Governing defense procurement: Strengthening the EU's defense technological & industrial base

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Abstract

The regulatory framework concerning defense procurement has evolved considerably since the start of the millennium. In addition to the general Public Procurement Directive and the Defense Procurement Directive, the European Commission recently formulated a proposal for a Foreign Subsidies Regulation (FSR). Nonetheless, defense sector particularities continue to produce tensions in public procurement, and significant blind spots remain.

In view of policy objectives to strengthen the European Defense Technological & Industrial Base (EDTIB), it is necessary to first study the current state of EU defense procurement. To that end, we perform an analysis of 14,207 EU27-tenders spanning the period 2009-2020. In addition, a case study approach investigates six tender procedures by the Belgian military, establishing material points of note.

Key insights include: (1) the number of defense procurement procedures won by third country bidders is limited, (2) tenders won by non-EU27-tenderers are larger and less competitive on average, and (3) an overly strong focus on price efficiency in public procurement award procedures inhibits attaining EDTIB goals. In short, the data shows a chasm between stated policy aims of strengthening the EDTIB through positive action in public procurement on the one hand, and public procurement practices on the other.

Over the last ten years, political interest in growing and strengthening the European Defense Technological and Industrial Base (EDTIB) has steadily increased. The 2016 European Union Global Strategy, the European Defense Action Plan, the COVID-19 pandemic, and the invasion of Ukraine, all prompted European leaders to reconsider the desirability of dependency on third countries in the context of (defense) supply chains[1]. Price efficiency is confronted with (changed) strategic interests, and, after a relatively long reign of the former, the latter is now commencing to gain traction.

Currently, the EDTIB has two main challenges: (1) by most standards, the current defense industry in the European Union is still limited in size[2], while demand across the Union is heterogeneous[3], and (2) technological and industrial capabilities, along with strategic, political, and economic interests, vary widely among member states within the alliance.[4] Therefore, any strategy to attain EDTIB goals should include approaches to grow small and medium-sized defense enterprises and infant industries through positive action—flanked by offering support such as the necessary support systems in terms of logistics, mitigation of administrative hurdles, and the development of tailored financing

1 European External Action Service (2022); European Commission (2022a).
2 Finkbeiner & Van Noorden (2022); Roth (2017).
3 European Commission (2022f).
4 European Parliament (2022a); Roth (2017).

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schemes; as well as to foster the further integration of national defense industries with an eye on avoiding the unnecessary duplication of capabilities and to maximize interoperability.

There is a chasm between stated policy aims of strengthening the European Defense Technological & Industrial Base EDTIB through positive action in public procurement on the one hand, and public procurement practices on the other. Very few large contracts are reported on the EU datasets—they are likely to be more entangled with other policy objectives and thus involve unique local agreements.

Strategic public procurement, a prime demand-side instrument, is often propagated as an important potential lever for increasing defense sector independence.[5] Here we interpret defense sector independence as EU-suppliers being able to fulfill considerable proportions and varieties of EU defense sector purchasing. Of course, regulation of public procurement is in principle aimed at safeguarding free and fair competition[6], rather than the pursuit of strategic (security) objectives. But ensuring a good level of competition remains important even when strategic considerations become equally or more salient.

First, public procurement for defense in the European Union as such is mainly regulated by two directives: the general Public Procurement Directive[7] and the Defense Procurement Directive.[8] The former directive is horizontal in nature, while the latter was specifically conceived to govern defense public procurement.[9]

Second, in 2022 the European Parliament and the Council voted to institute a horizontal Foreign Subsidies Regulation (FSR).[10] The FSR targets financial contributions by third countries aimed at rendering their national companies more competitive in the EU market.[11]

In order to build a stronger EDTIB in a sustainable manner, it is important that legal instruments relating to public procurement are navigated and their principles respected. This article reviews past EU27-procurement practices to determine the status quo with respect to the EDTIB. Subsequently, based on the Belgian 2020 experience, we offer some telling points of attention. The analyses contained in this article allows the determination of both if and how public procurement practices measure up to the idea of strengthening the European defense industry, with an eye on improving strategic independence through demand-side policies in policy discourse. Specific attention is given to tender set-up compatibility with promoting participation of small and medium-sized defense enterprises, and the level of orientation towards the EU27 when granting tenders.

This is followed by a review of the regulatory framework for procurement in defense, a description of the methodology used, a presentation of the empirical results, and finally a discussion and conclusion.

Review of the regulatory framework

As stated above, public procurement in the European Union is mostly dictated by two directives and a novel regulation. The overviews below highlight the relevant features of these regulatory instruments in view of the thrust of this article.

Public procurement directive

The 2014/24/EU Directive constitutes an update of the 2004 Directive.[12] This general directive holds across sectors and aims to ensure free and fair competition in the context of EU public procurement. Among others, the directive

5 European Commission (2022b).
6 Blauberger & Kramer (2010).
7 Directive 2014/24/EU (2014).
8 Directive 2009/81/EC (2009).
9 Arrowsmith (2017).
10 European Commission (2022c).
11 Luja (2021).
12 Burnett (2015).

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demands transparency with regard to the selection and award criteria; both the criteria themselves and their weights need to be specific and predefined.[13]

The tender issuer has the option to choose one of five types of public procurement procedures: the open procedure, the restricted procedure, the competitive procedure with negotiation, the competitive dialogue, the innovation partnership, and the negotiated procedure without prior publication.[14] Some of these procedures are only suitable in a limited number of specific cases. The level of openness of the procedures varies both by the nature of the procedure (open versus restricted), but also by concrete stipulations included in the tender documents (such as interoperability demands).[15]

Some changes compared to the directive from 2004 that may be especially relevant for the non-mature EU defense markets are: (1) improved possibilities to divide tender contracts into lots, (2) the introduction of the European Single Procurement Document (ESPD), (3) new limits on participation requirements, and (4) the freedom to directly pay subcontractors.[16]

First, using lots can ensure that smaller companies are able to compete in the context of larger contracts;[17] SMEs are faced with more stringent resource restrictions, and might not have capacity to take on very high value contracts by themselves. Second, the ESPD simplifies demonstration of compliance with certain procurement participation requirements through self-declaration, and renders it uniform across the EU.[18] The administrative burden is thus significantly reduced. Third, procurement participation requirements in terms of financials are limited (e.g., required turnover is limited to a maximum of twice the contract value[19]), and should always be proportional to the contract at hand. Last, allowing direct payment to subcontractors makes SMEs more independent of integrators[20] and ought to make participation more attractive from their viewpoint.

Directive 2014/24/EU is fully applicable in cases where certain threshold values with respect to the size of the public procurement procedure are met. These thresholds can be as low as EUR 140,000 in the case of procurement of supply and service, or as high as EUR 5,382,000 for works.[21] However, it is important to note that even when thresholds are not met, tender issuers need to respect the essence and the key principles of EU law.[22] It follows that this is highly influential in shaping Directive national procurement practices across the European Union.

Defense procurement directive

The European Commission originally proposed a directive on defense procurement to counter the widespread fragmentation of the European defense markets.[23] This fragmentation was encouraged by member states consistently invoking national security reasons to not abide by the general public procurement directive—so in many cases all procedural elements were decided at the national level.[24] The proposal of the European Commission led to the sector-specific regulatory instrument that is Directive 2009/81/EC.

