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BEFORE VEGETIUS CRITICAL QUESTIONS FOR EUROPEAN DEFENSE

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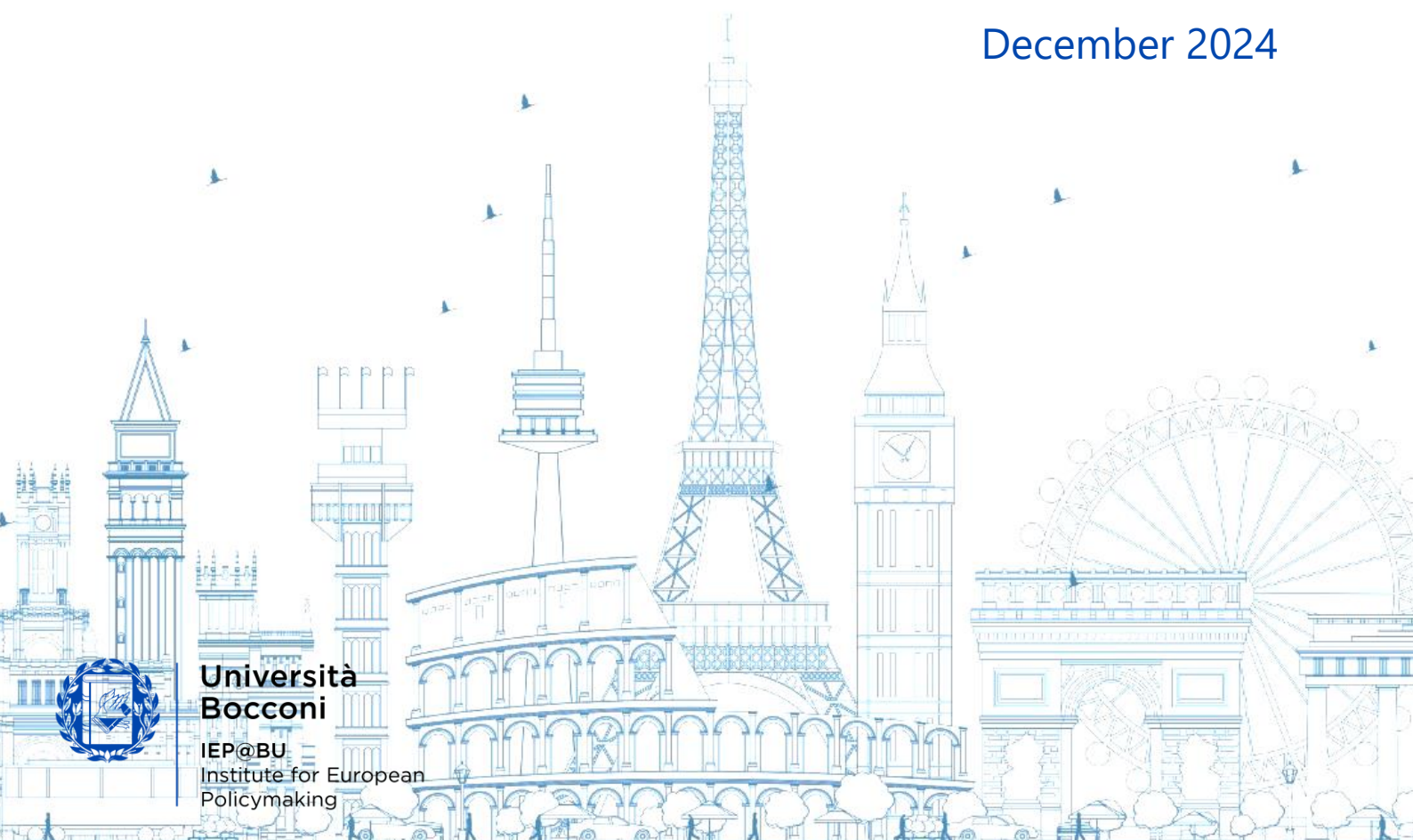
IEP@BU Policy Brief

December 2024



**Università
Bocconi**

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Policymaking



Executive Summary¹

Calls for Europe to do more in defense are long dated. So far, the picture is mixed. On the one hand, European countries have competent armed forces capable of operating effectively in most contingencies and in several areas of the world. The European defense industry is advanced and produces first-class weapon systems. Finally, but more importantly, European countries (e.g. those belonging to the UE and NATO) are still at peace.

