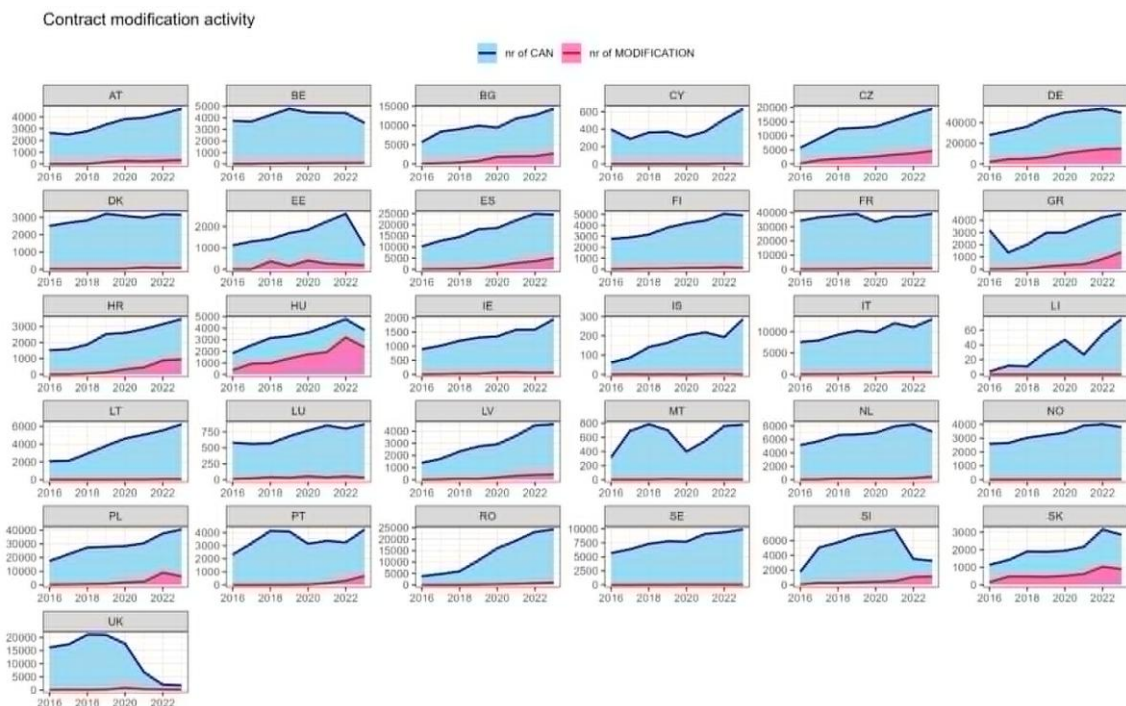
DS1 Contract modification activity

Name of indicator	1. Contract modification activity
Explanation	This indicator measures the proportion of contract modifications in relation to the total number of procedures.
Brief description	Number of contract modifications/Total number of procedures
Data excluded	Not relevant
Data field used	ID_NOTICE_CAN
Source of Data	Not relevant
Unit of Measure	Number of contract modifications

The indicator measures the volume of contract amendments in relation to the total volume of procedures. As the graph below shows, in many countries, the number of published modifications is quite minimal, even though contract modifications

certainly take place in all countries. In this case, the near-zero rate alone shows how many Member States publish no or very few notices of contract modifications. Since there is no 'expected' rate in this case, we can assume that where the publication rate is extremely low, the publication practice in the Member State concerned is less transparent. Notably, the following data do not exhibit the same step size, as the volume of procedures varies significantly between Member States. It is therefore interesting to observe the extent of contract modifications that are published that can be linked to contract award notices.

Figure 33 DS1 Contract modification activity



DS1 Evaluation: Level 3

The number of contract amendments per contract is a characteristic of contract amendment activity that discourages market participants. Contract amendments typically have an impact on the future behaviour of market participants. Frequent modifications tend to create uncertainty and reduce the conditions for fair competition, leading to transparency and integrity issues. However, failure to publish a contract modification notice also creates a problem of transparency and integrity.

Before 2014 EU Directives: No data

We do not have data for this period.

After 2014 EU Directives: 10.96%

For three Member States, the value exceeds 25% of the total number of procedures.

Trend: Not identified

The proportion of contract variations to notices shows that in many Member States, contract modification notices are not actually published, with five Member States having figures below 1%, a disproportionately low amount. In fact, the indicator highlights the lack of publication of contract modification notices.

DS2 Average contract modification

Name of indicator	2. Average contract modification
Explanation	This indicator measures the average number of contract modifications per contracts modified.
Brief description	Number of contract modifications/Number of contracts modified
Data excluded	Not relevant
Data field used	ID_NOTICE_CAN
Source of Data	Not relevant
Unit of Measure	Number of contract modifications

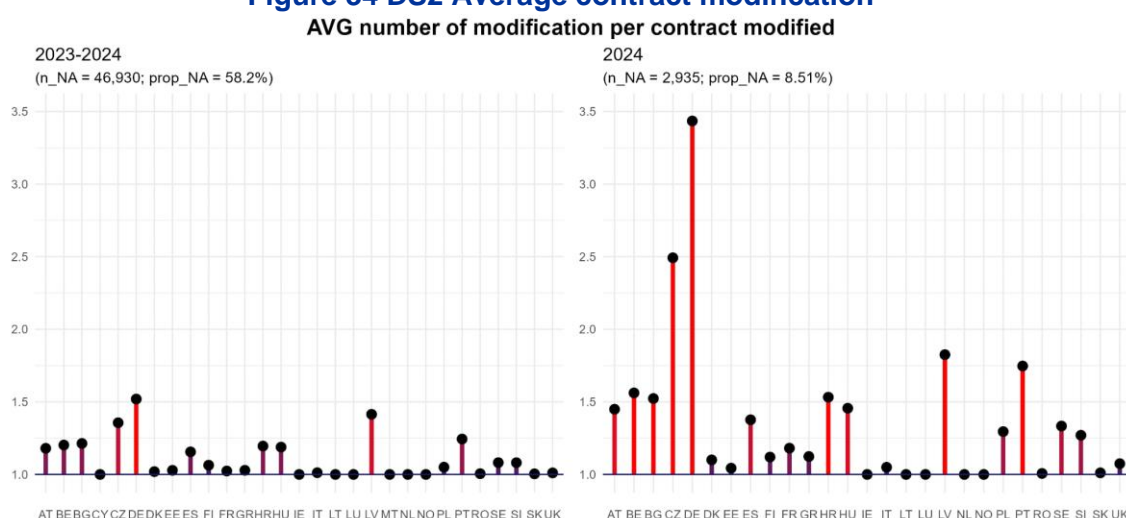
The average contract modification indicator focuses on contracts that have been modified. It also measures the average amount of change in a contract, as some conditions for market participants change when a contract is modified.

If a contract is amended several times on average, the extent of this amendment indicates how stable the contract is. Multiple modifications of a contract send a message to market players that the terms of the contract differ from those of the contracts that have already been concluded.

