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The governance and funding of European rearmament

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Executive summary

EUROPE FACES A grave security threat. Gaps in European military equipment are substantial compared to Russia's military build-up. The European defence market is fragmented and weakened by home bias in procurement, low order numbers and technological gaps. These problems reflect the combination of past reliance on the United States and Europe's nationally-based defence governance. With the US now retreating from its role of European guardian, greater cooperation is essential to close technological gaps and reduce rearmament costs. Unless procurement is pooled and fragmentation reduced, additional demand for defence goods will mainly drive up prices. Better-integrated defence markets would both increase competition and facilitate entry of new defence technology firms. The combination of integrated markets and scaled-up procurement could lead to a halving of unit costs.

EUROPEAN UNION MEASURES including the European Defence Fund, the Act in Support of Ammunition Production, the European Defence Industry Reinforcement through Common Procurement Act and ReArm Europe represent progress towards strengthening the supply of military goods but the incentives offered are too small to address the home bias in procurement or to coordinate the provision of 'strategic enablers' such as military satellites. To go further, the EU and its European allies have two options.

FIRST, THE ROLE of the European Defence Agency could be broadened, possibly in combination with a new lending instrument similar to the EU's 2020-22 SURE programme.

SECOND, A EUROPEAN Defence Mechanism (EDM) could be created: an institution similar to the European Stability Mechanism, based on an intergovernmental treaty. The EDM would undertake joint procurement and plan for the provision of strategic enablers in specified areas, with a capacity to fund these roles. It could own strategic enablers and charge usage fees to EDM members, reducing the budgetary impact of rearmament. EDM membership would entail prohibition of both state aid and procurement preferences that benefit national defence contractors at the expense of contractors from other EDM members.

OF THE TWO options, the second is preferable, as it would (1) create a defence industry single market among EDM members, (2) create a financing vehicle that might make large-scale projects fiscally feasible, and (3) include non-EU democracies such as the United Kingdom on an equal footing, while also giving an opt-out to EU countries that lack the political appetite for more defence integration, or that have national constitutional constraints.

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1 Introduction

Europe faces a grave security threat, created by Russia's aggression in Ukraine and exacerbated by changes in US policy on Ukraine and European defence since the January 2025 inauguration of President Trump[1]. Europe's leaders understand this and have started to react[2]. Of 28 European NATO members, 20 spent more than 2 percent of GDP on defence in 2024 – a median rise by about 0.6 percent of GDP in just two years. As the extent of the shift in US policy on Europe and Ukraine has become clear, there has been a flurry of defence-related announcements and activity, including Prime Minister Tusk's plea at the start of Poland's Council Presidency in January 2025 to ramp up European defence capabilities[3], President Macron's and Prime Minister Starmer's efforts to assemble a 'coalition of the willing' to provide security for Ukraine, the European Commission's publication of a ReArm Europe Plan, and a constitutional change in Germany that would eliminate any borrowing limit for defence under the leadership of the likely next Chancellor Friedrich Merz. Heavyweight, EU-commissioned strategic reports have also called for the strengthening of European resilience (Niinistö, 2024), deeper defence market integration (Letta, 2024) and investments in defence (Draghi, 2024).

This paper assesses whether these efforts have been adequate and if not, how additional efforts can be made to improve the governance and financing of European rearmament. We focus on solutions that are both fiscally feasible and do not assume a leap in European defence integration along the lines of the European Defence Community (EDC), an agreement signed but not ratified in the 1950s[4, 5].

Section 2 presents Europe's basic challenge: to undertake large-scale, accelerated rearmament in the face of an overstretched and nationally fragmented European defence industry. Meeting this challenge requires pooling of defence procurement and creating a single market for defence. Section 3 then presents a brief economic analysis of the obstacles to greater European cooperation on rearmament and the creation of 'strategic enablers' that would benefit many countries. Section 4 summarises recent EU-level efforts to increase defence capacity and discusses the extent to which they address the underlying problems identified in section 3.

Finally, Section 5, presents two options: an incremental approach involving an expansion of the role of current cooperation structures, particularly the European Defence Agency and Permanent Structured Cooperation (PESCO), and a transformational approach that would involve a new intergovernmental institution, the European Defence Mechanism (EDM), with

1 The US position is now that *"European allies* [must] *take ownership of conventional security on the continent"* (U.S. Department of Defense, 'Speech by US defence secretary Pete Hegseth to the NATO Ukraine Defence Contact Group', 12 February 2025, https://www.defense.gov/News/Speeches/Speech/Article/4064113/opening-remarks-by-secretary-of-defense-pete-hegseth-at-ukraine-defense-contact/). President Trump has spoken admiringly of President Putin while expressing his disdain for the European Union. See Reid J. Epstein, 'Trump, again cozying up to Putin, praises Russian aggression as "genius"', The New York Times, 22 February 2022, https://www.nytimes.com/2022/02/22/world/europe/trump-putin-russia-ukraine.html; and Reuters, 'The EU was created to "screw the US" , says Trump', 26 February 2025, https://www.reuters.com/video/watch/idRW478727022025RP1/.

2 Throughout this paper, 'Europe' is used to apply to refer to democracies that are geographically within Europe.

3 Jorge Liboreiro, 'Tusk makes passionate plea for an 'armed' Europe and rails against the Green Deal', *Euronews*, 22 January 2025, https://www.euronews.com/my-europe/2025/01/22/tusk-makes-passionate-plea-for-an-armed-europe-and-rails-against-the-green-deal.

4 See Emmanuel Mourlon-Druol, 'Beyond the short-term emergency, the EU must think about the broader implications of defence integration', *First Glance*, Bruegel, 24 March 2025, https://www.bruegel.org/first-glance/beyond-short-term-emergency-eu-must-think-about-broader-implications-defence.

5 We do not view an EDC-style approach as realistic in the short term, though we share the recent interest in the EDC (Fabbrini *et al*, 2025) and support calls to work towards a new European Defence Community. For example, Chairman of Germany's CDU and likely next German Chancellor, Friedrich Merz, has said Germany's defence spending push *"can be nothing less than the first major step towards a new European defence community, which also includes countries that are not members of the European Union"* (see Reuters, 'Merz sees new era for European defence with German spending surge', 18 March 2025, https://www.reuters.com/business/aerospace-defense/merz-sees-new-era-european-defence-with-german-spending-surge-2025-03-18/.

a cooperation mandate and a lending capacity. Both options could include non-EU European allies such as the UK, Norway, and potentially Switzerland, either through cooperation on a project basis (EDA, PESCO) or as members (EDM).

While both options would be an improvement, we argue for the second. A new institution based on intergovernmental treaty stands a much better chance than an expansion or modification of existing EU agencies and cooperation structures of buffering the fiscal impact of rearmament and creating legally binding commitments – particularly to create a defence single market.

2 Europe's rearmament conundrum

With few exceptions, such as the EU Battlegroups[6], Europe's military capabilities are fragmented along national lines. Europe's defence relies on NATO and US leadership within NATO. Apart from boots on the ground, the US has provided Europe with '**strategic enablers'**, without which national European armies would be far less effective. These include joint command and control capabilities, satellite-based intelligence and communication, development of expensive new weapon systems such as fifth- or sixth-generation fighter jets, integrated weapon systems needed by multiple countries such as strategic air defence, strategic lift (large-scale air transport and maritime logistics), missiles and nuclear deterrence[7].