The directive targets increased transparency and competition in general, but the Defense Procurement Directive

13 Directive 2014/24/EU (2014); Telles & Butler (2014).
14 Directive 2014/24/EU (2014).
15 Chever, Saussier & Yvrande-Billon (2017); Mardas & Triantafyllou (1997).
16 Trybus (2014).
17 Hoekman & Taş (2022).
18 Trybus (2014).
19 Trybus & Andrecka (2017).
20 Mitran (2013).
21 European Commission (2022d).
22 European Commission (2022d).
23 Yukins (2009).
24 Terpan & Saurugger (2019).

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contains two recitals and three articles could be particularly relevant with regard to strengthening the EDTIB.[25]

First, recital 18 reiterates that defense-related procurement often does not fall under the WTO Government Procurement Agreement (GPA) and that EU27-states are thus free to exclude non-EU27-tenderers from participation.[26] Moreover, the recital explicitly mentions a few considerations that a tender issuer might consider when deciding whether or not third country bidders will be allowed. One of those considerations is "the need for a globally competitive European Defence Technological and Industrial Base".[27]

Second, recital 45 basically attempts to abate traditional offsets.[28] It is stated that all selection and award conditions must directly relate to the specific procurement.[29] Since third country suppliers will be inhibited from offering considerable offsets in exchange for contract awards, European tenderers not willing to do, or not having the capacity for, large foreign investments become relatively more attractive.

Third, Article 21 deals with the possibility of embedding subcontracting requirements.[30] Tender issuers can stipulate that the winning tenderer is obliged to subcontract part of the tender (up to 30 percent).[31] It can be argued that since the contract is to be performed in a certain member state, companies based in that member state hold a significant competitive advantage.[32] Subcontracting facilitates the involvement of domestic partners which do not have the capacity to perform the full contract.

Fourth, Article 22 outlines several routes through which a tender issuer can make sure that classified information exchanged in the context of the tender is treated with due care.[33] Most notably, the Directive foresees tendering organizations needing to pass national security clearance procedures. This might be challenging for all non-domestic companies, but it might be highly resource intensive for some third country tenderers.

Fifth, Article 23 considers security of supply[34]. The Covid-19 pandemic (e.g., building materials) and the 2022 Russian invasion of Ukraine (e.g., gas and wheat) have demonstrated that global supply chains entail substantial risks in terms of security of supply.[35] Having a supplier belonging to the same strategic economic alliance is therefore a strong advantage. Also, with respect to the maintenance of certain procured goods, proximity can proxy for security of supply.

Like Directive 2014/24/EU, the Defense Procurement Directive is applicable to procurement at various thresholds. The threshold is EUR 5,382,000 for works and EUR 431,000 for all other procurement.[36] Considering the nature of defense services and equipment in general, it can be deduced that most procurement will surpass the threshold level. However, the Directive also foresees a derogation in case the subject matter of the procurement is extremely sensitive (Article 346 Treaty for the Functioning of the European Union[37])—but only to be employed in rare cases.[38]

Interestingly, the tender issuer still holds some discretion as to the selection of the appropriate legal basis for the procurement. In the case that procurement concerns both defense security aspects and elements falling within the realm of the general directive, the procurement can take place either under the defense directive or the general

25 Weiner (2011); Yukins (2009).
26 Directive 2009/81/EC (2009).
27 Directive 2009/81/EC (2009).
28 Yukins (2009).
29 Directive 2009/81/EC (2009).
30 Directive 2009/81/EC (2009).
31 Directive 2009/81/EC (2009).
32 Weiner (2011).
33 Directive 2009/81/EC (2009).
34 Directive 2009/81/EC (2009).
35 Mbah & Wasum (2022); Moosavi, Fathollahi-Fard & Dulebenets (2022).
36 European Commission (2022d).
37 Directive 2009/81/EC (2009).
38 Terpan & Saurugger (2019).

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directive.[39]

Foreign subsidies regulation

The European Commission's proposal for an FSR was recently adopted by the European Parliament and the Council, and the regulation will fully enter into effect by mid-2023.[40] The FSR was conceived to "close a gap" in the rules on state aid[41]; while financial support to national champions by EU member states has long been closely monitored, financial contributions by third countries to boost domestic business have gone largely unchecked.

The FSR is a horizontal regulation, the primary aim of which is to combat distortion of competition resulting from third country state aid.[42] The focus area of the FSR is on concentrations (M&A, joint ventures, etc.) on the one hand, and on public procurement on the other.[43]

Regarding public procurement specifically, the FSR introduces a notification requirement on tenderers of any received foreign financial benefit when participating in a tender exceeding EUR 250mn.[44] The Commission then has the competence to review the distortive effect of this foreign benefit in the context of the tender procedure.[45] Although there is not a defined legal minimum, it is mentioned that financial benefits totaling less than EUR 5mn per undertaking over three fiscal years are unlikely to be distortive.

It is important to note that the above implies two pertinent cut-offs: (1) EUR 250mn tenders regarding notification obligations (before any investigation), and (2) foreign financial benefits of EUR 5mn over three fiscal years when assessing distortive effects (during any investigation).

For defense procurement, it is likely the former cut-off which is most problematic, since the extremely high threshold exempts many tenders in the defense sector from any notification obligation. Moreover, the proposal entirely exempts procurement under the Defense Procurement Directive from its public procurement obligations.[46] Therefore only procurement in the defense sphere and under the general Public Procurement Directive is covered.

It can be concluded that the coverage of the FSR in the realm of defense is in any case quite limited. For defense procurement, tender issuers can thus not solely rely on the new regulation to truly aid in achieving EDTIB goals.

Methodology

This article uses a mix of methods. First, an explorative quantitative analysis of EU27-tenders in the defense sphere is conducted. Second, a case study is made of the Belgian situation based on a series of recent public procurement procedures issued by the military.

Data sources

The quantitative research makes use of the public procurement data published on the Opentender.eu-portal. As a deliverable of a European research project, the portal provides extensive data on tenders issued in 33 different countries, among which are the EU27-states.[47] Data from Tenders Electronic Daily (TED) and national public procurement portals is combined to arrive at a total of around 40,000,000 tenders spanning the period 2009-2020.[48]

39 Directive 2014/24/EU (2014).
40 Viaene, Van der Putten & Wiame (2022).
41 European Commission (2022e).
42 Hornkohl (2022).
43 Luja (2021).
44 European Commission (2022e).
45 Luja (2021).
46 European Parliament (2022b).
47 DIGIWHIST (n.d.).
48 OpenTender.eu (2022a).

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Table 1: Variable operationalization

Variable	*Operationalization*
Year	This variable indicates the year in which the tender was issued
Financial value	This variable indicates the final size of the tender in euros
Number of bids	This variable indicates the number of received bids for the tender
EU27-tender winner	This variable equals 1 if the tender winner is based in the EU27-region

Source: own creation based on OpenTender.eu (2022a).

Data for the case study was gathered from the Belgian Public Procurement Portal.[49] This portal, managed by the Belgian Federal Public Service for Policy and Support, gives metadata for all tenders issued by Belgian public entities.[50] Moreover, whenever possible, the portal also provides the actual tender documents.

Sample selection

For a high-level exploration of EU27-defense procurement practices, it is necessary to delineate which tenders qualify as defense tenders. To that end, the Common Procurement Vocabulary (CPV) of the European Union was used.[51] In short, all tenders which are attributed 35 as the main CPV-code are considered as defense tenders. It should be noted that this also includes tenders that are loosely part of the defense sphere, for example firefighting equipment.[52]

Following this definition, the Opentender.eu-portal contains 21,812 defense tenders for the EU27-states over the period 2009–2021.[53] However, to enable a sound analysis, a balanced sample of 14,207 observations was constructed. These observations all have reported values for the variables Year of tender, Financial value of tender, Number of bids, and EU27 tender winner. The operationalization of these variables based on Opentender.eu is in Table 1.