If changes are repeated frequently; former competitors cannot be expected to follow the modifications continuously.

Accordingly, an integrity risk is implied if the modification rate is high per contract that is modified. Data for this indicator will not be available until 2024 at the earliest; the rate is currently higher than two for CZ and DE. However, this factor is expected to become more important in the future, as the data will be more accurate, and we expect a higher level of publication of contract modification notices.

Figure 34 DS2 Average contract modification¹⁷



¹⁷ Countries where data cannot be interpreted because the relevant variable has not been filled in are not included in the figure.

DS2 Evaluation: Level 2

The number of contract amendments per contract is a characteristic of contract amendment activity that discourages market participants, as multiple contract amendments typically have an impact on the future behaviour of market participants. Frequent modifications tend to create uncertainty and reduce the conditions for fair competition, leading to transparency and integrity issues.

Before 2014 EU Directives: No data

No data for this period.

After 2014 EU Directives: No data

No data for this period.

Trend: Not identified

The most important result of the indicator is that it is now possible to link individual modifications and assign them to a contract award notice, so that in the future we will have more precise information on the characteristics of contract modifications.

6.5. Additional indicators

The analysis carried out using the indicators described in the Transparency and Integrity section allowed us to identify some behavioural patterns regarding the implementation of the Directives; however, the set that was used, due to the limitations of existing data, fell short of what was desired. Given the possibilities that arise with the recent implementation of eForms across the EU, we believe it is relevant to use this study to make suggestions for the development of an additional set of indicators in the PPDS that may, in the future, help to better understand matters related to transparency and integrity in public procurement.

In addition to the existing and suggested indicators, applying a set of filters is also essential for a more in-depth analysis based on various parameters. The indicators that require additional data and data analysis capabilities are briefly described below.

Table 8 List of Additional Indicators

A1	Referring to documentation instead of publishing content
A2	Missing remedy-related information
A3	Direct link to documentation
A4	CN-CAN
A5	Number of contract cancellations
A6	Procurement process duration
A7	Contract amendments that increase the price
A8	Submission period
A9	Extension of submission period
A10	Tender associated with complaint
A11	Contract transactions exceed contract amount
A12	Time between award date and contract signature date

Indicator A1 filters the information regarding when the contracting authority, instead of specifying the awarding criterion or the selection criterion in the call, actually refers to an external document, thus not ensuring transparency. This also indicates an integrity problem, as essential information is not shared with the economic operator through the notice, which could be used to decide whether to participate in the procedure instead of searching for the tender documentation.

Indicator A2 refers to the lack of information on initiating a legal remedy, which is significantly more challenging for a foreign operator to verify. This indicates not only a transparency problem but also an integrity risk, as it makes it difficult to obtain basic information on the exercise of the right of appeal, which is the subject of a dedicated section in the notice of initiation. In the case of A3, the contract notice does not indicate where the documents are available. This does not mean that all information should be accessible without registration in all cases, but that the notice should indicate which link the economic operator can access, even if the link is to a website that requires registration. This will also help to ensure real transparency for procedural documents.

A4 differs from the CAN-CN link proposed earlier, as in the case of framework agreements and dynamic purchasing systems, it should, in the future, be possible to identify the call for tender, which is not currently the case. This link would enhance the overall database analysis capacity. It would provide significantly more transparency than the current system, which excludes framework agreements and dynamic purchasing systems from most indicators.

Indicator A5 measures the extent of contract cancellations, which requires publishing information on performance and, in terms of content, defining the cause and severity of the contract cancellation. In the worst-case scenario, a bidder could be excluded from the procurement process.

Indicator A6 measures the length of a public procurement procedure from the contract notice's publication to the contract's conclusion. This requires more information than just the combination of CN and CAN, as the modification of the CN deadline or the late publication of the notice of result are all factors that should be considered when determining the total length. In this respect, the design of the indicator is particularly complex, which also requires that the information on the result is reliable and contains real data.

Indicator A7 goes further than the two proposed indicators on contract modification. It suggests that it would be necessary to examine the content of the modification and, if necessary, to place more emphasis on a particular aspect of it, as the information could raise concerns about ensuring fair competition if, for example, a price increase has been implemented. This can be achieved within a legal framework, i.e., the indicator would have informational value in the sense that it would show the frequency of subsequent price increases following the procurement procedure. Regardless of whether the contract modifications were

lawful, the mere fact of disclosing how often the price has increased can send an important message to economic operators.

The bidding period is often uncertain to bidders, as the contracting authority may, through a special rule, modify or set a very short period, which can deviate significantly from the length of the bidding period to which bidders are accustomed. Contracting authorities' expectations typically align with legal standards, and bidders often request additional time to bid on more complex projects. The F8 indicator aims to capture the actual bidding period, which applies not only to open procedures but also to the bidding phase of two-phase (for example negotiated procedure with call for notice) or three-phase procedures (for example competitive dialogue).

A9 is an extended version of the previous one, where the contracting authority allows the bidding period to be modified ex-post, thus directly affecting the ability of bidders to bid in the meantime. The modification itself helps bidders. Still, it also sends the message that the contracting authority did not initially allow sufficient time for bidding, i.e., it did not properly assess the burden that bidding places on bidders, which partly indicates an integrity problem, as the contracting authority did not pay sufficient attention to ensuring conditions of fair competition.

In the case of A10, if there is an appeal, this is a signal to be aware of in relation to ensuring fair competition. A complaint does not necessarily mean that the contracting authority's decision has been rejected. However, it does mean that the contracting authority has had to defend its own position in the procedure, which has been subject to a public decision. This indicator can be viewed as a measure of transparency and integrity.

Indicator A11 can be calculated if it is possible to determine, based on invoices issued and paid, whether an overpayment has been made during performance, considering any contract amendments. This indicator is either very imprecise based on the data provided in the procurement or cannot be calculated at present due to a lack of data. Any overpayment or non-payment is considered an integrity problem.

Indicator A12 represents an analysis of the time lag between the event's publication and the contract's signature. If there is a significant time lag between the two dates, this is considered an integrity risk, especially if it has been possible to examine the contract's content.

Part of the process of developing indicators involves filtering the basic indicators further and creating specialised indicators. So far, the indicators that have been examined have been presented for 2013-2023 on a country-specific basis, which means applying a country filter.

Table 9 List of filters

Filter1	Source	EU-funded procurement vs. Non-EU-funded
Filter2	Subject matter	Works, goods, services
Filter3	Level	EU level vs. National level
Filter4	CPV	CPV main group
Filter5	Type	Procedure / Method
Filter6	Place	Place of performance/country
Filter7	Buyer	Dir 2014/24/EU vs. Dir 2014/25/EU
Filter8	CPB	Central Purchasing Body vs. All Buyers

As the PPDS is based on the assumption that Member States will share national procurement data over time in addition to their procurement data above the EU threshold, the use of filters above and below the EU threshold follows from the nature of the PPDS.