On the other, however, European armed forces can generate only limited combat power as their armed forces can be deployed in small numbers and employed for relatively short time. The European defense industry has limited capacity to increase production and, when it comes to leading hedge technologies, it is struggling to catch up both with U.S. prime contractors (which benefit from higher and more constant procurement budgets) and with start-ups operating in new emerging fields. To address these problems, European countries have started increasing significantly their defense expenditure, bringing it to over €300bn in 2024 vis-à-vis €180bn a decade ago. Additionally, the new European Commission wants to break with the past: in the words of Andrius Kubilius, the new EU Commissioner for Defense and Space, the EU should move away from incrementalism and adopt a “big bang” approach, inter alia this means making another €100bn available for weapons acquisition from the EU budget – which would add to the €100bn+ combined national procurement expenditure European countries should reach this year. These are unprecedented developments which could be hardly anticipated just a few years and maybe even a few months ago. As threats are multiplying, challenges arising, and EU countries’ defense budgets are growing, in this report we identify some of the crucial questions that need to be addressed for promoting and achieving more European defense. In other words, to make sure that these efforts do deliver the intended results.

- *Why more European defense?* Europeans need to be clear about their policy priorities given that time is short and resources are scarce.
- *Why not more European defense yet?* Without grasping why more European defense has not been achieved yet, the risk to repeat past mistakes is high.
- *What is to be defended?* Defense policy is about identifying the military instruments necessary to achieve military objectives for the purpose of specific political goals. European countries need to clarify what they want to defend in order to understand what defense they need to develop.

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- *What is more European defense?* European defense has many different possible meanings: it points to inputs (resources), outputs (military instruments) and goals, it points to institutional solutions but also governance mechanisms.
- *How much is enough?* Once we look at what more European defense may mean and compare Europe to the U.S., China or Russia, we still cannot say whether European defense is too small or too big, and more importantly whether it goes in the right or wrong direction. To understand this issue, political goals must be translated into specific strategies, defense postures and force structures. The goal is not to have an efficient spending but an effective defense: the destruction Ukraine is suffering shows that the costs of defense are always lower than the costs of war. In other words, as budgets grow, does Europe need more tanks or jet fighters, more warships or missile defense?
- *Where are the problems, gaps and shortfalls?* European countries' defense policies, armed forces and defense industries suffer from different problems which, however, are a product of specific strategy-posture-structure choices. Europe's military problems must be gauged from this perspective, not in abstract terms.
- *What are the trade-offs, the unintended consequences and the possible vulnerabilities?* Any strategy entails choices and choices have consequences. Since strategy is about complicating the adversary's calculations, European countries do not just want to develop their own strategies, they also want to understand how the adversary is planning and reacting and thus what trade-offs, unintended consequences or vulnerabilities it can exploit.
- *More or different, efficient or effective defense?* Technology luminaries like Elon Musk are increasingly calling the incoming administration of Donald Trump to turn upside-down also the U.S. defense. The idea is that the model of SpaceX and Tesla can be replicated at the Pentagon. Whether they are right or wrong is difficult to say, but either way, European countries should pay attention to these developments, either because Europe wants to adopt effective solutions or or because, should these radical approaches fail, European could find itself without the full military support of the United States.

We do not have answers to all the questions or to all their implications. However, we have some recommendations:

- The process of strengthening European defense should occur in dialogue, not in opposition, to the United States: it is in both actors' interests, this approach would make Europe's efforts more effective and also reduce significantly both its costs and times.
- Over the years, a functional division of labor between NATO (military) and the EU (industry and markets) has emerged: this should be exploited rather than addressed.
- Europe lags behind not only in defense but also in defense analysis: many of the questions highlighted in this report require studies, war-games and simulations which, however, relatively few countries, armed forces and think tanks can conduct in Europe. Without addressing this gap, it will be very hard to significantly improve the state of European defense.
- Since Europe's current security challenges are a byproduct of lack of strategic foresight (years of defense disinvestments and economic cooperation with its main rival, Russia), European countries should develop a strategy shop aim to conduct analyses, net assessments and strategic perspectives, analogous to the U.S. Office of Net Assessment – this organization should keep politics, diplomats and lawyers out.



