

SME Participation in EU Public Procurement : Evidence from TED (2018–2023)

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Executive summary (English)

This report has been prepared in response to Service Contract No 801005935, signed between the European Commission (DG Internal Market, Industry, Entrepreneurship and SMEs – DG GROW) and Science & Innovation Link Office SL. It provides an empirical assessment of Small and Medium-Sized Enterprises' (SMEs) access in public procurement across the European Union over the period 2018–2023, with the aim of informing the impact assessment for the forthcoming revision of the 2014 EU Public Procurement Directives (i.e., 2014/23/EU, 2014/24/EU and 2014/25/EU). In line with the empirical scope of the study, SME access is operationalised through observed SME awards (i.e., contracts awarded to at least one SME), rather than through tender participation.

The analysis draws on contract-level data from Tenders Electronic Daily (TED), based on Contract Award Notices (CAN), covering 3.7 million procurement contracts awarded by public authorities across European Economic Area (EEA) countries. The dataset includes awarded contracts for which the SME status of the winning organisation can be identified. The study combines a detailed descriptive analysis with a unified econometric framework based on logit models, designed to assess how specific procurement design features are associated with the probability that a contract is awarded to an SME.

A key contribution of the analysis lies in its explicit treatment of heterogeneity across procurement contexts, with particular attention to Low-Skilled Labour-Intensive (LSLI) sectors, where SMEs are structurally prevalent and procurement outcomes are closely linked to employment and social considerations. This sectoral distinction allows the analysis to assess whether procurement instruments operate differently depending on the nature of the activity procured.

Descriptive evidence shows that SMEs account for most awarded contracts in numerical terms but capture a significantly smaller share of total awarded value, reflecting the persistent concentration of high-value contracts among non-SME suppliers. SME access also displays substantial heterogeneity across countries, sectors, contracting authority types and procurement procedures, highlighting the importance of institutional and structural factors beyond firm size alone. Contract size emerges as a particularly robust factor shaping SME award probabilities.

The econometric results indicate that procurement instruments enabled under the 2014 Directives do not have uniform effects on SME access. Instead, their association with SME awards is highly context dependent. In LSLI sectors, the use of lowest-price award criteria is associated with a higher probability of SME awards, whereas in other sectors such criteria tend to have neutral or negative

associations. By contrast, procurement designs that reduce the dominance of price in award decisions are associated with higher SME access overall, but with weaker effects in labour-intensive activities. These patterns suggest that procurement instruments designed to pursue strategic objectives may generate asymmetric effects across sectors.

The integration of broader policy objectives through award criteria, such as environmental, social and innovation-related requirements, is generally associated with lower SME access, with particularly pronounced effects in LSLI sectors. Similarly, digital procurement tools such as electronic auctions are associated with reduced SME award probabilities, especially in cost-sensitive activities. Demand aggregation mechanisms, including joint procurement and the use of central purchasing bodies, are also linked to lower SME access on average, although their effects vary markedly across sectors and are partially mitigated in labour-intensive activities.

The analysis further shows that international openness and cross-border competition are associated with lower SME access, particularly in LSLI sectors. Contracts covered by international procurement commitments (i.e., Government Procurement Agreement, GPA) also display reduced SME award probabilities. Across all dimensions, substantial cross-country heterogeneity persists even after controlling for contract characteristics, sectoral composition and procurement procedures.

Overall, the findings show that several instruments used to pursue strategic public procurement objectives—such as innovation, sustainability, social objectives, digitalisation and increased international competition—can unintentionally make it harder for SMEs to win public contracts. In particular, when the same procurement instruments are applied in the same way across very different sectors, they may reduce SMEs' access to public procurement in some contexts, even if they are effective in others. The results therefore suggest that SME-friendly procurement policies cannot rely on a single, uniform approach. Instead, the design of procurement rules and instruments needs to take into account sectoral and organisational differences, so that strategic policy goals can be pursued without weakening SMEs' opportunities to access public contracts.

Résumé exécutif (Français)

Le présent rapport a été préparé en réponse au contrat de service n° 801005935, conclu entre la Commission européenne (DG Marché intérieur, industrie, entrepreneuriat et PME – DG GROW) et Science & Innovation Link Office SL. Il fournit une évaluation empirique de l'accès des petites et moyennes entreprises (PME) aux marchés publics dans l'Union européenne sur la période 2018–2023, afin d'alimenter l'analyse d'impact en vue de la révision prochaine des directives européennes de 2014 sur les marchés publics (à savoir, les directives 2014/23/UE, 2014/24/UE et 2014/25/UE). Conformément au champ empirique de l'étude, l'accès des PME est opérationnalisé à travers les attributions de marchés publics aux PME (c'est-à-dire, les marchés attribués à au moins une PME), et non à travers la participation aux appels d'offres.

L'analyse repose sur des données au niveau des contrats issues de Tenders Electronic Daily (TED), fondées sur les avis d'attribution de marché (Contract Award Notices – CAN), couvrant 3,7 millions de marchés publics attribués par des autorités publiques dans les pays de l'Espace Économique Européen (EEE). L'ensemble de données comprend les marchés attribués pour lesquels le statut de PME de l'organisme adjudicataire peut être identifié. L'étude combine une analyse descriptive détaillée avec un cadre économétrique unifié reposant sur des modèles logit, conçu pour évaluer dans quelle mesure certaines caractéristiques de conception des marchés publics sont associées à la probabilité qu'un marché soit attribué à une PME.

L'une des principales contributions de l'analyse réside dans son traitement explicite de l'hétérogénéité des contextes de passation des marchés, avec une attention particulière portée aux secteurs à forte intensité de main-d'œuvre peu qualifiée (Low-Skilled Labour-Intensive – LSLI), dans lesquels les PME sont structurellement très présentes et où les résultats des marchés publics sont étroitement liés à des considérations d'emploi et de cohésion sociale. Cette distinction sectorielle permet d'évaluer si les instruments de passation des marchés fonctionnent différemment selon la nature de l'activité faisant l'objet du marché.

Les résultats descriptifs montrent que les PME représentent la majorité des marchés attribués en nombre, mais ne captent qu'une part sensiblement plus faible de la valeur totale attribuée, ce qui reflète la concentration persistante des marchés de grande valeur entre les mains de fournisseurs non-PME. L'accès des PME présente également une forte hétérogénéité selon les pays, les secteurs, les types de pouvoirs adjudicateurs et les procédures de passation, soulignant l'importance de facteurs institutionnels et structurels allant au-delà de la seule taille des entreprises. La taille des contrats apparaît comme un déterminant particulièrement robuste des probabilités d'attribution aux PME.

Les résultats économétriques indiquent que les instruments de passation des marchés prévus par les directives de 2014 n'ont pas d'effets uniformes sur l'accès des PME. Leur association avec les attributions de marchés aux PME dépend fortement du contexte. Dans les secteurs LSLI, l'utilisation du critère du prix le plus bas est associée à une probabilité plus élevée d'attribution de marchés aux PME, tandis que dans d'autres secteurs, ce critère tend à présenter des effets neutres ou négatifs. À l'inverse, les conceptions des marchés qui réduisent la prédominance du prix dans les décisions d'attribution sont associées à un accès globalement plus élevé des PME, mais avec des effets plus faibles dans les activités à forte intensité de main-d'œuvre. Ces résultats suggèrent que les instruments de passation des marchés conçus pour poursuivre des objectifs stratégiques peuvent produire des effets asymétriques selon les secteurs.

L'intégration d'objectifs de politique publique plus larges au moyen de critères d'attribution, tels que des exigences environnementales, sociales ou liées à l'innovation, est généralement associée à un accès plus faible des PME, avec des effets particulièrement marqués dans les secteurs LSLI. De même, les outils numériques de passation des marchés, tels que les enchères électroniques, sont associés à une diminution des probabilités d'attribution aux PME, en particulier dans les activités sensibles aux coûts. Les mécanismes d'agrégation de la demande, y compris les achats conjoints et le recours à des centrales d'achat, sont également liés à une baisse de l'accès des PME en moyenne, bien que leurs effets varient fortement selon les secteurs et soient partiellement atténués dans les activités à forte intensité de main-d'œuvre.

L'analyse montre en outre que l'ouverture internationale et la concurrence transfrontière sont associées à un accès plus faible des PME, en particulier dans les secteurs LSLI. Les marchés couverts par des engagements internationaux en matière de marchés publics (notamment l'Accord sur les marchés publics de l'OMC) présentent également des probabilités réduites d'attribution aux PME. Dans l'ensemble, une hétérogénéité substantielle entre les pays persiste, même après prise en compte des caractéristiques des contrats, de la composition sectorielle et des procédures de passation.

Globalement, les résultats montrent que plusieurs instruments utilisés pour poursuivre des objectifs stratégiques en matière de marchés publics, tels que l'innovation, la durabilité, les objectifs sociaux, les outils numériques ou une concurrence internationale accrue peuvent, de manière non intentionnelle, rendre plus difficile l'accès des PME aux marchés publics. En particulier, lorsque les mêmes instruments de passation sont appliqués de manière uniforme à des secteurs très différents, ils peuvent réduire l'accès des PME dans certains contextes, même s'ils sont efficaces dans d'autres. Les résultats suggèrent ainsi que les politiques de marchés publics favorables aux PME ne peuvent reposer sur une approche unique et uniforme. Au contraire, la conception des règles et des instruments de passation des marchés doit tenir

compte des différences sectorielles et organisationnelles, afin que les objectifs stratégiques puissent être poursuivis sans affaiblir les possibilités d'accès des PME aux marchés publics.

Abstract

This report examines **SME awards in EU public procurement** in the context of the ongoing revision of the **2014 Public Procurement Directives** (Directives 2014/23/EU, 2014/24/EU and 2014/25/EU). The analysis builds on previous work by the Cotec Foundation and provides empirical evidence to inform the impact assessment process.

Using contract-level data from **Tenders Electronic Daily (TED) for 2018–2023**, covering 3.7 million awarded contracts within the **European Economic Area (EEA)**, the study analyses how procurement design features are associated with the probability that a contract is awarded to at least one SME. The empirical approach combines descriptive analysis with econometric models controlling for country and year effects, while allowing for heterogeneity across procurement contexts, with particular attention to differences between low-skilled labour-intensive (LSLI) and non-LSLI sectors.

The results indicate that procurement instruments enabled under the current framework do not produce uniform effects on SME award probabilities. Several design features display asymmetric sectoral patterns. Instruments often considered SME-supportive, such as lot division or collaborative participation, are associated with higher SME awards mainly in LSLI sectors, while strategic award criteria and aggregation mechanisms are linked to lower SME award probabilities, particularly in labour-intensive activities. These findings highlight context-dependent trade-offs between strategic procurement objectives and SME inclusiveness.

Glossary of terms and abbreviations

The definitions below are provided for clarity and reflect the operational use of key analytical terms in this report. Only concepts that are central to the empirical framework or that may give rise to interpretative ambiguity are included.

Terms or acronyms	Definitions
SMEs	Small and medium-sized enterprises
SME award	A procurement outcome in which at least one of the winning organisations is classified as an SME. In this report, SME awards are used as the operational measure of SMEs' effective access to public procurement.
SME access	In this report, a broad term referring to SMEs' ability to obtain public procurement contracts, proxied empirically by SME awards. The analysis does not cover SME tender participation or conditional success probabilities.
Public Procurement Directives (2014 Directives)	Directive 2014/23/EU, Directive 2014/24/EU and Directive 2014/25/EU, establishing the EU legal framework governing public procurement.
TED	Tenders electronic daily - Supplement to the Official Journal of the EU
CAN	Contract Award Notice
LSLI	Low-Skilled Labour-Intensive activities.
Non-LSLI activities	Economic activities not classified as LSLI for the purpose of the sectoral analysis in this report.
CPB	Central Purchasing Body
GPA	WTO Government Procurement Agreement
EEA	European Economic Area
CPV	Common Procurement Vocabulary as set out in Regulation (EC) No 213/2008
Innovation Partnership procedure	A public procurement procedure (art. 31 Directive 2014/24/EU) in which a public authority collaborates with one or more companies to research and develop a new solution that is not yet available on the market.
Predicted probability	The estimated probability of an outcome derived from the econometric models, holding other factors constant.
Fixed effects	Econometric controls used to account for unobserved country-specific and year-specific characteristics in regression analysis.

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1. Introduction

This report is prepared in the context of the forthcoming revision of the **EU Public Procurement Directives**, as announced in the Political Guidelines for the 2024–2029 mandate of the European Commission (von der Leyen, 2024). In these guidelines, President von der Leyen emphasized the strategic role of public procurement as a lever to foster innovation, support strategic sectors, and strengthen the European productive base. Following the evaluation of the **2014 Public Procurement Directives** (i.e., **2014/23/EU**, **2014/24/EU** and **2014/25/EU**), the Commission is currently seeking analytical input from external experts to inform the impact assessment and the development of policy options for the revision.

The current analysis stems from the project developed by the Cotec Foundation which measured the weight of strategic goals, such as innovation, on public procurement across Europe (Cotec, 2026). The aim of this report is to contribute to the ongoing revision by providing empirical evidence on how **procurement design features** are associated with **Small and Medium-sized Enterprises (SMEs) access to public procurement**, with particular attention to context-specific mechanisms and potential trade-offs emerging from the implementation of the current framework.

Time frame and relevance to the 2014 Directives.

The analysis exploits contract/lot-level information from **Tenders Electronic Daily (TED)** for the period 2018–2023, focusing on **awarded contracts** for which the **SME status of the winning organisation** is explicitly reported and identifying whether **at least one of the winning organisations is an SME**. Although information on SME status is available for earlier years, the 2018–2023 period offers greater homogeneity in data reporting and variable definitions, ensuring a more reliable basis for systematic analysis. The period also reflects the most recent years for which **Contract Award Notices (CANs)** are publicly available in TED at the time of the analysis, making 2023 the latest year that can be consistently covered.

The choice of the **2018–2023** period is particularly appropriate for assessing the effects of **the 2014 Public Procurement Directives on SME** access to public procurement. Most Member States completed the transposition of the 2014 Directives into national law during 2016 or 2017, meaning that the period covered by the analysis reflects procurement practices operating fully under the new regulatory framework. Focusing on these years therefore allows for a more meaningful cross-country comparison of performance once the 2014 Directives were in force and had begun to shape procurement behaviour, while avoiding the

potential influence of earlier periods in which the previous **2004 Directives** were still applicable. This temporal delimitation strengthens the interpretability of the findings by ensuring that observed patterns in SMEs' access to public procurement can be plausibly associated with the implementation of the current EU procurement framework rather than with transitional or legacy effects.

Geographic and institutional scope of the dataset.

The empirical analysis is based on the dataset on **Contract Award Notices (CANs)** published in **TED** for the period **2018–2023**. The initial dataset contains **6,198,063 contracts/lots**. The first step consists in constructing a restricted dataset including only awarded contracts and only contracting authorities located in the **European Economic Area (EEA)**. Records not reporting an awardee are removed, and contracts awarded by **non-EEA authorities, EU institutions** and other **international organisations** are excluded. This restriction ensures that the analysis focuses on comparable national procurement systems operating under the EU regulatory framework and avoids mixing national procurement with supranational purchasing practices.

Then, in order to limit the influence of extreme and potentially erroneous values, contracts with reported values below 1 euro and above **EUR 100 million** are also excluded. These restrictions lead to the final working dataset containing 3,692,011 contracts or lots.

Analytical focus and unit of analysis.

The empirical strategy examines how procurement design features and contract characteristics are associated with **SMEs' awards in public procurement**. The **unit of analysis** is the **awarded contract (or lot)**, and the outcome of interest identifies whether at least **one of the winning organisations is an SME**. The analysis therefore focuses on **effective access to public procurement**, rather than on firms' participation decisions or success probabilities conditional on submitting a tender.

The relationship between **SMEs' access** and a wide set of policy-relevant contract features—such as **award criteria, the use of lots, subcontracting, electronic auctions, joint or centralised purchasing, sustainability and innovation criteria, and mechanisms affecting competition and market openness**—is analysed using probabilistic models, with results reported as changes in the probability that a contract is awarded to an SME. To ensure that comparisons are made within comparable institutional and temporal settings, all models include **country and year fixed effects**, so that the estimated associations reflect differences between contracts awarded in the same country and in the same year.

The analysis is complemented by a sectoral perspective that distinguishes **low-skilled labour-intensive activities** (LSLI) from the rest of the economy and allows the associations between procurement instruments and SMEs' access to vary across these two contexts, using predicted probabilities to illustrate how the same design choices are linked to different outcomes across sectors. Additionally, to contextualize the participation of SMEs in the execution of public procurement contracts, data from **Eurostat's Structural Business Statistics** has been used to examine the SMEs access within the business population.

Scope limitation: SME awards versus SME participation.

The analysis does not cover cases in which SMEs submitted tenders but were not awarded the contract. Although information on **SME tender participation** could, in principle, be approximated using the variable reporting the number of tenders submitted by SMEs, this field suffers from **significant data quality limitations** in **TED** and cannot be used for systematic analysis. Approximately **62% of observations** display missing values for this variable. In addition, important internal inconsistencies are observed, including cases in which contracts explicitly awarded to SMEs report zero or fewer SME tenders than SME winners. These inconsistencies affect around **40% of contracts or lots awarded to SMEs**.

For these reasons, and in order to avoid introducing substantial measurement error, the scope of the analysis is restricted to **SME awards**, focusing on the characteristics of contracts that are ultimately won by SMEs, rather than on tender participation or conditional success probabilities of SME tenderers.

Overview of findings and policy relevance.

The results show that the procurement instruments promoted by the 2014 Public Procurement Directives shape SME awards in markedly different ways across contexts. Design features that are often presented as broadly SME-friendly, such as dividing contracts into lots or encouraging collaborative participation, are strongly associated with higher access for SMEs, but mainly in LSLI sectors, while they make little difference in other parts of the economy. By contrast, instruments that support strategic policy objectives—such as environmental, social and innovation-related award criteria, electronic auctions, international openness and specific innovation-oriented procedures—are generally associated with lower access for SMEs, and this negative association is particularly pronounced in LSLI sectors. The analysis also shows that mechanisms that aggregate demand and organise purchasing at a higher level, such as joint procurement and central purchasing bodies, tend to reduce SMEs' access in most contexts, although centralised purchasing is associated with higher SME access in low-skilled labour-intensive activities. More generally, the results highlight that the same procurement instruments can have very different implications for SMEs depending on the sectoral and organisational context in

which they are applied, and that pursuing strategic objectives through public procurement may entail systematic trade-offs with SMEs' opportunities to win public contracts.

These findings have direct implications for the ongoing revision of the EU Public Procurement Directives. They suggest that the effectiveness of procurement instruments depends not only on their formal availability, but also on how they interact with structural, sectoral and institutional characteristics. The evidence points to the importance of moving beyond a purely transversal application of procurement rules, and of considering how flexibility in design and implementation can help reconcile strategic objectives with the goal of supporting SME access. By documenting where and under which conditions procurement practices are associated with higher or lower SME access, the report provides an empirical foundation to inform the impact assessment and the evaluation of policy options for the revised regulatory framework.

The remainder of the report is organized as follows. Section 2 reviews the existing academic and policy evidence on SME access in public procurement, highlighting the main barriers and incentives identified in the literature, and clarifying the analytical gaps that motivate the focus and contribution of this study. Section 3 presents a descriptive overview of SME access in public procurement across countries, sectors, procedures, and contract characteristics. Section 4 develops the econometric analysis, structured around a set of thematic subsections examining key procurement design features and their interaction with sectoral context. Section 5 concludes by summarizing the main findings and discussing their implications for the revision of the 2014 Public Procurement Directives, with a focus on policy-relevant insights derived from empirical evidence.

2. Current state of play

Public procurement constitutes one of the largest sources of organized demand in the European economy. Each year, public authorities across the Union purchase works, goods and services with an estimated value of around €2.5 trillion, corresponding to roughly 15% of EU GDP.¹ This share is expected to grow further in the coming years, in connection with new policy priorities in areas such as security, resilience and strategic autonomy (European Commission, 2025a). In this context, public procurement represents a potentially significant market for SMEs, both as direct suppliers and as participants in public-sector value chains through subcontracting and consortia.

Reflecting this economic significance, public procurement has increasingly been framed as a strategic policy instrument rather than a purely administrative function. Within the EU, the 2014 Public Procurement Directives explicitly recognize the role of procurement in supporting SMEs alongside broader policy objectives. In particular, Directive 2014/24/EU introduced provisions intended to lower entry barriers for smaller firms, including encouragement to divide contracts into lots and to apply proportionality in selection and award criteria. In addition, this Directive includes other measures, such as lower turnover requirements, reduction of documentation requirements, subcontracting opportunities, digitalization.² Similar considerations underpin a wide range of regulatory reforms, guidance initiatives and support measures aimed at facilitating SME access to public contracts (OECD, 2018). The underlying policy rationale is that participation in public procurement can help SMEs stabilize demand, grow and internationalize, build capabilities and professionalize their operations.

Despite these policy ambitions, a consistent finding across both academic research and policy reports is that SMEs face persistent difficulties in accessing public procurement markets (see European Commission, 2025b; Ecorys, 2025). These challenges arise from a combination of institutional features of procurement systems and firm-level constraints. Smaller firms often encounter high administrative burdens, complex procedures and demanding qualification requirements relative to their internal capacities (Loader, 2013; Flynn, 2017; Woldesenbet & Worthington, 2019). Such frictions are particularly pronounced for micro-enterprises and newly established firms, which frequently lack the resources, experience or incentives needed to engage systematically with public tenders. As a consequence, many SMEs do not perceive public procurement as a realistic or attractive channel for growth, despite its economic scale (European Commission, 2021).

(¹) See: <https://www.public-procurement-data-space.europa.eu/en>

(²) These measures are horizontal, meaning that they apply to all economic operators and are not SME-specific.

Much of the literature on SMEs and public procurement has therefore focused on diagnosing the obstacles faced by small firms. One strand of work points to conservative procurement practices, whereby contracting authorities prioritize risk minimization and continuity of supply, indirectly favouring larger and more established suppliers (Loader, 2015). A second strand emphasizes the procedural and administrative complexity of procurement processes, including documentation requirements, compliance costs and bidding formalities, which tend to weigh more heavily on firms with limited staff and expertise (Woldesenbet & Worthington, 2019). A third line of analysis highlights internal constraints, such as restricted legal, financial and managerial resources, which limit SMEs' ability to prepare competitive bids or absorb contractual risks (Karjalainen & Kempainen, 2008; Akenroye et al., 2024).

Complementing this academic evidence, the European Commission's 2019 report on SMEs' participation in public procurement constitutes a key reference in policy-oriented literature. This study provides the most comprehensive EU-wide descriptive assessment available to date, covering all EU Member States as well as EEA countries. The analysis is based primarily on contract-level information from TED, complemented by targeted surveys of contracting authorities and firms, as well as interviews with relevant stakeholders. Focusing on the period 2011–2017, the report establishes a detailed baseline of SMEs participation in public procurement markets, documents substantial cross-country variation in participation patterns, and offers a systematic inventory of measures implemented across Member States to support SMEs access to public contracts.

The 2019 report also shows that obstacles to SMEs participation arise at multiple stages of the procurement cycle, including access to information, qualification, tendering and contract management. These obstacles include excessive contract size, administrative and procedural burden, limited access to information, disproportionate selection requirements, late payment practices and insufficient dialogue between contracting authorities and potential suppliers. Taken together, these factors help explain why SMEs often participate less frequently or less successfully in public procurement than their economic weight would suggest.