Considering that two large groups of contracting authorities are subject to separate Directives, it is logical that public service providers, for example, can be filtered by the user. Similarly, it may be interesting to be able to filter by a procurement subject type or CPV major group. When calculating indicators, framework agreements and dynamic purchasing systems are often excluded from the calculation, as the contract award notice serves as the basis. Thus, a distinction is made between procurement procedures and methods, which is also part of the methodology for each indicator. Logically, however, procurement methods also function as filters.

Among the proposed indicators, there are some that we applied multiple filters to and performed an analysis on.

The best example of this is the sub-indicator of framework agreements with one supplier (B19), where the data were analysed specifically for central purchasing organisations (B20). In this context, the central purchasing organisation appears as an additional filter, focusing on the practices of the CPBs named in the legislation. As these large contracting entities have a significant impact on the public procurement market in their respective Member States, depending on the country, their practices are also scrutinised.

The filters can, therefore, also be used in a mixed way, which provides greater flexibility in examining the specificities of the public procurement market.

For example, the data below are for non-awarded procedures filtered for EU-funded projects, which typically have higher values than for non-EU-funded projects. As there is wide variation between countries for EU-funded projects, it is typically worth examining this filter on a country-specific basis.

Figure 35 Unsuccessful and discontinued non-awarded LOTs ratios (EU funded)

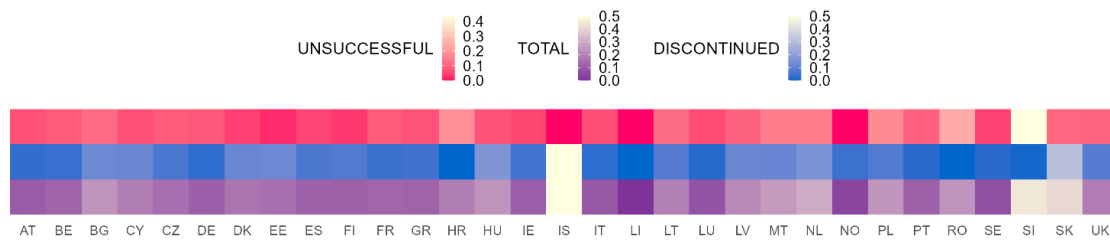


Figure 36 Non-awarded LOTS funded by the EU per country

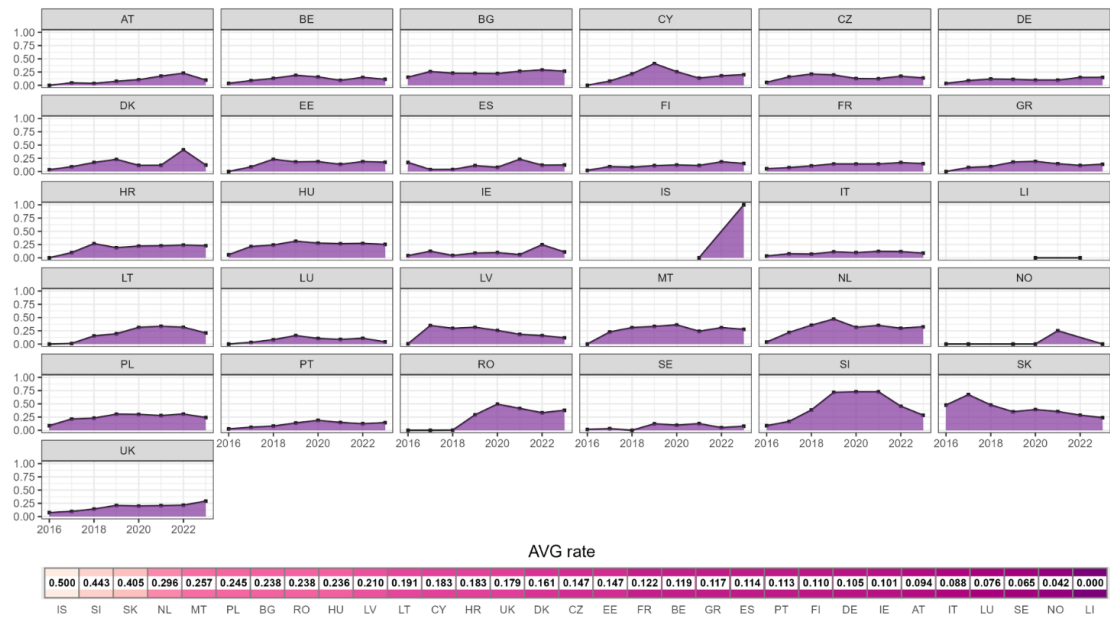


Figure 37 Non-awarded LOTs not funded by EU per country



6.6. Main patterns of indicators

Below, we look at the changes in the data for all countries as a whole and draw our conclusions in general. On this basis, the indicators concerning the data gap have improved (B1-B8), except for B1 and B4 (Missing Awarding Criteria, Missing Price Weight). The indicators on publication activity (B9-B11) have typically improved. On the other hand, the indicators regarding ensuring conditions of fair competition and the extent of competition (B15-16, 18-19 and 21-22) have not improved, showing a mixed picture across Member States. And the efficiency-based indicator B17 (Non-awarded LOTs), unfortunately, indicates low performance.

In the case of the DS1-2 indicators relating to contract modifications, the picture is very mixed, as most Member States publish only limited information on contract modifications, which indicates overall poor performance in terms of data published on contract performance.

The notations used below simplify the data but highlight areas of uniformity or change across Member States.

Table 10 Main patterns of proposed indicators for two periods

Indicators	Patterns		Trend**
	Before the Public Procurement 2014 Directives	After the Public Procurement 2014 Directives	
	2013-2015	2016-2023	
B1 Missing awarding criteria Level 3	0.0837	0.3414	Negative
B2 Missing duration of contract Level 1	0.324	0.0951	Positive
B3 Missing contract price Level 3	0	0	Neutral
B4 Missing MEAT awarding criteria, price weight Level 2	0	0.5724	Negative
B5 Missing procedure type Level 3	0	0.009	Neutral
B6 Missing contract type Level 3	0	0	Neutral
B7 Missing date of award Level 2	0	0	Neutral
B8 Missing value of framework agreement Level 1	0.5916	0.4595	Positive
B9 Number of procedures Level 0	4077	5638	Positive

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B10 Number of dynamic purchasing systems Level 0	9	39	Positive
B11 Number of framework agreements Level 0	1224	1796	Positive
B12 Languages Level 1	1.0639	1.2806	Positive
B13 CAN-CAN connect Level 2	0.6333 / 0.5733	0.7407 / 0.7156	Positive
B14 Direct award value Level 2	0.0759	0.0619	Positive
B15 Direct award with single bid Level 2	0.5924	0.7744	Negative
B16 Single bid + direct award with single bid Level 2	0.1980	0.2388	Negative
B17 Non-awarded LOTS Level 1	No data	0.1457	Not identified
B18 Accelerated procedures Level 1	0.0087	0.0316	Negative
B19 Framework agreements with single bidder Level 1	0.4085	0.4553	Negative
B20 Framework agreements with single bidder by CPB Level 1	No data	0.4199	Not identified
B21 Duration of framework agreements Level 1	33.06	33.72	Negative
B22 Small value contract price Level 3	0.0027	0.0307	Negative
		After eForms*	
		2024	
DS1 Contract modification activity Level 3	No data	0.1096	Not identified
DS2 Average contract modification Level 2	No data	No precise data	Not identified

* Only DS indicators were calculated using 2023-2024 data from the PPDS datasets.