- As European countries increase their defense budgets, a fundamental question is whether they should invest more in airpower or naval power, in artillery or tanks. Translating defense budgets into coherent and effective strategies require assessments of relative strengths and vulnerabilities, technological trajectories and innovation opportunities. European countries do not want to increase budgets horizontally (a bit to all domains) following a political rather than a strategic logic. Rather, they want to develop effective strategies to achieve their goals. For this reason, they should resist a-strategic calls to 2% or 3% defense spending targets, which have no practical meanings and rather promote more solid strategic, defense and force planning.
- Europe lags behind also in innovation. Recent EU and NATO initiatives are unlikely to address this issue. European countries should create a DARPA-like organization. However, this organization should perfectly follow the U.S. model, i.e. keep bureaucrats and politicians away and grant its staff the necessary room of maneuver to take risks, start projects and develop ideas.
- Many wants more start-ups in defense. However, without opening defense procurement to non-traditional defense companies, any initiative is doomed to fail: it will generate companies unable to sell to any customer.



Introduction

In its 2003 *European Security Strategy*, the European Union noted that the Old Continent had never been so free, so prosperous and so secure in its history.² Two decades later, Europe is decreasingly free, economically declining and less and less secure.³ Because of these as well as other developments, long-dated calls for more European defense have been acquiring stronger traction, in particular since the 2016 election of Donald Trump in the U.S. and Russia's 2022 invasion of Ukraine. Donald Trump's reelection to the U.S. presidency in 2024 has further strengthened these calls.⁴

In a more dangerous and unstable world, the story goes, Europe must thus prepare for war to maintain peace and its security: as Vegetius noted, *si vis pacem para bellum* (if you want peace, prepare for war).⁵ The second European Commission headed by Ursula von Der Leyen had already decided to focus on defense and, after the historic decision to create a Commissioner on Defense, will also present a White Book on this issue within its first 100 days.⁶ Over the past few months, additionally, many voices have already called Europe to do more in the realm of defense, including the two separate reports prepared by former Italian Prime Ministers Enrico Letta and Mario Draghi.⁷ In the meantime, many important developments have occurred, including the sensible increase of European defense spending, which this year should exceed €300bn (it was €180 a decade ago), and of its procurement share (which should exceed €100 this year, while it amounted to €55bn only 2 years ago). On top of this, the new EU Commissioner for Defense and Space, Andrius Kubilius, has recently said that in order to move away from incrementalism in favor of a “big bang approach”, the EU should increase its allocations to defense procurement from €10bn to €100bn – which, if enacted, would double the current expenditure and represent a 400% increase of this source of expenditure when compared to 2022 figures.⁸

In order to execute the principles advanced by Vegetius, and strengthening European defense, we believe Europe should address some fundamental *vexatae quaestiones*: issues that require analytical clarity, strategic decisions and political consensus. The goal is, ultimately, to identify the goals, clarify the means and understand the directions. Otherwise, Europe risks losing time and resources and, worse, not contribute to its own security. At the end, Vegetius warned to prepare for

² Council of the European Union, *European Security Strategy: A Secure Europe in a Better World* (Brussels: General Secretariat of the Council, 2023).

³ Populism has spread in every European country, even pushing the UK out of the EU. Europe's share of the global economy is shrinking while its industrial and technological bases are struggling to innovate, and to catch up with both American and Chinese technologies. Security threats, in the meantime, are multiplying due to a mix of geopolitical instability in the South, revanchism in the East and new opportunities opened by climate and technological change all around the world. For a broader discussion, see Andrea Gilli, Mauro Gilli, Gorana Grgić, Marina Henke, Alexander Lanoszka, Hugo Meijer, Lucrezia Scaglioli, Nina Silove, Luis Simón, And Max Willem Eline Smeets, “Strategic Shifts and NATO's New Strategic Concept,” *Research Paper*, No. 24 (Rome: NATO Defense College, 2022).