The case study methodology, through document review,[54] allows for a more in-depth analysis of defense procurement practices. When studying the award and selection criteria embedded in the various procurement processes, the tender documents can be especially informative in terms of priorities, emphases, and red lines of tendering organizations.

Belgian defense procurement in 2020 is focused upon. The Belgian case is interesting as it concerns a member state that is largely dependent on international partners.[55] Belgium is also a prime example of an EU-member state in which small-and-medium sized enterprises produce a large part of the aggregate added-value[56], and in the defense sector specifically, 60% of enterprises are small- or medium-sized.[57] Furthermore, the recommendations for the Belgian Defense's Strategic Vision 2030 explicitly targets the strengthening of industrial capabilities and mentions the current local nature of the defense industry in Belgium.[58] The selection of 2020 as the period of analysis optimizes

49 Federal Public Service for Policy and Support & Federal Public Service Chancellery of the Prime Minister (2014).
50 Federal Public Service for Policy and Support (2022a).
51 Regulation (EC) No 2195/2002 (2002).
52 OpenTender.eu (2022a).
53 OpenTender.eu (2022a).
54 Bowen (2009).
55 De France, Mampaey & Zandee (2016).
56 Unizo (2021).
57 Agoria (2020).
58 Defence Institute (2021).

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Table 2: Descriptive statistics

Variable	*Mean*	*Std. dev.*	*Min*	*Max*
EUR Financial value of tender	1,719,969	18,700,000	105	1,000,000,000
Year of tender	-	-	2009	2020
Number of bids	3.0331	4.8084	0	122
EU27-tender winner	-	-	0	1

Source: own creation based on OpenTender.eu (2022a).

the contemporary relevance of derived insights and allows us to also take up tender outcomes in the investigation. The Belgian procurement portal holds information on 40 tenders issued by various branches of the Belgian military.[59] However, only six of those tenders are accompanied by the original tender documents. These documents are imperative to perform an analysis that goes beyond mere description, therefore the final sample for the case study consists of six tenders.

Results

The presentation of the findings is divided into two parts. Part one covers the statistical analysis of defense procurement practices in the EU, while Part two contains the case study of Belgian defense tendering.

Statistical analysis

The analysis commences with a short descriptive overview of the distribution of the different variables of interest for the 14,207 observations. The descriptive statistics are presented in Table 2.

First, the average defense tender in the European Union has a value of just over EUR 1.7mn. While this is a substantial size, it is very small when compared to something like the notification cutoff of the FSR. Table 3 elucidates the distribution of the financial values of tenders—notably, 33 of the 14,207 defense tenders had a size of EUR 100mn or higher, amounting to only 0.23% of the observations. However, it has to be noted that due to national security implications and strategic public policy intricacies, many large-value defense contracts are allocated through direct government-to-government agreements or via procurement which follows the exception under Article 346 TFEU.[60] Since these types of purchases most often are not reported (in public procurement portals), they are not included in the sample. This caveat should be kept in mind when interpreting the

Table 3: Distribution of financial values of tenders

Financial value of tender	*Number of tenders*
Less than EUR 1mn	11,963
Equal to or more than EUR 1mn	2,244
Equal to or more than EUR 10mn	315
Equal to or more than EUR 100mn	33
Equal to or more than EUR 250mn	8

Source: Own creation based on OpenTender.eu (2022a).

59 Federal Public Service for Policy and Support (2022b).
60 Meershoek (2021); Miller (2009).

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results.

Second, the variable denoting the year in which the tender was issued offers insights into the composition of the dataset. Observations are skewed to the more recent period. This could imply that the number of tenders has increased over time, and Figure 1 demonstrates that there is indeed a trend in that direction. The upward trend could signify growth of the EU defense market as a whole—alternatively, it could indicate that the (sector-specific) Procurement Directive(s) were indeed successful in pulling procurement into the more traditional public procurement arena that in the past was performed via direct government-to-government agreements, or under the Art. 346 TFEU exception. In any case, the growth of the number of published tenders over time underlines the relevance of this article.

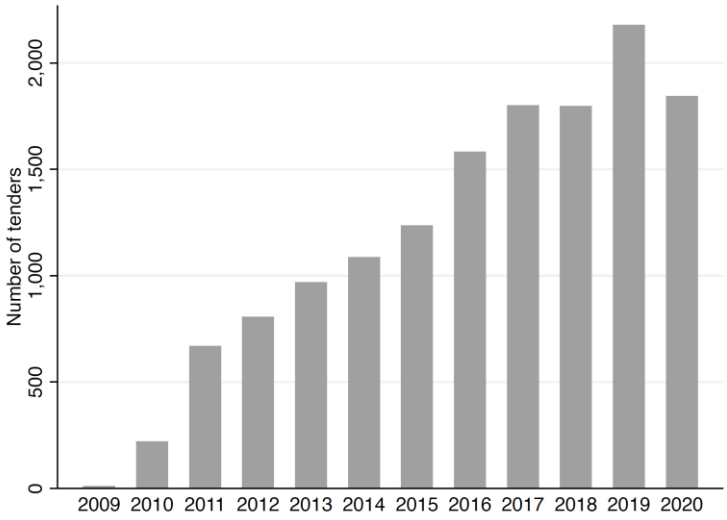

Figure 1: Evolution of the annual number of tenders.
Source: Own creation based on OpenTender, EU (2022a).

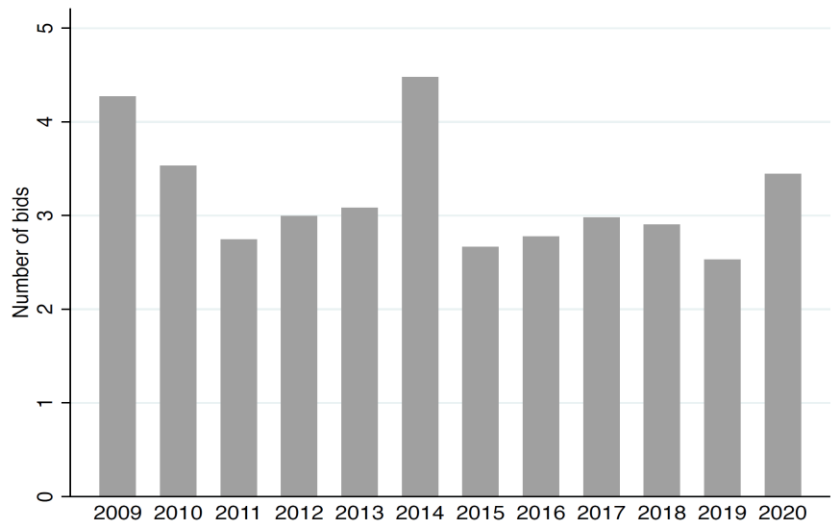

Figure 2: Evolution of the annual average number of bids per tender.
Source: Own creation based on OpenTender, EU (2022a).

Third, a tender in the sample receives three bids on average. As Figure 2 shows, this number has been quite stable over the 2009–2020 period. A limited declining trend is perceptible, but the average remains around the three bids per tender mark. In many markets, tenders which receive three bids can hardly be considered highly competitive. An important caveat here is that the defense market is somewhat peculiar in structure because of inherent market characteristics, e.g., low-frequency high-value purchases leading to large economies of scale.[61] While in theory the reception of two bids is sufficient to provide contestability in defense[62]; in order to effectively rely on competition to produce optimal outcomes for the buyer, more bids would arguably be preferred.