** A comparison of the two periods shows the direction of change. The direction of change is only indicated if it is unidirectional. The indication is not the result of an in-depth analysis but is intended to represent a simplified way of showing the change in an indicator.

7. Recommendations

The analysis presented in this study highlights two main types of challenges. First, there are technical issues related to the quality and quantity of data available in the notices. Second, there are challenges connected to the outcomes provided by the performance indicators themselves. Sometimes, these two types of challenges overlap. For instance, certain indicators—such as the first eight—are specifically designed to measure gaps or missing data in the notices.

To make the recommendations easier to understand and apply, they are grouped according to these two dimensions, which are referred to as:

- Data aspects (quality and quantity)
- Performance patterns

Due to their comprehensive nature, these two dimensions are categorised in Table 11 below.

Table 11 Main dimensions and categories of data analysis

Data aspects		Performance patterns
Data quality	Data quantity	
Completeness	Publication volume	Compliance
Accuracy		Holistic view
Validity		Impact analysis
Consistency		

Each category is then briefly described, concluding with a set of recommendations that consolidate the various categories that are addressed.

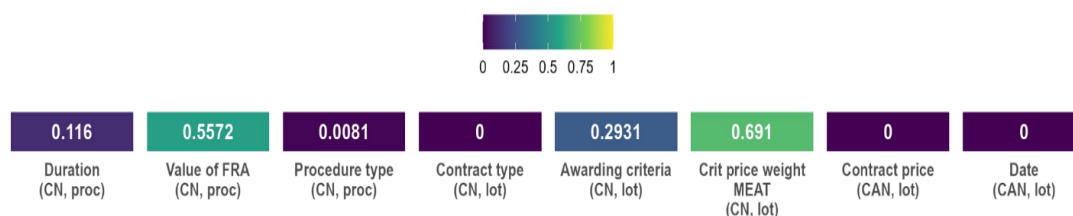
7.1. Data Aspects

Regarding the technical aspects, we start with the factors linked to data quality, emphasising its significance in today's context. Several challenges were identified during the analysis, particularly when applying the indicators to the collected datasets. A key aspect of data quality relates to transparency, particularly the absence or **incompleteness** of essential data in notices. The missing essential information is critical for understanding public procurement performance and is vital for governance. As mentioned earlier, the first eight indicators in the basic set (B1 to B8) already provide a comprehensive view of the relevant missing data.

The overall figures are presented in Figure 38, where it is notable that a large proportion of contract notices still do not indicate the Price Weight of MEAT

criteria (69%) or the value of the framework agreement (55%). Furthermore, around 30% of the cases still lack the award criteria in the contract notice.

Figure 38 Overall values of missing data indicators



The problematic nature of some missing data is debatable, such as the missing contract value, the inclusion of which in some countries is considered counterproductive in terms of its influence on the prices of subsequent proposals. However, the accountability of public money presupposes transparency in contracted values. Additionally, it is impossible to evaluate the size of the public contracting market from both public sector and business perspectives, for example, by sector of activity, if these values are not specified.

In terms of **accuracy and validity**, the indicator B22 (small contract price), which indicates the proportion of contracts with a value below 10 euros, reveals information distortion communicated in the notices. Considering that the notices published in TED mainly address procedures valued at above the EU thresholds (significantly above 10 euros), there is a clear problem if some countries have a rate of around 30% for this.

The indicator B13 (CN-CAN connection) reveals uneven results in terms of **consistency**. However, from 2013 to 2023, most Member States report a data connection of above 60%, indicating that the majority of notices are linked from the start to the end of the procedure. Notably, there is a positive trend when comparing periods before and after the Directives, suggesting an improving situation. Nonetheless, ensuring a higher connection rate is crucial for a comprehensive understanding of the procurement process, especially the pre-award phase. The changes introduced by eForms are expected to improve data quality in these cases.

Furthermore, **data quality** has been measured in the **Public Procurement Data Space** since it was launched in September 2024, and currently, the overall figure is 45.9%¹⁸. The data quality parameter is calculated based on the same four categories:

- Completeness
- Accuracy

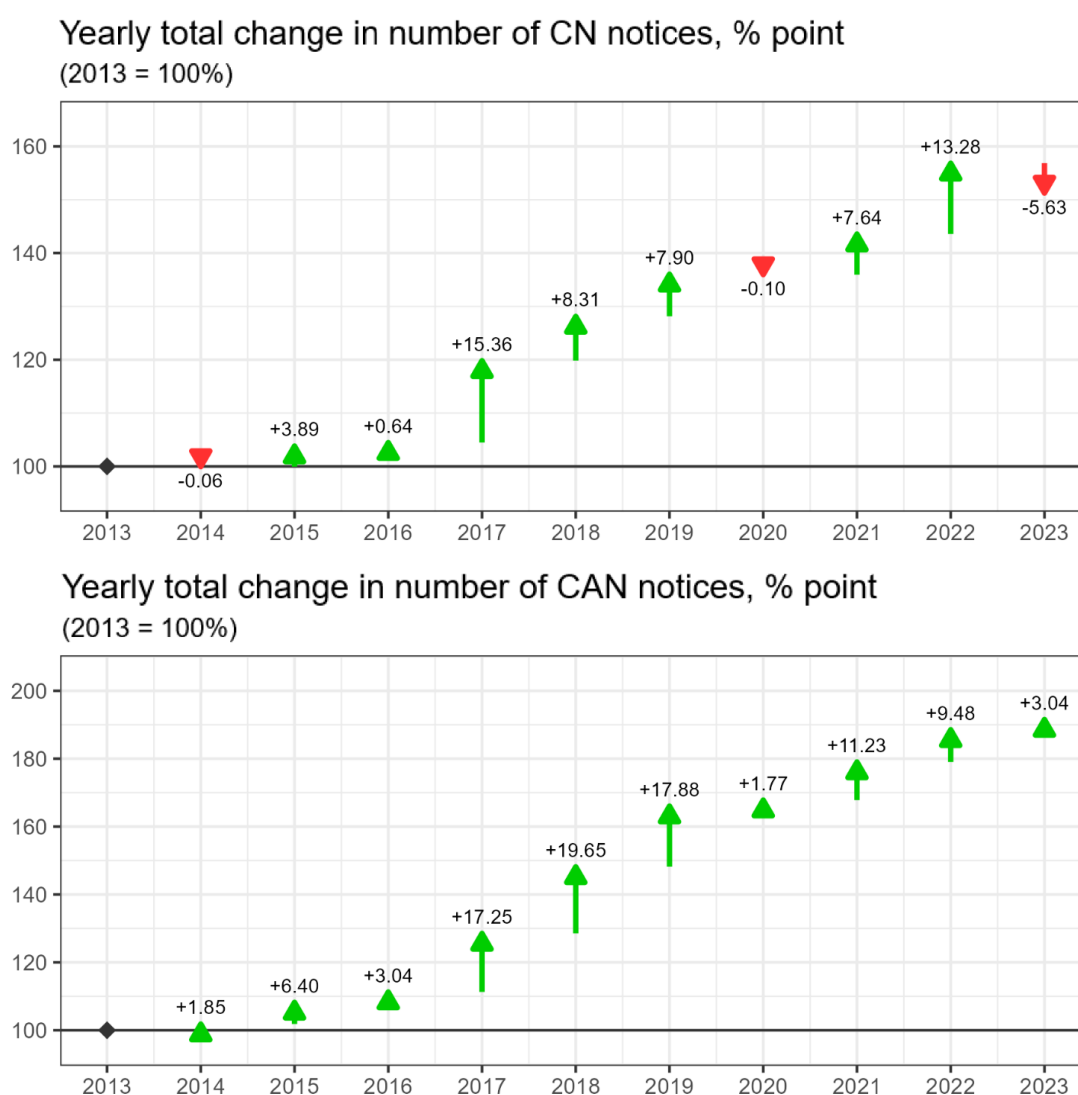
¹⁸ Figure extracted on 17 April 2025 here: <https://api.public-procurement-data-space.europa.eu/superset/dashboard/dataquality/?standalone=true>.