⁴ “Europe needs to wake up and look after itself,” *The Economist* (November 7, 2024).

⁵ Lawrence Freedman, “Strategy: The History of an Idea,” in Hal Brands (ed.), *The New Makers of Modern Strategy: From the Ancient World to the Digital Age* (Princeton, NY: Princeton University Press, 2023): 17-40.

⁶ Eleni Lazarou, *White paper on the future of European defence* (Bruxelles, Belgium: European Parliament Research Service, November 2024).

⁷ Mario Draghi, *The future of European competitiveness: A competitiveness strategy for Europe* (Brussels: European Commission, 2024); Enrico Letta, *Much More than a Market: Speed, Security, Solidarity. Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens* (Brussels: European Council, 2024).

⁸ Jacopo Barigazzi, Laura Kayali and Joshua Posaner, “Bracing for a Russian attack: EU defense chief wants €100B for weapons,” *Politico*, December 7 2024.



war, but war, in its times, was mostly about land battles against neighboring enemies, today there are different domains in war, which can occur through wide geographical distances and be waged in multiple forms.⁹

- Why more EU defense?
- Why not more EU defense yet?
- What is to be defended?
- What is more European defense?
- How much is enough?
- Where are the problems, gaps and shortfalls?
- What are the trade-offs, the unintended consequences and the possible vulnerabilities?
- More or different, efficient or effective defense?

After elaborating each question, we conclude with some considerations and recommendations. In the Appendix, we provide a broader overview of the defense ecosystem.

1. Why more EU defense?

Many want Europe to play a bigger defense role. The first question to address in this regard is: why? Analogously to the creation of the Euro, solid reasons are necessary.¹⁰

First and foremost, this is a matter of democratic legitimacy, policy transparency and ultimately political support: European citizens must know and understand the reasons so that they can trust the process and believe in the outcome: otherwise, the entire construction risks falling apart. Second, it is a matter of policy priorities: by knowing why more European defense is needed, it is possible to identify where to start (and where not). Based on public debates, we can identify at least five main reasons to justify Europe's broader defense aspirations:

- *US retrenchment*: according to some, the U.S. is becoming increasingly unreliable as a strategic partner, and thus Europe cannot any longer take for granted its security provision.
- *Aggressive Russia*: Russia's aggressive intentions, the argument goes, represent a pressing reason for strengthening European defense.

⁹ Inspired by the late U.S. strategist Andrew Marshall, we believe that identifying the right questions is more relevant than having all the answers. See Andrew Krepinevich and Barry Watts, *The Last Warrior: Andrew Marshall and the Shaping of Modern American Defense Strategy* (New York, NY: Basic Books, 2015); Jeffrey S. McKittrick and Robert G. Angevine, *Reflections on Net Assessment* (Washington, DC: Andrew W. Marshall Foundation & Institute for Defense Analyses, 2022).

¹⁰ In the case of the common currency, there was the need to prevent currency wars among trading partners, enhance macroeconomic coordination among economically interdependent countries which, in turn, represented something close to an optimal currency area, and finally that a common currency would favor additional trade as well as movement of people and capital, thus potentially strengthening further Europe's economy. See Marco Buti, Servaas Deroose, Vitor Gaspar and João Nogueira Martins (eds.), *The Euro: The First Decade Copertina* (Cambridge: Cambridge University Press, 2010); Alberto Alesina and Francesco Giavazzi (eds.), *Europe and the Euro* (Chicago, IL: University of Chicago Press, 2010); David Marsh, *The Euro: The Battle for the New Global Currency* (New Haven, CT: Yale University Press, 2011).



- *Policy coordination & policy direction*: as European countries face multiple threats and increase their national budgets and capabilities, policy direction and coordination at the European level is necessary to strengthen the collective defense effort.
- *Geopolitical competition*: as the world transitions from great powers' cooperation to great powers' competition, the EU needs to be better able to protect not just its territory but also its global interests.
- *Terrorism, climate change and technological transformation*: globalization, climate change and new technologies call Europe to address both traditional and non-traditional challenges which threaten its security and well-being at home and stability abroad.