Diving deeper into the data on the number of bids reveals that well over 5,000 tenders only received one single

61 Bellais & Fiott (2017).
62 Baumol (1982); Laguerre (2009).

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bid. It is evident that in those cases supplier power is elevated.[63] Moreover, the distribution of the number of bids per tender is heavily skewed to the left as can be discerned from Figure 3.

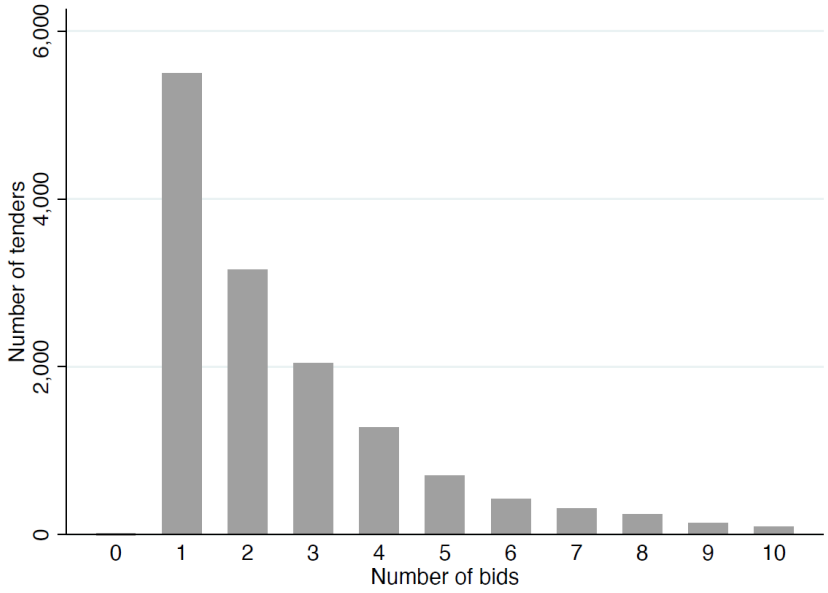

Figure 3: Distribution of number of bids per tender (limited at ten).
Source: Own creation based on OpenTender, EU (2022a).

Finally, looking at the variable EU27-tender winner, while 97.42 % of EU27-defense tenders were won by a tenderer based in the EU27-region, still in 367 cases a tenderer from a third country was successful. Closer inspection reveals that these 367 tenders are distributed unevenly among EU member states. In particular, tender issuers from Finland, Denmark, and Lithuania have relatively many tenders won by non-EU27-companies (see Table 4). Also, successful third country tenderers are more likely to be based in particular countries— mostly the United States, the United Kingdom, and Switzerland. Of course, this makes sense in view of strategic (military) alliances of which the European Union is part.[64] However, to strengthen the EDTIB, it is likely necessary for the deliverables of these tenders to be (partly) produced in the European Union.[65]

Zooming in, it becomes clear that tenders won by third country tenderers are substantively different from those procurement procedures that are filled domestically on two main fronts: (1) financial value of the tender, and (2) competitiveness of the tender. A series of two-sample t tests with unequal variances was run to determine the significance of these differences.[66] Table 5 displays the results of the t test regarding tender financial value. Tenders with a non-EU27-tender winner are significantly larger than those won by tenderers based inside the European Union. The difference of the average sizes of the tenders is remarkable, being EUR 6,938,009 compared to EUR 1,581,601.

Also, in terms of competitiveness proxied by the number of bids a tender receives, tenders won by third country tenderers are measurably different. Table 6 displays the results of the t test for this. It shows the difference is strongly significant, which means that tenders won by non-EU27-tenderers receive less bids than those which go to domestic tenderers.

63 While this supplier power could in some cases be balanced through buyer power on the government side (Bellais et al., 2014; Dunne, 1995; Hartley 2020; Laguerre, 2009), ceteris paribus supplier power is elevated.
64 Council of the European Union (2022).
65 Taking into account the fact that some markets are captive (Gereffi & Lee, 2012), e.g., in terms of (natural) resources, (a certain level of) foreign dependence is thus inherent.
66 Wilcox (2003); The equal variances assumption was tested for both cases and was rejected twice by way of the Levene's test (Carroll & Schneider, 1985). When the two subsamples do not have equal variances, F-tests can produce biased outcomes even when both subsamples follow a normal distribution (Wilcox, 2003)

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Table 4: Issuers with most non-EU27-winners (left), and most successful non-EU27-countries (right)

Country tender issuer	#	*% of total*	*Country winning tenderer*	#	*% of total*
Finland	65	17.71%	United States	118	32.15%
Denmark	32	8.72%	United Kingdom	74	20.16%
Lithuania	29	7.90%	Switzerland	38	10.35%
Germany	28	7.63%	Norway	21	5.72%
Austria	25	6.81%	Israel	20	5.45%

Source: Own creation based on OpenTender.eu (2022a).

Table 5: Two-sample t test (unequal variances): Financial value of tender

Group	*Number of tenders*	*Mean EUR*	*Std. err. EUR*	*[95% conf. interval] EUR*	
Non-EU27-tender winner	367	6,938,009	2,088,397	2,831,245	11,000,000
EU27-tender winner	13,840	1,581,601	150,667.1	1,286,273	1,876,928
Difference		5,356,409	2,093,825	1,239,112	9,473,705

Two-sample t test with unequal variances
diff = mean(Non-EU27-tender winner) - mean(EU27-tender winner) with H0: diff = 0

Ha: diff < 0	*Ha: diff != 0*	*Ha: diff > 0*
Pr(T < t) = 0.9945	Pr(|T| > |t|) = 0.0109**	Pr(T > t) = 0.0055***

Source: Own creation based on OpenTender.eu (2022a).

Table 6: Two-sample t test (unequal variances): Number of bids

Group	*Number of tenders*	*Mean*	*Std. err.*	*[95% conf. interval]*	
Non-EU27-tender winner	367	2.6458	0.1348	2.3807	2.9108
EU27-tender winner	13,840	3.0434	0.0413	2.9625	3.1242
Difference		-0.3976	0.1409	-0.6746	-0.1206

Two-sample t test with unequal variances
diff = mean(Non-EU27-tender winner) - mean(EU27-tender winner) with H0: diff = 0

Ha: diff < 0	*Ha: diff != 0*	*Ha: diff > 0*
Pr(T < t) = 0.0025***	Pr(|T| > |t|) = 0.0050***	Pr(T > t) = 0.9975

Source: Own creation based on OpenTender.eu (2022a).

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Case study

As mentioned, the case study focuses on the Belgian context, performing a more in-depth analysis of six specific public procurement procedures by the military. This section begins with a general overview of Belgian military procurement in 2020 based on the available metadata.

The military had 40 public procurement procedures in 2020 according to the national public procurement portal.[67] As can be expected, the large majority (over 75%) of tenders was issued under the sector-specific Directive 2009/81/CE. The most popular procedure type was the negotiated procedure with prior publication, with the open procedure being used in only 4 of the 40 cases. In line with what was found at EU27-level, quite a substantial number of tenders received only a single bid. However, also tenders with four or five bids are well-represented in the sample. Figure 4 gives a complete overview of the competitiveness of the various tenders.

Most interestingly, the portal often also provides data on the tender award mechanisms and evaluation criteria. For the implementation of policy objectives through public procurement, the selected set of award criteria is clearly crucial. Figure 5 shows the distribution of the 40 tenders over the different criteria. As can be seen, over half of the tenders are awarded solely based on price, while only four featured quality and or technical criteria that were deemed more important than price. This demonstrates that the cost efficiency rationale is still very strong and that, in the Belgian case, room for inclusion of criteria related to strengthening the EDTIB is sometimes limited.