- Consistency
- Validity

where completeness issues contribute 82.92%.

It is worth highlighting that these figures change substantially when new data sets are added, either through additional years or the inclusion of national data from EEA countries into the PPDS. Currently, the PPDS encompasses approximately eight years of public procurement data (2018-2025), and in addition to the TED data, it also includes national data from Germany, Austria, Finland, and Norway. On the other hand, **data quantity** has undergone positive evolution, as shown by the variation in the publication of notices per country in Figures 3 and 4. Moreover, Figure 39 illustrates publication activity regarding the CN and CAN in the EU over the years. From 2013 to 2023, the publication of CN increased by around 51%, and the publication of CAN increased by 92%.

Figure 39 Number of notices for the period 2013-2023



However, until the PPDS fulfils its purpose, meaning the integration of data published in TED with data published in EEA countries, it is almost impossible to detect notices that are not published either at the European or national level, as well as many other inconsistencies or incongruences.

Taking into account the arguments mentioned above and recognising that data quality in the realm of public procurement remains a critical issue, we present a set of recommendations followed by their explanation:

- It is imperative to inform Contracting Authorities about their data quality issues.
- Supporting Member States with a digital tool that can detect issues with notice-related data may play a key role in harmonisation and improving data quality.
- Establishing a real-time support desk associated with the Publication Notices Systems is essential.
- Accelerating adherence to the Public Procurement Data Space is necessary to achieve a more consistent view of public procurement across the European Union.
- The implementation of a data governance framework for public procurement is crucial.

7.1.1. Informing Contracting Authorities about their data quality issues

While the first proposal may appear rudimentary, it could be the most impactful and effective one in relation to enhancing data quality. Contracting Authorities rarely receive feedback on their notices, even if they fail to comply with legal standards, lack critical data, or contain manifest errors, such as including a contract price of 1 euro.

Raising awareness of the real situation and its implications is indispensable. Many errors are attributable to a lack of knowledge or misunderstanding, while others stem from a perception of impunity. (An interesting NL example is shared by OCP¹⁹). This feedback loop should not be punitive but rather informative and educational.

Providing feedback on published notices already encourages more responsible behaviour among Contracting Authorities. This feedback should be given in writing for data published at both the national and European levels, in a manner

¹⁹ <https://www.open-contracting.org/2025/06/03/how-one-man-is-getting-dutch-procurement-professionals-to-accurately-report-definitive-contract-values/>.

that is traceable. This ensures that, at any time, the types of errors identified and how they have changed over time can be easily analysed and monitored.

7.1.2. Developing a digital tool to identify problems with notices

Given the advancements in tools powered by artificial intelligence algorithms, it is pertinent to consider the development of a digital solution capable of identifying issues in the completion of notices. This can encompass errors, inaccuracies, or omissions of critical information within the notices themselves.

Such a tool should be accessible to both European institutions and Member States, either prior to submission or post-submission, by users designated within the governance framework outlined below.

It is advisable that this algorithm merely flags problematic instances without making decisions or implementing any form of automation until the requisite conditions of maturity and confidence are achieved.

7.1.3. Real-time support desk by the Publication Notices Systems

In some cases, the lack of a real-time support desk in the diverse Publication Notice Systems results in breaches in the entire publication system. Frequently, notices are published late in the procedural timeline, and clarification via email fails to address the issue effectively. Consequently, several authorities resort to selecting/entering arbitrary values within forms to enable their submission rather than making corrections to rectify the notices appropriately.

Alternatively, creating a common platform to share issues and notices among Member States could be an effective option, as the problems faced by individual Member States often overlap.

7.1.4. The Public Procurement Data Space is necessary to achieve a more consistent view of Public Procurement across Europe

Given that TED data accounts for approximately 20% of the public procurement volume within the European Union (EC PPDS, 2023), relying solely on this data results in a limited perspective. Above the EU thresholds, public procurement is heavily influenced by the respective Directives that must be transposed and applied across all Member States. It is also important to note that Member States can extend and further regulate, which means that identical Directives do not necessarily translate into the same regulatory frameworks. Additionally, Member States can regulate as they deem appropriate below the EU thresholds.

In light of this, a coherent understanding of public procurement in the EU significantly depends on national data, as highlighted by the limitations of this study. Integrating TED data with national data from EU countries for the first time opens up this possibility. This integration is the primary objective of the Public Procurement Data Space, and until this is achieved (i.e., all EEA countries join the PPDS), many challenges will persist in the analysis of European and national data.

National data is typically available in national formats or standards, dictated by the practices of IT tools and, in some cases, national regulations. Without the Data Space, the task of mapping all national standards to the European standard, which currently corresponds to the eForms standard, is enormous. In fact, data integration in the PPDS, whether from TED (eForms) or national databases (eForms or national formats), involves a single space, with the same format, utilising the eProcurement Ontology tool made available by the European Union Publication Office. However, the challenge extends beyond merely different standards; specific content, such as procedures that exist solely at the national level, will also require some mapping.

The Public Procurement Data Space will be an essential tool for analysing differences in public procurement behaviour above and below the EU thresholds. Through an interactive dashboard, users will gain access to real-time analytics, allowing them to apply a range of filters and explore performance data across specific parameters. This approach will not only shed light on current trends but also help to identify factors that can drive improvement.