These five reasons are not mutually exclusive. Intuitively, however, each reason carries very different policy implications and thus entails different priorities, processes as well as well different times and shapes of the response. If the main threat to European security comes from an imminent US retrenchment, Europe should prioritize its deterrence and defense, the mix of assets and capabilities to deter and eventually defend against a Russian attack. Conversely, if U.S. retrenchment is a medium-to-long term risk, Europe should also focus on the underlying industrial and technological base – in order to avoid being coerced by competitors through supply-chains weaponization. Alternatively, if Europe needs to be able to address non-state actors in the Middle East and Northern Africa or to neutralize cyberattacks and long-range drone swarms launched by both state and non-state actors, its attention should be geared towards broader defense concepts and capabilities.

Insight: Resources are scarce, time is short, and Europe does not have the luxury of alienating allies, exacerbating threats or focusing on non-priorities – let alone confusing its own population. Clarifying the deep-rooted reasons behind “More European defense” may help prioritize activities and identify where “more” “European” and “defense” are needed.

2. Why not more EU defense yet?

If more European defense is needed (demand), why more EU defense is not available yet (supply)? Based on both the academic literature and debates in current affairs, a set of possible answers can be formulated:

- *US crowding out/EU free-riding*.¹¹ A first account holds that European countries are allocating lower resources to defense, in part as American defense investments crowd own their own

¹¹ A reason generally provided to explain the lack of Europe's stronger common defense concerns the United States. Specifically, according to some, the lack of closer European defense cooperation would be the product of a sort of *divide et impera* U.S. policy. We discuss this explanation in the footnotes, because there may have definitively been moments when U.S. policy did not support stronger Europe's defense integration. However, for intellectual honesty, one should also note that the first and more prominent supporter of Europe's defense integration in the early 1950s was the United States which, to simplify, wished it could offshore balance the Soviet Union through Europe. In recent years, U.S. opposition has emerged in other moments, for instance when discussions about EU strategic autonomy started to emerge. However, also in this case, the U.S. did not seem to oppose a stronger EU defense but, more simply, a closed European defense market. Additionally, since the Barack Obama presidency, the United States seems to have been more a promoter than a detractor



and in part because European countries are allegedly free-ride on U.S. defense.¹² Several elements provide *prima facie* evidence in support of this interpretation, including Europe's lower (in absolute and relative terms), more inefficient and ineffective defense expenditure.¹³ Some of the supporters of this interpretation suggests that the withdrawal of U.S. forces from Europe could force European countries to take more care of their own defense, in a process analogous to markets adjustment after the end of state intervention.¹⁴

- **Sovereignty.** A second recurrent explanation holds that European countries are allegedly willing to cooperate inasmuch this does not affect their own sovereignty. On the one hand, logically, the pattern of eschewing long-term cooperation entailing entrapment does not characterize European countries only.¹⁵ On the other, given the trends in weapons technology and costs, in the long-term, loss of sovereignty may be somewhat inevitable: as a result, entrapment would result regardless, either in the short-term by choice or in the long-term by default.¹⁶
- **Culture and identity.** According to a third perspective, European countries would have a much more peaceful culture, making them more skeptical to defense issues than the United States.¹⁷ Europe's warring past and very different national strategic cultures would further make progress in defense or defense cooperation particularly difficult.¹⁸
- **Demography and social policy.** Another interpretation highlights the peculiarity of European societies. With worse demographic trends, European countries have older populations who tend to prefer the status quo and growing expenditure to pensions and healthcare rather than defense.¹⁹ Additionally, European countries have long had generous welfare states.

of Europe's defense. See Sebastian Rosato, *Europe United: Power Politics and the Making of the European Community* (Ithaca, NY: Cornell University Press, 2012).

¹² Mancur Olson Jr. and Richard Zeckhauser, "An Economic Theory of Alliances," *The Review of Economics and Statistics*, Vol. 48, No. 3 (1966): 266-279.

¹³ European countries spend less, spend more on personnel, prefer procuring weapons systems produced at home and avoid developing systems with limited export market but which are fundamental for conducting more military operations. International Institute for Strategic Studies, "Building Defence Capacity in Europe: An Assessment," *IISS Strategic Dossier* (London, UK: The International Institute for Strategic Studies 2024).