To get a better a grasp of current practices, an in-depth review was performed of six 2020 tenders issued by branches of the Belgian

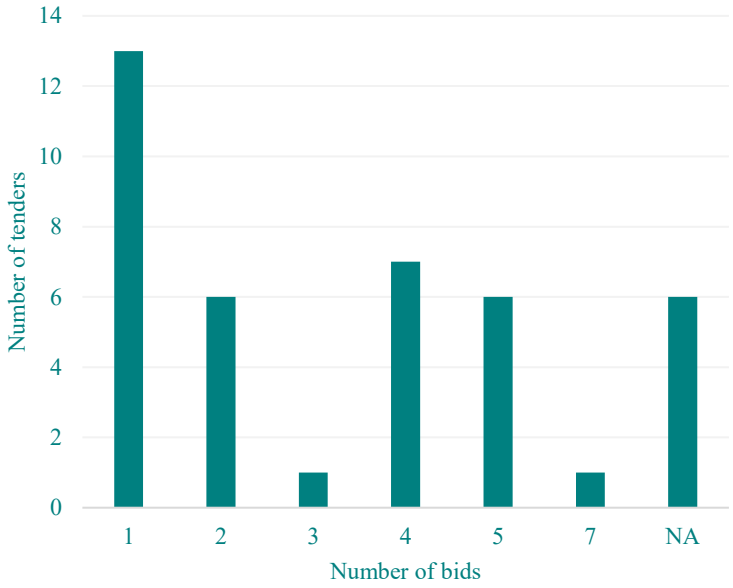

Figure 4: Overview of number of bids per tender (n=40).
Source: Own creation based on Federal Public Service for Policy and Support (2022b)

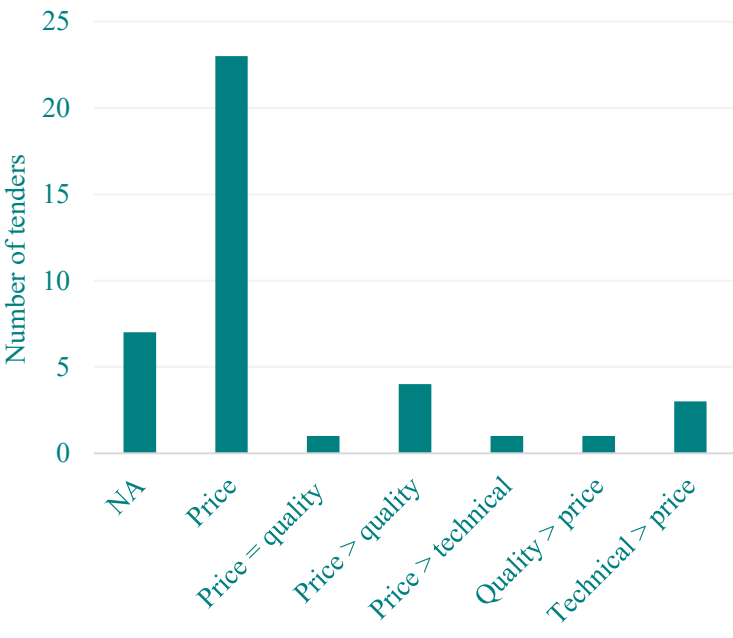

Figure 5: Overview of tender award criteria per tender (n=40).
Source: Own creation based on Federal Public Service for Policy and Support (2022b).

67 Federal Public Service for Policy and Support (2022b).

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military. Tenders were selected based on the availability of the tender documents on the public procurement portal. While this method comes with the downside that the sample might be biased[68], it allows us to explore a larger number of tenders than a more traditional single case study. The tenders (listed in Table 7) vary widely as they include a procedure to procure an aviation instrument landing system as well as a procurement to rent a series of mini excavators. Four of the six tenders were won by either Belgian or German tenderers. For the two remaining tenders, the country of origin of the winning tenderer is unavailable.

Table 7: Overview case study data: Selected tenders.

#	*Title*	*Procurement procedure*	*Legal basis*	*Winner country (# bids)*
1	Flare kit lifesaver	Negotiated with publication	Directive 2009/81/CE	NA (NA)
2	Flashover container	Open	Directive 2014/24/UE	NA (NA)
3	Safety and signaling equipment	Open	Directive 2014/24/UE	BE (4)
4	Instrument landing system	Open	Directive 2014/24/UE	BE (1)
5	Low velocity flash & bang ammunition	Negotiated with publication	Directive 2009/81/CE	DE (1)
6	Renting of mini diggers	Open	Directive 2014/24/UE	BE (5)

Source: Own creation based on OpenTender.eu (2022a).Each row refers Belgian Defense (2020a) through to Belgian Defense (2020e).

It is important to note that Table 7 shows that the case study sample differs from the profile of the overarching dataset of 40 tenders. Most tenders in the sample follow the "open" procedure, contrary to the dataset where "negotiated with publication" was by far the most prevalent. Moreover, four out of six tenders were issued under the general public procurement directive, while in the dataset these constituted only 10 % of the observations.

Two dimensions central to attaining the goal of fortifying the EDTIB are focused upon: (1) the compatibility of tender set-ups with promoting SME participation, and (2) the level of EU27-orientation of tenders.

First, whether the defense tenders are SME-friendly—this is an important characteristic to account for as the current EDTIB largely consists of companies of limited size on a global scale, with an eye on growing these businesses into (inter)national champions.

Dividing tenders into lots constitutes a well-known practice to stimulate SMEs to take part in larger procurement contracts.[69] While managing a complete large-sized tenders might be beyond the grasp of certain emerging companies, taking on a smaller part of the work, e.g., a single or a few lots, could be a possibility. This assists companies to become a valued part of established supply chains. However, none of the tenders in the sample opted for the possibility of utilizing lots. A consequence of not using lots but opting for a single large procurement contract, is that technical requirements can be numerous. This additional complexity can more easily be borne by industry leaders than by SMEs. Four out of six tenders featured more than 25 technical requirements, with two tenders even having 175. Notably, a particular tender explicitly mentioned that it would not be divided into lots to maximize economies of scale.[70] This is of course contrary to the rationale of growing domestic companies to stimulate competition. However, it is completely consistent with a cost-effectiveness rationale.

68 Leuffen (2007).
69 Hoekman & Taş (2022).
70 Belgian Defense (2020c).

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A more indirect way of stimulating SME participation is by including certain award criteria with respect to non-price aspects. An example would be quality elements in the sense that the procured good service needs to be tailored to the specific case. SMEs active in more niche markets might particularly benefit from such an approach. However, the sample of Belgian military tenders is heavily focused on price—for five out of six tenders, price is the only criterion.

From the above, it can be concluded that there is no structural support for SMEs embedded in the sample tenders—Table 8 illustrates these findings.

Table 8: Overview of (lack of) SME-support features of tenders.

#	*Lots*	*Technical requirements*	*Advances*	*Award criteria*
1	No	11	No	Price
2	No	31	No	Price
3	No	11	No	Price
4	No	175 (103 for maintenance contract)	Yes	Price
5	No	26	No	Price
6	No	175	No	Price 80% Tech. 20%

Regarding the second dimension (the extent to which tenders are oriented toward strengthening the EU27-internal defense market), the procurement directives aimed to unify (defense) markets across the European Union by outlining a set of common rules.[71] However, being directives and not regulations, they allow some tweaking of these rules to national contexts.[72] EU27-orientation is assessed by examination of the tender documents available.

Table 9: Overview of (lack of) EDTIB-building features of tenders.