The significance of applying filters is referred to by the ECA (2023), while the recommendations presented in this study (Section 5.5) provide concrete examples of parameters that have emerged as particularly relevant throughout our analysis. By enabling more nuanced and targeted data exploration, these filtering practices not only enhance analytical accuracy but also directly support more informed and effective policy making. In this way, the Public Procurement Data Space becomes not just a technical resource but a catalyst for evidence-based decisions that can shape and improve public procurement policies across the EU.

7.1.5. Data Governance Framework for Public Procurement

Implementing a robust data governance framework is becoming increasingly imperative in the face of relentless digitalisation.

Data governance involves overseeing the availability, usability, integrity, and security of data within enterprise systems. It should be managed through standards and policies that control how data is used, ensuring its trustworthiness, consistency, and proper usage.

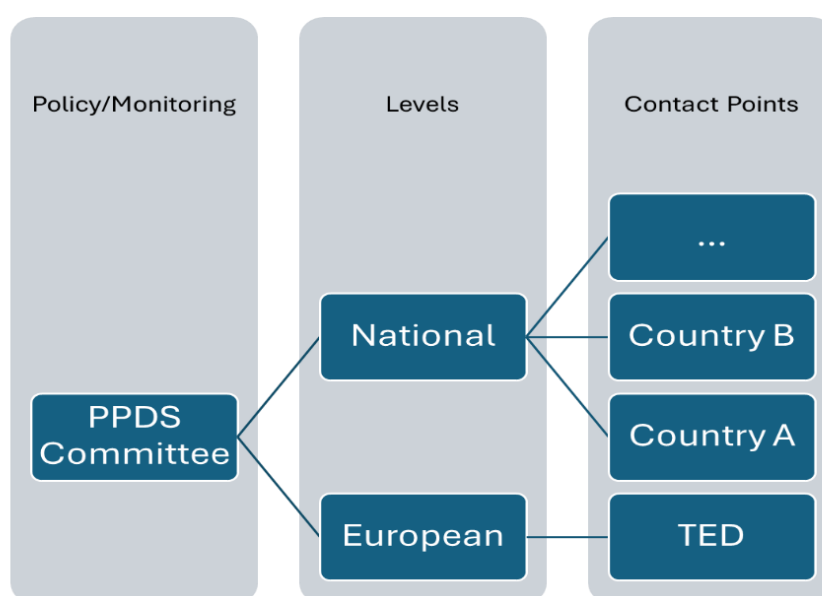
The main goal of data governance is to maintain high data quality throughout its lifecycle and ensure that the implemented controls align with the organisation's business objectives.

A well-structured data governance program typically includes a dedicated governance team, a steering committee that acts as the governing body, and a group of data stewards responsible for maintaining data standards (CFI, 2025).

When dealing with public procurement data, having a governance structure is especially crucial due to the sheer volume of information, the variety of entities involved, and the impact across Europe.

For this reason, we propose the following governance structure that aims to facilitate necessary interactions between various stakeholders and establish clear levels of responsibility.

Figure 40 Proposed governance structure



Considering the role of the PPDS in managing Europe's data, we believe this structure should align with the PPDS governance framework to avoid redundant structures and ensure proper coordination.

The PPDS steering committee should be chaired by the EC unit in charge of the PPDS (currently, DG DROW unit D2). At the national level, Member States should identify the institution and the respective contact point that will represent each country.

For example, data governance should be the primary instrument for ensuring the implementation of the feedback loop mentioned above by defining

responsibilities, decision levels, and relationships among all key actors. It is also the foundational mechanism for defining objectives and strategies to achieve desired outcomes. Information will emerge as a critical asset in the years to come, influencing both competition and security. Those with comprehensive knowledge will gain a competitive edge, facilitating swift and informed decision-making at pivotal moments.

In the realm of data governance, addressing fundamental issues such as solutions for the unique identifiers of entities, whether buyers or sellers, is crucial for conducting realistic analyses of procurement transactions. This necessity is underscored in the referenced ECA report, which also presents two alternatives—specifically, eIDAS²⁰ or EORI²¹—that warrant serious consideration.

Moreover, fostering the development of standards in digital procurement is crucial for effective data governance. Standardisation not only simplifies the analysis of information but also enhances connectivity between contracting entities and economic operators, making their tasks easier and more efficient.

Equally important, standards play a pivotal role in strengthening interoperability within public procurement—a domain that remains notably weak. Interoperability helps to streamline administrative processes, reduces redundancy, and facilitates smoother communication across diverse government systems. Enhanced interoperability not only lessens the administrative burden but also promotes greater coherence in public sector operations, protecting the integrity of procurement data and ensuring decisions are based on reliable and consistent information.

Public procurement data comprises a substantial volume of information regarding public administrations' investments, execution, and achievements. Given the pivotal role of public procurement in driving economic growth, fostering innovation, enhancing resource and energy efficiency, and promoting social inclusion, there are ample reasons to prioritise attention to public procurement data.

²⁰ Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC.

²¹ Economic operators registration and identification number https://taxation-customs.ec.europa.eu/customs/customs-procedures-import-and-export/customs-operations/economic-operators-registration-and-identification-number-eori_en.

Data Aspects:

Data quality and quantity

Recommendations:

It is imperative to inform Contracting Authorities about their data quality issues.

Member States should be supported with a digital tool to detect issues in notice-related data. Establishing a real-time support desk in the Publication Notices Systems is essential.

Accelerating adherence to the Public Procurement Data Space is necessary to achieve a more consistent view of Public Procurement across Europe. Implementing a Data Governance framework for Public Procurement is crucial.

7.2. Performance patterns

Regarding the performance patterns identified in public procurement procedures within the EU, the results obtained from applying the indicators revealed three significant aspects:

- Lack of compliance
- Lack of a holistic view
- Lack of impact analysis

Although some of the patterns are also related to the technical aspects previously mentioned, it is essential to emphasise that technical issues found may indicate that some legal obligations are not being fulfilled. In other words, there is a **lack of compliance** with the legal framework. These cases include missing or incorrect mandatory data, such as contract values.

Some new indicators are unprecedented at the European and, most likely, national levels. The values derived from their application to TED data provide ample material for reflection rather than simply determining correctness or incorrectness.

In addition, the vision provided by the notices regarding a few milestones of the public procurement process is outstanding; however, it still provides no clue on the public expenditure associated with public procurement. This is related to contract performance, and in specific sectors, such as public works, deviations from contracts and their completion can be significant. If the values used to characterise the awarding of contracts are problematic in many cases, as seen above, then we are far from knowing how much money is spent on public procurement.

We are also still far from having a **holistic view of public procurement** that can provide insight into some identified patterns. For example, the rates related to using non-competitive procedures and the level of complaints in each country.

Similarly, the message of the incomplete publication of contract modification notices is important, as the aim is to publicise information about the whole procurement process, not just until the moment of signing the contract.

On the other hand, we must further examine the implications and consequences of many past choices. This could also help shape the next public procurement Directives. **Impact analyses** are not frequent in many countries because they require baselines and comparable data over time. In this setting, it is challenging to measure the results or benefits of past options.