To reduce its dependence on the US, Europe must thus close a large gap. As a priority, this means acquiring strategic enablers that could potentially be put under European operational control. An example would be a satellite-based intelligence and communication network, which would be difficult and expensive for European countries to build individually. In addition, Europe must better equip its troops and acquire major military equipment stocks – such as main battle tanks, artillery, ammunition, drones and aircraft (Burilkov and Wolff, 2025; Barrie *et al*, 2019)[8]. According to a political goal set by the European Council on readiness for a major confrontation, this must happen within the next five years (see eg European Commission and HRVP, 2025).

Europe's conundrum is that these ambitious rearmament goals must be reached with limited fiscal space and in the face of a fragmented defence industry, which is already overstretched because of its limited capacity and the provision of military support to Ukraine (Box 1). While Europe has the industrial potential to scale up the production of modern battle tanks, artillery, air defence, armoured vehicles, drones, and electronic warfare systems, its market in most of these products is characterised by low production numbers, high fragmentation, limited competition and strong home bias in procurement. Even large countries often order products such as tanks in only small quantities. For example, since 2022, Germany has ordered only 123 Leopard 2 tanks to be delivered by 2030 (Wolff *et al*, 2024b). European countries operate 12 different main battle tanks, while the US has one[9].

This fragmentation is also evident in the support given to Ukraine. While the US has delivered one type of tank and two types of howitzer, European countries have delivered seven different tanks and nine different howitzers (Table 1 in Box 1). Germany buys almost half of

6 See https://www.eeas.europa.eu/node/33557_en.

7 The European Commission speaks of critical capability gaps. We prefer, however, the term strategic enablers as it is about enabling capacities that cannot be easily provided at the national level alone. Many missing national capabilities, such as for example ammunition, are also critical, but do not have a cross-country enabling function.

8 Barrie *et al* (2019) estimated that Europe would have to invest between $288 billion and $357 billion to fill the capability gaps in a specific scenario. This would be for a scenario in which Europe would need to reassure the Baltics and Poland after a Russian incursion into Lithuania. By now, prices have increased while Russia has greater capabilities, suggesting that the number could be larger.

9 See https://eda.europa.eu/what-we-do/eda-in-short.

its equipment from domestic producers and around an additional 30 percent from domestic joint ventures (Wolff *et al*, 2024a; Mejino-Lopez and Wolff, 2024). EPRS (2024) even found that big countries including Germany and France are procuring more than 80 percent of defence equipment from national sources, even though that number includes domestic production by foreign companies.

Market fragmentation gives national suppliers substantial market power. Carril and Dugan (2020) showed that in the US, when market concentration increased, procurement became less competitive[10]. A similar situation could also apply to Europe, where competition could decline further if the US reduces weapons exports to the region as it prioritises other threat arenas (Burilkov *et al*, 2024). More importantly, an increase in demand in an environment of limited competition means that companies can charge higher prices and increase rents.

A further problem of the European defence industrial base is that some modern arms technologies are unavailable. These include fifth-generation fighter jets, certain air-defence systems, rocket artillery systems similar to the US HIMARS and heavy transport helicopters. Europe also relies on US software and satellite-based communication and intelligence. And while Europe has seen significant entry of firms in new technologies, including high-tech drones, AI-based intelligence and advanced and autonomous robotic systems, it remains far from the level of investment and technological disruption that characterises the US defence market[11]. Between mid-2021 and 2024, the total venture capital volume for defence start-ups in the US was 2.4 times that for Europe (McKinsey, 2025).

Box 1: The European arms industry

While Europe remains a global player in defence markets, it is far smaller than the US. In 2023, the revenues of the 27 European defence companies (20 of which are EU) within the world's top 100 amounted to $130 billion, half that of their US counterparts. The top three US companies had revenues comparable to Europe overall (SIPRI, 2024).

Europe's defence industry is less consolidated than the US, with a high degree of product differentiation across countries. National champions tend to dominate national markets and exercise market power. For example, the sales of the top two French companies account for 69 percent of the sales of French defence companies; in Germany, the sales of the top two account for 70 percent.

For specific products, national suppliers have even larger market shares: complex platforms such as tanks are typically only bought from one provider. In addition, national procurement rules tend to make entry of new companies, even domestic ones, more difficult, resulting in higher prices (Mejino-Lopez and Wolff, 2024; Centrone and Fernandes, 2024; Figure 2) and markets tilted towards the technological *status quo*. Fragmentation is further illustrated by military equipment donated to Ukraine since 2022: Europe has provided four times as many different models as the US (Irto *et al*, 2024; Table 1).

There are joint projects for different military equipment, for example, multinational group MBDA for missile manufacturing, the Eurofighter fourth generation aircraft and Franco-Ger-

10 Increased concentration also induced a shift from the use of fixed-price contracts towards cost-plus contracts in the US. At the same time, Carril and Dugan (2020) did not find significant evidence of price increases. Their interpretation was that the US government managed to exercise market power relative to the companies.

11 See, for example, Marcus Schuler, 'Wie das Silicon Valley die US-Verteidigungsindustrie revolutioniert', *Frankfurter Allgemeine Zeitung*, 12 March 2025, https://www.faz.net/pro/digitalwirtschaft/transformation/wie-das-silicon-valley-die-us-verteidigungsindustrie-revolutioniert-110346857.html. An overview of European defence start-ups, without claiming full coverage, can be found here: https://app.dealroom.co/lists/47424. A specific example of the differences in size between the US and Europe is the comparison between Helsing and Anduril. Helsing, a Munich-based fast-growing AI start up producing drones, currently employs about 400 workers and its market value recently reached €5 billion. Anduril, a benchmark American competitor, has about 3,500 employees and its value is almost six times that of Helsing ($28 billion).

man KNDS for tank production. But the scale is limited, with the top trans-European companies accounting for less than 20 percent of the total European revenues of the main global competitors. Several major joint ventures exist, for example to produce the next generation fighter jets, such as Tempest (UK, Japan, Italy) and FCAS (France, Germany, Spain).

Table 1: Number of models of main military equipment donated to Ukraine

Product	Europe	US
Main battle tank	7	1
Self-propelled howitzer	9	2
Infantry fighting vehicles	7	2

Source: Bruegel, Kiel Institute. Note: numbers include refurbished equipment.

Table 2 provides estimates of current time horizons for the development of weapons, assuming continuity from the past. These estimates are based on standard planning horizons outside of major urgency.

Table 2: Time horizons for the development and production of weapon systems

Equipment	Time horizon
Next generation of main battle tanks	2040
Sixth-generation aircraft	>2045
Air defence	2030-2035
Rocket artillery systems (like HIMARS)	~2045
Transport helicopters (like Chinook)	2030
Satellites (like IRIS² for communication)	2030
Europe has 10 military satellites, compared to 100s for the US[12]	2030-35[13]

Source: Bruegel based on Kiel Institute, MGCS, and sources indicated in footnote. Note: for the next generation of main battle tanks and the sixth-generation aircraft time horizon refers to first product deliveries. For other products, it refers to European autonomy.

With an increasing number of governments considering whether to cancel or review purchases from the US, either for political reasons or because of the US defence industrial base's constraints (Burilkov *et al*, 2024)[14], the question is whether the European defence industrial base will be available to provide the required arms at a cost that the European taxpayer can afford and the technological level required for modern peer conflict. The scale of current

12 According to French General Philippe Steininger, Europe has just 10 military satellites – five French and five Italian – compared to *"hundreds"* for the United States and China. France24, 'Europe's new Ariane 6 rocket successfully puts French spy satellite into orbit', 6 March 2025, https://www.france24.com/en/live-news/20250306-%F0%9F%94%B4european-rocket-ariane-6-launches-on-first-commercial-mission.