#	*Way of tendering*	*Language*	*Only EU tenderers*
1	Electronic or paper	Dutch or French (technical can be English)	No
2	Electronic	Dutch or French	Yes
3	Electronic	Dutch or French	Yes
4	Electronic	Dutch or French (technical logistical can be English)	No
5	Electronic or paper	Dutch or French (technical logistical can be English)	No
6	Electronic	Dutch or French	No

The strong emphasis on price in award procedures also plays a role in this regard. A high weight to price in evaluation mechanisms benefits large incumbents which can strongly focus on cost efficiency. Not using the possibility to explicitly include award criteria related to, for example, the level of interoperability (within strategic alliances), or certain EU27-preferences, undermines promoting EDTIB growth.

Table 9 outlines the various underlying elements per tender that further influence their likelihood to strengthening the EU27-internal defense market. The submission process for tender bids can play an important role in determining the de facto openness of a public procurement procedure. The electronic submission system can be considered to not favor domestic companies to the same level as requiring submissions on paper[73], since ensuring timely receipt of bids

71 Yukins (2009).
72 Thomson (2010).
73 Gourdon & Messent (2019).

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via postal services can be time- and resource-consuming. The Belgian military procurement scores well on this metric, as it allows electronic submission of bids for all tenders under investigation.

Another element of openness to non-domestic EU27-tenderers is reflected in the language in which bids have to be submitted. Allowing bidders to submit bids in English is clearly more conducive to building a truly integrated market, than requiring bids to be prepared in the respective national languages. Of course language laws might restrict the use of non-official languages in procurement procedures. Nonetheless, letting tenderers submit certain parts of the bid documents in English might already help. In the sample, half of the tenders allows technical and or logistical parts to be in English, while the other half demands that all information be provided in either Dutch or French.

The most explicit way to ensure that specific public procurement procedures favor the EU27-defense industry is to exclude third country bidders entirely. As mentioned, defense procurement is often not covered by the WTO's GPA which means that tender issuers are free to do so.[74] Two out of six tenders from the sample do indeed apply this option.[75]

The analysis of the level of EU27-orientation of tenders reveals mixed results. Tender issuers could certainly do more to pursue European strategic security aims and aid in strengthening the EDTIB.

Discussion and conclusion

Both the EU27 level analysis as well as the review of Belgian military tenders, offer notable insights.

EU27-level findings concern the composition and evolution of defense sector tendering on the one hand, and the particularity of tenders typically won by non-EU27-tenderers, on the other. Key takeaways regarding the composition and evolution of EU27-defense tendering are threefold. First, tenders are of limited size, averaging around EUR 1.7mn. Very large-value tenders are quite rare, only 0.23 % of tenders equals or exceeds EUR 100mn. It has to be noted that much of defense purchasing does not follow a regular public procurement track but is part of government-to-government agreements, and as a result goes unreported in the dataset. Very large contracts are arguably likely to be more entangled with other policy objectives (e.g., the Eurofighter Typhoon project, juste retour[76] etc.), and thus involve unique agreements. Second, the growth in the number of tenders in the sector has been generally consistent, which underlines the importance of developing structural approaches to fortify the EDTIB. Third, the average competition for tenders is already limited; a tender receives three bids on average. However, over a third of tenders receive only a single bid—highly undesirable from a buyer power perspective. An EDTIB with strong companies across all important sub-sectors might alleviate some of this tension.

To uncover gaps in the current EDTIB, tenders won by non-domestic companies were particularly reviewed. Tenders won by non-EU27-tenderers are relatively few, i.e., 367 of 14,207 tenders, but certain member states account for substantially larger proportions than others. The asymmetric dependency on non-EU27-tenderers arguably inhibits strategy formulation at EU-level (e.g., Finland with larger dependence on non-EU27-tenderers and a historically complicated relationship having been at the edge of NATO and the former USSR[77]). Moreover, tenders won by non-EU27-tenderers are markedly different from those won by tenderers based inside the region. This indicates that their success might be related to certain particularities, for example size- or resource-based competitive advantages (e.g., captive resources[78])—a theory supported by the fact that tenders won by non-EU27-tenderers are larger and less competitive on average. From an EDTIB perspective, breaking into/competing in a competitive space characterized by large scale economies or centered around (natural) resources that are foreign to the EU27-region is

74 Directive 2009/81/EC (2009).
75 Belgian Defense (2020b); Belgian Defense (2020c).
76 Matthews & Al-Saadi (2021).
77 Czibik et al. (2021).
78 Gereffi & Lee (2012).

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of course more challenging.

For the Belgian context, insights are centered around the (lack of) inclusion of certain modalities to fortify the EDTIB in a sample of tenders. First and foremost, price remains the most important award criterion in practice. Close to 90% of the 40 tenders issued by the Belgian military have price as their most important evaluation criterion. This practice is likely counterproductive to achieving growth of the EDTIB, because it favors large incumbents rather than stimulating the growth of SMEs and/or the entry of new European challenger companies.

Second, there is no structural support for security and defense SMEs embedded in the sample of Belgian tenders: tenders are not divided into lots, and tenderers can only rarely be (partly) paid by way of advances.

Third, when it comes to stimulating the integration of EU27-member states' security and defense markets, Belgian procurement practices are only partly conducive. While submitting bids electronically is possible in all six of the tenders under investigation, technical features of bids can only be in English in half of the observations—strong stances on language requirements can be particularly exclusionary to non-national EU27-tenderers. The possibility to explicitly exclude third countries from participating in defense and security tenders was only used in two of six cases, while this is a very direct way to further EDTIB objectives.

In conclusion, while outcomes both at EU27-level, and in Belgium in particular, do not currently show a strong prevalence of non-EU27-tenderers in the defense and security sector, this situation might change if the passive approach is continued. In any case, the political discourse on the importance of strengthening the EDTIB is not being met by current tender practices. The potential of public procurement as a tool for strengthening the EDTIB is clearly underutilized. Future research should focus on avenues to strengthen EDTIB while respecting the essence of public procurement and competition law—comparative research contrasting tender practices in various sectors might offer interesting best practices in this regard.

This article's findings are subject to three limitations. First, the statistical analysis is based on data from the Opentender.eu portal which contains data on a very large number of tenders, but which also has ample missing values particularly for certain variables.[79] Nonetheless, the balanced sample of 14,207 observations remains substantial. Second, the analysis has solely focused on tenders which have been reported on TED and/or on national public procurement portals. Consequently, tenders issued following the Article 346 TFEU exception have been excluded. Given the fact that this article is a key instrument in the pursuit of strategic (security) objectives, this is an important drawback. Observing that no or very limited data on these tenders is available[80], this caveat can unfortunately not be rectified. Third, the sample of the six tenders issued by the Belgian military might be subject to selection bias. The sample differs in key characteristics from the whole population of 2020 Belgian military tenders. However, since the goal of this article is to merely explore current practices, the sample suffices for these aims.

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References

Agoria (2020). *De veiligheids-en defensie-industrie, een sleutelsector voor het herstel van de Belgische economie* (Website). Available at: https://www.agoria.be/nl/over-ons/agoria-news/federaal/de-veiligheids-en-defensie-industrie-een-sleutelsector-voor-het-herstel-van-de-belgische-economie (Accessed: 19 December 2022).