If different policy choices were made based on the same legal framework, understanding the impact of those choices would be relevant to drawing any conclusions, namely, the application of a cost-benefit analysis. It is not enough to know what happened. We need to know the consequences of what happened.

For example, it would be essential to understand the consequences of long-term framework agreements with a single supplier. The advantage of simplification for Contracting Authorities in driving the procurement process is obvious, but the impact on the business market or the Public Sector in general is far from obvious. The provision of supplies in critical situations highlights the importance of the long-term solutions, systems, and practices employed by large contracting authorities (central purchasing organisations), which serve as a model for market players. Therefore, it is important to apply filters that are able to capture these typical solutions of central purchasing organisations, which can both dynamize and shape the public procurement market.

Based on this reasoning and taking into account the results identified through the application of the indicators, we present a set of recommendations followed by their explanation:

- The necessity of continuous monitoring,
- Application of a comprehensive life cycle approach,
- Assessing implications of policy options.

7.2.1. Continuous monitoring

Europe stands at a pivotal juncture in reviewing the Public Procurement Directives. Gaining insights into the application of current legislation and the disparities between countries, years, and sectors is crucial for identifying avenues for improvement.

In this context, a continuous monitoring system should be established to address the lack of compliance, ideally in the form of a Public Procurement Data Space service that can leverage European and national data integration.

This capability for analysis and ongoing enhancements will be crucial for achieving flexible management, especially in an environment characterised by unpredictable and constant changes, such as the current global context.

7.2.2. A comprehensive life cycle approach

The indicators were applied to TED data open sets, which provide a limited perspective on the Public Procurement Life Cycle. From the planning phase to contract completion, many relevant aspects were notably absent, particularly those related to contract performance.

An exception covered in this study was the indicator of contract modification, which could be calculated using PPDS data. However, many other aspects will remain unaccounted for as they fall outside the scope of the current notices.

While it is true that most contract performance-related aspects are beyond the remit of EU Directives, they remain integral to the public procurement life cycle. Significant gaps persist in the absence of explicit reflection on this notion in procurement data, particularly concerning expenditure associated with public procurement.

Contractual data remains unreliable, as demonstrated by indicators B3 (Missing Contract Price) and B22 (Small Value Contract Price). Although electronic invoicing is implemented in many countries, it is unfortunately not connected to procurement systems, thus precludes accurate knowledge of public contract spending.

Nevertheless, the voluntary notice, known as the Completion Notice, may, in the future, bridge this gap by providing critical information regarding total payments and the actual contract duration. This change must be made in conjunction with the renewal and publication check of the contract modification notice. Until then, the value of public expenditure in public procurement remains may only be weakly estimated.

7.2.3. Assessing implications of policy options

The study uncovered a noteworthy situation regarding policy implementation. For instance, related to the mandatory fields, the mere obligation for Contract Authorities to complete certain fields does not guarantee the accuracy of the data that is collected. Indicator B22 (Small Value Contract Price) exemplifies this, often revealing inaccuracies in contract values.

This indicates that a future enforcement policy should be prudently considered. Especially if contracts depend on manual input, establishing a feedback loop with contracting authorities will serve to enhance data quality through positive

reinforcement and will provide an educational benefit that will yield long-term dividends.

On the other hand, it is also notable that the same legal framework results in different behaviours and, consequently, different outcomes. It would be important to analyse these differences in terms of the reasons underlying them. For example, the disclosure of data on contract modifications is highly heterogeneous, as some Member States actively disclose their data, while others do not. At the same time, the actual reason for and extent of contract amendments, as well as the interpretation of the maximum extent of multiple amendments to a contract, lead to different solutions. It is necessary to identify the real reasons beyond the data on a single indicator.

Another example worthy of attention concerns the measurement of the benefits of interoperability systems with regard to the publication of notices. Specifically, it is important to determine whether there are fewer errors in notices published via eSender compared to those published manually.

The present choices follow a logical path, but given the numerous decisions we may need to make in the future, it becomes increasingly important to provide a solid foundation for them.

In summary, continuous monitoring, although essential, is not sufficient. It is crucial that this be accompanied by impact analysis to understand the implications of the different results. Only then will we have the means to consider future policy changes.

Performance Patterns:

Lack of compliance
Lack of a holistic view
Lack of impact analysis

Recommendations:

The necessity of continuous monitoring,
A comprehensive life cycle approach,
Assessing implications of policy options.

Considering the principles of transparency and integrity outlined in the study, the recommendations are generally framed as follows:

- Recommendations aimed at enhancing the data aspects are primarily focused on improving transparency, openness, and accessibility. These measures will also contribute to integrity-related aspects by addressing accuracy and reliability.
- The recommendations concerning performance patterns that are observed are essentially related to the integrity aspects of public procurement.

However, there is no strict demarcation between the recommendations, as they often address multiple dimensions. The following table aims to illustrate the main linkages between the recommendations and the key elements of transparency and integrity definitions.

Table 12 Linkages between the recommendations and the key elements of transparency and integrity definitions

	Openness and accessibility	Accurate and reliable Information	Fair competition
Informing Contracting Authorities about their data issues.	x	x	
Developing a digital tool to identify problems with notices.	x	x	
Providing a real-time support desk within the Publication Notices Systems.	x	x	
Accelerating adherence to the Public Procurement Data Space.	x	x	x
Implementing a Data Governance Framework for Public Procurement.	x	x	x
The necessity of continuous monitoring.	x	x	x
A comprehensive life cycle approach.	x	x	x
Assessing implications of policy options.			x

8. Conclusions

The main objective of this study is to analyse the evolution of transparency and integrity resulting from the application of European Public Procurement Directives.

First, it was necessary to define the concepts of transparency and integrity to establish the scope of the study. Given that there are no universal definitions, we referred to the Directives and other studies to present the following definitions for the purposes of our analysis:

- **Transparency:** This refers to the openness and accessibility of information throughout the procurement process.
- **Integrity:** This refers to the quality of being transparent, adhering to public procurement principles. It involves being ethical and fair, ensuring conditions for fair competition. In the data context, integrity refers to providing accurate and reliable information.

The study required a data-driven approach, specifically focusing on data from notices published on TED between 2013 and 2024. The data was sourced from the European Data Portal, which offers openly accessible information published in public notices.

It is important to mention that, although eForms were introduced at the end of 2023²², the data available during the study period still followed the structure of the standard forms set out by Commission Implementing Regulation (EU) 2015/1986 of 11 November 2015. As a result, it was not possible to access open data for notices published using the new eForms format at the time of this research (except of DS1, DS2 indicators for 2023-2024).

For this analysis, a set of indicators was developed based on the following criteria:

- Be complementary to those existing in the Scoreboard
- Be applicable to existing data in open format for the period in question (2013-2024)
- Build on pre-existing work by other researchers or institutions that have explored the topic.