13 There are six annual launches of European Ariane rockets and the hope is to increase this number to 12. If there is one military satellite per launch, Europe would need 10 years to reach numbers closer to the US. But a smaller number may be sufficient if the focus is primarily Europe and its neighbourhood. In terms of rocket launches, Europe relied on Russia's Soyuz rocket until 2022, when Russia stopped its cooperation in response to economic sanctions. Europe has since relied on US launches. New European aerospace companies, such as Isar Aerospace, may soon allow commercial launches of satellites.

14 For example, Portugal is considering purchasing European aircraft alongside US F-35s, while Canada has decided to review its purchase. See Helena Pereira, Susana Madureira Martins and Nuno Ferreira Santos, 'Nuno Melo admite compra de caças europeus a par de F-35. "O mundo já mudou"', PÚBLICO, 13 March 2025, https://www.publico.pt/2025/03/13/politica/entrevista/nuno-melo-afasta-compra-f35-eua-causa-trump-mundo-ja-mudou-2125727. The chairman of the Danish parliament's defence committee, Rasmus Jarlov, argues that buying American weapons is a security risk; see https://x.com/RasmusJarlov/status/1902389277423509877.

production is not encouraging, particularly when it comes to expensive strategic enablers. For example, in 2023, there were 19 Eurofighter deliveries and 13 Rafale deliveries, both fighter jets of the fourth generation, while there were 98 deliveries worldwide of US F-35s (a fifth-generation fighter)[15]. Moreover, long development cycles suggest that Europe might take decades to develop some of the top technology products (Box 1, Table 2). This suggests that the reliance on US manufacturers may be difficult to overcome.

Yet, development cycles can accelerate substantially in moments of dramatic increases in defence spending and re-prioritisation of defence, while production costs should fall substantially. Figure 1 suggests that scale economies matter in military production: unit costs are smaller when larger quantities are produced. Weapons production during the Second World War increased by a factor of five to ten within a few years, while unit production costs fell dramatically, even after production numbers declined, showing the importance of learning and experience (Harrison, 1990; Streb and Streb 1998; Herman, 2012; Lafond *et al*, 2022). 'Wright's law' states that unit costs fall by 10 percent to 15 percent for every doubling of aircraft production, while the management literature suggests that costs fall by 20 percent to 30 percent as production experience doubles[16]. Given the low quantities currently being ordered in Europe (Wolff *et al*, 2024a), the combination of rearmament, specialisation and market integration could lead to a demand increase for specific items by a factor of ten, implying a fall in unit costs and prices by 50 percent to 90 percent, unless margins rise as a result of lack of competition.

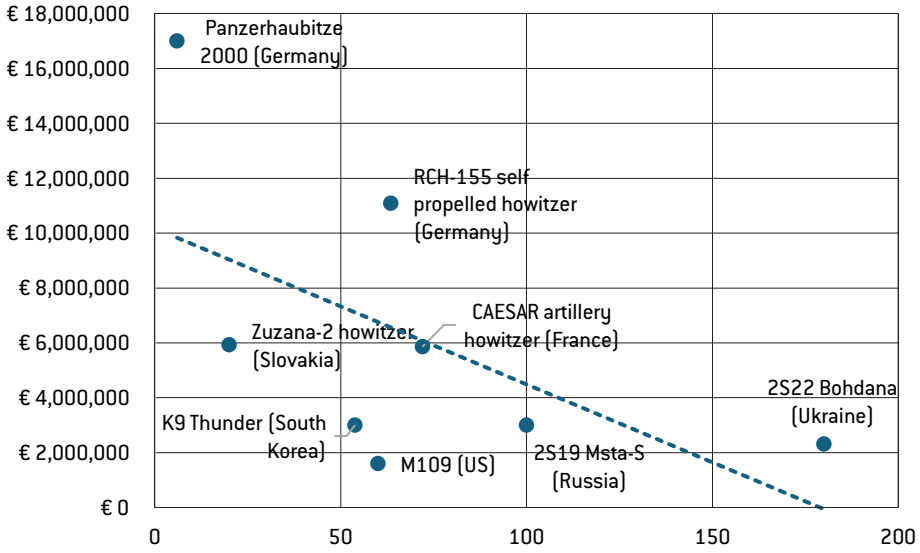
Europe thus has a chance to rearm and reduce its dependence on the US within the requisite timeframe, but only if it can undertake major reform of both the demand and the supply side of the defence market in Europe. This would require: (1) the pooling of procurement to the greatest extent possible, for greater scale and demand-side market power; and (2) a common European defence market – including the UK as a major industrial defence player – for much greater competition, among established national defence companies and via entry of new suppliers.

Delivering on both elements faces formidable obstacles. The Treaty on the Functioning of the European Union (TFEU, Article 346) does not envisage a common defence industrial market and Europe has tried to address procurement fragmentation in the past on multiple occasions, with limited success. There are several joint-purchasing agencies and arrangements including the NATO support and procurement organisation; PESCO, a treaty-based framework for the 26 participating EU countries (Malta is the exception) to jointly plan, develop and invest in collaborative capability development; and the European Defence Agency (EDA), established in 2004 to support the procurement efforts of EU member countries. These procurement initiatives have not always worked effectively, possibly because the urgency of action was missing. The cost of this coordination failure is much higher today.

15 Based on the 2023 annual reports of Dassault, Lockheed Martin and Airbus.

16 Bruce Henderson, 'The Experience Curve', BCG, 1 January 1968, https://www.bcg.com/publications/1968/business-unit-strategy-growth-experience-curve.

Figure 1: Self-propelled howitzer costs per unit and production annual capacity



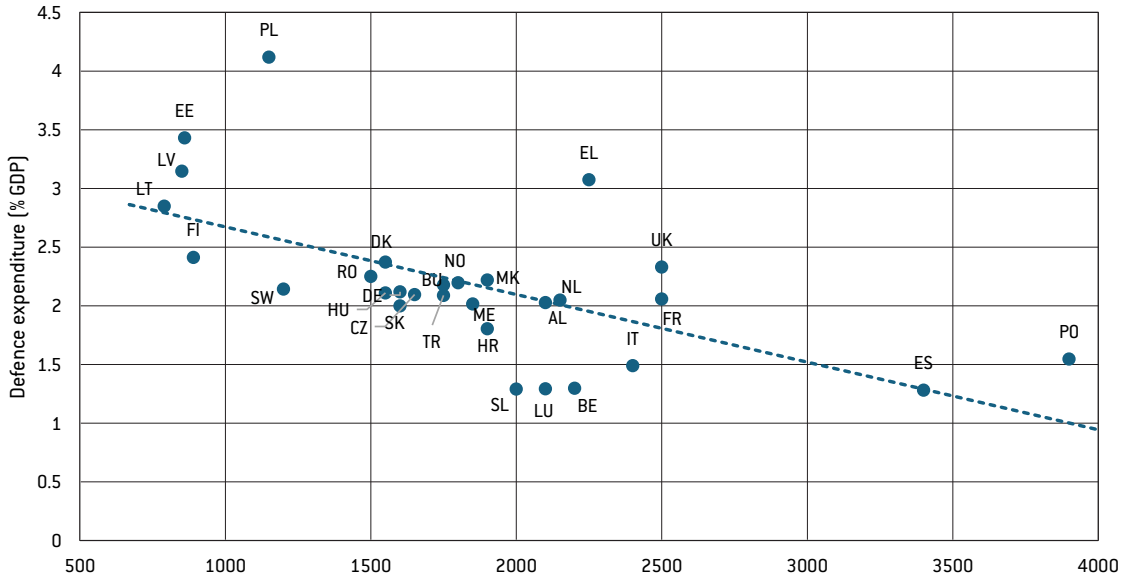
Source: Mejino-Lopez and Wolff (2024).