At the same time, the report highlights a systematic divergence between SME access measured by the number of contracts and by their aggregate value. While SMEs account for a high proportion of above-threshold contract awards by number (i.e., around 61% over the 2011–2017 period) they capture only about one third of the value of direct public contract awards in the EU (European Commission, 2019), significantly below their contribution to economic output and employment. This indicates that SME access is concentrated in smaller contracts, with micro-enterprises, in particular, markedly underrepresented in value terms (ibid). This distinction underscores that participation rates alone provide an incomplete picture of inclusiveness, and that contract size, aggregation and design features play a decisive role in shaping effective access to public procurement markets.

Notwithstanding these barriers and uneven outcomes, there is substantial evidence that SMEs have strong incentives to engage with public procurement when access constraints can be overcome. Public contracts typically provide relatively stable and predictable demand, alongside lower counterparty risk than many private-sector transactions (Preuss, 2011; Josephson et al., 2019). These characteristics are particularly valuable in sectors where public authorities act as dominant or monopsonistic buyers, such as healthcare, education, transport, defense and social services. In other sectors, participation in public procurement can support the diversification of revenue streams, reduce dependence on a limited number of private clients, and increase firms' resilience to economic shocks (Di Mauro et al., 2020). Beyond immediate financial effects, engagement with public buyers may also generate longer-term benefits, including reputational gains, learning effects and improved access to subsequent market opportunities (Purchase et al., 2009; Shelton & Minniti, 2018).

The analytical scope of the 2019 Commission report is constrained by its temporal and methodological focus. The analysis covers a period that includes years prior to the transposition of the 2014 Directives as well as their initial implementation phase, when many SME-supporting measures were introduced between 2016 and 2018. As a result, the report relies primarily on descriptive associations and does not develop econometric identification strategies, nor does it model heterogeneity across sectors or procurement contexts. These limitations motivate the present study's focus on examining procurement outcomes once the regulatory framework established by the 2014 Directives was fully in place.

More recently, the European Commission's evaluation of the 2014 Public Procurement Directives (European Commission, 2025b) provides an updated, system-wide assessment of the functioning of the regulatory framework, covering the period following full transposition. **Compared to the 2019 report, which focused specifically on SME participation and relied primarily on descriptive analysis, the 2025 evaluation adopts a broader policy-performance perspective**, examining effectiveness, efficiency, relevance and coherence of the Directives across multiple objectives, including competition, transparency, strategic procurement and SME access. While the evaluation confirms the persistence of structural challenges identified in the 2019 study (e.g., limited cross-border participation, high administrative burden and uneven SME access) it also documents new developments, including declining levels of competition (measured by bids per procedure) and increased use of strategic criteria.

In parallel, the 2025 cost-benefit analysis on the quality and efficiency of public procurement procedures (Ecorys, 2025) introduces a distinct analytical contribution by quantifying the administrative costs and efficiency gains associated with the 2014 framework. Unlike the 2019 report, this study evaluates whether the regulatory regime delivers net economic benefits once compliance and procedural costs for contracting authorities and firms are considered. It

provides evidence on administrative burden, procedural duration, and competition trends, and applies econometric methods to assess efficiency outcomes. Importantly, it also documents an increase in SME participation following the 2014 reform: over the period 2017–2024, SMEs accounted for approximately 71% of above-threshold contract awards and 55% of their total value, compared with 61% and 41%, respectively, in 2013 (ibid, p. 28). This indicates a measurable improvement in SMEs' relative position in procurement markets after the reform.

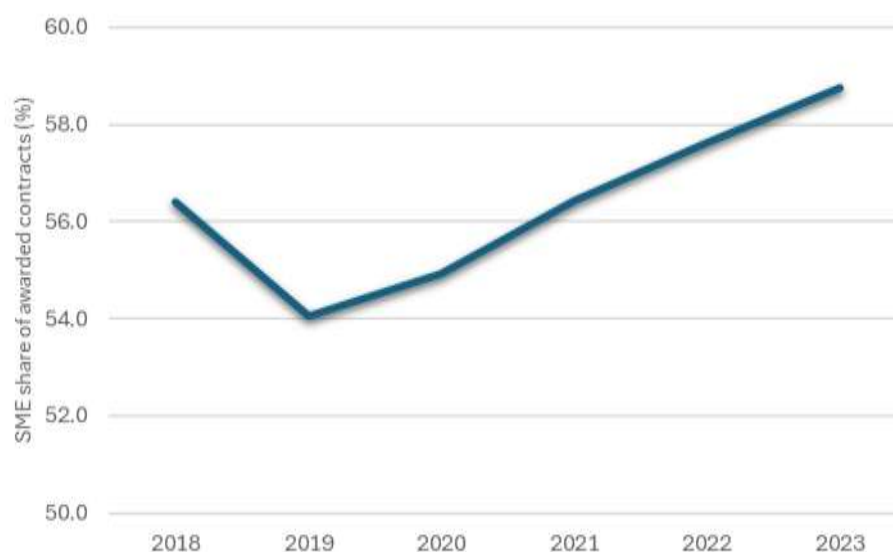
Taken together, the existing literature and recent Commission evaluations highlight both the strategic importance of SME access in public procurement and the limitations of current empirical evidence. While numerous studies document barriers and enabling factors at the national or sectoral level, systematic cross-country analyses linking specific procurement instruments to **SME awards** under a stable regulatory framework remain scarce. This report seeks to address this gap by providing comparative, contract-level evidence on **SME awards across EU Member States**, with explicit attention to procurement design features and contextual heterogeneity.

3. Descriptive statistics

The purpose of the descriptive analysis is to provide a clear picture of SMEs' access to public procurement before turning to the econometric models, by documenting how awarded contracts and procurement expenditure are distributed between SMEs and non-SMEs across countries, sectors and procurement settings. The evidence points to three broad patterns. First, SMEs' access has improved over time: after a modest decline between 2018 and 2020, the share of contracts awarded to SMEs rises steadily and exceeds half of all contracts by 2023, while SMEs also capture a substantial share of total awarded value. Second, access is highly uneven across contexts. Cross-country heterogeneity is pronounced both for the number of contracts and for awarded value, and improvements in the number of contracts do not always translate into similar gains in value terms. Strong differences also emerge across contract sizes and sectors: SMEs are much more likely to win low-value contracts and their presence declines steadily as contract values increase, while sectoral patterns range from high SME access in construction works, food-related procurement and transport services to much lower access in IT services and, in particular, in health and social work services. Third, institutional and procedural settings matter. SME access differs across contracting authority types and across the three main activities (works, services and supplies), and it is higher when contracts are awarded using the best price–quality ratio rather than solely the lowest price criteria. At the same time, cross-border awards remain rare, SMEs are slightly less internationalised than larger firms, and combining TED with Eurostat data shows that only a small fraction of SMEs win at least one public contract, with large differences across countries.

Figure 1 shows the evolution of the share of public procurement contracts awarded to SMEs between 2018 and 2023.

Figure 1. Trends in SME access in public procurement contracts (2018–2023)



Source: Authors' own elaboration based on TED data (2018–2023).

After a decline between 2018 and 2019, the SME share recovers slightly in 2020 and then increases steadily from 2021 onwards, reaching close to 59 per cent of awarded contracts in 2023. The figure therefore points to a gradual strengthening of SMEs' access to public procurement in terms of the number of contracts over the last part of the period. At the same time, the share of contracts awarded to SMEs remains substantially lower than the numerical weight of SMEs in the European business population. This comparison should be interpreted with caution, since it contrasts the distribution of awarded contracts with the distribution of firms, and therefore does not account for differences in firms' propensity to participate in public procurement, in their likelihood of winning contracts, or in their capacity to deliver public contracts of different size and complexity.

Table 1 reports the share of public procurement contracts awarded to SMEs by country for the overall period 2018–2023 and for the two sub-periods 2018–2020 and 2021–2023. The table reveals a pronounced degree of cross-country heterogeneity in SMEs' access to public procurement over the full period.

Table 1. Share of public procurement contracts awarded to SMEs by country (2018–2023)

Country	2018-2023	2018-2020	2021-2023
Austria	58.9	53.9	62.7
Belgium	31.6	31.4	31.9
Bulgaria	70.3	68.3	71.9
Cyprus	80.8	77.9	82.7
Czech Republic	69.1	67.6	70.3
Germany	57.8	52.3	62.4
Denmark	51.3	50.1	52.3
Estonia	84.0	83.0	85.0
Greece	46.3	41.9	48.8
Spain	46.3	41.6	49.3
Finland	61.3	63.7	59.6
France	44.3	44.9	43.8
Croatia	49.3	48.9	49.6
Hungary	72.8	69.4	75.6
Ireland	70.6	71.2	70.1
Italy	44.0	40.8	46.1
Lithuania	85.8	78.1	92.1
Luxembourg	62.6	62.7	62.5
Latvia	92.4	92.4	92.3
Malta	92.6	93.6	91.5
Netherlands	66.9	67.0	66.9
Poland	58.2	61.1	55.7
Portugal	41.4	38.2	43.7
Romania	42.5	23.1	51.3
Sweden	66.6	69.4	64.5
Slovenia	80.2	79.6	81.2
Slovakia	80.5	76.7	83.3
Iceland	93.5	95.8	90.3
Liechtenstein	94.5	96.3	93.5
Norway	46.3	44.3	47.8
EEA	56.5	55.0	57.6
EU 27	56.5	55.1	57.7

Source: Authors' own elaboration based on TED data (2018–2023).

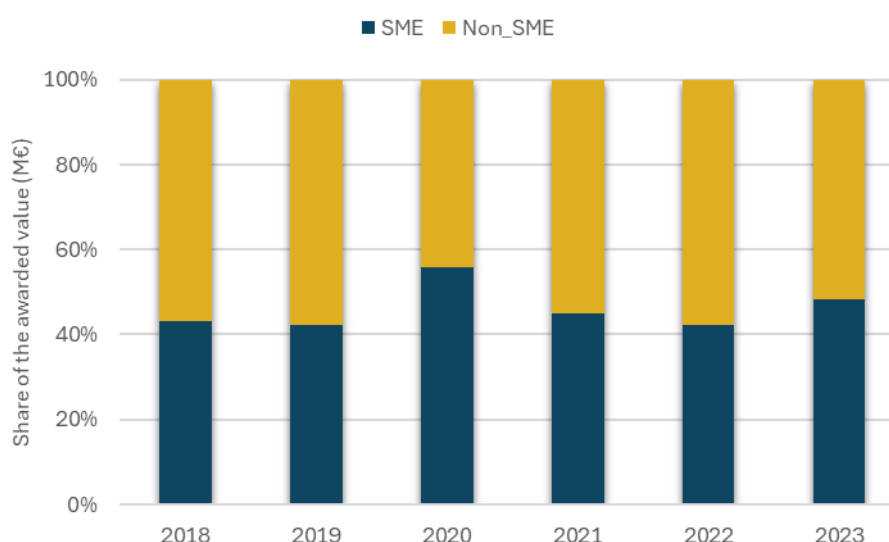
Looking first at the overall period 2018–2023, a group of countries stands out with very high SME award shares. Liechtenstein and Iceland record the highest values, closely followed by Latvia and Malta, and by several Baltic and Central-Eastern European countries such as Lithuania, Estonia, Slovakia and Slovenia, all of which display SME shares well above the cross-country average. Hungary, Bulgaria and Cyprus also show comparatively high levels of SME access. At the other end of the distribution, SMEs capture a much smaller share of contracts in a limited number of countries. Belgium records the lowest overall value, while Portugal, Italy and France also display relatively low SME award shares. Greece, Spain and Norway remain below the cross-country average as well, although their levels are noticeably higher than in the lowest-performing countries.

Turning to the evolution between the two sub-periods, the dominant pattern is an increase in the share of contracts awarded to SMEs in 2021–2023 compared with 2018–2020 in most countries, indicating a general improvement in SMEs' access

to public procurement across national systems. Worth noting are the improvements observed in Germany, Spain, Italy, Greece, Portugal, Lithuania and Slovakia. By contrast, a smaller group of countries exhibits stable or slightly declining SME award shares between the two sub-periods. Sweden and Poland record noticeable decreases, while Finland and France show small reductions. Iceland and Malta also experience a decline between the two sub-periods, although both countries remain among those with the highest overall levels of SME access to public procurement.

Figure 2 shows the distribution of the total awarded value of public procurement contracts between SMEs and non-SME awardees over the period 2018–2023, with each bar representing 100% of the aggregated awarded value in a given year.

Figure 2. Distribution of total awarded value between SME and non-SME awardees (2018–2023)



Source: Authors' own elaboration based on TED data (2018–2023).

In this period, the distribution of contract values between SME and non-SME awardees is relatively balanced, with SMEs accounting for around 44% of the total awarded value. In combination with the information provided in Figure 1, this indicates that, in aggregate terms, SMEs captured a substantial share of public procurement expenditure, although for a relatively lower value than Non-SMEs. In 2020, SMEs account for around 56% of the total value of awarded public contracts, which is the highest level observed in the period. Their share then decreases in 2021 and 2022, when non-SME firms receive close to 60% of the total contract value. In 2023, the share of contract value awarded to SMEs increases approaching to half of total value.

Table 2 reports the share of total awarded contract value captured by SMEs by country for the overall period 2018–2023 and for the two sub-periods 2018–2020

and 2021–2023. Unlike Table 1, which refers to the number of contracts, this table reflects the distribution of procurement expenditure and therefore provides a complementary perspective on SMEs’ access to public procurement.

Table 2. Share of total awarded contract value captured by SMEs by country (2018–2023)

Country	2018-2023	2018-2020	2021-2023
Austria	47.9	39.2	52.8
Belgium	24.4	28.1	21.1
Bulgaria	57.9	56.1	59.5
Cyprus	70.5	60.9	76.4
Czech Republic	57.0	54.2	58.8
Germany	52.4	50.7	54.0
Denmark	48.6	46.3	50.2
Estonia	83.3	83.8	83.0
Greece	29.5	25.7	31.2
Spain	25.4	23.6	26.2
Finland	58.1	56.5	59.0
France	37.1	36.7	37.3
Croatia	52.7	54.0	51.9
Hungary	56.6	54.7	58.0
Ireland	82.0	89.7	63.2
Italy	37.5	32.7	40.0
Lithuania	68.7	67.3	70.0
Luxembourg	53.1	65.4	47.4
Latvia	82.8	81.3	83.8
Malta	74.2	89.9	60.4
Netherlands	57.6	56.9	58.0
Poland	52.1	55.7	49.4
Portugal	36.3	24.4	47.0
Romania	45.9	20.8	57.3
Sweden	48.8	55.4	45.1
Slovenia	72.7	78.1	69.3
Slovakia	61.4	63.0	60.0
Iceland	92.7	94.3	90.3
Liechtenstein	89.6	84.9	91.7
Norway	34.2	29.6	36.9
EEA	46.5	48.1	45.3
EU 27	46.7	48.5	45.5

Source: Authors’ own elaboration based on TED data (2018–2023).

For the overall period 2018–2023, cross-country heterogeneity remains substantial, and the ranking differs in several respects from that observed in terms of contract counts. Liechtenstein and Iceland again display very high SME value shares, confirming that SMEs capture not only a large number of contracts in these countries but also a large proportion of total expenditure. Estonia and Latvia also record comparatively high shares of procurement value awarded to SMEs, while Lithuania and Slovakia remain above the cross-country average. At the lower end of the distribution, Belgium and Spain register the smallest SME shares in value terms, followed by Greece, Portugal and Norway, where SMEs capture a relatively limited proportion of total procurement expenditure.

Examining the evolution between the two sub-periods, the general pattern is again one of improvement. In most countries, the share of total awarded value captured by SMEs is higher in 2021–2023 than in 2018–2020, echoing the upward trend previously observed for the number of contracts. Several countries show noticeable increases in the SME share of procurement value between the two sub-periods, including Romania, Portugal, Italy, Cyprus and Austria. By contrast, a smaller group records a decline. Malta and Ireland experience the most visible reductions, while Luxembourg, Sweden and Slovenia also show more moderate decreases in SME value shares.

A comparison with Table 1 underscores that gains in SMEs' access measured by the number of contracts are not always mirrored by equivalent gains in terms of expenditure. In some countries, such as Greece or Spain, SMEs win a relatively large share of contracts but capture a more modest share of total value, reflecting differences in contract size and the structure of procurement across national systems.

Delving deeper into the analysis of the contract size, Figure 3 shows how the share of contracts awarded to SMEs varies with the value of the contract. The horizontal axis groups contracts into one-million-euro value intervals up to 20 million euros, and a final category including all contracts above this threshold. The vertical axis reports the percentage of contracts awarded to SMEs within each value group.

Figure 3. Share of contracts awarded to SMEs by contract value range (2018–2023)



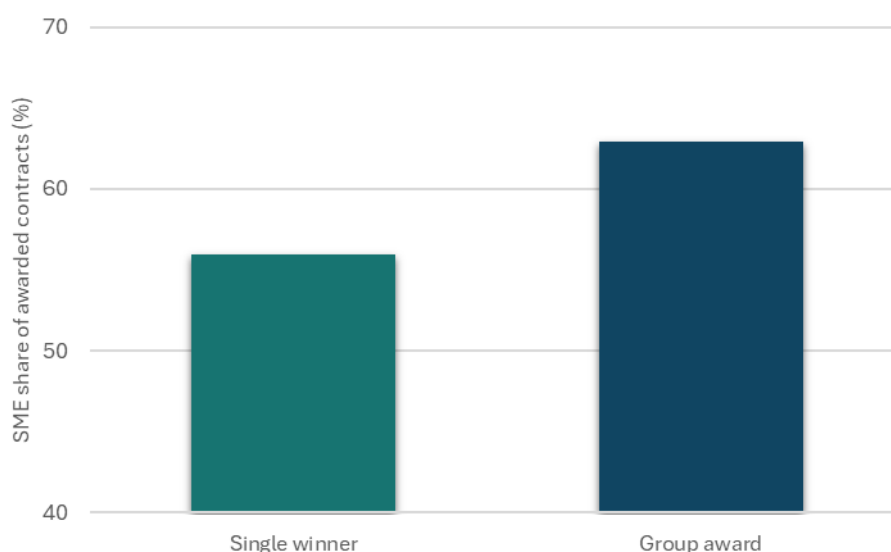
Source: Authors' own elaboration based on TED data (2018–2023).

The figure displays a clear downward pattern: SMEs account for more than half of the contracts awarded in the smallest value ranges, but their share decreases steadily as contract values increase. From around 10 million euros onwards, the

proportion of contracts won by SMEs remains close to 40–45%, and it falls below 40% for the highest value category. The figure therefore illustrates that SMEs are much more likely to win lower-value contracts, while their presence becomes progressively more limited as contract size increases.

On the relationship between collaboration and SME access, Figure 4 compares the share of contracts awarded to SMEs depending on whether the contract is awarded to a single economic operator or to a group of economic operators. Groups may consist exclusively of SMEs or of SMEs together with larger firms; the variable captures whether at least one of the winning organisations in the group is classified as an SME. When contracts are awarded to a single winner, SMEs account for around 56% of awarded contracts. By contrast, when contracts are awarded to a group, the SME share rises to approximately 63%, indicating that collaborative participation arrangements — regardless of the size composition of the group — are associated with higher SME access to public procurement.

Figure 4. SME share of awarded contracts: single-winner vs group awards (2018–2023)



Source: Authors' own elaboration based on TED data (2018–2023).

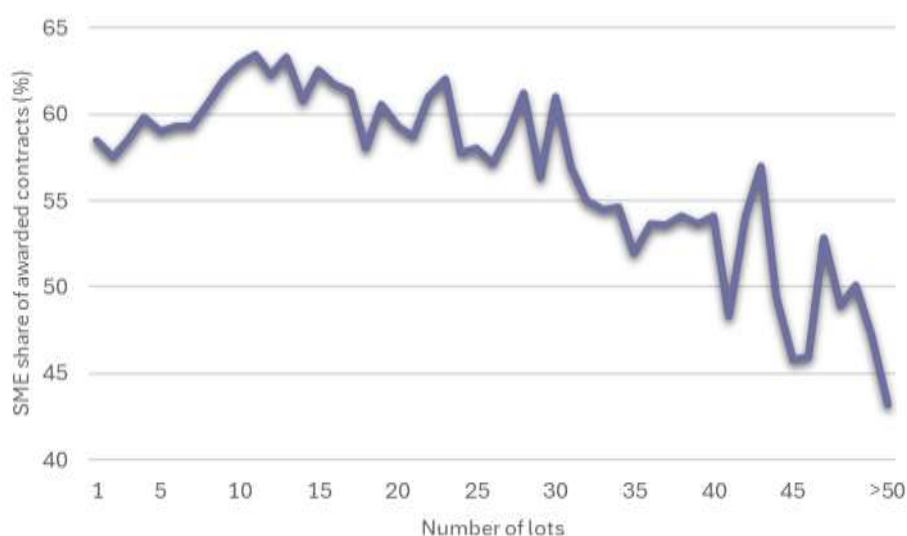
This gap suggests that collaborative forms of participation are associated with higher SME access to public procurement. Contracts awarded to groups may allow smaller firms to combine resources, share risks or complement capabilities, making it easier for them to compete for contracts that might otherwise exceed their individual capacity. The descriptive evidence therefore points to a potentially important role of cooperation and networking arrangements in facilitating SME access to public contracts.

On the role that contract fragmentation into lots could play, Figure 5 illustrates how the share of contracts awarded to SMEs varies with the number of lots into

which a contract is divided. The horizontal axis reports the number of lots, while the vertical axis shows the percentage of contracts awarded to SMEs.

For contracts divided into a small or moderate number of lots, SME access remains relatively high. In fact, the SME share tends to increase slightly as the number of lots rises from one to around 10–15 lots, reaching levels above 60%. This pattern is consistent with the idea that splitting contracts into several lots can make them more accessible to smaller firms, as it reduces the scale of individual components and may lower entry barriers.

Figure 5. SME share of awarded contracts by number of lots (2018-2023)



Source: Authors' own elaboration based on TED data (2018–2023).

However, once the number of lots becomes very large, the relationship changes. For contracts divided into more than 30 lots, and especially beyond 40 or 50 lots, the SME share declines markedly. In contracts with very high levels of fragmentation (more than 50 lots), the SME share falls to levels well below the average observed for contracts with a smaller number of lots.

The figure therefore suggests a non-linear relationship between lot division and SME access. Moderate fragmentation appears to be associated with higher SME awards, whereas very high fragmentation is linked to lower SME shares. This pattern indicates that dividing contracts into lots may support SME access up to a certain point, but extreme fragmentation does not necessarily translate into greater SME access.

Figure 6 shows the share of awarded contracts won by SMEs across product and service categories defined by the main divisions of the Common Procurement Vocabulary (CPV). The categories are ordered by the SME share, which makes cross-sector differences easy to see and highlights how uneven SME access to awarded contracts can be across procurement markets.