¹⁴ Barry R. Posen, *Restraint: A New Foundation for U.S. Grand Strategy* (Ithaca, NY: Cornell University Press, 2014).

¹⁵ James D. Fearon, "Enforcement, and International Cooperation," *International Organization*, Vol. 52, No. 2 (Spring, 1998): 269-305.

¹⁶ Norman R. Augustine, *Augustine's Laws* (Washington, DC: American Institute of Aeronautics and Astronautics, 1983); Marc R. De Vore, "The Arms Collaboration Dilemma: Between Principal-Agent Dynamics and Collective Action Problems," *Security Studies* Vol. 20, No. 4 (2011): 624-62; David O. Smallwood, "Augustine's Law Revisited," *Sound & Vibration Magazine* (March 2012): 4-5; Andrea Gilli and Mauro Gilli, "Why China Has Not Caught Up Yet: Military-Technological Superiority and the Limits of Imitation, Reverse Engineering, and Cyber Espionage," *International Security* Vol. 43, No. 3 (Winter 2018/19), pp. 141-189; Ethan B. Kapstein, "Capturing Fortress Europe: International Collaboration and the Joint Strike Fighter," *Survival*, Vol. 46, No. 3 (2004): 137-159.

¹⁷ Robert Kagan, *Of Paradise and Power: America and Europe in the New World Order* (New York, NY: Alfred A. Knopf, 2003).

¹⁸ Bazy Buzan and Ole Wæver, *Regions and Powers The Structure of International Security* (Cambridge: Cambridge University Press, 2003): 347-40; Hugo Meijer and Marco Wyss (eds.) *The Handbook of European Defence Policies and Armed Forces* (Oxford, UK: Oxford University Press, 2018); Hugo Meijer and Stephen G. Brooks, "Illusions of Autonomy: Why Europe Cannot Provide for Its Security If the United States Pulls Back," *International Security*, Vol. 45, No. 4 (2021): 7-43.

¹⁹ Deborah Jordan Brooks, Stephen G. Brooks, Brian D. Greenhill and Mark L. Haas, "The Demographic Transition Theory of War: Why Young Societies Are Conflict Prone and Old Societies Are the Most Peaceful," *International Security*, Vol. 43, No. 3 (2019): 53-95.



Increasing defense expenditure would then entail altering rigid and sedimented domestic socio-political and economic equilibria – which is often very difficult.²⁰

- *Collective action problem.* Finally, some claim collective action problems explain European defense's uncertain progress. Collective action makes cooperation difficult because it concentrates the costs in the short-term on few actors and spreads its benefits only in the medium-to-long term to a higher number of players.²¹ Cooperation under collective action problems thus occur when a major actor bears its costs.²² This explains why the United States have long played this role in Europe,²³ and why European countries have struggled to achieve broad, long-lasting and deep defense cooperation.²⁴
- *Politico-bureaucratic sclerosis.* A marginal but relevant alternative account holds that countries' defense problems have little to do with the aforementioned factors and more to do with politico-bureaucratic dynamics. Specifically, over time, both private and public defense organizations have grown bigger, slower and inefficient to the point that they can generate very little, irrespective of the resources allocated.²⁵ Israel represents the counterfactual: a small country, with a limited budgets, can generate more military power and innovations than most European countries.²⁶ From this perspective, European defense would be constrained by politico-bureaucratic alliances not by lack of scale or multinational cooperation.

Our list, while wide, may not be exhaustive and other possible explanations can exist. Irrespective, each explanation leads to different solutions. In fact, if the problem of European defense is cultural or demographic, then European leaders and institutions can likely achieve relatively little in the short-to-medium term.²⁷ Conversely, if national sovereignty or collective action problems represent the main obstacles to European defense, the solution may be found in creating new institutions.

Insight: While discussions about what Europe should aim to achieve are relatively recurrent, discussions of the obstacles tend to be, paradoxically, scarcer. However, without understanding the obstacles it is impossible to proceed further.