3 Obstacles to greater European defence cooperation

The level of cooperation needed to resolve the European rearmament conundrum without requiring a complete revamp of defence procurement, planning and financing is currently held back by at least five problems.

- *The 'public good' nature of European defence*. The defence efforts of individual countries benefit all other countries. This benefit to others is not sufficiently taken into account by policymakers accountable only to national constituencies. As a consequence, defence spending is collectively too low.
- *Free-riding on the frontline countries*. The distribution of defence burdens within NATO has traditionally been heaviest for the US, the largest military spender as a share of GDP for almost all of NATO's history. This aligns with a standard prediction: as the by far the largest power, the US could not hope to free ride, while others could. The uniquely high costs to the US were arguably offset by the unique benefits of superpower status. But in 2024, the US dropped to third place in NATO military spending as a share of national GDP, after Estonia and Poland. Military spending by European NATO members in 2024 was highly correlated with how far their capitals are from Moscow, but Poland and Estonia have far higher defence spending than even their proximity to Moscow would predict (Figure 2). Unlike the US, this does not buy these countries superpower status; it just reflects a cost, with benefits for these countries, but also for the rest of Europe.

Figure 2: Defence expenditure in 2024 and capital city distance to Moscow, European NATO countries



Source: Bruegel based on NATO 2024 estimates.

- *National traditions and standards*. Coordinating on a new weapons system might involve a high 'switching cost' – including by eliminating interoperability with current systems. This is one reason why military structures are so persistent over time. Coordinating on a single new standard may create losers, at least in relative terms, even if it collectively lowers costs.
- *Defence industrial nationalism and special interests*. Military procurement agencies could be captured by local defence-industry interests. This is particularly the case if this industry is concentrated in the hands of powerful national champions. In addition, excessive bureaucracy and high risk-aversion may discourage cooperation across national procurement offices[17].
- *Fiscal fragmentation*. Even if a country were willing to create or expand a weapons system that benefits all of Europe, it may not be able to afford it (the extension of France's nuclear umbrella to all of Europe is a case in point). This might change if the common European beneficiaries of such a system pooled their resources.

Of the five problems, the most important collectively are coordination failures resulting from switching costs, procurement nationalism and fiscal fragmentation. The public-good problem (collective underfunding of defence) has receded in importance, as most European countries are now so alarmed about their security that they are willing to pay for significant defence spending increases. Most prominently, the German constitution was amended in March 2025 to permit unlimited borrowing for defence purposes (Zettelmeyer, 2025). In contrast, free-riding at the expense of frontline countries has increased: the change in willingness to pay has been disproportionately large in countries such as Poland, where defence spending has gone from 2.2 percent of GDP in 2022 to 4.7 % in 2025.

Integration of European defence and its financing would solve or at least ameliorate these problems. But with defence and taxation linked to national sovereignty, and Europe nowhere close to integrating politically, this solution is not available. Instead, the problems described above need to be addressed through national and EU-level efforts, intergovernmental cooperation mechanisms and shared institutions.

17 For a recent discussion of national procurement difficulties, see BMWK (2023).

4 EU-level efforts to improve European defence capabilities

Since Russia's invasion of Ukraine, significant EU-level efforts have been made to improve European defence capabilities. There has been plenty of coordination with the UK in the context of support for Ukraine – including on security guarantees and military support that can substitute for US support – but this has not yet led to common mechanisms or funding arrangements in the defence sector (beyond cooperation within NATO).

4.1 Supply-side policies

EU-level defence industrial policy goes back to 2017, when the first Trump administration prompted calls for greater EU strategic autonomy from the US. The 2021-2027 EU budget contains a European Defence Fund for defence-related research and development and cross-border collaboration of defence SMEs within the EU (Table 3). After Russia's invasion of Ukraine, the promotion of EU defence industrial capability was stepped up. The 2003 Act in Support of Ammunition Production (Regulation (EU) 2023/1525) seeks to expand capacity specifically for ammunition production. A European Defence Industry Programme (EDIP), proposed by the European Commission in March 2024 but not yet adopted, would expand this to all defence industries (European Commission, 2024). Finally, in March 2025, the European Investment Bank changed its eligibility rules (which previously only allowed dual-use investment in defence) so it can now finance projects for which the primary purpose is defence[18].

18 See European Investment Bank press release of 21 March 2025, 'EIB steps up financing for European security and defence and critical raw materials', https://www.eib.org/en/press/all/2025-156-eib-steps-up-financing-for-european-security-and-defence-and-critical-raw-materials.

Table 3. Overview of EU defence funding mechanisms

Instrument	Purpose	Focus	Passed on	Time frame	Amount in € bns	Annual in € bns
European Peace Facility (EPF)	Funding of EU military aid to partner countries and EU military missions abroad (off-budget instrument)	Crisis operations	March 2021	2021-2027	17.0	2.4
European Defence Fund (EDF)	Fund industrial policy and R&D on defence sector, particularly benefitting SMEs	Supply side	April 2021	2021-2027	8.0	1.1
Connecting Europe Facility (CEF)	Funding of cross-border infrastructure, including dual use	Infrastructure	July 2021	2021-2027	1.7	0.3
Act in Support of Ammunition Production (ASAP)	Fund industrial policy supporting ammunition production	Supply side	July 2023	2024	0.5	0.5
European Defence Industry Reinforcement through Common Procurement Act (EDIRPA)	Create a financial incentive for procurement coordination	Demand side	October 2023	2024-2025	0.3	0.3
European Defence Industry Programme (EDIP)	Fund industrial policy supporting the European Defence Technology Industrial Based (EDTIB) and incentivise common procurement under a new legal framework, the Structure for European Armament Programme (SEAP)	Supply and demand (but funding is for supply side only)	Not yet passed (proposed on 5 March 2024)	2025-2027	1.5	0.5
European Investment Bank (EIB)	Funding of defence sector SMEs and startups, infrastructure funding	Supply side and infrastructure		2025	2.0	2.0
Total					**31.0**	**6.9**
Of which: supply side measures					*12.0*	*3.9*

Source: Bruegel.

The total volumes committed in these programmes to strengthening the EU defence supply add up to about €4 billion per year (Table 3). Importantly, this refers only to public lending and subsidies, including for R&D – not to government procurement, which can act as a demand-side industrial policy.

Companies facing sustained demand for their products should be able to obtain funding from banks and the capital market, with two caveats. First, young firms might be credit constrained because of standard information asymmetries. A study for the European Commission's Defence Industry and Space Directorate General (DG DEFIS, 2024) quantified an equity financing gap of some €1 billion to €2 billion and a debt financing gap of some €2 billion in the EU, based on a survey of defence firms in 2021. The second caveat concerns stigma: while policymakers have insisted that environmental, social and governance (ESG) and other rules do not constrain funding, practitioners consistently report that large investors tend to shy away from defence companies (Merler, 2025). Overcoming stigma may require public sector (eg EIB) lending for signalling purposes, but not necessarily in large volumes. Hence, financing gaps for defence companies can likely be closed from existing public funding mechanisms.

4.2 Procurement coordination

The EU has also stepped up its attempts to promote the coordination of defence procurement across the European Economic Area. The 2023 European Defence Industry Reinforcement through Common Procurement Act (EDIRPA, Regulation (EU) 2023/2418) offered €300 million in subsidies for joint procurement projects involving at least three EEA members. EDIP (European Commission, 2024) promises to create a new legal framework for common procurement (the Structure for European Armament Programme, SEAP). Finally, in March 2025, the European Commission proposed SAFE, the Security Action for Europe through the reinforcement of European defence industry Instrument, which would mobilise up to €150 billion in loans to members states to finance procurement projects carried out by at least one member state and one additional member state or EEA member (European Commission, 2025).