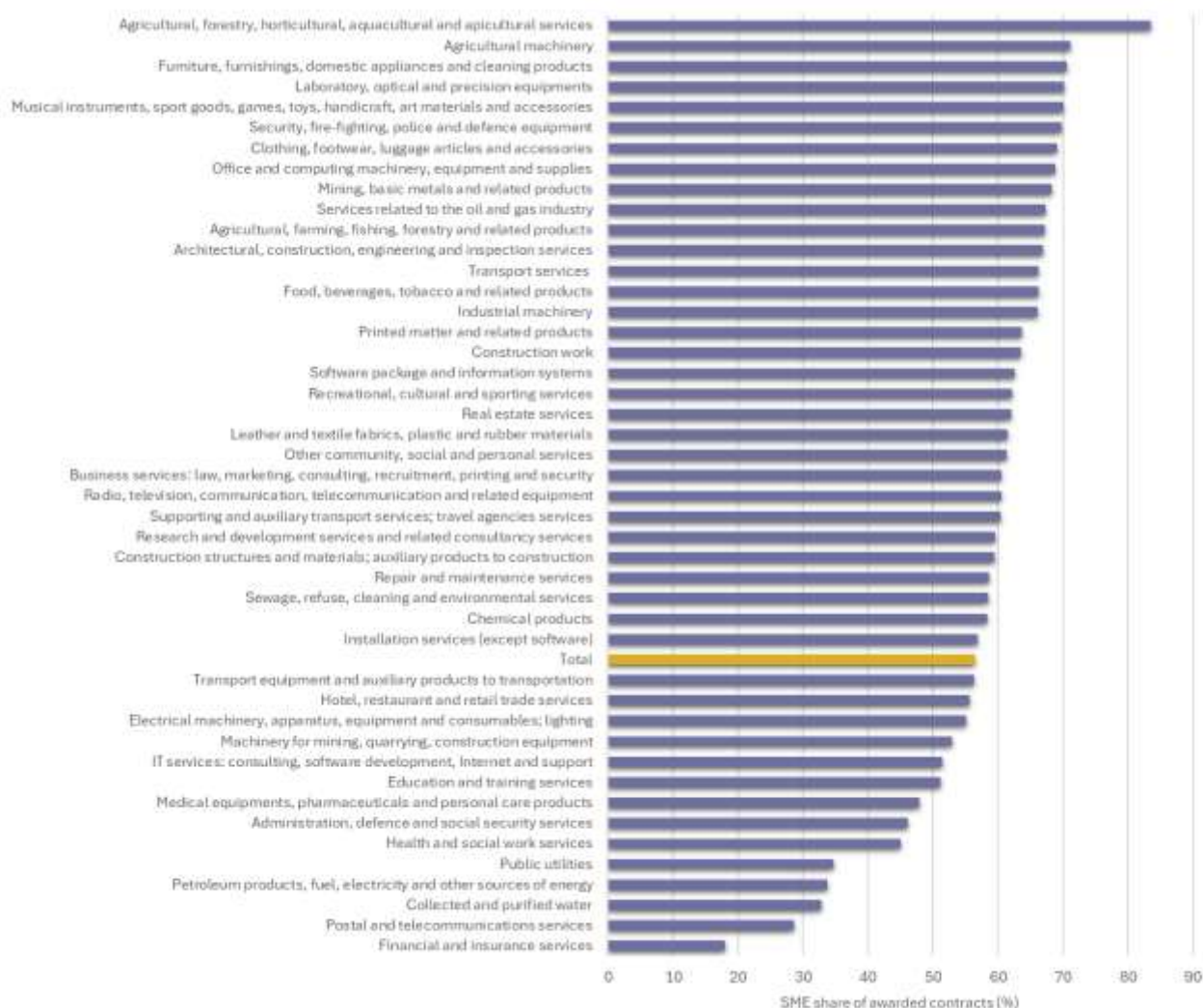
SME shares are particularly high in activities that tend to involve relatively standardised outputs and a strong local or regional dimension. This is especially visible in agricultural, forestry, horticultural, aquacultural and apicultural services, where SMEs win more than four out of five contracts (83.5%). SME shares are also very high in agricultural machinery (71.2%), furniture and household equipment (70.5%), and musical instruments, sports goods, toys and related products (70%).

However, high SME shares are not confined to “traditional” or low-knowledge segments. Several specialised and more knowledge-intensive divisions also display strong SME access, including laboratory, optical and precision equipment (70.2%) and office and computing machinery, equipment and supplies (68.8%), suggesting that SMEs are frequently successful in awards that require technical capabilities.

By contrast, SME shares are much lower in several CPV divisions linked to capital-intensive or infrastructure-based markets. SMEs win 17.9% of contracts in financial and insurance services, 28.6% in postal and telecommunications services, 32.8% in collected and purified water, 33.7% in petroleum products and energy, and 34.7% in public utilities. These are areas where scale, regulation, or infrastructure constraints often make it harder for smaller suppliers to secure awards.

The figure also reports SME shares in several categories that are central to public procurement. In Construction works, SMEs win 63.5% of the contracts awarded. SME shares are similarly high in Transport services (66.2%) and in Food, beverages, tobacco and related products (66.2%), while Supporting and auxiliary transport services stand at 60.4%. By contrast, SME shares are lower in IT services (51.5%) and in Hotel, restaurant and retail trade services (55.7%). Among these large categories, Health and social work services show a comparatively lower SME share (45%), indicating that awards in this area are more frequently captured by non-SME providers.

Figure 6. SME share of awarded contracts by product and service category (2018-2023)



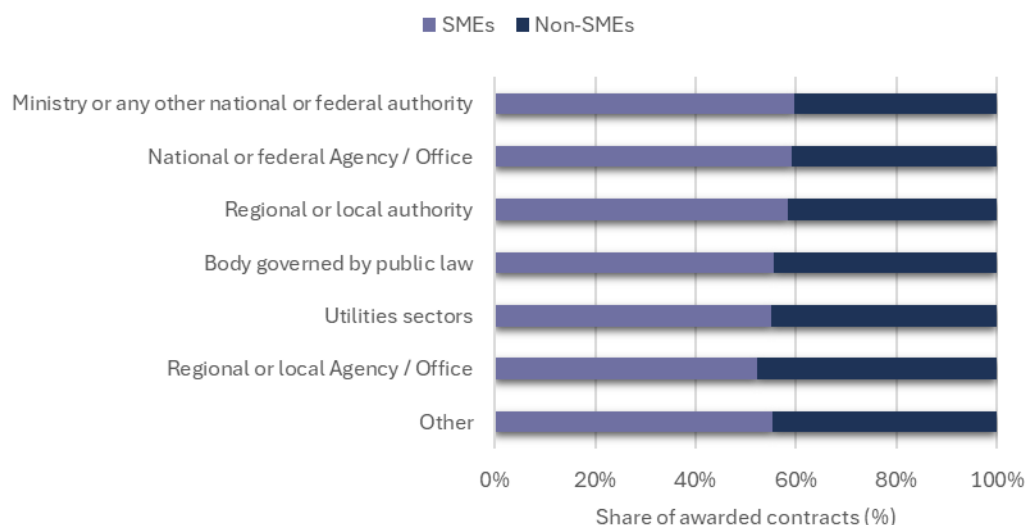
Source: Authors' own elaboration based on TED data (2018–2023).

Note: All CPV divisions displayed in Figure 6 include at least 1,000 awarded contracts in the dataset, with the sole exception of "Collected and purified water" (CPV 41), which includes 842 contracts. The data correspond to the full population of Contract Award Notices published in TED for the period 2018–2023 that meet the sample restrictions described above, and are therefore not subject to sampling variability.

Figure 7 shows the share of awarded contracts won by SMEs and non-SMEs across different types of contracting authorities. The figure indicates that SMEs account for a relatively high share of awarded contracts when procurement is carried out by ministries and other national or federal authorities, national or federal agencies or offices, and regional or local authorities. In these three cases, SMEs receive around six out of ten contracts, pointing to a comparatively strong presence of SMEs in procurement conducted by core public administrations.

A second group of contracting authorities displays slightly lower, but still substantial, levels of SME access. This is the case for bodies governed by public law, utilities sectors, and regional or local agencies or offices, where SMEs typically win a little over half of the awarded contracts.

Figure 7. SME share of awarded contracts by type of contracting authority (2018–2023)



Source: Authors' own elaboration based on TED data (2018–2023).

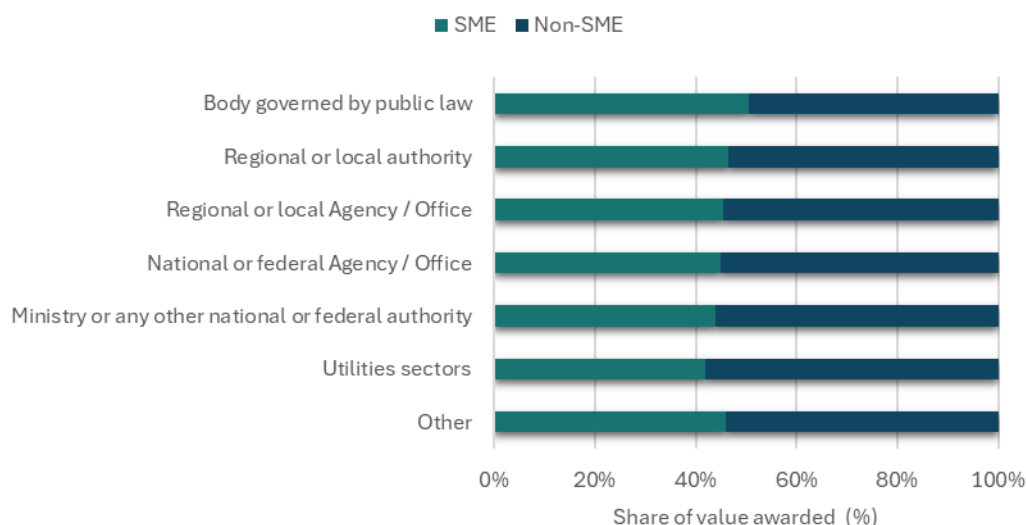
Figure 8 reports the share of total awarded contract value captured by SMEs and non-SMEs across different types of contracting authorities. While Figure 7 described how contracts are distributed in terms of numbers, this figure shows how procurement expenditure is distributed between SMEs and larger firms.

The figure shows that, for all types of contracting authorities, SMEs capture a smaller share of total awarded value than their share in the number of contracts. The highest SME value shares are observed for contracts awarded by bodies governed by public law, regional or local authorities, and regional or local agencies or offices, where SMEs account for roughly 45–50% of total awarded value.

By contrast, SMEs capture a lower share of procurement value in contracts awarded by national or federal agencies or offices and by ministries or other national or federal authorities, where their share of total awarded value is closer to 40–45%. The utilities sectors also display a relatively low SME share in value terms.

The figure therefore highlights a systematic difference between SMEs' strong presence in the number of contracts (shown in Figure 7) and their more limited share of total procurement expenditure across all types of contracting authorities.

Figure 8. Share of total awarded contract value captured by SMEs by type of contracting authority (2018-2023)



Source: Authors' own elaboration based on TED data (2018–2023).

Figure 9 compares SME access across the three main types of activity defined in the 2014 directives—works, supplies and services—distinguishing between the share of contracts awarded to SMEs and the share of total awarded value captured by SMEs in each case.

Figure 9. Share of contracts and total awarded value captured by SMEs by type of activity (2018-2023)



Source: Authors' own elaboration based on TED data (2018–2023).

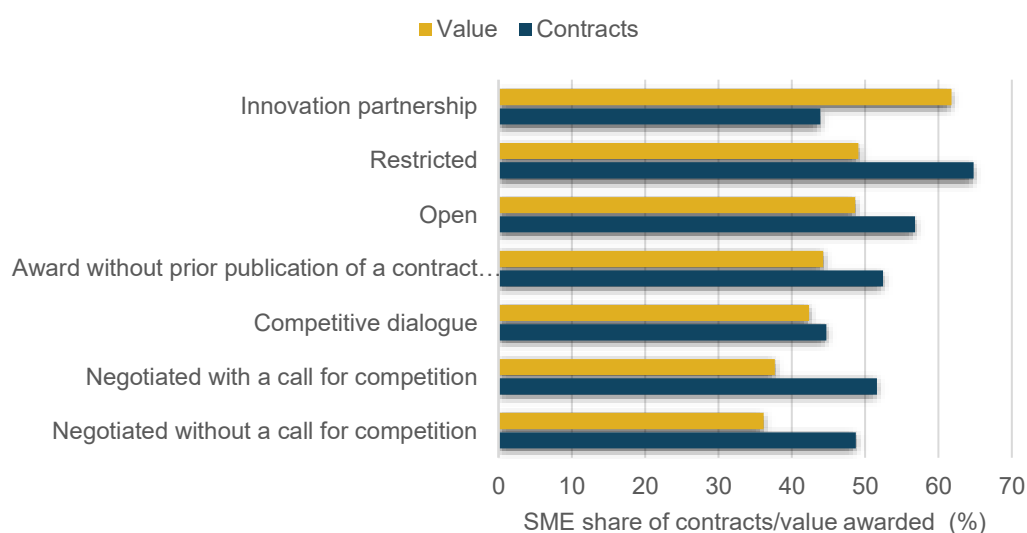
SMEs are most strongly represented in works, where they account for 63% of awarded contracts and approximately 50% of total awarded value. Services also display a relatively high level of SME access, with SMEs winning 59% of contracts

and capturing close to 49% of total awarded value. By contrast, SME access is clearly lower in supplies, where SMEs account for 54% of awarded contracts and only about 39% of total awarded value.

Across all three activity types, the share of total value captured by SMEs is systematically lower than their share of contracts. Again, this gap indicates that, on average, contracts awarded to SMEs tend to be smaller in monetary value than those awarded to non-SME suppliers, a pattern that is less pronounced in services.

Figure 10 presents SME access by type of procurement procedure, distinguishing between the share of contracts awarded to SMEs and the share of total awarded value captured by SMEs.

Figure 10. Share of contracts and total awarded value captured by SMEs by type of procurement procedure (2018-2023)



Source: Authors' own elaboration based on TED data (2018–2023).

Substantial differences emerge across procedures. The highest SME access in value terms is observed in innovation partnerships, where SMEs capture slightly above 60% of total awarded value, while their share in terms of number of contracts is notably lower (44%). Restricted procedures also display a high level of SME access in contract terms (65%), although the corresponding share in value terms is lower, at approximately 49%. Open procedures show a similar pattern, with SMEs winning 57% of contracts and capturing roughly 49% of total value.

Intermediate levels of SME access are observed in award procedures without prior publication of a contract notice and in competitive dialogue. In these cases, SMEs account for 52% and 45% of contracts, respectively, while their share of total awarded value ranges between about 44% and 46%.

Lower SME access is associated with negotiated procedures. In negotiated procedures with a call for competition, SMEs win 52% of contracts but capture only 38% of total value. In negotiated procedures without a call for competition, SMEs account for 49% of contracts and 36% of awarded value.

Figure 11 compares SMEs' access to public procurement contracts by award criterion, distinguishing between procedures based on the lowest price and those based on the best price–quality ratio, and reporting both the share of contracts awarded to SMEs and the share of total awarded value captured by SMEs.

The figure indicates that SMEs obtain a higher share of awarded contracts when the lowest-price criterion is used. Under this criterion, SMEs win 58% of contracts, compared with 56% when contracts are awarded on the basis of the best price–quality ratio. In value terms, the difference is similar: SMEs capture 48% of total awarded value under the lowest-price criterion, compared with 47% under the best price–quality ratio.

Although the differences are moderate, the descriptive evidence suggests that procedures relying exclusively on price are associated with slightly higher SME access, both in terms of the number of contracts and the value captured.

Figure 11. Share of contracts and total awarded value awarded to SMEs by award criterion (2018–2023)



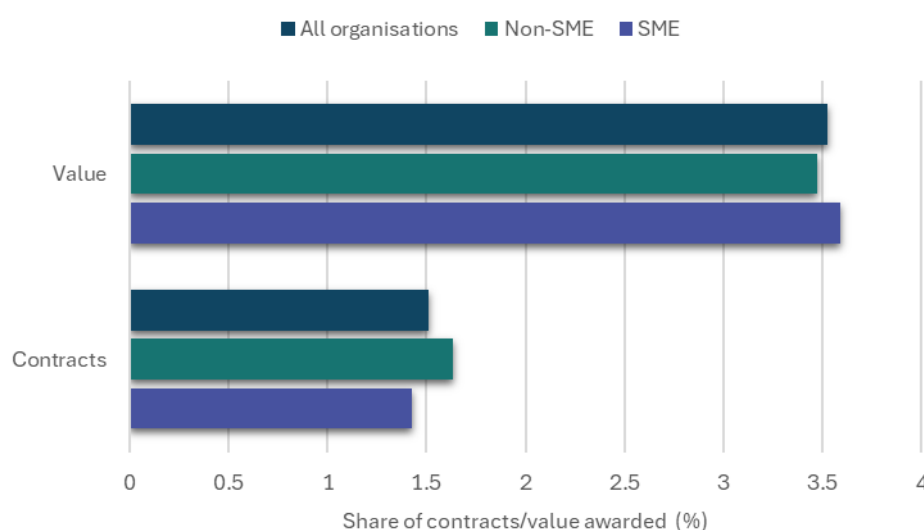
Source: Authors' own elaboration based on TED data (2018–2023).

Figure 12 reports the share of cross-border awards over the period 2018–2023, defined as cases in which an organisation is awarded at least one contract by a contracting authority located in a different country. The figure distinguishes between all organisations, SMEs and non-SMEs, and reports both the share of awarded contracts and the share of total awarded value corresponding to cross-border awards.

The figure shows that cross-border awards remain limited across all groups. In terms of the number of contracts, cross-border awards account for 1.51% of all organisations, 1.42% of contracts awarded to SMEs and 1.63% of contracts awarded to non-SMEs. When measured in value terms, cross-border awards represent a larger share for all groups, reaching 3.53% of total awarded value overall, 3.6% for SMEs and approximately 3.47% for non-SMEs.

The comparison between contracts and value indicates that, although cross-border awards are rare in terms of frequency, they tend to be associated with relatively higher-value contracts. At the same time, SMEs continue to exhibit a slightly lower incidence of cross-border awards than non-SMEs in terms of the number of contracts, while differences in value terms remain very small and closely aligned with the overall average.

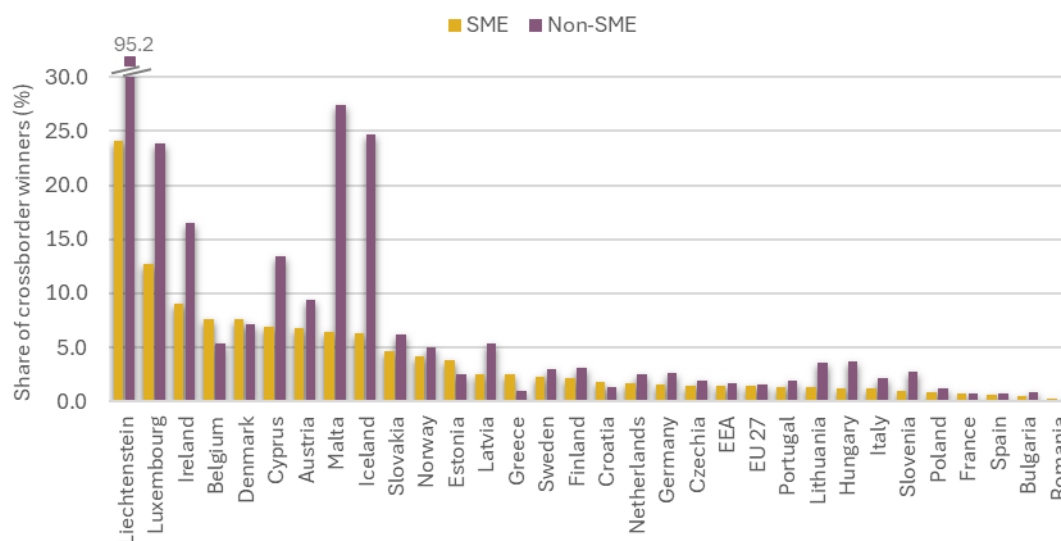
Figure 12. Share of cross-border contracts and total awarded value for SMEs and non-SMEs (2018-2023)



Source: Authors' own elaboration based on TED data (2018–2023).

Figure 13 shows the share of cross-border winners by country, distinguishing between SMEs and non-SMEs. Cross-border winners are defined as organisations that obtain at least one contract from a contracting authority located in a different country. The figure reveals very large differences across countries.

Figure 13. Share of cross-border winning organisations by country, SMEs and non-SMEs (2018–2023)



Source: Authors' own elaboration based on TED data (2018–2023).

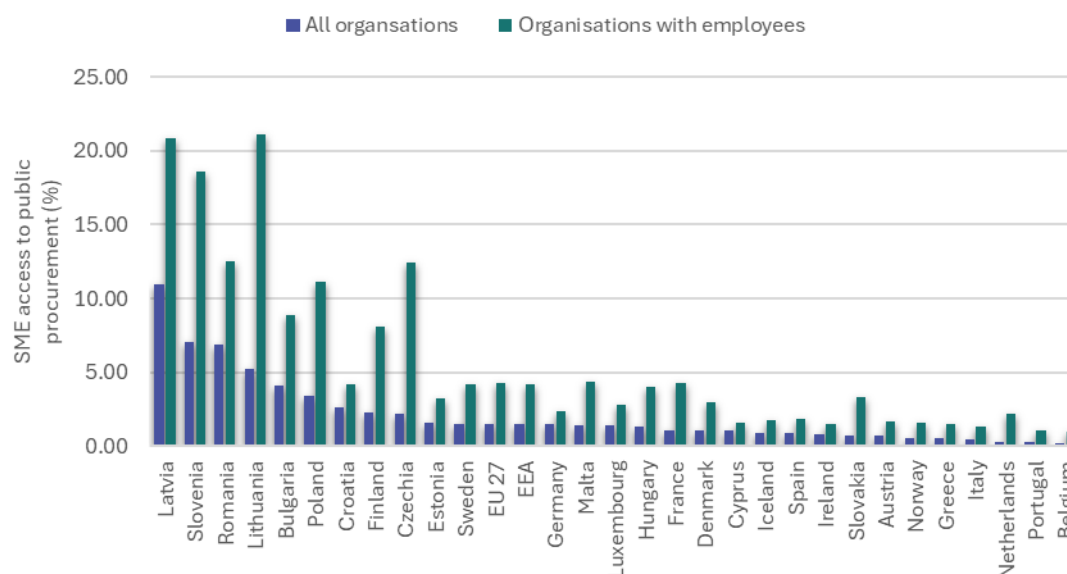
A small group of countries exhibits particularly high levels of cross-border awards. Liechtenstein stands out clearly, with very high shares of cross-border winners for both SMEs and non-SMEs. High levels are also observed in Luxembourg and Ireland, and, for non-SMEs in particular, in Malta and Iceland. In these countries, a substantial proportion of winning organisations obtain contracts outside their country of establishment.

In most other countries, however, cross-border awards remain limited. For a large part of the sample, the share of cross-border winners is below 5% for both SMEs and non-SMEs. At the lower end of the distribution, countries such as Romania, Bulgaria, Spain and France display very low levels of cross-border awards.

Across almost all countries, SMEs systematically show a lower share of cross-border winners than non-SMEs. This gap is especially visible in countries with relatively high international activity, such as Luxembourg, Ireland, Malta and Iceland. The figure therefore indicates that cross-border access to public procurement markets is highly uneven across countries and remains more limited for SMEs than for larger firms in most national contexts.

Figure 14 reports the proportion of SMEs that obtain at least one public procurement contract in 2023, combining information from TED and Structural Business Statistics from Eurostat.

Figure 14. Proportion of SMEs accessing public procurement by country and employment status (2023)



Source: Authors' own elaboration based on TED data and Eurostat (2023).

The indicator of SME access to public procurement is constructed by relating the number of SME organisations identified as winners in TED Contract Award Notices to the total number of SME in each country, as reported in Eurostat's Structural Business Statistics (SBS, 2023 edition). Each winning SME organisation is counted once, regardless of the number of contracts it was awarded during the year, so that the indicator captures the proportion of distinct SMEs that accessed public procurement rather than the volume of SME-awarded contracts.

Two ratios are presented. The first divides the number of unique SME winners by the total number of organisations (including enterprises without employees). The second uses as denominator only organisations with employees. This distinction is important because enterprises without employees may face greater structural constraints in accessing public procurement markets and may therefore have a lower probability of participating in tenders. Reporting both indicators provides a range of reference values and helps assess how sensitive cross-country comparisons are to differences in business structure.