Arrowsmith, S., 2017. EC regime on public procurement. In: Thai, K. V. ed., *International handbook of public procurement*. Routledge, pp. 251–290. https://doi.org/10.4324/9781315092539

79 OpenTender.eu (2022a).

80 See e.g., Terpan & Saurugger (2019).

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Belgian Defense (2020a). *MRMP-L/A-20LA313-F17* (Tender documents). Available at: https://enot.publicprocurement.be/enot-war/preViewNotice.do?noticeId=382480 (Accessed: 18 April 2022).
Belgian Defense (2020b). *MRMP-I/A-20IA472-F02* (Tender documents). Available at: http://bit.ly/4017p4e (Accessed: 18 April 2022).
Belgian Defense (2020c). *MRMP-I/A-20IA463-F03* (Tender documents). Available at: http://bit.ly/3mo1b0q (Accessed: 18 April 2022).
Belgian Defense (2020d). *MRMP-C/S-19CSC01-F03* (Tender documents). Available at: http://bit.ly/43gjAge (Accessed: 18 April 2022).
Belgian Defense (2020e). *MRMP-L/A-19LA314-F18* (Tender documents). Available at: http://bit.ly/3MwbNoL (Accessed: 18 April 2022).
Belgian Defense (2020f). *MRMP-L/S-19LS112bis-F03* (Tender documents). Available at: http://bit.ly/43qFr4y (Accessed: 18 April 2022).
Bellais, R. and Fiott, D., 2017. The European defense market: Disruptive innovation and market destabilization. *The Economics of Peace and Security Journal*, *12*(1), p. 1. Available at: https://www.epsjournal.org.uk/index.php/EPSJ/article/view/287 https://doi.org/10.15355/epsj.12.1.37
Bellais, R., Foucault, M. and J. Oudot. 2014. *Économie de la défense*. La Découverte. https://doi.org/10.3917/dec.bella.2014.01
Blauberger, M. and Kramer, R., 2010. *European competition vs. global competitiveness: transferring EU rules on state aid and public procurement beyond Europe* (ESRC Centre for Competition Policy working paper). [online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1656961 (Accessed 12 August 2022). https://doi.org/10.2139/ssrn.1656961
Baumol, W. J., 1982. Contestable Markets: An Uprising in the Theory of Industry Structure. *American Economic Review*, *72*(1), pp. 1–15. Available at: https://www.sfu.ca/~wainwrig/Econ400/Baumol-contestableMkts.pdf
Bowen, G. A., 2009. Document analysis as a qualitative research method. *Qualitative research journal 9*(2), pp. 27–40. https://doi.org/10.3316/QRJ0902027
Burnett, M., 2015. The New Rules for Competitive Dialogue and the Competitive Procedure with Negotiation in Directive 2014/24—What Might They Mean for PPP. *European Procurement & Public Private Partnership Law Review (EPPPL)*, *10*(2), pp. 62–71. Available at: https://www.jstor.org/stable/26639575
Carroll, R. J. and Schneider, H., 1985. A note on levene's tests for equality of variances. *Statistics & Probability Letters, 3*(4), pp. 191–194. https://doi.org/10.1016/0167-7152(85)90016-1
Chever, L., Saussier, S. and Yvrande-Billon, A., 2017. The law of small numbers: investigating the benefits of restricted auctions for public procurement. *Applied Economics*, *49*(42), pp. 4241–4260. Available at: https://doi.org/10.1080/00036846.2017.1279270
Council of the European Union (2022). *A Strategic Compass for a stronger EU security and defence in the next decade* (Press release). Available at: https://www.consilium.europa.eu/en/press/press-releases/2022/03/21/a-strategic-compass-for-a-stronger-eu-security-and-defence-in-the-next-decade/ (Accessed 31 August 2022).
Czibik, Á., Fazekas, M., Sanchez, A. H. and Wachs, J., 2021. Networked Corruption Risks in European Defense Procurement. In : Granados, O. M. and Nicolás-Carlock, J. R. Red., *Corruption Networks: Concepts and Applications,* Springer International Publishing, pp. 67–87. https://doi.org/10.1007/978-3-030-81484-7_5
De France, O., Mampaey, L. and Zandee, D., 2016. *Defence industrial policy in Belgium and the Netherlands* (Armament Industry European Research Group report). [online] Available at: https://www.iris-france.org/wp-content/uploads/2016/10/Policy-Paper-Defence-Policy-Belgium-NL-October-2016.pdf (Accessed 21 August 2022).
Defence Institute (2021). *Actualisering van de Strategische Visie 2030: Aanbevelingen* (Report). Available at: https://www.defence-institute.be/wp-content/uploads/2021/06/200622-Strategic-Vision-2021-NL.pdf (Accessed: 19 December 2022).
DIGIWHIST (n.d.). *D2.4 Raw Data* (Research note). [online] Available at: http://digiwhist.eu/publications/raw-data/ 26/10/2020 (Accessed 31 August 2022).
'Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC' (2014) *Official Journal of the European Union* L94, pp. 65–242.
'Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of procedures for the award of certain works contracts, supply contracts and service contracts by contracting authorities or entities in the fields of defence and security, and amending Directives 2004/17/EC and 2004/18/EC' (2009) *Official Journal of the European Union* L216, pp. 76–136.
Dunne, J. P. (1995). Chapter 14 The defense industrial base. In *Handbook of Defense Economics* (Vol. 1, pp. 399–430). Elsevier. https://doi.org/10.1016/S1574-0013(05)80016-X
European Commission (2022a). *Commission unveils significant actions to contribute to European Defence, boost innovation and address strategic dependencies* (Press release). Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_22_924 (Accessed: 31 August 2022).
European Commission (2022b). *Defence industry: EU to reinforce the European defence industry through common procurement with a EUR 500 million instrument* (Press release). Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_22_4491 (Accessed: 30 August 2022).
European Commission (2020c). *Foreign subsidies* (Website). Available at: https://competition-policy.ec.europa.eu/international/foreign-subsidies_en (Accessed: 16 August 2022).
European Commission (2022d). *Thresholds* (Website). Available at: https://single-market-economy.ec.europa.eu/single-market/public-procurement/legal-rules-and-implementation/thresholds_en (Accessed: 28 August 2022).
European Commission (2022e). *Foreign subsidies* (Website). Available at: https://competition-policy.ec.europa.eu/international/foreign-subsidies_en (Accessed: 16 August 2022).

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European Commission (2022f). *EU steps up action to strengthen EU defence capabilities, industrial and technological base: towards an EU framework for Joint defence procurement* (Press release). Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3143 (Accessed: 19 December 2022).

European Commission (2021). *Proposal for a Regulation of the European Parliament and of the Council on foreign subsidies distorting the internal market* (Legislative proposal). Available at: https://ec.europa.eu/competition/international/overview/proposal_for_regulation.pdf (Accessed: 16 August 2022).

European External Action Service (2022). *Europe in the Interregnum: our geopolitical awakening after Ukraine* (Statement). Available at: https://www.eeas.europa.eu/eeas/europe-interregnum-our-geopolitical-awakening-after-ukraine_en (Accessed: 20 August 2022).

European Parliament (2022a). *The EU's Defence Technological and Industrial Base* (In-depth analysis). Available at: https://www.europarl.europa.eu/thinktank/en/document/EXPO_IDA(2020)603483 (Accessed: 23 August 2022).

European Parliament (2022b). *Provisional agreement resulting from interinstitutional negotiations: Proposal for a regulation of the European Parliament and of the Council on foreign subsidies distorting the internal market* (European Parliament report). Available at: https://www.europarl.europa.eu/meetdocs/2014_2019/plmrep/COMMITTEES/INTA/DV/2022/07-13/1260231_EN.pdf (Accessed: 16 August 2022).

Federal Public Service for Policy and Support & Federal Public Service Chancellery of the Prime Minister. (2014). *Welkom op publicprocurement.be* (Website). Available at: https://www.publicprocurement.be/nl (Accessed: 16 August 2022).