Given the long and difficult history of attempts to incentivise common procurement, instruments offering modest subsidies (directly, such as EDIRPA, or by moderately reducing borrowing costs, such as SAFE) cannot be expected to be transformational. That said, in November 2024, the Commission said that the €300 million in funds allocated to EDIRPA had leveraged joint procurement of more than €11 billion euros – on the face of it, an extraordinary success[19]. This may have to do with the nature of the subsidised projects, which involved procurement of 155mm shells, French Mistral Very Short-Range Air Defence systems, German IRIS-T air and missile defence systems, and a new armoured vehicle system. The shells fit many artillery systems, the Mistral was purchased by a consortium led by France, the IRIS-T by a consortium led by Germany and the new armoured vehicle is being developed by the same four countries that have committed to procure it. Hence, coordination on these projects was likely less difficult than for projects that would require giving up national standards or choosing a foreign supplier over the national champion.

4.3 Loosening fiscal constraints

In its March 2025 ReArm Europe announcement, the European Commission has attempted to loosen national fiscal constraints holding back military spending in two main ways.

The first would be through the SAFE instrument – an offer to member states to borrow up to €150 billion to finance defence procurement on the terms of the EU bonds issued to raise this money in the capital markets (European Commission, 2025). On 10 March 2025, the yield on a 10-year EU bond was 3.41 percent: 60 basis points above the 10-year German bund, and 11, 18 and 45 basis points respectively below the Spanish, French and Italian 10-year bond yields on the same day. The implied interest rate subsidy on a €10 billion procurement project would hence be around €18 million per year for France and €45 million per year for Italy – surely an incentive, but not one that adds up to a significant increase in fiscal space. If the entire €150 billion loan were taken up by Italy – the country with the euro area's highest sovereign yield – the annual interest subsidy would amount to about €675 million, or 0.45 percent of the cost of the procurement and just 0.03 percent of Italy's annual GDP of around €2 trillion.

Second, ReArm Europe proposes to loosen the EU fiscal rules specifically for defence spending. It would do this by invoking the so-called national escape clause under the EU fiscal rules (Pench, 2025). This would allow countries to raise their net expenditures by 1.5 percent of annual GDP, or the difference between their planned annual military spending and their military spending in 2021, whichever is smaller.

The implication is that ReArm Europe could have a significant impact on defence spending, through the national escape clause, for countries that would *both* like to raise their defence spending *and* for which spending would otherwise be constrained by limits set by the

19 See European Commission news of 14 November 2024, 'EU boosts defence readiness with first ever financial support for common defence procurement', https://defence-industry-space.ec.europa.eu/eu-boosts-defence-readiness-first-ever-financial-support-common-defence-procurement-2024-11-14_en.

EU fiscal rules – Germany, for example. But it will not have an impact on countries that do not face adjustment requirements under the new EU fiscal rules because they have both a budget deficit below 3 percent of GDP and a public debt below 60 percent of GDP (Bulgaria, Croatia, Latvia, the Netherlands, Czechia, Lithuania, Sweden and Denmark, Ireland). Nor would it have much impact on countries concerned about high deficits and potential rises in their borrowing costs.

To the extent that ReArm Europe succeeds in getting some member states to spend more on defence, one concern is that governments might be less likely to want to spend in a coordinated fashion. Under ReArm Europe, the cost of higher defence spending would be entirely (or in the case of high-yield countries borrowing through SAFE, almost entirely) borne at national level. Ilzetzki (2025) suggested that national defence spending can have multiplier effects on the local economy between 0.6 and 1 and that there could also be long-term growth benefits through innovation (see also Sheremirov and Spirovska, 2022). The economic spillovers depend on where the money is spent. The risk associated with allowing EU countries to spend more by loosening the fiscal rules without creating common funding mechanisms is that it may further increase procurement nationalism within the EU.

4.4 Appraisal

How far will these EU-level measures take Europe in addressing the shortcomings summarised in sections 2 and 3?

On the **supply side**, gaps in access to capital for defence firms are likely addressed, particularly after the widening of EIB eligibility criteria. This does not imply that there is no scope for supply-side improvements. But the issues that remain to be addressed are less likely to relate to credit constraints and more likely to relate to national and European regulations that make it difficult to increase defence production capacities. For example, national rules may give local voters vetoes over the expansion of production sites[20]. At EU level, it would be advisable to check whether EU rules hinder the development of AI weapon systems, including military intelligence, and network-based communication mechanisms immune to electronic warfare. Environmental rules, such as a drive towards green steel, may render production of critical inputs for weapons excessively expensive in Europe. The EU may need to make temporary exceptions for defence production.

On the **demand side**, procurement coordination will remain crucial, as the modest incentives offered by SAFE are unlikely to make a difference beyond projects for which the bureaucratic or political costs of common procurement are already very low. Furthermore, only EU countries and the three non-EU EEA countries benefit directly or indirectly from the incentive, leaving out the UK and Switzerland, two important European defence partners (at least until an EU-UK security agreement is signed). Offering the national escape clause for defence could have a substantial impact in countries such as Germany for which higher spending is constrained mainly by EU rules rather than fiscal fundamentals. The number of EU countries in this category is likely small.

Finally, two of the four components of the collective-action problems identified in section 3 do not appear to be addressed at all by the recent proposals: coordination on building strategic enablers, rather than just procurement, and free riding on the frontier countries. We return to these in the next section.

20 It took more than a year for weapons company Diehl to agree with the German city of Troisdorf to expand a munitions factory. Roman Tyborski, Markus Fasse and Martin Murphy, 'Diehl kann Munitionsproduktion in Troisdorf ausweiten', *Handelsblatt*, 16 November 2024, https://www.handelsblatt.com/unternehmen/industrie/deutschland-diehl-kann-munitionsproduktion-in-troisdorf-ausweiten/100087948.html.

5 Two ways forward

This section sketches two avenues – one 'incremental' and another 'transformational' –to address the shortcomings of the *status quo* beyond what has already been discussed. Both seek to avoid EU unanimity requirements and to facilitate cooperation with non-EU countries.

The incremental solution would expand the roles of existing institutions in capability planning, procurement and funding, building on recently intensified coordination efforts. This solution minimises institutional and organisational adaptation costs, but comes with the risk that past failures will be insufficiently addressed.

The transformational solution would involve a new intergovernmental institution, the European Defence Mechanism, that would create a defence single market, centralise most defence procurement and financing for its members, and own future European strategic enablers.

5.1 Incremental progress: expanding current institutions

The incremental solution would see an expanded role for the European Defence Agency (EDA), a 'coalition-driven' PESCO (the framework for jointly planning, developing and investing in collaborative capability development) and the extension of financing instruments that build on precedents such as the EU's 2020-22 'Support to mitigate Unemployment Risks in an Emergency' (SURE)[21].

Centralising procurement and capability planning through the EDA. The EDA's original mission was to support the development of defence capabilities in the EU by identifying priorities for the armed forces of its members and acting as a project manager in defence technology R&D. This role was expanded in May 2024, when EU defence ministers added joint procurement to the EDA's tasks. Since then, the EDA has played an important role in negotiating procurement contracts and centralising procurement (Caranta, 2023). It has been involved in implementing ASAP (Table 3) and it has a managing role in the implementation of EDIRPA projects, such as the joint procurement of 155mm ammunition (EDA, 2024).