As in any comparison between stock data (business population) and flow data (procurement awards over a given year), the indicator should be interpreted as an approximation of relative access intensity rather than as a strict participation rate. TED and Eurostat do not share a common enterprise identifier, and the Eurostat denominator includes firms that are unlikely to participate in above-threshold procurement. The indicator nevertheless offers a useful benchmark for comparing how intensively SMEs in different countries succeed in obtaining public procurement contracts relative to the overall size and structure of their national business base. To illustrate the orders of magnitude involved: the EU-27

ratio of approximately 1.5% applied to the roughly 33 million SMEs recorded by Eurostat implies that around 495,000 distinct SMEs won at least one above-threshold public procurement contract published in TED during 2023.

The figure reveals very large cross-country differences in SMEs' access to public procurement. When all SMEs are considered, the proportion of firms winning at least one contract is generally very low in most countries, often below 5%. The highest values are observed in countries such as Latvia, Romania and Lithuania, where more than 5% of SMEs obtain a public contract in 2023. By contrast, countries such as Belgium, the Netherlands, Portugal and Italy display very low levels of access, with well below 1% of SMEs winning a contract.

A clear and systematic difference emerges when restricting the analysis to SMEs with employees. In all countries, the proportion of firms accessing public procurement is substantially higher among SMEs with at least one employee than among the full population of SMEs. This difference is particularly pronounced in countries such as Latvia, Lithuania and Slovenia, where more than 15% of SMEs with employees obtain a public contract in 2023. In contrast, even among SMEs with employees, access remains very limited in countries such as Belgium, the Netherlands and Portugal.

Figure 15 presents an alternative measure of SME access to public procurement based on employment rather than on the number of organisations. The indicator combines information from TED Contract Award Notices with Structural Business Statistics (SBS, 2023 edition) from Eurostat.

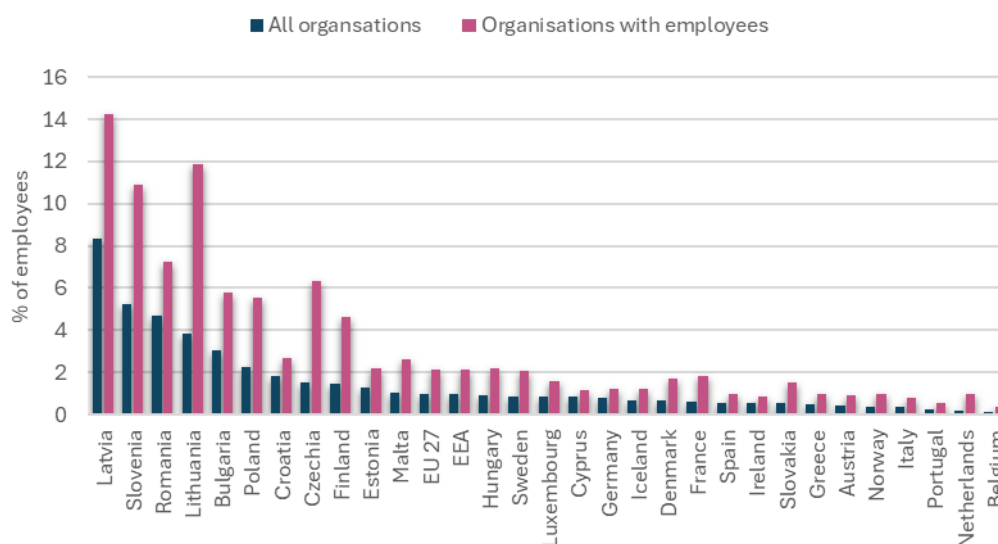
The construction proceeds in three steps. First, using SBS data, the average number of employees per SME is calculated at the country level. This is done separately for two reference populations: (i) all SMEs, and (ii) SMEs with employees. Second, this country-specific average is multiplied by the number of SME identified as winners in TED, counting each winning SME once regardless of the number of contracts it was awarded. This yields an estimated total number of employees in SMEs that have won public procurement contracts. Third, this estimated employment figure is expressed as a proportion of total employment in the business sector, again using SBS data. As in Figure 14, two denominators are used: (i) total employment in all organisations, and (ii) total employment in organisations with employees only. The resulting indicator can be interpreted as an approximation of the share of national business employment in SMEs that successfully obtain public procurement contracts. By moving from firm counts to employment, this measure provides a complementary perspective on SME access, capturing the relative economic weight of SME winners within each country's productive structure rather than simply their numerical frequency. As with the previous indicator, TED and Eurostat do not share a common enterprise identifier, and the estimates rely on country-level average employment figures rather than on the actual size of each winning firm, so the results should be interpreted as orders of magnitude rather than precise measurements. To illustrate the scale of the estimates: the EU-27 ratio of approximately 1% applied

to total business employment of roughly 165 million implies that public procurement contracts awarded to SMEs in TED during 2023 directly concerned an estimated 1.65 million employees.

The figure shows large differences across countries. When all SMEs are considered, the share of employment linked to public procurement is highest in countries such as Latvia, Romania and Lithuania, where SMEs involved in public procurement account for a relatively large proportion of total employment. In most other countries, the corresponding share remains much lower, typically below 2%.

The contrast becomes even more pronounced when focusing on SMEs with employees. In all countries, the share of employment associated with public procurement is substantially higher for this group than for the full population of SMEs. This gap is particularly large in Latvia, Romania, Lithuania and Slovenia, where a sizeable fraction of SME employment is connected to firms that win public contracts. By contrast, in countries such as Belgium, the Netherlands, Portugal and Italy, the employment share linked to public procurement remains very small, even when restricting the analysis to SMEs with employees.

Figure 15. Estimated share of employees in SMEs concerned by public procurement by country and employment status (2023)



Source: Authors' own elaboration based on TED data and Eurostat (2023).

4. Econometric analysis

This section examines how specific procurement design choices are associated with SMEs' access to awarded public contracts and clarifies which of the descriptive patterns documented in the previous section reflect differences in contract design within countries, rather than structural differences across national procurement systems. The econometric analysis is conducted on the restricted sample of awarded contracts for which the winning organisations can be clearly classified as SMEs or non-SMEs, excluding observations with missing information on winners and SME status. In all specifications that use contract value, observations with missing values and implausible extreme values are also excluded. The modelling strategy consists of two complementary steps (which constitute the two subsections of this section). First, a baseline probabilistic model estimates how a broad set of contract characteristics and procurement instruments—covering award criteria, contract organisation, aggregation and centralisation mechanisms, electronic tools, sustainability and innovation criteria, and measures related to competition and market openness—are associated with the probability that a contract is awarded to at least one SME. The baseline model includes country and year fixed effects, so that contracts are compared only with other contracts awarded in the same country and in the same year. This allows the analysis to isolate associations related to procurement design within comparable national and temporal contexts.

Building on this baseline specification, a second set of models examines whether these associations differ systematically across sectoral contexts by interacting each procurement instrument with an indicator for low-skilled labour-intensive (LSLI) activities. LSLI sectors are identified using the main CPV divisions that correspond to activities in which employment is predominantly based on low- and medium-skilled labour and where production and service delivery are typically local and labour-intensive: construction works (CPV 45), repair and maintenance services (CPV 50), installation services excluding software (CPV 51), hotel, restaurant and retail trade services (CPV 55), health and social work services (CPV 85), sewage, refuse, cleaning and environmental services (CPV 90), and other community, social and personal services (CPV 98). These CPV divisions are used as a proxy for LSLI activities because TED does not provide a direct sectoral classification of the winning organisations. The results are presented as predicted probabilities in order to facilitate interpretation for non-specialist readers. Further details on the methodological approach, as well as descriptive statistics for all variables used in the models, are reported in the methodological appendix.

The main findings show that some of the associations observed in the descriptive analysis change once contracts are compared within the same national and yearly context, indicating that part of the raw patterns reflects persistent cross-country differences. At the same time, several contract features remain strongly

associated with SMEs' access. Large contracts, joint procurement, cross-border awards and electronic auctions are systematically linked to lower probabilities of SME awards, whereas participation in groups of firms and, to a lesser extent, the use of multi-lot structures are associated with higher access. The sectoral analysis further shows that many procurement instruments operate very differently in LSLI and non-LSLI activities: lot division and collaborative awards are particularly beneficial for SMEs in LSLI sectors, while instruments related to innovation, sustainability, electronic auctions and cross-border competition are associated with much larger reductions in SMEs' access in these activities than in the rest of the economy.

4.1. Baseline results: determinants of SMEs' access to public procurement

This subsection presents the baseline probabilistic results on the determinants of SMEs' access to public procurement contracts. The aim is to identify which contract characteristics are systematically associated with a higher or lower likelihood that a contract is awarded to at least one SME, once differences across countries and over time are considered. The econometric framework makes it possible to distinguish between two different sources of variation that were mixed in the descriptive analysis: differences in procurement practices across countries, and differences in contract design within countries. In practical terms, introducing country and year controls means that contracts are compared only with other contracts awarded in the same country and in the same year. This allows us to separate the role of specific contract features from persistent national procurement practices and from common time-related factors affecting all countries. While several of the descriptive patterns presented in the previous section remain visible once contracts are compared within the same national and yearly context, other associations change when country and year effects are introduced, indicating that part of the descriptive evidence reflects structural differences between procurement systems rather than the direct effect of individual contract characteristics.

All coefficients reported in Table 3 are average marginal effects. Each coefficient measures how much the probability that a contract is awarded to at least one SME changes when a given contract characteristic is present, holding all other variables constant. For instance, a coefficient of -0.15 means that the presence of that characteristic is associated with a reduction of approximately 15 percentage points in the probability of an SME award. The reported p-values indicate whether this change is statistically distinguishable from zero at conventional significance levels.

For categorical variables, coefficients are interpreted relative to an omitted reference category. The baseline categories are: services for type of contract, Austria for country, open procedure for type of procurement procedure, Ministry

for contracting authority, and 2018 for the year fixed effects. In each case, the reference category was chosen as the largest group within the sample, with the exception of country and year, where Austria and 2018 were selected simply as the first in alphabetical and chronological order, respectively. This choice has no effect on the substantive results of the analysis: predicted probabilities, average marginal effects and model fit are invariant to the selection of the reference category, which only determines the benchmark against which the reported coefficients are expressed. Consequently, each reported coefficient reflects how the probability of SME access differs from the corresponding benchmark category, rather than an absolute level of participation. For example, a coefficient of 0.08 for works means that works contracts are approximately 8 percentage points more likely to be awarded to an SME than services contracts, all else being equal; no coefficient is reported for services itself because it serves as the reference point.

Table 3 reports a subset of the estimation results for readability, omitting country and year fixed effects. The complete estimation results are presented in Appendix II, together with a detailed guide explaining how to read and interpret all elements of the table — including coefficients, p-values, country and year fixed effects, and the Pseudo R^2 — with worked examples for non-specialist readers.

A first and particularly robust result concerns contract size. Contracts with a value above the threshold used in the analysis (i.e., EUR 5 million) are associated with a substantially lower likelihood of being awarded to an SME. This relationship remains virtually unchanged when country and year controls are introduced and corresponds to a reduction of around fifteen percentage points in the probability that a contract is awarded to an SME, as it can be observed in Table 3 for the three models. This finding closely mirrors the descriptive evidence shown in Figure 3, which highlighted the sharp decline in SME awards as contract values increase.

Several organisational features are also closely related to SMEs' access to contracts. When a contract is awarded to a group of suppliers, the likelihood that at least one SME is among the winners increases by around seven to eight percentage points, this association being very stable across all model specifications. The division of contracts into multiple lots is also positively associated with SME access once contracts are compared within the same country. Although this effect is small in magnitude (i.e., around 1 percentage point), it indicates that multi-lot structures are, on average, slightly more favourable to SMEs than single-lot contracts. These results are consistent with the descriptive patterns showing that organisational choices can facilitate SMEs' access to procurement opportunities.

By contrast, contracts involving cross-border winning organisations are systematically less likely to be awarded to SMEs. After controlling for country and year effects, cross-border awards are associated with a reduction of around four to five percentage points in the probability that an SME wins the contract. This

result complements the descriptive findings reported in Figures 12 and 13, which showed that cross-border procurement remains limited, and that SMEs are particularly under-represented in such contracts.

Clear differences also emerge for procurement procedures and award mechanisms. A particularly informative example concerns the use of the lowest price as the sole award criterion. In the descriptive analysis, contracts awarded based on the lowest price appear to be associated with a higher share of contracts awarded to SMEs. However, once contracts are compared within the same country and year, this relationship reverses. After controlling for country and year effects, contracts awarded solely on the basis of the lowest price are less likely to be awarded to SMEs than contracts using other award approaches (between four to five percentage points less likely in the probability that an SME wins the contract). This indicates that the initial descriptive result is misleading: it is not that lowest-price contracts favour SMEs, but rather that countries which rely more heavily on this criterion also tend to have higher overall levels of SME participation in public procurement. Once this cross-country composition effect is accounted for, the use of the lowest-price criterion is in fact associated with a lower probability that a contract is awarded to an SME.

Table 3. Determinants of SMEs' access to public procurement contracts: baseline models

Explanatory variables	Model 1		Model 2		Model 3	
	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t
Value above 5M€	-0.166	0.000	-0.151	0.000	-0.154	0.000
Lowest price criteria (LPC)	0.033	0.000	-0.045	0.000	-0.047	0.000
Contract awarded to a group (Group)	0.074	0.000	0.081	0.000	0.084	0.000
Multilots contract (MLots)	-0.019	0.000	0.011	0.000	0.012	0.000
Cross-border winning organisations (XBorder)	-0.016	0.000	-0.044	0.000	-0.044	0.000
Framework agreement (FRA)	-0.011	0.000	0.0004	0.614	-0.003	0.000
Subcontracting likelihood (SubCon)	0.012	0.000	0.019	0.000	0.018	0.000
Electronic auction (E-auc)	-0.079	0.000	-0.044	0.000	-0.042	0.000
Environmental criteria (Green)	-0.107	0.000	-0.014	0.000	-0.016	0.000
Social criteria (Social)	-0.078	0.000	-0.031	0.000	-0.029	0.000
Innovation criteria (Inn)	-0.009	0.082	-0.014	0.006	-0.012	0.024
Joint procurement (JointProc)	-0.056	0.000	-0.061	0.000	-0.062	0.000
<i>Type of contract (Reference group: Services)</i>						
Works	0.049	0.000	0.082	0.000	0.083	0.000
Supplies	-0.060	0.000	-0.071	0.000	-0.070	0.000
<i>Type of procedure (Reference group: Open)</i>						
Award without prior publication	-0.076	0.000	-0.022	0.000	-0.027	0.000
Competitive dialogue	-0.104	0.000	-0.094	0.000	-0.094	0.000
Negotiated without a call for competition	-0.100	0.000	-0.075	0.000	-0.076	0.000
Negotiated with a call for competition	-0.046	0.000	-0.051	0.000	-0.051	0.000
Restricted	0.072	0.000	0.025	0.000	0.020	0.000
Innovative partnership	-0.096	0.000	-0.097	0.000	-0.100	0.000
<i>Contracting authority (Reference group: Ministry)</i>						
Regional or local authority	-0.029	0.000	0.026	0.000	0.025	0.000
Utilities sectors	-0.017	0.000	-0.010	0.000	-0.011	0.000
Body governed by public law	-0.030	0.000	-0.052	0.000	-0.053	0.000
Other	-0.043	0.000	0.001	0.600	-0.0008	0.415
National or federal agency	-0.021	0.000	-0.079	0.000	-0.080	0.000
Regional or local agency	-0.080	0.000	0.001	0.530	0.002	0.248
<i>Country fixed effects</i>	No		Yes		Yes	
<i>Year fixed effects</i>	No		No		Yes	
<i>Num. of observations</i>	3,692,011		3,692,011		3,692,011	
<i>Pseudo R2</i>	0.0111		0.0762		0.078	

Source: Authors' own elaboration based on TED data (2018–2023).

Electronic auctions are associated with a lower probability that a contract is awarded to an SME across all three model specifications. Unlike the lowest-price criterion, the negative association is already present in Model 1 (–7.9 percentage points) and therefore does not emerge only when country effects are introduced. However, the magnitude of the association is reduced in Models 2 and 3 (–4.4 and –4.2 percentage points, respectively), indicating that part of the raw negative association reflects cross-country differences in the use of electronic auctions rather than a within-country relationship.

Framework agreements display only a very small and unstable association with SMEs' access to contracts once country and year controls are introduced, suggesting that this instrument does not play a systematic role in shaping SME access. By contrast, the possibility of subcontracting is associated with a small but stable increase in the probability that SMEs obtain contracts.

The results for policy-related award criteria show a similar contrast between descriptive and within-country relationships. In the descriptive figures, contracts,

including environmental and social criteria are associated with lower SME award shares. Once country effects are taken into account, these negative associations become much smaller. Social criteria remain associated with a reduction of around three percentage points in the probability that a contract is awarded to an SME, while the effect of environmental criteria becomes relatively limited. Innovation-related criteria are also associated with a slightly lower likelihood of SME awards, although the size of this effect is modest when compared with other contract features.

Joint procurement arrangements stand out as one of the most robust barriers to SME access. Across all models, contracts awarded through joint procurement are around five to six percentage points less likely to be awarded to SMEs. This suggests that more coordinated and aggregated purchasing arrangements are associated with lower access to contracts for SMEs.

Comparing the different model specifications also shows that most of the changes in estimated effects occur when country controls are introduced. Several coefficients change in size and, in some cases, even in sign, once contracts are compared within the same national context. By contrast, adding year controls leads to only minor changes in the results. This indicates that the main source of heterogeneity in SMEs' access to public procurement lies in persistent differences across national procurement systems, rather than in short-term developments over time.

Country and year fixed effects are not reported in Table 3 in order to preserve readability. The complete estimation results, including these coefficients, are presented in Appendix II. The estimated country effects are consistent with the cross-country differences described in Table 1, while the year effects closely mirror the temporal evolution shown in Figure 1.

The econometric analysis confirms the central message emerging from the descriptive section, while also clarifying which observed patterns mainly reflect cross-country differences and which are associated with contract design choices within countries. Large contracts, joint procurement, cross-border awards and certain procedural features are systematically associated with lower access for SMEs, whereas organisational arrangements such as group participation and, to a lesser extent, the use of multi-lot structures are associated with better access for SMEs to public procurement contracts.

4.2. SME access in low-skilled labour-intensive (LSLI) and Non-LSLI sectors

This subsection examines whether the association between procurement design features and SMEs' access to awarded contracts differs systematically across sectoral contexts. Contracts are classified into LSLI and non-LSLI activities using

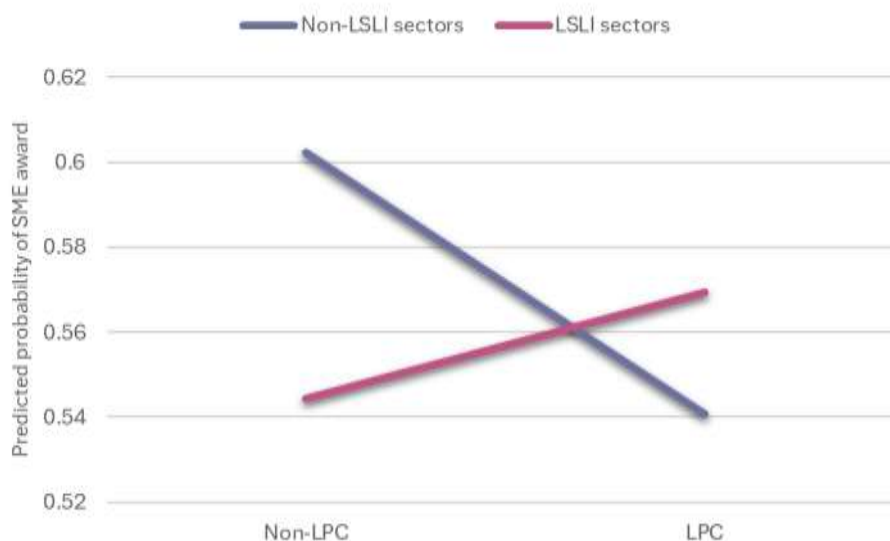
CPV divisions as a proxy for sectoral characteristics. Building on the baseline model with country and year controls (see section 4.1), the analysis interacts the LSLI indicator with each procurement feature in turn, while keeping all other explanatory variables included in the baseline specification constant. The results are presented as predicted probabilities of an SME award for LSLI and non-LSLI contracts under alternative procurement settings, making it possible to assess both the direction and the magnitude of sector-contingent differences. These predicted probabilities are computed from the estimated logit models with interaction terms by setting the procurement instrument of interest to its alternative values (e.g., lowest-price criterion used vs. not used) while holding all other variables at their observed values in the sample, and then averaging the resulting predictions across all observations. Because the logit model is non-linear, these probabilities cannot be read directly from the regression coefficients; they result from applying the full set of estimated coefficients to the observed covariate values and transforming the result through the logistic function. The full regression tables for each interacted specification are reported in Appendix III.

4.2.1. Award criteria

Figure 16 shows how the use of the lowest-price award criterion is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, the likelihood that an SME wins a contract is around 60% when criteria other than the lowest price are used, but falls to about 54% when contracts are awarded solely on the basis of the lowest price —a decrease of roughly 6 percentage points.

Figure 16. Predicted probability of SME award by lowest-price criterion and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

In LSLI sectors the pattern goes in the opposite direction. When contracts are not awarded on the basis of the lowest price, the predicted probability that an SME wins a contract is about 54.4%. This probability increases to around 56.9% when the lowest-price criterion is applied, corresponding to an increase of roughly 2.5 percentage points.

As a result, when the lowest-price criterion is used, SMEs are more likely to win contracts in LSLI sectors than in non-LSLI sectors. By contrast, when other award criteria are applied, SMEs are more likely to win contracts in non-LSLI sectors than in LSLI sectors.

4.2.2. Subcontracting

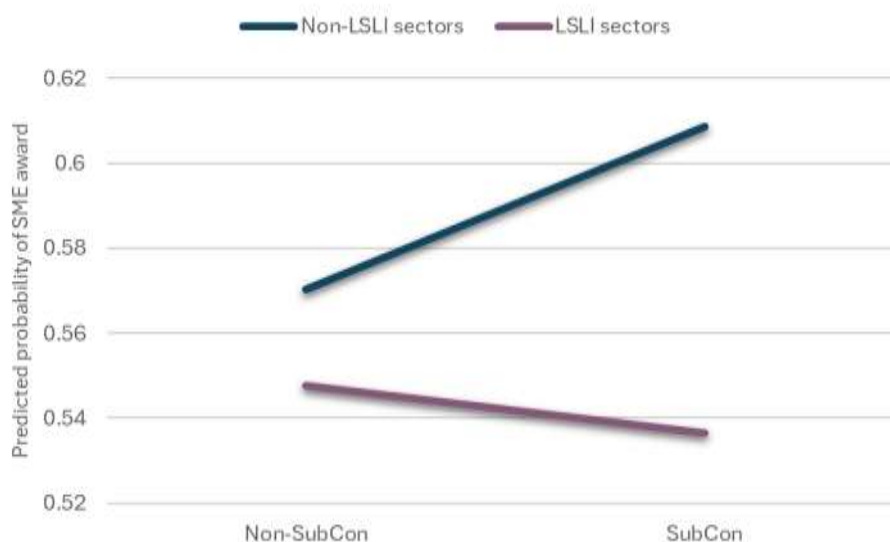
Figure 17 shows how the likelihood of subcontracting is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, contracts that are not associated with subcontracting display a predicted probability of SME award of about 57.0%. When subcontracting is expected to be used, this probability increases to around 60.9%, corresponding to an increase of almost 4 percentage points.