This study does not clearly distinguish between the indicators related to transparency and those associated with integrity. The reason for this is that the concepts are inherently intertwined, making it challenging to establish a firm separation. However, it is worth noting that the initial indicators concerning the

²² Commission Implementing Regulation (EU) 2019/1780 of 23 September 2019.

lack of information are primarily aimed at assessing transparency. The theme that most overlaps between the two terms is ensuring fair competition, which encompasses many other aspects as well. The methodology used in the study is illustrated to not only facilitate understanding of the results but also enable these indicators to be reused by national entities in Member States or European institutions, as applied to data residing in the PPDS.

Twenty-two basic indicators were applied directly to the TED open data sets, while two indicators were applied to PPDS data due to feasibility issues with the TED open data set. This analysis yielded various graphs and figures, providing insight into the performance of public procurement over the 12-year period in relation to Transparency and Integrity.

Additionally, twelve more indicators and eight filters are proposed for implementation. This suggestion stems from the increasing need to enhance the analysis of public procurement performance, especially given the anticipated rise in information volume due to notices based on eForms. By expanding the PPDS and making greater use of eForms, it will be possible to conduct more detailed and timely analyses, gain real-time insights, and provide diverse, comprehensive perspectives about public procurement processes.

For comparability purposes, the results were divided into two groups: those before the EU Directives (2013-2015) and those after the EU Directives (2016-2024). In the post-Directives period, eight indicators showed positive variation, eight showed negative variation, four showed neutral variation, and four had undefined variation.

Table 13 Main tendencies of proposed indicators

Variation in 2013-2024			
Positive	Negative	Neutral	Not defined
Missing duration of contract	Missing awarding criteria	Missing procedure type	Non-award LOTs
Missing value of framework agreement	Missing MEAT awarding criteria, price weight	Missing contract type	Framework agreements with single bidder by CPB
Number of procedures	Direct award with single bid	Missing contract price	Contract modification activity
Number of dynamic purchasing systems	Single bid + direct award with single bid	Missing date of award	Average contract modification
Number of framework agreements	Accelerated procedures		
Languages	Framework agreements with single bidder		
CAN-CN connect	Duration of framework agreements		
Direct award value	Small value contract price		

Therefore, it is not possible to draw simplistic conclusions, as there are areas where progress is positive, others where it is negative, and some that exhibit significant irregularity across various countries in the European Economic Area. Similar observations can be made from the dashboards provided by the European Court of Auditors and the Opentender Portal.

To quantify whether improvements have been made in terms of transparency and integrity, it would be necessary to have specific, measurable objectives that were not explicitly defined in the EU Directives. Nevertheless, we can affirm that over time, and within the scope of European Directives, more information has become available, although it is not always reliable in critical areas.

Based on these results, our study has culminated in a series of recommendations based on two principal dimensions:

- Data Aspects
- Performance Patterns

The data aspects were further divided into issues of data quality and quantity. Data quality was analysed in four categories: completeness, accuracy, consistency, and validity.

In terms of data quantity, there are clear signs of positive progress. From 2013 to 2023, the publication of CN in TED increased by approximately 51%, while the publication of CAN saw an impressive rise of 92%.

Conversely, data quality remains a pressing challenge, impacting the transparency and integrity intended for public procurement. Issues range from missing data to incorrect or inconsistent information. It can be argued that the Directives have not fully achieved their objectives of promoting greater transparency and integrity.

This problem not only undermines transparency and integrity but also hampers our understanding of public procurement activities. Furthermore, poor data quality severely limits the interoperability between systems and the in-depth analyses that current technology can support.

Regarding performance patterns, aspects related to non-compliance, a lack of comprehensive perspective, and the absence of impact analysis also stand out.

All these factors led us to a set of eight recommendations, described in Figure 41 and whose objectives are summarised as follows:

- Increase understanding of public procurement performance.
- Ensure data completeness, accuracy, and consistency to enhance the reliability of procurement processes.
- Adopt a holistic approach to compliance, supporting fair competition.
- Implement rigorous impact analysis to assess the effectiveness of procurement options, strategies, and policies.

Figure 41 Main recommendations of the study from two dimensions

Data Aspects	Performance Patterns
<p>Informing Contracting Authorities about their data issues.</p> <p>Developing a digital tool to identify problems with notices.</p> <p>Providing a real-time support desk in the Publication Notices Systems.</p> <p>Accelerating adherence to the Public Procurement Data Space.</p> <p>Implementing a Data Governance framework for Public Procurement.</p>	<p>The necessity for continuous monitoring.</p> <p>A comprehensive life cycle approach.</p> <p>Assessing implications of policy options.</p>

Although promoting the harmonisation of indicators in public procurement with the design of this framework and its application over a 12-year period has yielded many surprising results, this study suffers from several limitations, as previously mentioned. The prevalence and extent of using very low contract prices were surprising. Similarly, the low publication rate of contract modification notices was a novelty. It is also useful to know how different Member States utilise framework agreements for varying periods, which can also be used to prevent competition if they are concluded for too long a duration. The proportion of framework agreements associated with a single supplier is also very high, with half of the Member States opting for this solution on average, more than the number of framework agreements with multiple suppliers during the period under review. When examining the use of framework agreements by central purchasing bodies in seven Member States, it is evident that these large contracting authorities are more likely to utilise framework agreements with a single bidder. These results highlight the importance of adopting more comprehensive long-term procurement methods to ensure fair competition.

In order to examine the results in a more focused way, we recommend using several filters. A good example of this is the proposal for CPB-specific or framework-agreement-specific indicators, which already have filtered data. The different filtering options also allow conclusions to be drawn that have received less attention so far. The best example of this is the possibility of using a filter to facilitate studies on EU-funded projects.

At this stage, an analysis of national data was not included, as current circumstances prevent meaningful comparison.

In many countries, additional data is available that is not included in the notices published in TED. Once the full integration of national data occurs in the PPDS, developing a broader and deeper perspective will be possible. Furthermore, information on procedures not regulated by the Directives is critical for

understanding performance differences between different regulatory frameworks of the Member States.

In our view, this study is a preliminary step in performance analysis. For more in-depth evaluations in the future, certain measures should be implemented as soon as possible, particularly regarding impact analysis. Such analysis requires comparison benchmarks that must be safeguarded promptly. In other words, the collection of results should be carried out regularly to establish causality and effect.

On a final note, it is essential to mention that how we view the implementation of Transparency and Integrity may change with circumstances, considering the global context.

Transparency in public procurement has been significantly enhanced in recent years following several high-profile cases of corruption and misuse of public funds. However, the level of information made publicly available cannot fail to be seen as a double-edged sword, particularly in times of great economic and social instability, multiple wars, and the high intensity of cyber-attacks with illegitimate interests.

The shift from global collaboration to more individualistic positions, as well as the strengthening of information warfare, should be taken into account when considering transparency in public procurement in the future.

The information that is made available today can be used for further development, as well as to pursue less legitimate economic interests or even be used as a weapon in times of war.

While rethinking the level of information that is made available may be necessary for security reasons, it does not prevent the gathering of information relevant to the governance of public procurement. Collecting information and publishing information are distinct activities that must be guided by different rules.

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