EDA's procurement and capability planning role could be strengthened further:

- Member states could commit to centralised procurement through the EDA in areas defined in the EDA's statutes, which the Council can change with a qualified majority[22]. While Article 346 TFEU does not allow the EDA to sanction members that opt out of centralised procurement considered essential to security[23], participation could be linked to financial incentives that make it costly to renege on commitments (see below).
- The EDA could also expand its current mandate allowing cooperation with non-EU countries. To date, the EDA cooperates with Norway, Switzerland, Ukraine and the US. It should seek the involvement of the UK in capability planning and joint procurement.

Coalitions involving willing EU members and third countries via PESCO. As a 'Schengen-like' framework for EU defence cooperation, PESCO allows for coalitions of the willing. Early evaluations of PESCO projects emphasised its potential, but have found the projects unambitious, leaving untapped potential (Efstathiou and Billon-Galland, 2019). Cozar-Murillo (2022) was more positive, calling PESCO's third-country involvement a *"game changer"*,

21 SURE provided financial assistance up to €100 billion in the form of loans granted on favourable terms from the EU to member states affected by the negative economic and social consequences of the coronavirus outbreak on their territory.

22 Article 45 paras 1 and 2 TEU.

23 Article 346(b) TFEU states that *"any Member State may take such measures as it considers necessary for the protection of the essential interests of its security which are connected with the production of or trade in arms, munitions and war material; such measures shall not adversely affect the conditions of competition in the internal market regarding products which are not intended for specifically military purposes."*

especially in relation to the UK after Brexit.

Current PESCO projects include military mobility and networks of logistics hubs. Canada, Norway and the US participate in the military mobility project and the UK has been invited to participate. Building on this experience, PESCO could be strengthened to become the centralised hub for developing strategic enablers. It could do so through PESCO projects in collaboration with the UK, Switzerland and other non-EU countries.

A 'SURE-plus' funding mechanism extending EU-based lending instruments to non-EU countries. Current financial-support mechanisms – grants from the EU budget and loans based on EU borrowing – not only fail to integrate pivotal non-EU countries but also generate little in the way of financial benefits for borrowers (section 4.3). To bring in non-EU countries, the EU could expand on its experience with the SURE instrument. Unlike SAFE, SURE was backed by both budgetary headroom and member-state guarantees[24]. With this design, the EU would be able to mobilise significantly more lending power for defence than the €150 billion announced under SAFE. Like SURE, this instrument could be justified on emergency grounds, triggering QMV in the Council.

A major advantage of 'SURE-plus' would be that non-EU countries such as the UK could participate both as a lender and borrower:

- In line with existing practices related to non-EU countries contributing to the EU budget (ECA, 2021), the UK could contribute 'external assigned revenues' to the EU budget, which would functionally be 'paid-in capital'. In addition to this paid-in capital, the UK would offer guarantees like EU countries.
- On the borrower side, the EU's external policy power extends to pursuit of economic and financial cooperation measures[25]. Vested with this power, the EU could establish cooperation with the UK for the purpose of common defence goals and hand out loans to the UK just as it lends to member states.

'SURE-plus' is not the only option for extending EU funding mechanisms. An instrument similar to the NextGenerationEU post-pandemic economic recovery instrument would facilitate both grants and loans in support of rearmament, which could be linked to centralised procurement through the EDA. However, this solution would require a new own resources decision on funding for the EU budget, which would need unanimity in the Council (Grund and Steinbach, 2023).

Another option might be to leverage lending by the ESM, which has significant financial heft (Anev Janse *et al*, 2025; Scazzieri and Tordoir, 2024). This would be possible if the strengthening of defence capabilities of ESM members is viewed as *"indispensable to the financial stability of the euro area as a whole and of its member states"*. Financial support via the ESM requires mutual agreement from members (no dissenting vote), and can only be extended to members of the euro area.

Neither NextGenerationEU nor the ESM could be used to support non-EU members, and the ESM could not support non-euro area EU members (Bulgaria, Czechia, Denmark, Hungary, Poland, Romania and Sweden).

5.2 The transformational solution: a European Defence Mechanism (EDM)

Apart from their complexity – expanding and connecting institutional mechanisms that were created for narrower purposes – the incremental approach might fall short in three main ways.

24 In case of SURE (unlike for SAFE), all EU countries agreed to provide irrevocable on-demand guarantees, in proportion to their relative shares of the EU's total gross national income, covering 25 percent of the SURE financial envelope (ECA, 2022).

25 Article 212 TFEU.

1. As discussed, without meaningful sanctions, a commitment to joint armaments procurement via the EDA will not effectively curtail discrimination for national-security purposes. The incremental approach is therefore unlikely to be powerful enough to overcome the combination of vested interests and national traditions that have held back joint procurement until now. Higher defence spending paid for mainly through higher national borrowing could strengthen procurement nationalism further, as governments seek to maximise the economic benefits of higher defence spending within their national borders.
2. Except for small countries with limited or infrequent access to debt markets, the fiscal benefits of a SURE-plus mechanism would be limited to a relatively minor reduction in borrowing costs for a subset of countries (section 4.3). The back-to-back lending structure of SURE (EU funds raised on capital markets are immediately on-lent to the borrowing members) implies that lending through SURE would immediately be reflected in higher government debt. This could be a significant obstacle to the creation of strategic enablers with high upfront costs.
3. While non-EU countries could benefit from some EU instruments, it is hard to imagine that they could participate as equal partners. The political preferences or constitutional constraints of some EU members may limit the degree to which the mandates of existing instruments can be expanded.

A solution to these problems would be a new, ESM-like intergovernmental institution, the European Defence Mechanism (EDM). This would serve as an exclusive procurement agency in specified areas, as planner, funder and potentially owner of strategic enablers, and as a legal commitment to observe defence single market rules within the jurisdictions of its members. Unlike the EDA, failure of members to live up to their obligations could trigger sanctions, including suspension from the membership.

Such an institution could be structured as follows:

Membership should ideally include the largest European countries including the UK and any other European democracy that wishes to join. Universal European membership is desirable but not critical. Following the example of the European Bank for Reconstruction and Development (EBRD), it would be desirable for the EU to be a separate shareholder, represented by the European Commission[26]. This would help in coordinating EU and EDM activities impacting the defence industry and defence capabilities.

As a European democracy, Ukraine could and should in principle become an EDM member. It would benefit from EDM support and has a large arms industry that would help Europe rearm cost-effectively (Kirkegaard, 2025). However, there is a risk that European demand for Ukrainian weapons might crowd-out their use in the defence of Ukraine during its ongoing war. To prevent that, Ukraine may not want to immediately join the defence single market. Ukrainian membership may therefore require a transition arrangement. Until Ukraine is a full member, it should be able to benefit from procurement through the EDM, funded by the remaining members, for as long as Ukraine is at war.

Governance: members would pay a subscription (quota), consisting of paid-in capital and callable capital, based on economic size and other structural features relevant to the EDM's mandate, such as the level of military spending and/or the military assets of the member. Decisions would be taken based on subscription share-weighted simple or qualified majorities, depending on the issue.

Mandate. To expand European defence capabilities and foster defence cooperation through:

1. Planning, funding and ownership of European strategic enablers, with a minimum list enshrined in the EDM treaty. Examples include a satellite system for military intelligence

26 However, joining the EDM would require a unanimous decision in the Council based on Article 218 para 8(2) TFEU and Article 37 TEU.

and communication, the development and deployment of expensive air defence systems and new missile technology. The more strategic enablers in EDM ownership, the greater the political commitment of EDM members would be to deepen defence cooperation.