Federal Public Service for Policy and Support. (2022a). *Wat is e-Notification?* (Website). Available at: https://enot.publicprocurement.be/enot-war/viewStaticData.do?staticDataId=3 (Accessed: 16 August 2022).

Federal Public Service for Policy and Support. (2022b). *Bekendmakingen zoeken* (Data). Available at: http://bit.ly/3Kr2RhS (Accessed: 16 August 2022).

Finkbeiner, A. and Van Noorden, R., 2022. Will war in Ukraine mark a new era for European defence research? *Nature, 608*(8146), pp. 466–467. https://doi.org/10.1038/d41586-022-02185-x.

Gereffi, G. and Lee, J., 2012. Why the World Suddenly Cares About Global Supply Chains. *Journal of Supply Chain Management, 48*(3), pp. 24–32. https://doi.org/10.1111/j.1745-493X.2012.03271.x

Gourdon, J. and Messent, J., 2019. How government procurement measures can affect trade. *Journal of World Trade, 53*(5). https://doi.org/10.1787/d1ab07b8-en.

Hartley, K. 2020. *Defence Economics: Achievements and Challenges* (Elements in Defence Economics). Cambridge: Cambridge University Press. https://doi.org/10.1017/9781108887243

Hoekman, B. and Taş, B. K. O., 2022. Procurement policy and SME participation in public purchasing. *Small Business Economics, 58*(1), pp. 383–402. https://doi.org/10.1007/s11187-020-00414-z.

Hornkohl, L., 2022. The EU Foreign Subsidy Regulation–What, Why and How? In: J. Hillebrand Pohl, S. Warchol, G. Papadopoulos, & Wiesenthal (Eds.), *The Investment Weapon-Studies on the Law and Geo-economics of Foreign Investment Controls* dedicated to Steffen Hindelang. Forthcoming. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4172808. https://doi.org/10.2139/ssrn.4172808

Laguerre, C., 2009. Is the Defence Market Contestable? The Case of Military Aerospace. *Defence and Peace Economics*, *20*(4), pp. 303–326. https://doi.org/10.1080/10242690802365044

Leuffen, D., 2007. Case Selection and Selection Bias in Small-n Research. In: T. Gschwend & F. Schimmelfennig (Eds.), *Research Design in Political Science: How to Practice What They Preach*. Palgrave Macmillan UK, pp. 145–160. https://doi.org/10.1057/9780230598881_8

Luja, R., 2021. The Foreign Subsidies Regulation: Countering State Aid Beyond the European Union. *European State Aid Law Quarterly, 20*(2), pp. 187–199. https://doi.org/10.21552/estal/2021/2/3

Mardas, D. and Triantafyllou, D., 1997. Selection criteria and the award procedure in public procurement. *International Advances in Economic Research, 3*(1), pp. 91–112. https://doi.org/10.1007/BF02295004

Matthews, R. and Al-Saadi, R., 2021. Organisational Complexity of the Eurofighter Typhoon Collaborative Supply Chain. *Defence and Peace Economics*, pp. 1–16. https://doi.org/10.1080/10242694.2021.1987022

Mbah, R.E. and Wasum, D., 2022. Russian-Ukraine 2022 War: A Review of the Economic Impact of Russian-Ukraine Crisis on the USA, UK, Canada, and Europe. *Advances in Social Sciences Research Journal, 9*(3), pp.144-153. https://doi.org/10.14738/assrj.93.12005.

Meershoek, N., 2021. The Constraints of Power Structures on EU Integration and Regulation of Military Procurement. *European Papers, 6*(1), pp. 831–868. https://doi.org/10.15166/2499-8249/489

Miller, D. B., 2009. Is It Time to Reform Reciprocal Defense Procurement Agreements. *Public Contract Law Journal, 39*, p. 93. Available at: https://www.jstor.org/stable/25755753

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Mitran, D., 2013. Improving access of SMEs to the public procurement markets. *Internal Auditing and Risk Management, 8*(2), pp.244–251. Available at: https://ideas.repec.org/a/ath/journl/v30y2013i1p265-272.html.

Moosavi, J., Fathollahi-Fard, A.M. and Dulebenets, M.A., 2022. Supply chain disruption during the COVID-19 pandemic: Recognizing potential disruption management strategies. *International Journal of Disaster Risk Reduction, 75*, 102983. https://doi.org/10.1016/j.ijdrr.2022.102983

OpenTender.eu (2022a). *All data* (Database). [Online] Available at: https://opentender.eu/all/download (Accessed: 12 May 2020).

'Regulation (EC) No 2195/2002 of the European Parliament and of the Council of 5 November 2002 on the Common Procurement Vocabulary (CPV) (Text with EEA relevance)' (2002) *Official Journal of the European Union* L340, pp. 1–562.

Roth, A. 2017. *The size and location of Europe's defence industry* (Bruegel blog post). [Online] Available at: https://www.bruegel.org/blog-post/size-and-location-europes-defence-industry (Accessed: 21 August 2022).

Telles, P. and Butler, L., 2014. Public Procurement Award Procedures in Directive 2014/24/EU. In: Lichère, F., Caranta, R. and Treumer, S. eds., *Modernising Public Procurement: The New Directive*. Djøf Copenhagen, pp. 131–184. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2443438 (Accessed: 14 February 2023).

Terpan, F. and Saurugger, S., 2019. Assessing judicial activism of the CJEU the case of the court's defence procurement rulings. *Journal of European Integration, 41*(4), pp.543-561. https://doi.org/10.1080/07036337.2018.1537268

Thomson, R., 2010. Opposition through the back door in the transposition of EU directives. *European Union Politics, 11*(4), pp. 577–596. https://doi.org/10.1177/1465116510380283

Trybus, M., 2014. The Promotion of Small and Medium Sized Enterprises in Public Procurement: A Strategic Objective of the New Public Sector Directive? In: Lichère, F., Caranta, R. and Treumer, S. eds., *Modernising Public Procurement: The New Directive*. Djøf Copenhagen, pp. 255–280. https://doi.org/10.2139/ssrn.2860019

Trybus, M. and Andrecka, M., 2017. Favouring Small and Medium Sized Enterprises with Directive 2014/24/EU? *European Procurement & Public Private Partnership Law Review, 12*(3), pp. 224–238. https://doi.org/10.21552/epppl/2017/3/6

Unizo (2021). *Economisch belang van KMO's* (Report). Available at: https://www.unizo.be/sites/default/files/2107_economischebelangkmos2021.pdf (Accessed: 19 December 2022).

Viaene, H., Van der Putten, K. and Wiame, H., 2022. *EU Foreign Subsidies Regulation to impact EU and cross-border M&A antitrust review starting in 2023* (McDermott Will & Emery blog post). [online] Available at: https://www.mwe.com/insights/eu-foreign-subsidies-regulation-to-impact-eu-and-cross-border-ma-antitrust-review-starting-in-2023/ (Accessed: 18 August 2022).

Weiner, K., 2011. Towards European Preferences—Implications of Directive 2009/81/EC on Domestic Preferences in Defense Procurement. *Procurement Lawyer, 47*(3), pp. 16–24. Available at: https://heinonline.org/HOL/Page?handle=hein.journals/procurlw47&div=24&g_sent=1&casa_token=&collection=journals.

Wilcox, R.R., 2003. Chapter 9 - One-way ANOVA. In: Wilcox, R.R. ed., *Applying Contemporary Statistical Techniques,* Academic Press, pp. 285–328. https://doi.org/10.1016/B978-012751541-0/50030-4

Yukins, C.R., 2009. The European Defense Procurement Directive: An American Perspective. *The Government Contractor, 51*(41), p. 383. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1502858.

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