In LSLI sectors the pattern is different. When subcontracting is not expected, the predicted probability that a contract is awarded to an SME is about 54.8%. When subcontracting is expected, this probability falls slightly to around 53.6%, a reduction of a little more than 1 percentage point.

As a result, subcontracting arrangements are associated with a higher likelihood of SME awards in non-LSLI sectors, while in LSLI sectors they are associated with a small reduction in SMEs' access to contracts. This indicates that the role of subcontracting for SMEs differs across sectoral contexts.

Figure 17. Predicted probability of SME award by likelihood of subcontracting and sector type

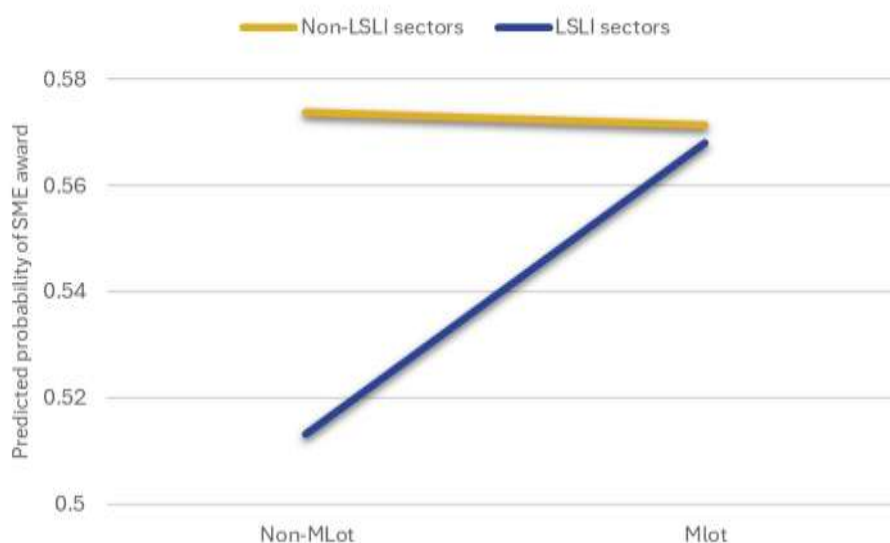


Source: Authors' own elaboration based on TED data (2018–2023).

4.2.3. Lot division

Figure 18 shows how splitting a contract into more than one lot is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

Figure 18. Predicted probability of SME award by contract lotting and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

In non-LSLI sectors, the predicted probability that an SME wins a contract is 57.4% when the contract is not divided into lots, and 57.1% when it is divided into several lots. This represents a very small decrease of around 0.2 percentage points, indicating that lotting is not meaningfully associated with SMEs' access in these sectors.

In LSLI sectors the pattern is markedly different. When contracts are not divided into lots, the predicted probability of an SME award is about 51.3%. When the contract is divided into more than one lot, this probability increases to around 56.8%, corresponding to an increase of approximately 5.5 percentage points.

Consequently, dividing contracts into lots is associated with a substantial improvement in SMEs' access in LSLI sectors, while it makes virtually no difference in non-LSLI sectors. This indicates that contract lotting plays a particularly important role for SMEs in low-skilled labour-intensive activities.

4.2.4. Broader policy objectives beyond price

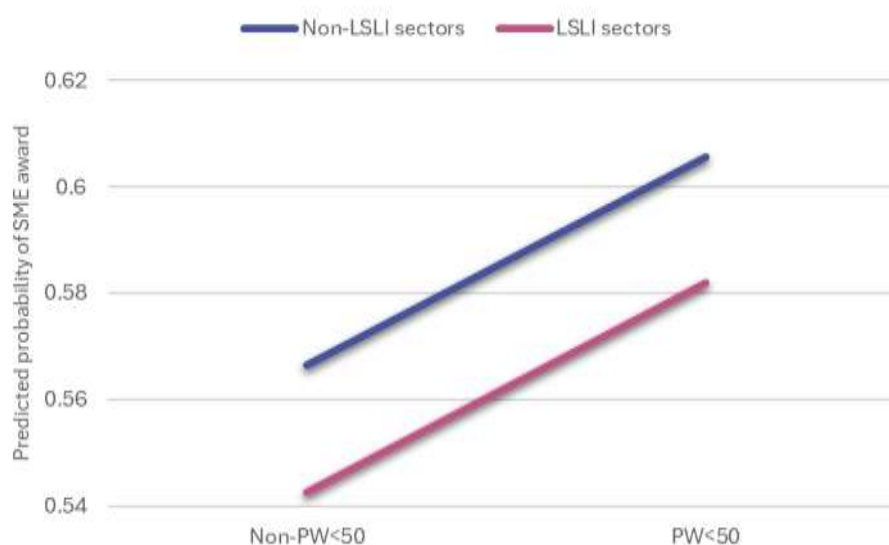
Figure 19 shows how the use of award criteria in which price has a weight below 50% is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, when the price criterion accounts for 50% or more of the award decision, the predicted probability that an SME wins a contract is about 56.7%. When the weight of price falls below 50%, this probability rises to around 60.5%, an increase of roughly 3.9 percentage points. In other words, procurement

designs that give greater weight to non-price dimensions are associated with higher SME access in these sectors.

In LSLI sectors the pattern is very similar. When price accounts for less than 50% of the award decision, the predicted probability of an SME award rises from about 54.3% to 58.2%, corresponding to an increase of around 3.9 percentage points.

Figure 19. Predicted probability of SME award by low weight of price in the award criteria (price < 50%) and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

In contrast to the lowest-price criterion analysed in the previous figure, contracts that place greater emphasis on non-price dimensions are associated with a higher likelihood of SME awards in both sectoral contexts. The magnitude of the increase is almost identical in LSLI and non-LSLI sectors, indicating that giving less weight to price alone benefits SMEs in a broadly similar way across these two types of activities.

Figure 20 shows how the use of award criteria in which price has a weight below 20% is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, when the price criterion accounts for 20% or more of the award decision, the predicted probability that an SME wins a contract is about 57.1%. When the weight of price falls below 20%, this probability rises to around 61.7%, an increase of roughly 4.6 percentage points.

In LSLI sectors the same change in the award criteria is also associated with higher SME access. The predicted probability increases from around 54.5% to 57.5%, corresponding to an increase of about 3.0 percentage points.

Compared with the case in which the price weight is below 50%, giving an even smaller role to price is associated with a stronger improvement in SMEs' access, particularly in non-LSLI sectors, while the positive effect remains clearly visible in LSLI activities as well.

Figure 20. Predicted probability of SME award by very low weight of price in the award criteria (price < 20%) and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

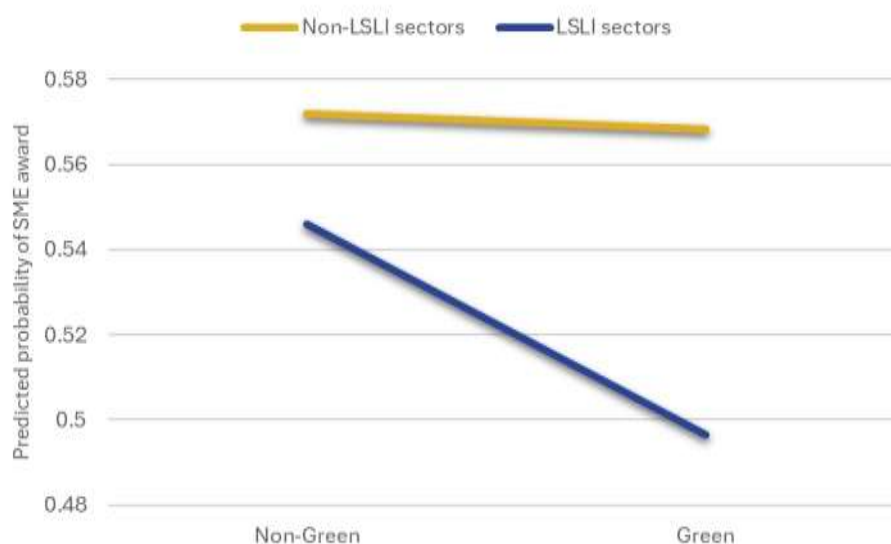
Figure 21 shows how the inclusion of environmental (green) award criteria is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy (see Appendix I for further details on the construction of this variable). The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, introducing environmental criteria is associated with a very small change in SMEs' access. The predicted probability of an SME award decreases slightly from about 57.2% when no environmental criteria are used to about 56.8% when such criteria are included, a reduction of around 0.4 percentage points.

In LSLI sectors the association is markedly different. When environmental criteria are not used, the predicted probability that a contract is awarded to an SME is about 54.6%. When environmental criteria are introduced, this probability falls to about 49.6%, corresponding to a decrease of roughly 5.0 percentage points.

This figure indicates that the introduction of environmental award criteria is associated with a substantial reduction in SMEs' access to contracts in LSLI sectors, while it makes almost no difference in non-LSLI sectors.

Figure 21. Predicted probability of SME award by use of environmental award criteria and sector type

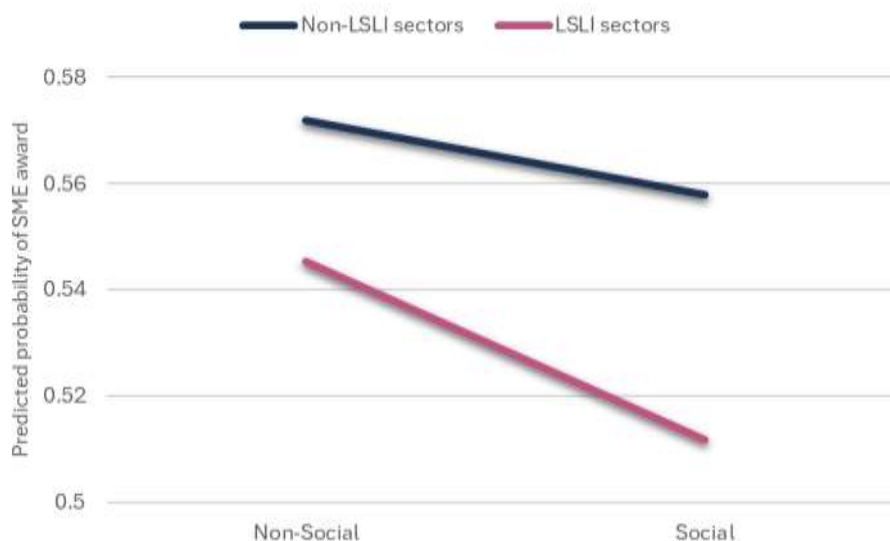


Source: Authors' own elaboration based on TED data (2018–2023).

Figure 22 shows how the inclusion of social award criteria is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy (see Appendix I for further details on the construction of this variable). The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, the use of social criteria is associated with a modest reduction in SMEs' access. When social criteria are not included, the predicted probability that a contract is awarded to an SME is about 57.2%. This falls to around 55.8% when social criteria are used, a decrease of roughly 1.4 percentage points.

Figure 22. Predicted probability of SME award by use of social award criteria and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

In LSLI sectors the reduction is more pronounced. When no social criteria are applied, the predicted probability of an SME award is about 54.5%. When social criteria are included, this probability drops to around 51.2%, corresponding to a decline of approximately 3.4 percentage points.

The figure therefore shows that the inclusion of social award criteria is associated with lower SMEs' access to contracts in both sectoral contexts, with a clearly stronger negative association in low-skilled labour-intensive sectors.

4.2.5. Aggregation of demand

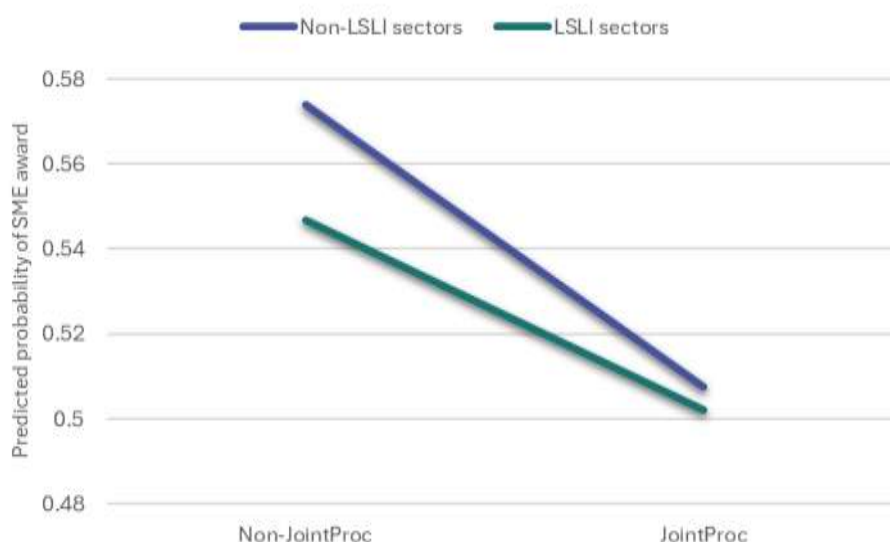
Figure 23 illustrates how joint procurement arrangements are associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, when contracts are not awarded through joint procurement, the predicted probability that an SME wins a contract is about 57.4%. When joint procurement is used, this probability falls to around 50.8%, a reduction of roughly 6.6 percentage points.

In LSLI sectors a similar but slightly smaller decrease is observed. The predicted probability of an SME award declines from about 54.7% when procurement is not joint to about 50.2% when joint procurement is used, corresponding to a reduction of around 4.5 percentage points.

Both lines therefore point in the same direction: joint procurement is associated with a markedly lower likelihood that a contract is awarded to an SME in both sectoral contexts. The magnitude of the reduction is larger in non-LSLI sectors, but the negative association remains clearly visible also in LSLI activities.

Figure 23. Predicted probability of SME award by joint procurement and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

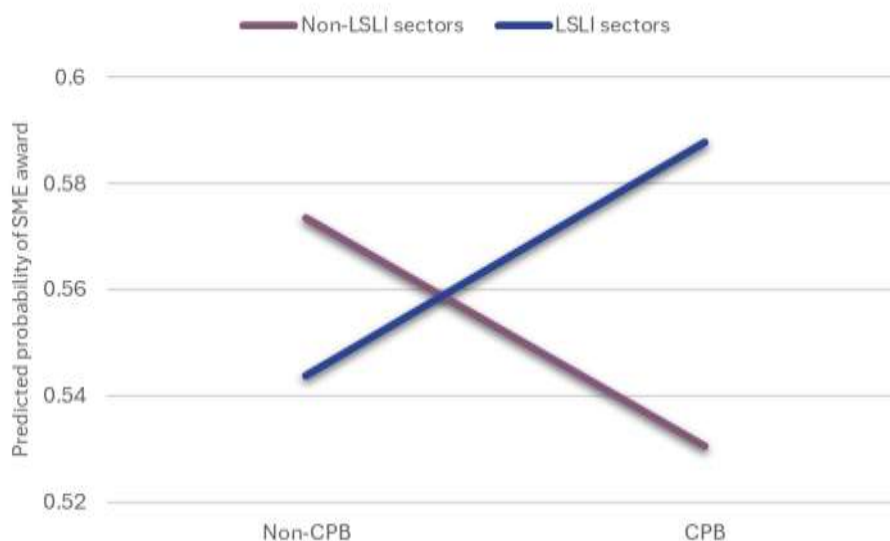
Figure 24 illustrates how contracts awarded by a Central Purchasing Body (CPB) are associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, when contracts are not awarded through a central purchasing body, the predicted probability that an SME wins a contract is about 57.4%. When the contract is awarded by a central purchasing body, this probability decreases to around 53.0%, a reduction of roughly 4.3 percentage points.

In LSLI sectors the pattern is reversed. When procurement is not carried out through a central purchasing body, the predicted probability of an SME award is about 54.4%. When a central purchasing body is involved, this probability rises to around 58.8%, corresponding to an increase of approximately 4.4 percentage points.

The figure therefore shows that centralised purchasing arrangements are associated with lower SMEs' access in non-LSLI sectors, but with higher SMEs' access in LSLI activities. This contrast indicates that the role of central purchasing bodies differs substantially across sectoral contexts.

Figure 24. Predicted probability of SME award by use of a central purchasing body and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

4.2.6. Electronic auction

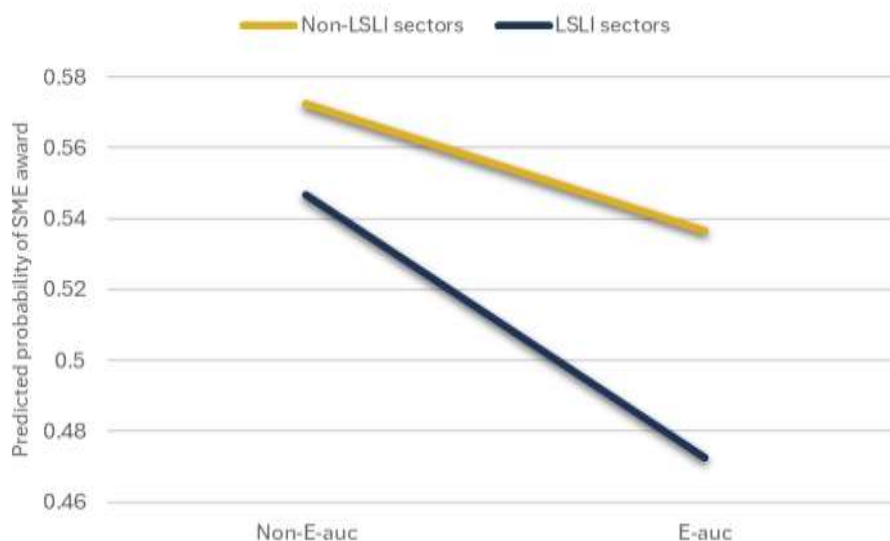
Figure 25 illustrates how the use of electronic auctions is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, when electronic auctions are not used, the predicted probability that an SME wins a contract is about 57.3%. When electronic auctions are used, this probability decreases to around 53.6%, corresponding to a reduction of roughly 3.6 percentage points.

In LSLI sectors the negative association is considerably stronger. When electronic auctions are not used, the predicted probability of an SME award is about 54.7%. When electronic auctions are used, this probability falls sharply to around 47.3%, a decrease of approximately 7.4 percentage points.

The figure shows that electronic auctions are associated with lower SMEs' access to contracts in both sectoral contexts, with a particularly pronounced reduction in LSLI sectors.

Figure 25. Predicted probability of SME award by use of electronic auctions and sector type

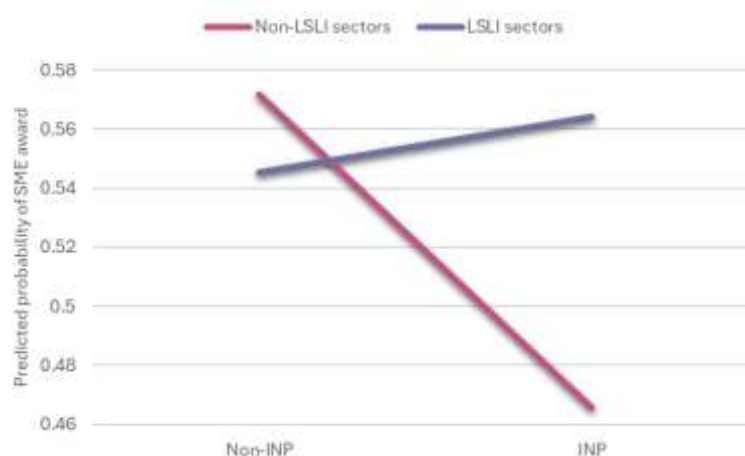


Source: Authors' own elaboration based on TED data (2018–2023).

4.2.7. Procurement of innovative solutions

Figure 26 illustrates how the use of the Innovation Partnership procedure is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

Figure 26. Predicted probability of SME award by use of the innovation partnership procedure and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

In non-LSLI sectors, the use of the Innovation Partnership procedure is associated with a very pronounced reduction in SMEs' access to contracts. When

this procedure is not used, the predicted probability that an SME wins a contract is about 57.2%. When the contract is awarded through an Innovation Partnership, this probability falls to around 46.6%, a decrease of roughly 10.6 percentage points.

In LSLI sectors the pattern is clearly different. When the Innovation Partnership procedure is not used, the predicted probability of an SME award is about 54.5%. When this procedure is used, the probability increases slightly to around 56.4%, corresponding to an increase of about 1.9 percentage points.

These results indicate that Innovation Partnership procedure is associated with a substantial reduction in SMEs' access in non-LSLI sectors, while in low-skilled labour-intensive sectors they are associated with a small improvement in the likelihood that an SME is awarded the contract.

It should be noted that the Innovation Partnership procedure remains relatively rare in European public procurement. The sample includes 1,376 contracts awarded through this procedure, of which 604 were awarded to at least one SME. While this number of observations is sufficient to estimate a meaningful association, it is considerably smaller than for other procurement instruments analysed in this report. The results for this variable should therefore be interpreted with greater caution, as the estimates are likely to be less precise and more sensitive to the specific composition of the contracts involved.

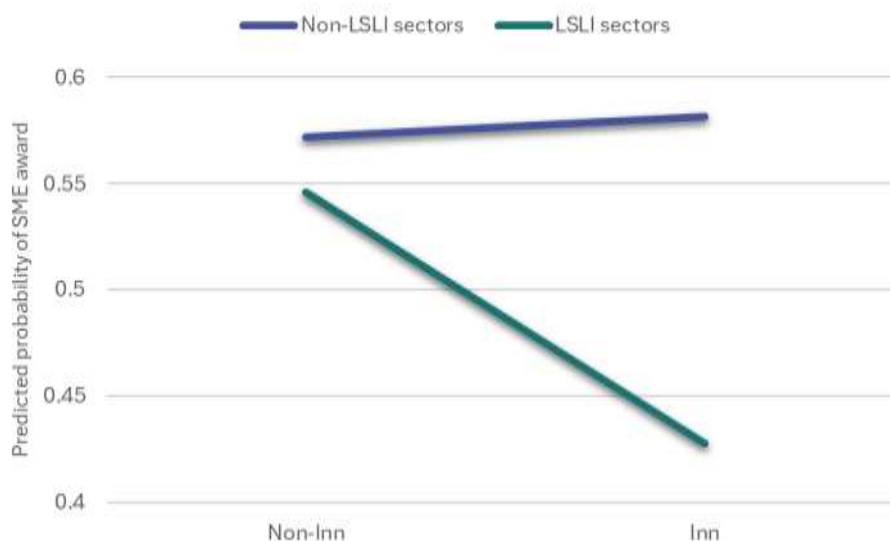
Figure 27 illustrates how the use of innovation-related award criteria is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy (see Appendix I for further details on the construction of this variable). The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, introducing innovation criteria is associated with a very small increase in SMEs' access. When such criteria are not used, the predicted probability of an SME award is about 57.2%. When innovation criteria are included, it rises slightly to around 58.1%, an increase of roughly 0.9 percentage points.

In LSLI sectors the pattern is sharply different. When innovation criteria are not applied, the predicted probability that a contract is awarded to an SME is about 54.6%. When innovation criteria are included, this probability falls markedly to around 42.7%, corresponding to a reduction of almost 12 percentage points.

This contrast indicates that the inclusion of innovation-related award criteria is associated with a strong reduction in SMEs' access to contracts in LSLI activities, while it makes almost no difference in the rest of the economy.