2. The creation of a defence industry single market, through (1) prohibition of discrimination in procurement based on nationality, with a much narrower scope for any exceptions than under Article 346 TFEU; (2) prohibition of state aid for defence companies.
3. Joint procurement in critical areas (with a minimum list of such areas defined in the EDM treaty). Attention would need to be paid to minimising switching costs from current national systems. This could be done by focusing either on commodities (such as artillery shells) or new systems and technologies (for example, advanced drones).
4. Defence-related lending to all members.
5. Support for frontline members through subsidised (eg interest-free) lending and/or by allocating greater shares of procured gear to frontline members than those members pay for, with the cost split between all members based on quota shares.

Membership obligations. Apart from paying their subscriptions, members would:

1. Adhere to defence-industry single market rules;
2. Refrain from procuring nationally in areas for which joint procurement has been agreed in the EDM treaty;
3. Undertake join procurement through competitive tenders (rather than negotiations between national procurement authorities);
4. Pay for their shares of defence assets procured or planned through the EDM either when those assets are delivered, or when the services of those assets are delivered[27]. The share of assets would be determined:
   i. In the case of joint procurement: by the offtake-share agreed at the beginning of procurement projects (with commitment to a particular level of offtake being voluntary on the part of each member);
   ii. In the case of strategic enablers: by the capital key of the EDM members.
5. Repay EDM loans.

Operations and instruments.

1. In line with its mandate, the EDM would act as a procurement planner, defence planner and procurement agent.
2. Procurement would be done according to a set of principles anchored in the EDM treaty, including competitive tenders and defining the asset to be procured by a set of desired capabilities rather than specific technical characteristics.
3. The EDM would borrow on capital markets, with the aim of financing: (1) joint procurement (with the EDM acting as the procurement authority) until the ownership of procured gear is transferred to members, (2) strategic enablers, and (3) lending to members.
4. The EDM could own defence assets that provide benefits to all members and retain ownership of procured defence goods (materiel) until it is needed (rather than transferring ownership to members upon purchase).
5. When defence assets remain EDM property, the fiscal cost to members would consist of a user fee. For strategic enablers, this could be proportional to the quota shares of members (for example, a share of the EDM's interest cost, as well as any operating cost). For

27 A possible leasing solution, in which case the EDM would formally acquire the assets and lease them, faces the limitations imposed by the European System of Accounts: ESA 2010, according to which the borrowing would be accounted as national debt at the time when the equipment is put at the disposal of military authorities, and not at the time of payments relating to the release. In case of renting, similar constraints would apply.

procured materiel, the user fee would be proportional to the members' share in the joint procurement (ie the share they would receive after ownership is transferred).

6. Lending to members could occur through two windows: a standard window, open to all members, and a subsidised window accessible only to 'frontline states'. The subsidy would be paid from a trust fund that would be replenished periodically by all members.

Definition of 'frontline' states with access to subsidised lending. This could be either based on geography (eg a common border with either Russia or Belarus) or based on the level of national military spending (eg the 15 percent of the membership with the highest spending as shares of GDP), or a combination thereof.

Lending conditionality. None, other than the observation of membership obligations: in particular, respect for defence single market rules (unlike SAFE, the purpose of lending is not to incentivise joint procurement – this would be achieved through EDM centralised procurement).

Scope of procurement. In general, only defence goods produced by defence contractors headquartered in EDM countries – or by consortia with a defined minimum degree of participation by contractors headquartered in EDM countries – could be procured by the EDM. This principle could be overridden by a (possibly, qualified) majority of the EDM board to accommodate circumstances in which the desired military capability cannot be procured (or only at much higher cost) without the participation of a defence contractor headquartered in a non-member state.

Relationships with PESCO, EDA and NATO. The EDM mandate would overlap with some PESCO and EDA functions – coordination on procurement and development of strategic enablers. Modalities for cooperation and sharing of expertise would need to be developed in these areas. However, both PESCO and EDA have roles that go beyond and would be complementary to the EDM, such as operational cooperation (PESCO) and research and training support (EDA). In addition, the EDM could draw on the procurement expertise of both the EDA and the NATO support and procurement agency.

6 Conclusion

Europe needs to rearm rapidly and acquire its own strategic enablers. We have set out two options for this: an incremental approach, involving expanded roles for the EDA and PESCO and a SURE-plus-type lending instrument; and a new European Defence Mechanism (EDM), based on an intergovernmental treaty.

The second option would be far preferable, for three reasons.

It would address the fundamental legal constraint that currently precludes an EU defence-goods single market: Article 346 of the TFEU, which allows EU governments to ignore internal market rules by claiming a national-security interest. The EDM would allow European democracies to opt into a legal structure that requires its members to follow such rules. This is much easier than changing the TFEU.

It would loosen a critical fiscal constraint by allowing certain defence assets, including both shared strategic enablers and procured materiel that is not immediately needed by the armed forces of EDM members, to remain in EDM ownership. Debt incurred to acquire those assets would remain on the EDM's books.

It would allow non-EU members to join on an equal footing.

Creating the EDM would be an ambitious undertaking. Although it would provide for far greater fiscal benefits than any of the feasible alternatives, it would require substantial paid-in capital. It would require competent staff, including a first-rate treasury. The set-up costs would be substantial. But set-up need not take long: the EBRD, for example, went from signing to start

of operations in less than a year.

Like other multilateral institutions created at historical turning points – the International Monetary Fund and World Bank after the Second World War, the EBRD after the fall of the Berlin Wall and the ESM after the euro debt crisis – the EDM could by the enduring output of a moment of political will that overcomes national division, bureaucratic inertia and special interests. We may be witnessing such a moment in Europe today.

References

Anev Janse, K., R. Beetsma, M. Buti, K. Regling and N. Thygesen (2025) 'European public goods: the time for action is now', *Analysis*, 15 January, Bruegel available at https://www.bruegel.org/analysis/european-public-goods-time-action-now

Barrie, D., B. Barry, L. Béraud-Sudreau, H. Boyd, N. Childs and B. Giegerich (2019) *Defending Europe: scenario-based capability requirements for NATO's European members*, International Institute for Strategic Studies, available at https://www.iiss.org/research-paper/2019/05/defending-europe

BMWK (2023) *Bundeswehr besser ausrüsten - aber wie?* Bundesministerium für Wirtschaft und Klimaschutz, available at https://www.bmwk.de/Redaktion/DE/Publikationen/Ministerium/Veroeffentlichung-Wissenschaftlicher-Beirat/bundeswehr-besser-ausruesten.pdf?__blob=publicationFile&v=4

Burilkov, A., J. Mejino-Lopez and G. Wolff (2024) 'The US defence industrial base can no longer reliably supply Europe', *Analysis*, 18 December, Bruegel available at https://www.bruegel.org/analysis/us-defence-industrial-base-can-no-longer-reliably-supply-europe

Burilkov, A. and G. Wolff (2025) 'Defending Europe without the US - first estimates of what is needed', *Analysis*, 21 February, Bruegel, available at https://www.bruegel.org/analysis/defending-europe-without-us-first-estimates-what-needed

Carril, R. and M. Duggan (2020) 'The impact of industry consolidation on government procurement: Evidence from Department of Defense contracting', *Journal of Public Economics* 184: 104141, available at https://www.nber.org/system/files/working_papers/w25160/w25160.pdf

Caranta, R. (2023) 'The EU's Role in Ammunition Procurement', *European Papers* 8(3): 1047-1056, available at https://www.europeanpapers.eu/europeanforum/eu-role-ammunition-procurement

Centrone, M. and M. Fernandes (2024) *Improving the quality of European defence spending*, European Parliamentary Research Service, available at https://www.europarl.europa.eu/RegData/etudes/STUD/2024/762855/EPRS_STU(2024)762855_EN.pdf

Cózar-Murillo, B. (2022) 'PESCO as a Game-Changer for Differentiated Integration in CSDP after Brexit', *European Papers* 7(3): 1303-1324, available at https://www.europeanpapers.eu/en/system/files/pdf_version/EP_eJ_2022_3_SS1_10_Beatriz_Cozar_Murillo_00612.pdf

DG DEFIS (2024) *Access to equity financing for European defence SMEs*, European Commission: Directorate-General for Defence Industry and Space, available at https://data.europa.eu/doi/10.2889/698738

Draghi, M. (2024) *The Future of European Competitiveness*, Report to the European Commission, available at https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en

ECA (2021) 'Financial contributions from non-EU countries to the EU and Member States', *Review* No 3, European Court of Auditors, available at https://www.eca.europa.eu/en/publications?did=58420

ECA (2022) 'Support to mitigate Unemployment Risks in an Emergency (SURE)', *Special Report* No 28, European Court of Auditors, available at https://www.eca.europa.eu/en/publications?ref=SR22_28

Efstathiou, Y. and A. Billon-Galland (2019) 'Are PESCO projects fit for purpose?' *Online Analysis*, 21 February, International Institute for Strategic Studies, available at https://www.iiss.org/online-analysis/online-analysis/2019/02/pesco-projects-fit-for-purpose/

European Commission (2024) 'Proposal for a Regulation establishing the European Defence Industry Programme and a framework of measures to ensure the timely availability and supply of defence products', *COM(2024) 150 final*, available at https://defence-industry-space.ec.europa.eu/edip-proposal-regulation_en

European Commission (2025) 'Proposal for a Council Regulation establishing the Security Action for Europe (SAFE) through the reinforcement of European defence industry Instrument', *COM(2025) 122 final*, available at https://secure.ipex.eu/IPEXL-WEB/document/COM-2025-0122

European Commission and HRVP (2025) 'Joint White Paper for European Defence Readiness 2030', JOIN(2025) 120 final, available at https://defence-industry-space.ec.europa.eu/document/download/30b50d2c-49aa-4250-9ca6-27a0347cf009_en

European Defence Agency (2024) '2024 Long-Term Review', available at https://eda.europa.eu/docs/default-source/documents/2024-long-term-review-of-the-european-defence-agency.pdf

Fabbrini, F., S. Goulard, K. Caunes, C. de Vries, D. Genini, H. James … G. Wolff (2025) 'Getting Serious about Defence Integration: the European Defence Community Precedent', *ALCIDE Policy Brief*, Dublin European Law Institute, available at https://alcideproject.eu/wp-content/uploads/2025/02/ALCIDE-Policy-Brief.pdf

Grund, S. and A. Steinbach (2023) 'European Union debt financing: leeway and barriers from a legal perspective', *Working Paper* 15/2023, Bruegel, available at https://www.bruegel.org/working-paper/european-union-debt-financing-leeway-and-barriers-legal-perspective

Harrison, M. (1990) 'A volume index of the total munitions output of the United Kingdom, 1939-1944', *The Economic History Review* 43(4): 657-666, available at https://www.jstor.org/stable/2596740

Herman, A. (2012) *Freedom's Forge: How American Business Produced Victory in World War II*, Random House

Ilzetzki, E. (2025) *Guns and growth: The economic consequences of defense buildups*, Kiel Report 2, Kiel Institute for the World Economy, available at https://www.ifw-kiel.de/publications/guns-and-growth-the-economic-consequences-of-defense-buildups-33747/

Irto, G., I. Kharitonov, T. Nishikawa and C. Trebesch (2025) 'Ukraine Aid: How Europe Can Replace US Support', *Kiel Policy Brief* 186, Kiel Institute for the World Economy, available at https://www.ifw-kiel.de/publications/ukraine-aid-how-europe-can-replace-us-support-33907/

Kirkegaard, J.F. (2025) 'Ukraine: European democracy's affordable arsenal', *Policy Brief* 10/2025, Bruegel, available at https://www.bruegel.org/policy-brief/ukraine-european-democracys-affordable-arsenal

Lafond, F., D. Greenwald and J.D. Farmer (2022) 'Can stimulating demand drive costs down? World War II as a natural experiment', *The Journal of Economic History* 82(3): 727-764, available at https://doi.org/10.1017/S0022050722000249

Letta E. (2024) *Much more than a market*, Report to the European Council, available at https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf

McKinsey (2025) 'European defense tech start-ups: In it for the long run?' 12 February, available at https://www.mckinsey.com/industries/aerospace-and-defense/our-insights/european-defense-tech-start-ups-in-it-for-the-long-run

Mejino-Lopez, J. and G. Wolff (2024) 'A European defence industrial strategy in a hostile world', *Policy Brief* 29/2024, Bruegel, available at https://www.bruegel.org/policy-brief/european-defence-industrial-strategy-hostile-world

Merler, S. (2025) 'Sustainability rules are not a block on EU defence financing, but reputational fears are', *Analysis*, 17 March, Bruegel, available at https://www.bruegel.org/analysis/sustainability-rules-are-not-block-eu-defence-financing-reputational-fears-are

Niinistö, S. (2024) *Strengthening Europe's civil and military preparedness and readiness*, Report to the European Commission, available at https://commission.europa.eu/topics/defence/safer-together-path-towards-fully-prepared-union_en

Pench, L. (2024) 'Dilemmas for the EU in deficit-financing of defence expenditure and maintenance of fiscal discipline', *Working Paper* 03/2025, Bruegel, available at https://www.bruegel.org/sites/default/files/2025-04/WP%2003%202025.pdf

Scazzieri, L. and S. Tordoir (2024) 'European Common Debt: Is defence different?' *Policy Brief*, November, Centre for European Reform, available at https://www.cer.eu/sites/default/files/pb_LS_ST_defence_bonds_5.11.24.pdf

Sheremirov, V. and S. Spirovska (2022) 'Fiscal multipliers in advanced and developing countries: Evidence from military spending', *Journal of Public Economics* 208: 104631, available at https://doi.org/10.1016/j.jpubeco.2022.104631

Steinbach, A. and G. Wolff (2024) 'Financing European air defence through European Union debt', *Policy Brief* 21/2024, Bruegel, available at https://www.bruegel.org/policy-brief/financing-european-air-defence-through-european-union-debt

SIPRI (2024) 'SIPRI Arms Industry Database', Stockholm International Peace Research Institute, available at https://www.sipri.org/databases/armsindustry

Streb, J. and S. Streb (1998) 'Optimale Beschaffungsverträge bei asymmetrischer Informationsverteilung: Zur Erklärung des nationalsozialistischen Rüstungswunders während des Zweiten Weltkriegs', *Zeitschrift für Wirtschafts- und Sozialwissenschaften* 118: 275–294

Wolff, G.B., A. Burilkov, K. Bushnell and I. Kharitonov (2024a) *Fit for war in decades: Europe's and Germany's slow rearmament vis-a-vis Russia*, Kiel Report 1, Kiel Institute for the World Economy, available at https://www.ifw-kiel.de/publications/fit-for-war-in-decades-europes-and-germanys-slow-rearmament-vis-a-vis-russia-33234/

Wolff, G.B., I. Kharitonov and K. Bushnell (2024b) 'Kiel Military Procurement Tracker', Kiel Institute for the World Economy, available at https://www.ifw-kiel.de/publications/kiel-military-procurement-tracker-33232/

Zettelmeyer, J. (2025) 'Can Germany afford to take most defence spending out of its debt brake?' *Analysis*, 11 March, Bruegel available at https://www.bruegel.org/analysis/can-germany-afford-take-most-defence-spending-out-its-debt-brake