Figure 27. Predicted probability of SME award by use of innovation award criteria and sector type

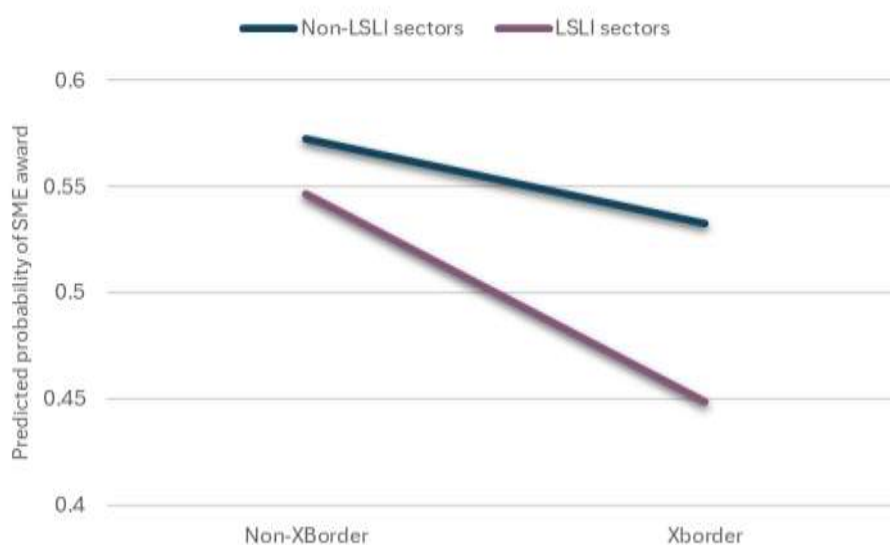


Source: Authors' own elaboration based on TED data (2018–2023).

4.2.8. Cross-Border competition

Figure 28 illustrates how cross-border competition i.e., contracts awarded to firms located in a different country from the contracting authority) is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

Figure 28. Predicted probability of SME award by cross-border award and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

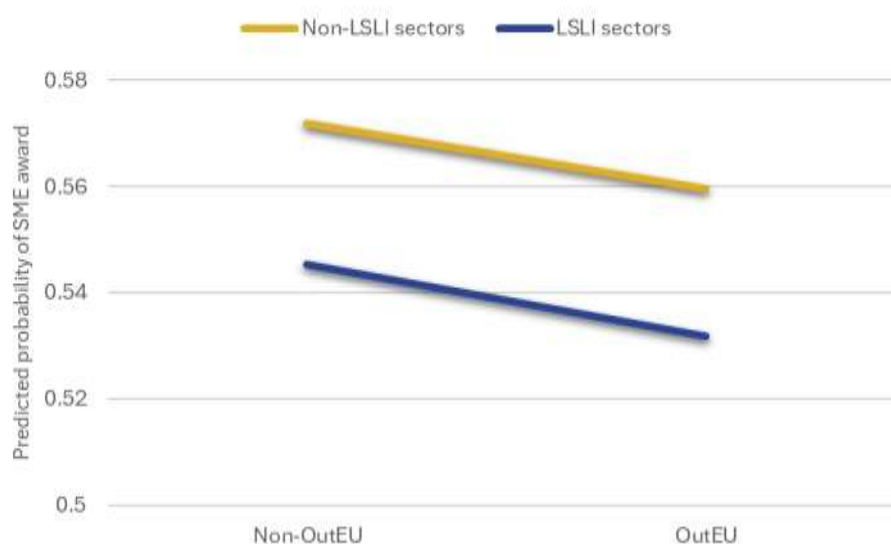
In non-LSLI sectors, when contracts are not awarded cross-border, the predicted probability that an SME wins a contract is about 57.2%. When the contract is awarded to a cross-border supplier, this probability declines to around 53.3%, a reduction of roughly 4.0 percentage points.

In LSLI sectors the reduction is stronger. When no cross-border award is involved, the predicted probability of an SME award is about 54.6%. When the contract is awarded cross-border, this probability falls to around 44.9%, corresponding to a decrease of almost 9.7 percentage points.

These results indicate that greater cross-border competition is associated with lower SMEs' access to contracts in both sectoral contexts, with a markedly larger negative association in LSLI activities. This pattern should not be interpreted as evidence of an inherent trade-off between market openness and SME support. Cross-border procurement environments are shaped by a range of additional factors—such as language barriers, differences in administrative practices, contract size and lotting strategies, and varying degrees of market concentration—that may affect competitive dynamics and participation patterns. As these dimensions are not directly captured in the empirical specification, the observed association reflects the combined effect of cross-border exposure and these broader structural conditions rather than openness per se.

Figure 29 illustrates how the presence of tenders received from non-EU firms is associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

Figure 29. Predicted probability of SME award by presence of non-EU tenderers and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

In non-LSLI sectors, when no non-EU tenderers are involved, the predicted probability that an SME is awarded the contract is about 57.2%. When at least one tender is submitted by a non-EU firm, this probability declines to around 56.0%, a reduction of roughly 1.2 percentage points.

In LSLI sectors a very similar pattern is observed. The predicted probability of an SME award decreases from about 54.5% when no non-EU tenderers are present to around 53.2% when non-EU firms participate, corresponding to a reduction of approximately 1.3 percentage points.

Unlike the cross-border award case shown in the previous figure, the presence of non-EU tenderers is therefore associated with a small and very similar reduction in SMEs' access to contracts in both LSLI and non-LSLI sectors.

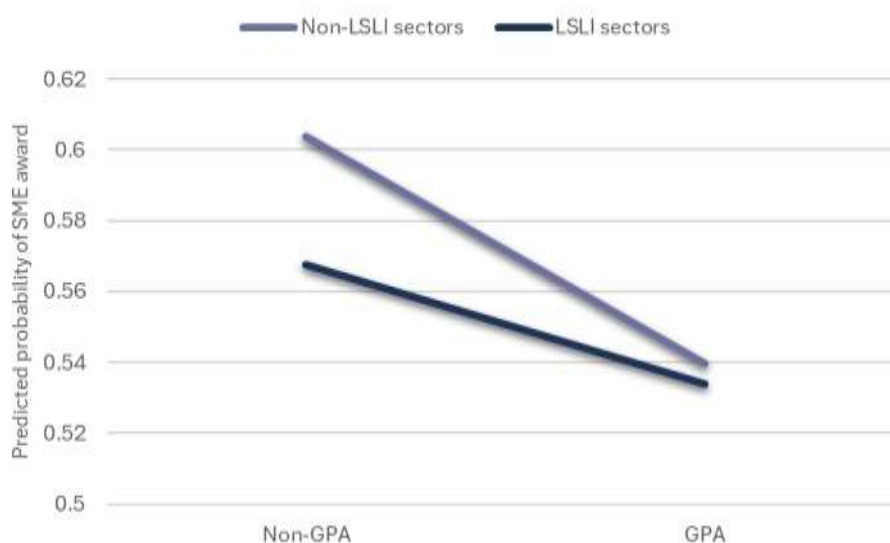
Figure 30 illustrates how contracts covered by the WTO Government Procurement Agreement (GPA) are associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, when contracts are not covered by the GPA, the predicted probability that an SME is awarded the contract is about 60.4%. For contracts that fall under the GPA, this probability decreases to around 54.0%, a reduction of approximately 6.4 percentage points.

In LSLI sectors a similar but more moderate decline is observed. The predicted probability of an SME award falls from about 56.8% for non-GPA contracts to around 53.4% for GPA-covered contracts, corresponding to a decrease of roughly 3.4 percentage points.

Thus, GPA coverage is associated with lower SMEs' access to contracts in both sectoral contexts, with a notably stronger negative association in non-LSLI sectors.

Figure 30. Predicted probability of SME award by GPA coverage and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

4.2.9. Networking among firms

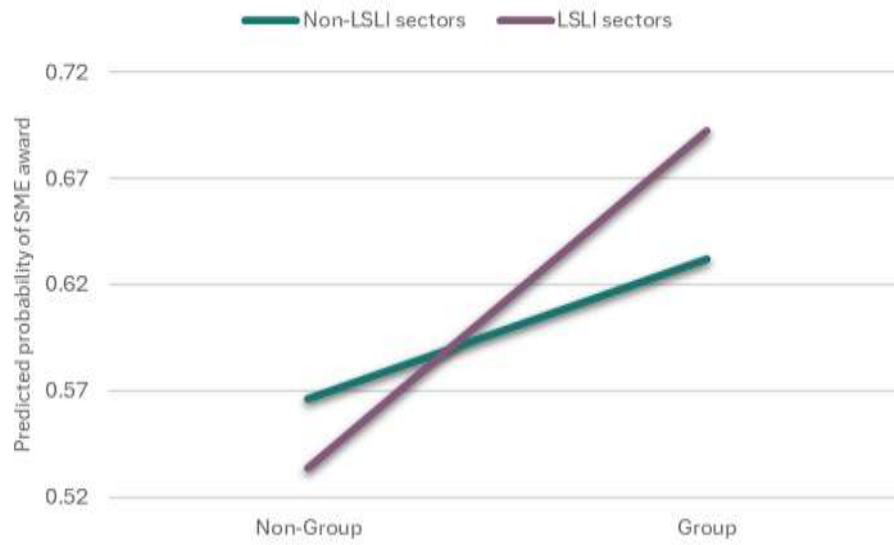
Figure 31 illustrates how contracts awarded to a group of firms (rather than to a single firm) are associated with SMEs' access to contracts in LSLI sectors and in the rest of the economy. The vertical axis reports the predicted probability that a contract is awarded to at least one SME, based on the baseline model with country and year controls.

In non-LSLI sectors, when contracts are awarded to a single firm, the predicted probability that an SME wins a contract is about 56.6%. When the contract is awarded to a group of firms, this probability increases to around 63.2%, an increase of roughly 6.6 percentage points.

In LSLI sectors the association is even stronger. When contracts are not awarded to a group, the predicted probability of an SME award is about 53.4%. When the contract is awarded to a group of firms, this probability rises sharply to around 69.2%, corresponding to an increase of almost 16 percentage points.

These results indicate that collaborative forms of participation, captured by contracts awarded to groups of firms, are associated with substantially higher SMEs' access to public procurement, particularly in LSLI activities.

Figure 31. Predicted probability of SME award by contracts awarded to a group of firms and sector type



Source: Authors' own elaboration based on TED data (2018–2023).

5. Concluding remarks

This report examines SMEs' access to public procurement in Europe during the period 2018–2023 using contract-level information from Tenders Electronic Daily and a unified econometric framework covering 3.7 million awarded contracts for which the SME status of the winning organisations can be identified. The analysis shows that procurement design choices are systematically related to the likelihood that a contract is awarded to at least one SME, but that these relationships are highly context-dependent and vary significantly across institutional and sectoral settings. In particular, several instruments operate very differently in LSLI activities compared with the rest of the economy, implying that average effects conceal important sector-specific patterns.

Although SME access has improved in recent years, the econometric evidence shows that substantial cross-country differences persist in the likelihood that SMEs win public contracts. These differences reflect the interaction between procurement instruments and sectoral characteristics, meaning that the same design feature can be associated with higher SME access in some activities and lower access in others. Taken together, the results highlight that SME participation is shaped not only by individual procurement design choices at the contract level, but also by broader national and sectoral procurement environments. This underscores the importance of adopting a context-sensitive approach to procurement design when pursuing strategic policy objectives alongside the goal of improving SMEs' access to public procurement.

This overall finding is robust across alternative model specifications and remains visible after controlling for country- and year-specific factors. Presented below are the primary conclusions of this study.

5.1. Main findings

- **Procurement designs limiting the dominance of price are associated with higher SME access in both sectoral contexts.**

Once contracts are compared within the same country and year, the lowest-price criterion is not associated with higher SME access, on average. However, a clear sectoral contrast emerges. In LSLI activities, the use of the lowest-price criterion is associated with a higher probability that a contract is awarded to an SME, whereas in non-LSLI activities it is associated with a small reduction in SME award probabilities. By contrast, procurement designs that limit the dominance of price by assigning greater weight to non-price dimensions are associated with higher SME access in both sectoral contexts. This positive association becomes

stronger when the weight of price is further reduced, particularly in non-LSLI activities, while remaining clearly visible in LSLI sectors.

These results indicate that the relationship between price-based selection and SME access is shaped by the nature of the activity procured. In sectors where competition is closely linked to labour costs and relatively standardised delivery, price-based selection is associated with stronger SME outcomes, whereas in other activities SME access is more closely linked to procurement settings in which non-price dimensions play a greater role.

- **Award criteria aimed at supporting broader policy objectives show asymmetric patterns.**

The inclusion of policy-related award criteria (i.e., environmental, social, innovation-related) shows asymmetric patterns across industries. In the case of environmental award criteria, their inclusion is associated with a pronounced reduction in the probability of SME awards in LSLI activities, while it has almost no effect in non-LSLI sectors. Social award criteria are associated with lower SME access in both sectoral contexts, with a markedly stronger negative association in LSLI activities. Innovation-related award criteria display a similarly asymmetric pattern: they are associated with a strong reduction in SME access in LSLI sectors, while their association with SME awards outside LSLI activities is small and close to zero.

These uneven effects remain significant after accounting for differences in contract characteristics and procurement procedures. This result reflects that sustainability and innovation requirements do not generate uniform effects on SME access and tend to be particularly challenging for SMEs in labour-intensive activities.

- **Subcontracting plays different roles across procurement markets.**

In non-LSLI activities, contracts that are likely to be subcontracted are associated with a higher probability of SME awards. In LSLI sectors, however, subcontracting is associated with a small reduction in SMEs' likelihood of winning contracts. This divergence reflects differences in how subcontracting is used across markets and in the position typically occupied by SMEs within supply chains.

This contrast suggests that subcontracting plays different roles across procurement markets: in some contexts, it can open opportunities for SMEs, while in labour-intensive activities it is more closely associated with procurement arrangements in which SMEs are less likely to act as main contractors.

- **Contract lotting improves SME access primarily in labour-intensive activities.**

Contract organisation through lot division also displays strong sectoral asymmetries. In non-LSLI sectors, dividing contracts into lots is associated with virtually no change in the probability that SMEs win contracts. In LSLI sectors, however, contract lotting is associated with a substantial increase in SMEs' likelihood of winning contracts.

This finding suggests that lot division plays different roles across procurement markets: in activities where production can be fragmented into smaller tasks, it significantly improves SME access, while in other sectors it has little practical effect.

- **The effects of demand aggregation are not uniform and depend on both the aggregation mechanism and the sectoral context.**

Demand aggregation mechanisms are generally associated with lower SME access, although their effects are not uniform. In non-LSLI sectors, joint procurement is associated with a substantial reduction in the probability that SMEs win contracts. In LSLI sectors, the association is also negative, but smaller in magnitude. This finding indicates that aggregating demand across contracting authorities tends to increase contract scale and complexity, reducing SMEs' likelihood of acting as prime contractors in both sectoral contexts. The stronger effect in non-LSLI sectors suggests that these activities may involve higher organisational or technical requirements that further amplify the barriers created by aggregation. This finding indicates that the disaggregation of demand is particularly effective in improving SME access in activities that can be naturally decomposed into smaller and relatively independent tasks.

In turn, in non-LSLI sectors, procurement through central purchasing bodies is associated with a reduction in SME award probabilities. In LSLI sectors, the use of central purchasing bodies is associated with an increase in SME access. This contrast suggests that centralised procurement may facilitate SME participation in labour-intensive activities, where contracts are more standardised and easier to structure in ways compatible with SME capabilities, while in more complex sectors centralisation is associated with procurement designs that favour larger suppliers.

- **Electronic auction formats are particularly challenging for SMEs.**

Digital procurement instruments are also associated with lower SME access. The use of electronic auctions is consistently linked to a reduction in the probability that a contract is awarded to an SME, and this negative association is considerably stronger in LSLI sectors. This pattern suggests that electronic auction formats are particularly challenging for SMEs in activities in which competition is highly cost driven.

- **SMEs constraints differ depending on whether innovation objectives are pursued through specific procedures or not.**

Innovation-oriented procurement instruments display differentiated effects depending on how innovation objectives are implemented. The use of the Innovation Partnership procedure is associated with a substantial reduction in SME access in non-LSLI sectors, while in LSLI activities it is associated with a small increase in the probability of SME awards. By contrast, innovation-related award criteria are associated with a strong reduction in SME access in LSLI sectors and only very small changes in non-LSLI activities. These results indicate that the constraints faced by SMEs differ depending on whether innovation objectives are pursued through specific procedures or through award-stage requirements.

- **Cross-border competition is associated with lower SME access.**

In non-LSLI sectors, contracts awarded to cross-border suppliers are associated with a moderate reduction in SME award probabilities. In LSLI sectors, however, the negative association is substantially larger, with a markedly stronger decline in the likelihood that SMEs win contracts.

This reflects differences in how cross-border competition interacts with sectoral characteristics, particularly in activities where production is more localised and cost structures are tightly linked to domestic labour markets.

- **The presence of non-EU bidders is associated with a small and uniform reduction in SME access.**

In both non-LSLI and LSLI sectors, the presence of tenders from non-EU firms is associated with a very limited decrease in SME award probabilities. This suggests that competition from non-EU bidders plays a relatively neutral role across procurement markets, with only marginal effects on SMEs' likelihood of winning contracts.

- **GPA coverage is associated with lower SME access.**

In non-LSLI sectors, contracts covered by the WTO Government Procurement Agreement are associated with a substantial reduction in SME award probabilities. In LSLI sectors, the association remains negative but is notably smaller in magnitude. This contrast suggests that GPA-related openness plays different roles across procurement markets: while it is associated with reduced SME access overall, its impact is more pronounced in non-LSLI activities.

- **Collaborative forms of participation are associated with higher SME access.**

In non-LSLI sectors, contracts awarded to groups of firms are associated with a higher probability of SME awards, with a moderate increase relative to single-firm awards. In LSLI sectors, however, the positive association is substantially larger,

with a sharp increase in SMEs' likelihood of winning contracts when bids are submitted by groups of firms.

This finding highlights the importance of collaborative and network-based participation arrangements for improving SMEs' access to public procurement, in particular in labour-intensive activities.

5.2. Policy implications

The following policy implications derive directly from the findings included in the report and are intended to inform the ongoing reflection on the design and implementation of public procurement instruments. They should be interpreted as evidence-based considerations on how existing procurement practices interact with SMEs' awards under different sectoral and institutional conditions, rather than as prescriptive rules.

First, award criteria should be explicitly aligned with sectoral cost structures, rather than applied uniformly. Procurement guidance should therefore encourage contracting authorities to justify the use of lowest price (or alternatives) explicitly in relation to the sector's cost structure and delivery model, rather than treating award criteria as a "one size fits all" choice. This implies that contracting authorities should assess the appropriateness of price-based or quality-based criteria considering the nature of the activity procured. Standard templates could include sector-sensitive benchmarks for price weighting and encourage balanced scoring models where quality dimensions can offset scale advantages.

Second, when incorporating environmental, social, or innovation criteria, compliance burdens should be reduced, especially in LSLI sectors. Since environmental criteria and innovation-related criteria are associated with substantial reductions in SME awards, mitigation should lead contracting authorities to operationalise such criteria through proportionate and standardised tools. Practical measures could include using outcome or functional-based requirements where feasible, limiting documentation requirements to what is strictly necessary, introducing standardised certificates or self-declarations where possible, using clearer definition of requirements and IP conditions, and ensuring that verification requirements are aligned with contract size and risk.

Third, demand aggregation mechanisms should incorporate SME-access safeguards. Joint procurement and centralisation are associated with lower SME access in many contexts, particularly outside LSLI sectors. Therefore, when aggregation is used, procurement design should explicitly mitigate its scale effects. This can include structuring framework agreements into multiple lots, ensuring that contracts remain accessible to smaller suppliers, avoiding excessive qualification thresholds.

Fourth, cross-border and international procurement environments should be accompanied by measures that reduce participation frictions for SMEs.

The findings show that cross-border awards and GPA-covered contracts are associated with lower SME participation, particularly in LSLI sectors. While these effects reflect broader market dynamics, contracting authorities can mitigate participation barriers through clearer documentation, predictable procedures, and proportionate administrative requirements. Reducing informational and procedural frictions is particularly important for SMEs facing higher costs of participation.

Fifth, given that lot division is robustly associated with higher SME award probabilities in LSLI sectors and has limited association outside them, lotting should be prioritised within labour-intensive, low-skilled activities, particularly where tasks are naturally separable (e.g., cleaning, maintenance, routine services, construction subcomponents). Contract size is a key barrier to SME access and SMEs are overrepresented in number of contracts but underrepresented in value. Contracting authorities should assess ex ante whether contract aggregation leads to unnecessary scale requirements and, where appropriate, introduce lotting, phased contracting, or geographically segmented lots to ensure that contracts remain accessible to SMEs.

Sixth, procurement design should facilitate SME participation in supply chains and collaborative structures. The results show that contracts awarded to groups of firms are strongly associated with higher SME participation across all sectors. Procurement frameworks should therefore actively support consortium bidding by ensuring proportionate liability arrangements, allowing joint fulfilment of qualification criteria, and avoiding unnecessarily restrictive administrative requirements. This is particularly relevant in larger or more complex contracts where SMEs may otherwise be excluded as prime contractors. In this regard, the introduction of simplified award procedures tailored to startups, scale-ups and research and technology organisations, could help mitigate the administrative and organisational barriers identified in the econometric results, particularly in innovation-oriented and strategically sensitive sectors.

Seventh, sector-specific approaches are needed for subcontracting. Subcontracting is associated with higher SME participation in non-LSLI sectors but lower participation in LSLI activities, indicating that SMEs play different roles across supply chains. Procurement design should therefore consider whether contracts are structured in ways that allow SMEs to participate as prime contractors.

Last, targeted instruments could be considered to strengthen SME participation in strategic and innovation-driven procurement domains. The findings indicate that SMEs, particularly innovative firms, face structural disadvantages in complex and high-value procurement settings. In this context, contracting authorities could explore the use of targeted mechanisms in sectors of strategic relevance to reinforce the participation of European SMEs, startups

and scaleup. In addition, the establishment of targeted reservation mechanisms, such as allocating a defined share of innovation procurement contracts to startups and research and technology organisations, could help address their underrepresentation in high-risk and innovation-intensive procurement.

In order to synthesise these results and make their implications more transparent, Table 4 presents a structured summary of the key messages emerging from the analysis.

Table 4. Key messages on SME awards in EU public procurement

Key message	Evidence from the analysis	Relevance for interpretation and policy
SME access to public procurement has improved in recent years, but value concentration persists	The share of awarded contracts involving SMEs exceeds half of total contracts by number in 2023, while large contracts remain concentrated among larger firms.	Improvements in SME presence by number do not automatically translate into proportional economic weight.
SME participation by number does not translate into equivalent shares of procurement value	SMEs are more frequently awarded contracts by number than by value.	Contract size and aggregation are central to understanding effective SME outcomes.
SMEs are prevalent in locally delivered and modular activities	SME presence is substantial in construction and certain service activities, as well as in some specialised categories.	Sectoral structure strongly shapes SME opportunities.
SMEs capture less value in capital-intensive and scale-driven procurement	SME award probabilities decline in procurement settings characterised by large scale or infrastructure-oriented delivery.	Market structure limits SME participation in high-value segments.
Cross-border awards are rare by number but significant by value	Cross-border awards represent a small share of contracts but a larger share of total value; SMEs show slightly lower cross-border award incidence.	Barriers to cross-border SME participation appear structural rather than policy-driven.
There is strong cross-country heterogeneity in SME outcomes	SME award probabilities vary substantially across Member States even after controlling for contract and sector characteristics.	National procurement systems and institutional practices matter.
Contract size is a robust barrier to SME access	The probability that a contract is awarded to an SME declines sharply as awarded value increases, across sectors and countries.	Contract aggregation directly affects SME opportunities.
Procurement instruments do not have uniform effects across the economy	Several design features show opposite or asymmetric effects depending on sectoral context.	One-size-fits-all procurement design can generate trade-offs.
Lowest-price criteria benefit SMEs in LSLI sectors but not in non-LSLI sectors	Lowest-price award rules are associated with higher SME awards in LSLI activities and lower or neutral effects elsewhere.	Award criteria interact with sectoral cost structures.

SME Participation in EU Public Procurement:
Evidence from TED (2018–2023)

Key message	Evidence from the analysis	Relevance for interpretation and policy
Greater emphasis on non-price dimensions supports SME awards across sectors	Reducing the weight of price is associated with higher SME award probabilities in both LSLI and non-LSLI sectors.	Balanced award criteria can mitigate scale disadvantages.
Subcontracting affects SME awards differently across sectors	Subcontracting is associated with higher SME awards in non-LSLI sectors and slightly lower SME access in LSLI sectors.	SMEs' role in supply chains differs across activities.
Lot division increases SME access mainly in LSLI sectors	Dividing contracts into lots is associated with higher SME awards in LSLI sectors and limited effects elsewhere.	Disaggregation is particularly relevant for modular activities.
Environmental and social award criteria reduce SME access in LSLI sectors	These criteria are associated with lower SME award probabilities in LSLI sectors and weaker effects in non-LSLI sectors.	Compliance burdens interact with labour intensity.
Demand aggregation mechanisms reduce SME access	Joint procurement is associated with lower SME awards in both sectoral contexts.	Aggregation can disadvantage smaller suppliers.
Central purchasing bodies show mixed effects	Central purchasing reduces SME access in non-LSLI sectors but increases it in LSLI sectors.	Centralisation interacts with delivery models.
Electronic auctions are particularly challenging for SMEs	Electronic auctions are consistently associated with lower SME award probabilities, especially in LSLI sectors.	Cost-driven bidding formats may disadvantage SMEs.
Innovation-oriented instruments show asymmetric effects	Innovative Partnerships reduce SME access in non-LSLI sectors but slightly increase it in LSLI sectors; innovation award criteria reduce SME access in LSLI sectors.	The design of innovation procurement matters for SMEs.
Greater international openness is associated with lower SME access	Cross-border competition and GPA coverage are associated with lower SME awards, particularly in LSLI sectors.	Openness and SME support may interact differently across sectors.
Collaborative participation strongly supports SME access	Contracts awarded to groups of firms are consistently associated with substantially higher SME award probabilities.	Collaboration mitigates scale and capacity constraints.
Overall implication: procurement design requires a context-sensitive approach	The same instrument can increase or reduce SME access depending on sector, contract size and institutional setting.	Effective SME support cannot rely on uniform design choices.

Source: Author's own elaboration.

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Appendix I. Methodology of econometric analysis

The empirical strategy of the study is designed to examine how specific features of public procurement design are associated with SMEs' access to awarded contracts across European procurement markets.

The unit of analysis is the awarded contract (or lot). For each awarded contract, the dependent variable identifies whether at least one of the winning organisations is classified as a small or medium-sized enterprise (SME). The analysis therefore focuses on effective access to public procurement, defined as the likelihood that a contract is ultimately awarded to an SME. It does not capture firms' participation decisions or success probabilities conditional on submitting a tender. This choice reflects the fact that information on unsuccessful SME tenderers in Tenders Electronic Daily is affected by severe data quality limitations, as discussed in the data section.

The empirical analysis is based on Contract Award Notices published in Tenders Electronic Daily and applies a set of sample restrictions that form part of the research design. Only awarded contracts are considered. The sample is further restricted to contracts awarded by contracting authorities located in the European Economic Area, while contracts awarded by EU institutions and other international organisations are excluded. These restrictions ensure that the analysis focuses on national procurement systems operating under a common regulatory framework and avoids mixing national procurement practices with supranational purchasing arrangements. In the analyses that explicitly compare SMEs and non-SMEs, observations for which the identity of the winning organisation or its SME status is not reported are excluded. In addition, in the specifications that use contract value, observations with missing values are removed and extreme values below one euro and above one hundred million euros are excluded in order to reduce the influence of outliers and potential recording errors.

The core explanatory variables describe contractual and organisational features that are directly linked to the policy instruments introduced or reinforced by the 2014 EU Public Procurement Directives. These include the use of the lowest-price award criterion, the weight assigned to price in the award decision, the inclusion of environmental, social and innovation-related award criteria, the division of contracts into lots, the use of subcontracting arrangements, the application of electronic auctions, the use of joint procurement or central purchasing bodies, and the application of specific procurement procedures, such as Innovation Partnerships. Additional variables capture dimensions related to market openness and competitive pressure, including cross-border awards, the presence of non-EU tenderers and coverage under the WTO Government Procurement Agreement.

The relationship between these contract features and SMEs' access to awarded contracts is examined using probabilistic models that estimate the likelihood that an awarded contract involves at least one SME. The results are presented in terms of marginal effects, which indicate how the probability of an SME award changes when a specific contract feature is present, holding the other observed characteristics constant. This presentation is chosen in order to make the results more directly interpretable for non-specialist readers.

A central element of the empirical design is the use of country and year fixed effects. These controls ensure that the estimated associations are based on comparisons between contracts awarded within the same country and in the same year. This approach accounts for persistent cross-country differences in institutional settings, procurement traditions and market structures, as well as for common shocks or regulatory and economic developments affecting procurement activity in a given year. As a result, the estimated effects reflect differences associated with procurement design choices within comparable national and temporal contexts, rather than differences driven by structural variation across countries or by changes over time.

The baseline model is estimated using the following equation:

$$\Pr(SME_i = 1) = \Lambda(\alpha + \mathbf{X}_i\boldsymbol{\beta} + \delta_{c(i)} + \gamma_{t(i)})$$

where:

- *$SME_i = 1$ indicates that contract (or lot) i is awarded to at least one SME;*
- *α is the intercept, representing the baseline log-odds of an SME award when all explanatory variables are set to zero or to their reference categories;*
- *$\mathbf{X}_i$ is the vector of contract-level explanatory variables (procurement design instruments and controls), as described in Table A1 (see below);*
- *$\boldsymbol{\beta}$ is the vector of coefficients associated with the explanatory variables, capturing the direction and magnitude of each variable's association with the probability of an SME award;*
- *$\delta_{c(i)}$ denotes contracting-country fixed effects, which capture persistent differences across national procurement systems that are not explained by the contract-level variables;*
- *$\gamma_{t(i)}$ denotes year fixed effects, which capture common temporal trends affecting all countries in a given year;*
- *$\Lambda(\cdot)$ is the logistic function, which transforms the linear combination of all terms into a predicted probability bounded between 0 and 1.*

In addition to this baseline specification, the analysis explicitly examines whether the associations between procurement instruments and SMEs' access differ across sectoral contexts. Contracts are classified according to whether they

belong to Low-Skilled Labour-Intensive activities or to the rest of the economy. This distinction captures sectors in which SMEs are structurally more prevalent and in which procurement outcomes are more closely connected to employment and local economic activity. The empirical analysis introduces interaction terms between the Low-Skilled Labour-Intensive indicator and each procurement instrument, in turn, allowing the estimated associations to vary across the two sectoral contexts.

For each procurement instrument Z_i included in $\mathbf{X}_i$, the specification for the models with interaction with the sectoral dimension (Low-Skilled Labour-Intensive vs non- Low-Skilled Labour-Intensive) is:

$$\Pr(SME_i = 1) = \Lambda(\alpha + \mathbf{X}_i\boldsymbol{\beta} + \theta LSLI_i + \phi(Z_i \times LSLI_i) + \delta_{c(i)} + \gamma_{t(i)})$$

where:

- α is the intercept, as defined in the baseline model;
- $\mathbf{X}_i$ is the vector of contract-level explanatory variables, as defined in the baseline model;
- $\boldsymbol{\beta}$ is the vector of coefficients associated with the explanatory variables, as defined in the baseline model;
- $LSLI_i$ is an indicator equal to one if the contract belongs to a low-skilled labour-intensive sector and zero otherwise;
- θ is the coefficient associated with the LSLI indicator, capturing how the baseline probability of an SME award differs between LSLI and non-LSLI sectors, holding all other variables constant;
- Z_i is, in turn, each of the procurement instruments analysed; its coefficient is already included within the vector $\boldsymbol{\beta}$ and captures the association between the instrument and SME awards in non-LSLI sectors (i.e. when $LSLI_i = 0$);
- ϕ is the coefficient on the interaction term $Z_i \times LSLI_i$, which measures how much the association between the instrument and SME awards differs in LSLI sectors relative to non-LSLI sectors;
- $\delta_{c(i)}$ and $\gamma_{t(i)}$ denote country and year fixed effects, as defined in the baseline model;
- $\Lambda(\cdot)$ is the logistic function, as defined in the baseline model.

The key feature of this specification is that the total association between a procurement instrument and SME access depends on the sectoral context. In non-LSLI sectors ($LSLI_i = 0$), the interaction term drops out and the association is captured by the coefficient on Z_i alone. In LSLI sectors ($LSLI_i = 1$), the association is given by the sum of the coefficient on Z_i and the interaction coefficient ϕ . The interaction term therefore indicates whether the

instrument operates differently in LSLI sectors compared with the rest of the economy.

A simplified numerical example helps illustrate the logic. Suppose the model produces the following estimated coefficients for the lowest-price criterion:

- Coefficient on lowest price (Z_i): -0.04
- Coefficient on LSLI: -0.02
- Coefficient on the interaction ($Z_i \times LSLI_i$): -0.06

These three coefficients answer different questions:

The LSLI coefficient (-0.02) captures the baseline difference between sectors: even before considering any procurement instrument, contracts in LSLI sectors are 2 percentage points less likely to be awarded to an SME than contracts in non-LSLI sectors.

The coefficient on lowest price (-0.04) captures the association between the instrument and SME access in non-LSLI sectors (where $LSLI = 0$ and the interaction term drops out): using the lowest-price criterion is associated with a reduction of 4 percentage points in the probability of an SME award.

The interaction coefficient (-0.06) tells us how much this association differs in LSLI sectors. In LSLI sectors (where $LSLI = 1$), the total association between lowest price and SME access is the sum of the base effect and the interaction: $-0.04 + (-0.06) = -0.10$. Using the lowest-price criterion is associated with a reduction of 10 percentage points in the probability of an SME award in these sectors.

To summarise: the interaction coefficient (-0.06) indicates that the negative association between the lowest-price criterion and SME access is 6 percentage points stronger in LSLI sectors than in the rest of the economy. The LSLI coefficient (-0.02) additionally tells us that LSLI sectors start from a lower baseline level of SME access, independently of the instrument being analysed.

In words: using the lowest-price criterion is associated with a reduction in SMEs' chances of winning contracts across all sectors, but this reduction is substantially larger in labour-intensive sectors (10 percentage points) than in other sectors (4 percentage points). Moreover, labour-intensive sectors already display a lower baseline probability of SME access, so the combined effect further widens the gap between sectoral contexts.

It is important to note that this example uses hypothetical values chosen for illustrative purposes only. The actual estimated coefficients are reported in Appendix III. Moreover, because the logit model is non-linear, the predicted probabilities reported in the figures of Section 4.2 are computed using the full estimation results rather than by simply adding coefficients, as explained at the beginning of that section.

The results of this sectoral analysis are presented using predicted probabilities of SME awards under alternative procurement design scenarios. This representation facilitates a direct comparison of how the same procurement instrument is associated with SMEs' access in Low-Skilled Labour-Intensive activities and in the rest of the economy, and highlights differences in both the direction and the magnitude of the associations.

Table A1 reports the variables included in the econometric analysis, together with the number of observations (N), the mean and a brief description of each variable.

All variables in the econometric analysis are either dummy (binary) variables or categorical variables. A dummy variable takes only two values: 1 when a given characteristic is present and 0 when it is not. For dummy variables, the mean reported in the table corresponds to the proportion of contracts in the sample for which the characteristic is present. For example, the mean of "Value above 5M€" is 0.0314, which indicates that 3.14% of the contracts in the sample have an awarded value above five million euros. Similarly, the mean of "SME among winners" is 0.5668, indicating that 56.68% of the contracts in the sample are awarded to at least one SME.

Most variables are coded as dummies because the underlying information in TED is itself recorded as a binary field — for instance, whether an electronic auction was used, whether the contract was awarded under a framework agreement, or whether subcontracting is foreseen. In these cases, the dummy variable directly reflects how the information is reported in the data source. In a smaller number of cases, the original information is continuous or ordinal but has been recoded into a binary indicator in order to capture a specific policy-relevant threshold. For example, contract value is a continuous variable in TED, but it is recoded as a dummy indicating whether the awarded value exceeds five million euros, in order to isolate the association between large contracts and SME access. Similarly, the weight of price in the award criteria is a continuous variable that is recoded into two binary indicators (below 50% and below 20%) to capture discrete shifts in the role of price in the award decision.

Categorical variables — such as type of contract, type of procedure and type of contracting authority — represent mutually exclusive groups. In the econometric models, each category enters as a separate dummy variable, with one category omitted as the reference group (see Section 4.1 for the choice of reference categories).

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Table A1. Variables included in the study

Variables	N	Mean	Description
Num. of contracts/lots	3,692,011	1.0000	Total number of contracts or lots included in the analytical sample (dummy).
SME among winners	2,092,688	0.5668	At least one of the winning economic operators of the contract or lot is classified as an SME (dummy).
Low-skilled labour-intensive sectors	700,207	0.1897	The contract belongs to a low-skilled labour-intensive sector, proxied using CPV divisions 45, 50, 51, 55, 85, 90 and 98 (dummy).
Value above 5M€	115,871	0.0314	The awarded contract value is above 5 million euros (dummy).
Lowest price criteria	1,909,172	0.5171	The contract is awarded solely on the basis of the lowest price (dummy).
Price weight below 20%	46,168	0.0125	The weight assigned to price in the award criteria is below 20% (dummy).
Price weight below 50%	426,252	0.1155	The weight assigned to price in the award criteria is below 50% (dummy).
Contract awarded to a group	304,545	0.0825	The contract is awarded to a group of economic operators, rather than to a single firm (dummy).
Multilots contract	2,606,792	0.7061	The contract is divided into more than one lot (dummy).
Cross-border winning organisations	52,952	0.0143	At least one winning economic operator is established in a country different from that of the contracting authority (dummy).
Tenders from non-EU countries	12,977	0.0035	At least one tender was submitted by an economic operator established outside the European Union (dummy).
Framework agreement	689,005	0.1866	The contract is awarded under a framework agreement (dummy).
Subcontracting likelihood	173,302	0.0469	The contract indicates that subcontracting is foreseen or likely (dummy).
Electronic auction	80,761	0.0219	The award procedure includes the use of an electronic auction (dummy).
Environmental criteria	36,353	0.0098	Environmental considerations are included among the award criteria (dummy).
Social criteria	4,364	0.0012	Social considerations are included among the award criteria (dummy).
Innovation criteria	8,323	0.0023	Innovation-related considerations are included among the award criteria (dummy).
Joint procurement	125,769	0.0341	The contract is awarded through a joint procurement procedure involving more than one contracting authority (dummy).
Central purchasing body	166,727	0.0452	The contract is awarded by, or through, a central purchasing body (dummy).
Government Procurement Agreement	1,816,038	0.4919	The contract is covered by the WTO Government Procurement Agreement (dummy).
<i>Type of activity</i>			Categorical variable indicating whether the contract refers to works, supplies or services.
Services	1,213,232	0.3286	
Works	293,425	0.0795	
Supplies	2,185,354	0.5919	
<i>Type of procedure</i>			Categorical variable identifying the procurement procedure used.
Open	3,302,006	0.8944	
Award without prior publication	46,327	0.0125	
Competitive dialogue	3,272	0.0009	
Negotiated without a call for competition	96,627	0.0262	
Negotiated with a call for competition	122,384	0.0331	
Restricted	120,045	0.0325	
Innovative partnership	1,350	0.0004	
<i>Type of contracting authority</i>			Categorical variable identifying the type of contracting authority.
Ministry or other national authority	365,254	0.0989	
Regional or local authority	808,443	0.2190	
Utilities sectors	168,688	0.0457	
Body governed by public law	1,172,360	0.3175	
Other	992,290	0.2688	
National or federal agency	80,915	0.0219	
Regional or local agency	104,061	0.0282	

Because TED does not provide a structured and standardised field indicating whether environmental, social or innovation-related award criteria are used, these variables are constructed using text-mining techniques applied to the textual field in which contracting authorities describe the award criteria of each procedure. In practice, contracts are classified as including environmental, social or innovation-related criteria when at least one relevant keyword is detected in

the textual description of the award criteria. For environmental criteria, the search includes a wide set of expressions related to environmental protection and sustainability, such as environment, environmental impact, environmental protection, environmental sustainability, sustainable development, climate change, climate mitigation, climate adaptation, circular economy, biodiversity protection, pollution reduction, emission reduction, decarbonisation, carbon footprint (CO₂/CO2), life cycle assessment, life cycle costing, green public procurement, environmental standards, environmental certification, EU Ecolabel, ISO 14001 and EMAS (Eco-Management and Audit Scheme), as well as related formulations such as carbon neutral and life-cycle cost. Social award criteria are identified through keywords associated with inclusion and labour and social objectives, including terms such as inclusion, employability, vulnerable persons, disadvantaged groups, social cohesion, labour market integration, equal access, non-discrimination, accessibility, gender mainstreaming, labour law compliance, decent work, working hours, health and safety plan, subcontracting conditions, equal treatment, universal design and reasonable accommodation. Innovation-related award criteria are identified using two complementary approaches: first, by explicitly capturing the use of the Innovation Partnership procedure; and second, by applying text mining to the award-criteria descriptions using variations of the terms innovation and technology. This combined approach allows the construction of consistent proxies for environmental, social and innovation award criteria across the full sample of contracts, despite the absence of harmonised structured variables in TED.

Appendix II. Baseline model

Explanatory variables	Model 1		Model 2		Model 3	
	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t
Value above 5M€	-0.166	0.000	-0.151	0.000	-0.154	0.000
Lowest price criteria (LPC)	0.033	0.000	-0.045	0.000	-0.047	0.000
Contract awarded to a group (Group)	0.074	0.000	0.081	0.000	0.084	0.000
Multilots contract (MLots)	-0.019	0.000	0.011	0.000	0.012	0.000
Cross-border winning organisations (XBorder)	-0.016	0.000	-0.044	0.000	-0.044	0.000
Framework agreement (FRA)	-0.011	0.000	0.0004	0.614	-0.003	0.000
Subcontracting likelihood (SubCon)	0.012	0.000	0.019	0.000	0.018	0.000
Electronic auction (E-auc)	-0.079	0.000	-0.044	0.000	-0.042	0.000
Environmental criteria (Green)	-0.107	0.000	-0.014	0.000	-0.016	0.000
Social criteria (Social)	-0.078	0.000	-0.031	0.000	-0.029	0.000
Innovation criteria (Inn)	-0.009	0.082	-0.014	0.006	-0.012	0.024
Joint procurement (JointProc)	-0.056	0.000	-0.061	0.000	-0.062	0.000
<i>Type of contract (Reference group: Services)</i>						
Works	0.049	0.000	0.082	0.000	0.083	0.000
Supplies	-0.060	0.000	-0.071	0.000	-0.070	0.000
<i>Type of procedure (Reference group: Open)</i>						
Award without prior publication	-0.076	0.000	-0.022	0.000	-0.027	0.000
Competitive dialogue	-0.104	0.000	-0.094	0.000	-0.094	0.000
Negotiated without a call for competition	-0.100	0.000	-0.075	0.000	-0.076	0.000
Negotiated with a call for competition	-0.046	0.000	-0.051	0.000	-0.051	0.000
Restricted	0.072	0.000	0.025	0.000	0.020	0.000
Innovative partnership	-0.096	0.000	-0.097	0.000	-0.100	0.000
<i>Contracting authority (Reference group: Ministry)</i>						
Regional or local authority	-0.029	0.000	0.026	0.000	0.025	0.000
Utilities sectors	-0.017	0.000	-0.010	0.000	-0.011	0.000
Body governed by public law	-0.030	0.000	-0.052	0.000	-0.053	0.000
Other	-0.043	0.000	0.001	0.600	-0.0008	0.415
National or federal agency	-0.021	0.000	-0.079	0.000	-0.080	0.000
Regional or local agency	-0.080	0.000	0.001	0.530	0.002	0.248
<i>Country (Reference group: Austria)</i>						
Belgium	-	-	-0.283	0.000	-0.278	0.000
Bulgaria	-	-	0.147	0.000	0.146	0.000
Cyprus	-	-	0.251	0.000	0.248	0.000
Czech Republic	-	-	0.127	0.000	0.127	0.000
Germany	-	-	-0.019	0.000	-0.018	0.000
Denmark	-	-	-0.069	0.000	-0.068	0.000
Estonia	-	-	0.289	0.000	0.292	0.000
Greece	-	-	-0.097	0.000	-0.101	0.000
Spain	-	-	-0.145	0.000	-0.149	0.000
Finland	-	-	0.010	0.010	0.008	0.033
France	-	-	-0.203	0.000	-0.201	0.000
Croatia	-	-	-0.067	0.000	-0.070	0.000
Hungary	-	-	0.134	0.000	0.134	0.000
Ireland	-	-	0.133	0.000	0.135	0.000
Italy	-	-	-0.156	0.000	-0.159	0.000
Lithuania	-	-	0.297	0.000	0.297	0.000
Luxembourg	-	-	0.045	0.000	0.042	0.000
Latvia	-	-	0.342	0.000	0.341	0.000
Malta	-	-	0.342	0.000	0.341	0.000
Netherlands	-	-	0.048	0.000	0.051	0.000
Poland	-	-	0.012	0.000	0.010	0.001
Portugal	-	-	-0.144	0.000	-0.147	0.000
Romania	-	-	-0.135	0.000	-0.143	0.000
Sweden	-	-	0.082	0.000	0.082	0.000
Slovenia	-	-	0.238	0.000	0.244	0.000
Slovakia	-	-	0.253	0.000	0.252	0.000
Iceland	-	-	0.365	0.000	0.366	0.000
Liechtenstein	-	-	0.344	0.000	0.342	0.000
Norway	-	-	-0.116	0.000	-0.115	0.000
<i>Year (Reference group: 2018)</i>						
2019	-	-	-	-	-0.004	0.000
2020	-	-	-	-	-0.001	0.180
2021	-	-	-	-	0.022	0.000
2022	-	-	-	-	0.045	0.000
2023	-	-	-	-	0.055	0.000
Num. of observations	3,692,011		3,692,011		3,692,011	
Pseudo R2	0.0111		0.0762		0.078	

How to read the results: a guide for non-specialist readers

The table above reports the full estimation results of the baseline model, including country and year fixed effects that were omitted from Table 3 in the main text for readability. This section explains how to interpret all the elements reported in the table.

Coefficients

All coefficients are average marginal effects. They measure the change in the probability that a contract is awarded to at least one SME associated with a given contract characteristic, holding all other variables constant. They can be read directly as percentage-point changes.

For example, in Model 3 the coefficient for "Value above €5M" is -0.154 . This means that contracts with a value above five million euros are approximately 15.4 percentage points less likely to be awarded to an SME than contracts below that threshold, all else being equal.

For categorical variables, coefficients are expressed relative to an omitted reference category. For instance, the reference group for type of contract is services. The coefficient for works in Model 3 is 0.083 , which means that works contracts are approximately 8.3 percentage points more likely to be awarded to an SME than services contracts, holding all other characteristics constant. No coefficient is reported for the reference category itself, precisely because it serves as the benchmark against which the other categories are compared. This does not mean that services contracts have zero probability of SME access; it means that the other coefficients measure differences relative to services.

Country fixed effects

Country fixed effects follow the same logic. The reference country is Austria. Each country coefficient measures how the probability of an SME award in that country differs from Austria, after controlling for all contract-level characteristics included in the model. For example, in Model 3 the coefficient for Belgium is -0.278 . This means that, holding all observed contract characteristics constant, contracts awarded in Belgium are approximately 27.8 percentage points less likely to be awarded to an SME than comparable contracts awarded in Austria. This difference captures persistent national factors — such as institutional traditions, market structure, procurement culture and transposition choices — that are not explained by the contract-level variables in the model.

It is important to note that these country effects do not imply that Austrian procurement is inherently "better" for SMEs. Austria is simply the reference point; had Belgium been chosen instead, all country coefficients would shift accordingly, but the differences between any two countries and all other results of the model would remain identical.

Year fixed effects

Year fixed effects capture common trends affecting all countries simultaneously. The reference year is 2018. For example, in Model 3 the coefficient for 2019 is -0.004 , indicating that the probability of an SME award was approximately 0.4 percentage points lower in 2019 than in 2018, after accounting for all other variables. The very small magnitude of the year effects confirms that temporal variation plays a minor role relative to cross-country differences.

The role of country and year fixed effects in the analysis

Country and year fixed effects serve as controls that ensure the estimated associations between procurement instruments and SME access are based on comparisons between contracts awarded within the same country and in the same year. Without these controls, the estimated coefficients would mix two distinct sources of variation: differences in procurement design across contracts and persistent differences across national procurement systems or time periods. By absorbing these structural differences, the fixed effects allow the remaining coefficients to be interpreted as within-country, within-year associations. This is why some coefficients change substantially between Model 1 (without fixed effects) and Models 2 and 3 (with fixed effects), as discussed in Section 4.1 of the main text.

P-values ($Pr > t$)

The p-value indicates the probability that the observed association could have arisen by chance alone if there were no true relationship in the population. By convention, results are typically considered statistically significant when the p-value falls below 0.05 (5%), and highly significant when it falls below 0.01 (1%) or 0.001 (0.1%). A p-value of 0.000 in the table means that the probability of observing the result by chance is less than 0.05%, indicating very strong statistical confidence.

An important caveat applies to this study. With 3.7 million observations, even very small associations tend to reach statistical significance. In such large samples, the p-value confirms that an association is unlikely to be due to chance, but it says nothing about whether the association is substantively important. For this reason, readers should focus primarily on the magnitude of the coefficients rather than on whether they are statistically significant. A coefficient of -0.154 (Value above €5M) represents a far more consequential association than a coefficient of -0.012 (Innovation criteria), even though both are statistically significant.

Pseudo R^2

The Pseudo R^2 is a measure of how well the model as a whole explains the outcome variable. Unlike the R^2 in linear regression, the Pseudo R^2 in logit models

does not have a direct interpretation as "percentage of variance explained", but higher values indicate better model fit.

The interpretation of this measure depends critically on the type of data and the level of analysis. In studies based on individual-level or contract-level microdata, as in this report, Pseudo R^2 values tend to be substantially lower than in analyses based on aggregated data (e.g., country- or sector-level averages), because aggregation mechanically reduces variability and inflates goodness-of-fit measures. It is therefore common in applied microeconomic research published in leading academic journals to report Pseudo R^2 values well below 0.10 without this being considered a weakness, provided that the model is well specified and the coefficients of interest are stable and interpretable. No universal thresholds exist for classifying a Pseudo R^2 as "low" or "high"; its adequacy can only be assessed relative to the type of data, the research question and the standards of comparable studies.

In the table, the Pseudo R^2 increases from 0.011 in Model 1 to 0.076 in Model 2 and 0.078 in Model 3. The large jump between Models 1 and 2 occurs when country fixed effects are introduced, indicating that persistent differences across national procurement systems account for most of the model's explanatory power. The very small increase from Model 2 to Model 3 shows that year effects add little additional explanatory capacity. The values obtained are consistent with what is typically observed in microeconomic studies estimating individual-level outcomes on the basis of observed contract or transaction characteristics, where a large share of the variation is driven by unobserved factors — such as firm-level capabilities, the competitive environment and the quality of individual bids — that are not recorded in administrative datasets such as TED.

Appendix III. Results of the econometric models of interactions with the LSLI variable

Explanatory variables	Intependent variable interacting with LSLI (Var)															
	Lowest price criteria		Subcontracting likelihood		Multilots contract		Price weight<50		Price weight<20		Environmental criteria		Social criteria		Joint procurement	
	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t
LSLI	-0.0585	0.0000	-0.0226	0.0000	-0.0604	0.0000	-0.0240	0.0000	-0.0266	0.0000	-0.0259	0.0000	-0.0264	0.0000	-0.0272	0.0000
Var	-0.0621	0.0000	0.0390	0.0000	-0.0024	0.0010	0.0395	0.0000	0.0469	0.0000	-0.0036	0.2150	-0.0139	0.2310	-0.0661	0.0000
LSLI*Var	0.0874	0.0000	-0.0502	0.0000	0.0570	0.0000	0.0000	0.9890	-0.0166	0.0020	-0.0456	0.0000	-0.0195	0.1830	0.0219	0.0000
Value above 5M€	-0.1499	0.0000	-0.1524	0.0000	-0.1494	0.0000	-0.1503	0.0000	-0.1501	0.0000	-0.1533	0.0000	-0.1533	0.0000	-0.1532	0.0000
Lowest price criteria (LPC)	-	-	-0.0466	0.0000	-0.0452	0.0000	-	-	-	-	-0.0465	0.0000	-0.0465	0.0000	-0.0465	0.0000
Contract awarded to a group (Group)	0.0832	0.0000	0.0826	0.0000	0.0833	0.0000	0.0799	0.0000	0.0815	0.0000	0.0827	0.0000	0.0826	0.0000	0.0827	0.0000
Multilots contract (MLots)	0.0151	0.0000	0.0126	0.0000	-	-	0.0114	0.0000	0.0110	0.0000	0.0122	0.0000	0.0122	0.0000	0.0121	0.0000
Cross-border winning organisations (XBorder)	-0.0438	0.0000	-0.0449	0.0000	-0.0466	0.0000	-0.0450	0.0000	-0.0438	0.0000	-0.0446	0.0000	-0.0446	0.0000	-0.0446	0.0000
Framework agreement (FRA)	-0.0028	0.0000	-0.0030	0.0000	-0.0028	0.0000	-0.0008	0.2600	-0.0012	0.1010	-0.0030	0.0000	-0.0029	0.0000	-0.0029	0.0000
Subcontracting likelihood (SubCon)	0.0207	0.0000	-	-	0.0162	0.0000	0.0203	0.0000	0.0213	0.0000	0.0178	0.0000	0.0177	0.0000	0.0176	0.0000
Electronic auction (E-auc)	-0.0405	0.0000	-0.0412	0.0000	-0.0416	0.0000	-0.0461	0.0000	-0.0460	0.0000	-0.0413	0.0000	-0.0413	0.0000	-0.0412	0.0000
Environmental criteria (Green)	-0.0167	0.0000	-0.0141	0.0000	-0.0124	0.0000	-0.0119	0.0000	-0.0077	0.0020	-	-	-0.0143	0.0000	-0.0141	0.0000
Social criteria (Social)	-0.0139	0.0500	-0.0244	0.0010	-0.0271	0.0000	-0.0213	0.0030	-0.0171	0.0160	-0.0251	0.0000	-	-	-0.0256	0.0000
Innovation criteria (Inn)	-0.0140	0.0070	-0.0140	0.0070	-0.0138	0.0080	-0.0068	0.1940	-0.0015	0.7780	-0.0139	0.0080	-0.0141	0.0070	-0.0141	0.0070
Joint procurement (JointProc)	-0.0623	0.0000	-0.0625	0.0000	-0.0624	0.0000	-0.0633	0.0000	-0.0633	0.0000	-0.0626	0.0000	-0.0625	0.0000	-	-
Type of contract (Reference group: Services)																
Works	0.0978	0.0000	0.1023	0.0000	0.1040	0.0000	0.0966	0.0000	0.0945	0.0000	0.0996	0.0000	0.0998	0.0000	0.0998	0.0000
Supplies	-0.0760	0.0000	-0.0781	0.0000	-0.0766	0.0000	-0.0823	0.0000	-0.0847	0.0000	-0.0795	0.0000	-0.0794	0.0000	-0.0794	0.0000
Type of procedure (Reference group: Open)																
Award without prior publication	-0.0184	0.0000	-0.0242	0.0000	-0.0253	0.0000	-0.0276	0.0000	-0.0269	0.0000	-0.0246	0.0000	-0.0245	0.0000	-0.0244	0.0000
Competitive dialogue	-0.0897	0.0000	-0.0948	0.0000	-0.0946	0.0000	-0.0966	0.0000	-0.0948	0.0000	-0.0951	0.0000	-0.0954	0.0000	-0.0955	0.0000
Negotiated without a call for competition	-0.0759	0.0000	-0.0766	0.0000	-0.0802	0.0000	-0.0875	0.0000	-0.0906	0.0000	-0.0769	0.0000	-0.0769	0.0000	-0.0769	0.0000
Negotiated with a call for competition	-0.0508	0.0000	-0.0537	0.0000	-0.0566	0.0000	-0.0474	0.0000	-0.0464	0.0000	-0.0541	0.0000	-0.0542	0.0000	-0.0543	0.0000
Restricted	0.0207	0.0000	0.0176	0.0000	0.0144	0.0000	0.0141	0.0000	0.0128	0.0000	0.0173	0.0000	0.0172	0.0000	0.0171	0.0000
Innovative partnership	-0.0978	0.0000	-0.1005	0.0000	-0.0998	0.0000	-0.1065	0.0000	-0.1070	0.0000	-0.1004	0.0000	-0.1004	0.0000	-0.0994	0.0000
Contracting authority (Reference group: Ministry)																
Regional or local authority	0.0239	0.0000	0.0247	0.0000	0.0262	0.0000	0.0254	0.0000	0.0255	0.0000	0.0248	0.0000	0.0248	0.0000	0.0248	0.0000
Utilities sectors	-0.0132	0.0000	-0.0108	0.0000	-0.0110	0.0000	-0.0139	0.0000	-0.0151	0.0000	-0.0108	0.0000	-0.0108	0.0000	-0.0108	0.0000
Body governed by public law	-0.0524	0.0000	-0.0528	0.0000	-0.0520	0.0000	-0.0544	0.0000	-0.0544	0.0000	-0.0528	0.0000	-0.0529	0.0000	-0.0529	0.0000
Other	-0.0012	0.2100	-0.0012	0.2080	-0.0005	0.6410	-0.0021	0.0280	-0.0021	0.0340	-0.0011	0.2430	-0.0012	0.2220	-0.0013	0.1870
National or federal agency	-0.0806	0.0000	-0.0811	0.0000	-0.0798	0.0000	-0.0813	0.0000	-0.0806	0.0000	-0.0809	0.0000	-0.0809	0.0000	-0.0810	0.0000
Regional or local agency	0.0026	0.1090	0.0023	0.1700	0.0034	0.0410	0.0016	0.3270	0.0009	0.5670	0.0023	0.1620	0.0023	0.1650	0.0022	0.1860
Country fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Num. of observations	3692011		3692011		3692011		3692011		3692011		3692011		3692011		3692011	
Pseudo R2	0.079		0.0783		0.0785		0.0774		0.0771		0.0782		0.0782		0.0782	

SME Participation in EU Public Procurement:
Evidence from TED (2018–2023)

Cont.

Explanatory variables	Independent variable interacting with LSLI (Var)															
	Central purchasing body		Electronic auction		Innovative partnership		Innovation criteria		Cross-border winning organisations		Tenders from non-EU countries		Government Procurement Agreement		Contract awarded to a group	
	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t	Coef.	Pr>t
LSLI	-0.0297	0.0000	-0.0259	0.0000	-0.0265	0.0000	-0.0261	0.0000	-0.0261	0.0000	-0.0265	0.0000	-0.0363	0.0000	-0.0325	0.0000
Var	-0.0431	0.0000	-0.0361	0.0000	-0.1057	0.0000	0.0097	0.0900	-0.0396	0.0000	-0.0123	0.0090	-0.0639	0.0000	0.0668	0.0000
LSLI*Var	0.0871	0.0000	-0.0373	0.0000	0.1246	0.0670	-0.1278	0.0000	-0.0573	0.0000	-0.0010	0.9380	0.0306	0.0000	0.0979	0.0000
Value above 5M€	-0.1528	0.0000	-0.1533	0.0000	-0.1533	0.0000	-0.1531	0.0000	-0.1531	0.0000	-0.1532	0.0000	-0.1444	0.0000	-0.1585	0.0000
Lowest price criteria (LPC)	-0.0469	0.0000	-0.0465	0.0000	-0.0465	0.0000	-0.0465	0.0000	-0.0465	0.0000	-0.0465	0.0000	-0.0463	0.0000	-0.0459	0.0000
Contract awarded to a group (Group)	0.0822	0.0000	0.0827	0.0000	0.0826	0.0000	0.0827	0.0000	0.0827	0.0000	0.0826	0.0000	0.0867	0.0000		
Multilots contract (MLots)	0.0120	0.0000	0.0122	0.0000	0.0122	0.0000	0.0122	0.0000	0.0122	0.0000	0.0122	0.0000	0.0157	0.0000	0.0125	0.0000
Cross-border winning organisations (XBorder)	-0.0437	0.0000	-0.0446	0.0000	-0.0446	0.0000	-0.0447	0.0000			-0.0440	0.0000	-0.0421	0.0000	-0.0450	0.0000
Framework agreement (FRA)	-0.0043	0.0000	-0.0029	0.0000	-0.0029	0.0000	-0.0029	0.0000	-0.0029	0.0000	-0.0029	0.0000	0.0013	0.0780	-0.0032	0.0000
Subcontracting likelihood (SubCon)	0.0179	0.0000	0.0177	0.0000	0.0177	0.0000	0.0177	0.0000	0.0177	0.0000	0.0177	0.0000	0.0215	0.0000	0.0163	0.0000
Electronic auction (E-auc)	-0.0409	0.0000			-0.0413	0.0000	-0.0413	0.0000	-0.0413	0.0000	-0.0413	0.0000	-0.0428	0.0000	-0.0415	0.0000
Environmental criteria (Green)	-0.0153	0.0000	-0.0142	0.0000	-0.0142	0.0000	-0.0140	0.0000	-0.0142	0.0000	-0.0142	0.0000	-0.0128	0.0000	-0.0146	0.0000
Social criteria (Social)	-0.0253	0.0000	-0.0257	0.0000	-0.0255	0.0000	-0.0251	0.0000	-0.0257	0.0000	-0.0255	0.0000	-0.0294	0.0000	-0.0262	0.0000
Innovation criteria (Inn)	-0.0134	0.0100	-0.0141	0.0070	-0.0142	0.0070			-0.0141	0.0070	-0.0141	0.0070	-0.0128	0.0150	-0.0153	0.0030
Joint procurement (JointProc)			-0.0626	0.0000	-0.0625	0.0000	-0.0625	0.0000	-0.0625	0.0000	-0.0625	0.0000	-0.0589	0.0000	-0.0626	0.0000
Type of contract (Reference group: Services)																
Works	0.1007	0.0000	0.0999	0.0000	0.0998	0.0000	0.0997	0.0000	0.0999	0.0000	0.0998	0.0000	0.0933	0.0000	0.0972	0.0000
Supplies	-0.0797	0.0000	-0.0795	0.0000	-0.0794	0.0000	-0.0793	0.0000	-0.0794	0.0000	-0.0794	0.0000	-0.0643	0.0000	-0.0801	0.0000
Type of procedure (Reference group: Open)																
Award without prior publication	-0.0225	0.0000	-0.0248	0.0000	-0.0245	0.0000	-0.0246	0.0000	-0.0247	0.0000	-0.0245	0.0000	-0.0310	0.0000	-0.0230	0.0000
Competitive dialogue	-0.0963	0.0000	-0.0955	0.0000	-0.0954	0.0000	-0.0952	0.0000	-0.0954	0.0000	-0.0954	0.0000	-0.0874	0.0000	-0.0996	0.0000
Negotiated without a call for competition	-0.0759	0.0000	-0.0769	0.0000	-0.0769	0.0000	-0.0769	0.0000	-0.0768	0.0000	-0.0769	0.0000	-0.0765	0.0000	-0.0773	0.0000
Negotiated with a call for competition	-0.0541	0.0000	-0.0542	0.0000	-0.0542	0.0000	-0.0542	0.0000	-0.0542	0.0000	-0.0542	0.0000	-0.0476	0.0000	-0.0542	0.0000
Restricted	0.0187	0.0000	0.0172	0.0000	0.0172	0.0000	0.0172	0.0000	0.0172	0.0000	0.0172	0.0000	0.0169	0.0000	0.0168	0.0000
Innovative partnership	-0.1202	0.0000	-0.1005	0.0000			-0.1003	0.0000	-0.1003	0.0000	-0.1004	0.0000	-0.0902	0.0000	-0.1006	0.0000
Contracting authority (Reference group: Ministry)																
Regional or local authority	0.0220	0.0000	0.0249	0.0000	0.0248	0.0000	0.0248	0.0000	0.0248	0.0000	0.0248	0.0000	0.0229	0.0000	0.0252	0.0000
Utilities sectors	-0.0143	0.0000	-0.0104	0.0000	-0.0108	0.0000	-0.0108	0.0000	-0.0107	0.0000	-0.0108	0.0000	-0.0176	0.0000	-0.0121	0.0000
Body governed by public law	-0.0547	0.0000	-0.0527	0.0000	-0.0529	0.0000	-0.0529	0.0000	-0.0529	0.0000	-0.0529	0.0000	-0.0529	0.0000	-0.0526	0.0000
Other	-0.0031	0.0020	-0.0011	0.2550	-0.0012	0.2210	-0.0012	0.2230	-0.0012	0.2150	-0.0012	0.2170	-0.0027	0.0060	-0.0008	0.4250
National or federal agency	-0.0834	0.0000	-0.0808	0.0000	-0.0809	0.0000	-0.0809	0.0000	-0.0810	0.0000	-0.0809	0.0000	-0.0816	0.0000	-0.0811	0.0000
Regional or local agency	0.0003	0.8530	0.0024	0.1440	0.0023	0.1660	0.0023	0.1610	0.0023	0.1650	0.0023	0.1700	0.0015	0.3710	0.0029	0.0820
Country fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Num. of observations	3692011		3692011		3692011		3692011		3692011		3692011		3692011		3692011	
Pseudo R2	0.078		0.0782		0.0782		0.0782		0.0782		0.0782		0.0801		0.0785	

How to read the results: a guide for non-specialist readers

This appendix reports the full estimation results of the econometric models that interact each procurement instrument with the LSLI indicator, as described in Section 4.2 and in Appendix I. Each column corresponds to a separate model in which one procurement instrument is allowed to have a different association with SME access in LSLI and non-LSLI sectors. All models include the full set of baseline controls and country and year fixed effects.

Structure of the table

Each column is headed by the name of the procurement instrument being interacted with the LSLI indicator. Three rows at the top of each column are specific to the interaction structure:

- LSLI: the coefficient on the LSLI indicator, capturing how the baseline probability of an SME award differs between LSLI and non-LSLI sectors when the interacted instrument is set to zero.
- Var: the coefficient on the procurement instrument itself (labelled "Var" as a shorthand for the variable named in the column header). This captures the association between the instrument and SME access in non-LSLI sectors (i.e., when LSLI = 0).
- LSLI*Var: the interaction term. This measures how much the association between the instrument and SME access differs in LSLI sectors relative to non-LSLI sectors. In LSLI sectors, the total association between the instrument and SME access is given by the sum of the "Var" coefficient and the "LSLI*Var" coefficient.

All remaining rows report the coefficients on the baseline control variables, which are included in every model but are not interacted with LSLI.

A worked example: Multilots contract

Consider the column headed "Multilots contract". The three key coefficients are:

- LSLI: -0.0604 . Holding the multilots variable at zero (i.e., for single-lot contracts), contracts in LSLI sectors are approximately 6 percentage points less likely to be awarded to an SME than comparable contracts in non-LSLI sectors. In Figure 18, this coefficient is associated with the vertical distance between the non-LSLI and LSLI lines at the left-hand side of the graph (Non-MLots), where lot division is not used.
- Var (Multilots contract): -0.0024 . In non-LSLI sectors, contracts divided into more than one lot are associated with a very small reduction of approximately 0.2 percentage points in the probability of an SME award compared with single-lot contracts — effectively no meaningful difference. In Figure 18, this corresponds to the virtually flat slope of the non-LSLI line between Non-MLots and MLots.

- LSLI*Var: 0.0570. This positive interaction means that the association between lot division and SME access is 5.7 percentage points more favourable in LSLI sectors than in non-LSLI sectors. In Figure 18, this is reflected in the steep upward slope of the LSLI line between Non-MLots and MLots, which contrasts sharply with the flat non-LSLI line.

Putting the three coefficients together: in non-LSLI sectors, lot division is associated with a negligible change in SME access (-0.2 percentage points). In LSLI sectors, the total association between lot division and SME access is $-0.0024 + 0.0570 = 0.0546$, an increase of approximately 5.5 percentage points. At the same time, the LSLI coefficient (-0.0604) tells us that, for single-lot contracts, SME access is structurally lower in LSLI sectors. Lot division therefore not only improves SME access in these sectors but also substantially narrows the gap between LSLI and non-LSLI sectors — as can be seen in Figure 18, where the two lines converge on the right-hand side of the graph.

This example illustrates how the same instrument can have markedly different associations with SME access depending on the sectoral context, and how the coefficients in this appendix map onto the predicted probabilities displayed in the figures of Section 4.2.

Connecting the table to the figures

The predicted probabilities reported in the figures of Section 4.2 are computed from the models in this appendix. However, because the logit model is non-linear, the predicted probabilities cannot be obtained by simply adding coefficients. Instead, they are calculated by applying the full set of estimated coefficients to the observed values of all variables in the sample and transforming the result through the logistic function, as explained at the beginning of Section 4.2. The figures in the text therefore provide the most intuitive representation of the results, while this appendix reports the underlying coefficient estimates for readers who wish to examine the full statistical detail.

About the authors

SILO is a strategic consultancy firm with national and international projection, specialised in the design, deployment and management of high-impact projects for the public sector. With an integrated approach that combines legal, technical and strategic expertise, SILO drives innovation within Public Administrations through services that range from the definition of public policies and support in securing and managing funding, to technological advisory and the implementation of advanced public procurement models. Its multidisciplinary team, comprising specialists in public law, innovation management, auditing, technology and project management, applies proprietary methodologies that set the company apart in the management of complex projects, particularly those related to public innovation and digital transformation. Although it works across a broad spectrum of services and innovation areas, **SILO has a strong positioning in Innovation Procurement (PPI)**, leading European projects funded by H2020 and Horizon Europe, coordinating international consortia, and developing end-to-end processes that include needs identification, market consultations, tender preparation and full-cycle contract execution. In addition, **SILO runs the “Procure Innovation EU – Training Programme” (EISMEA & DG GROW)**, a four-year initiative designed to upskill procurement officials and decision-makers across Europe, providing direct access to key demand- and supply-side stakeholders.

For this study, SILO draws on the **Cotec Foundation’s** pioneering research and methodology, grounded in database analysis and a synthetic PPI propensity index, to rigorously assess impacts and award criteria, informing a robust, evidence-based analysis.

The Cotec Foundation, a pioneer in the study of PPI in Spain, has developed a rigorous analysis on the measurement of this key demand-side policy instrument for boosting innovation from the public sector. The preliminary study highlights the relevance of PPI within the European and national framework, identifying its typology, its potential articulation, and, critically, the inherent difficulties in its measurement. The original project focuses on bridging these analytical gaps through a rigorous methodology based on database analysis and the development of a synthetic index to measure the propensity for PPI. The results obtained allow for the establishment of the evolution patterns and the most relevant award criteria in PPI, thus laying a solid knowledge base indispensable for this expansion.