²⁰ Herbert Obinger and Carina Schmitt, "Guns and Butter? Regime Competition and the Welfare State during the Cold War," *World Politics*, Vol. 63, No. 2 (April 2011): 246-270; James Mahoney, "Path Dependence in Historical Sociology," *Theory and Society*, Vol. 29, No. 4, (Aug., 2000), pp. 507-548.

²¹ Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge, Massachusetts: Harvard University Press, 1965).

²² Charles P. Kindleberger, *The World in Depression, 1929-1939* (Berkeley, CA: University of California Press, 1973).

²³ John J. Mearsheimer, "The Future of the American Pacifier," *Foreign Affairs* (September/October 2001): 46-61

²⁴ Nuno Monteiro, *Theory of Unipolar Politics* (Cambridge: Cambridge University Press, 2014); Luis Simón, "Neorealism, Security Cooperation, and Europe's Relative Gains Dilemma," *Security Studies*, Vol. 26 No. 2 (2017): 185-212.

²⁵ Edward N. Luttwak, *The Pentagon and the Art of War: The Question of Military Reform* (New York, NY: Simon and Schuster, 1985)

²⁶ Edward N. Luttwak and Eitan Shamir, *The Art of Military Innovation Lessons from the Israel Defense Forces* (Cambridge, CA: Harvard University Press, 2023).

²⁷ Keith Darden and Anna Grzymala-Busse, "The great divide: Literacy, nationalism, and the communist collapse," *World Politics*, Vol. 59, No. 1 (2010): 83-115.



3. What is to be defended?

Once both the reasons and the obstacles to more European defense are identified, it is necessary to go one step further and clarify what Europe should exactly defend. Defense is a policy area. Like any policy area, defense serves political goals.²⁸ While the political goals of other policy areas are better known, this is often not the case for defense.²⁹ In this chapter, we hence divide analytically and hierarchically the possible goals the EU can pursue and clarify what more European defense may mean in each case.

- *EU-level*: EU territory, population and political sovereignty;
- *Extra EU-level*: EU external interests;
- *Out-of-area*: Extra-regional balance of power, stability or influence;
- *Global level*: International public goods and global commons.

EU-level. Defense is primarily about sovereignty and, thus, about the underlying territory and population. European countries could then first and foremost focus on their territorial defense. In Europe, territorial defense, alternatively labeled deterrence and defense or collective defense, is responsibility of NATO which, in turn, primarily hinges upon the military capabilities of the United States.³⁰ More European defense in this respect may hence have three different meanings:

- that territorial defense in Europe is not complete (because some assets are lacking or other down- or upstream issues are not addressed, like industrial base bottlenecks or troops' readiness);³¹
- that European countries should try to replace the United States, at least in some of the roles their armed forces fulfill in Europe;
- that more coordination/integration is necessary at the defense policy level.

Extra EU-level. Countries have interests also outside their borders. Defining countries' core interests is often difficult: it is then even more difficult to identify countries' external interests.³² For analytical

²⁸ Richard L. Kugler, *Policy Analysis in National Security Affairs: New Methods for a New Era* (Washington, DC: National Defense University Press, 2006).

²⁹ A methodological note is necessary. Establishing the connection between means and goals, in foreign and security policy, is much more difficult. For instance, deterrence ensures peace but we cannot be certain that peace is the product of deterrence. Consider Europe until 2021. Between Europe and Russia there was peace. Was it a product of deterrence or was it a product of economic cooperation? Back then, many would have probably argued that economic cooperation ensured peace with Russia. However, 3 years later, that understanding does not seem to hold. For a discussion, see Dennis M. Drew and Donald M. Snow, *Making Strategy: An Introduction to National Security Processes and Problems* (Maxwell Air Force Base, AL: Air University Press 1988).

³⁰ Deterrence and defense are a product of both capabilities and credibility.

³¹ For instance, in the pre-2022 Russia's invasion of Ukraine, according to public sources, France could sustain a high-intensity operation for only 9 days: thereafter, it would run out of precision-guided munitions. Stephanie Pezard, Michael Shurkin and David Ochmanek, *A Strong Ally Stretched Thin: An Overview of France's Defense Capabilities from a Burdensharing Perspective* (Santa Monica, CA: RAND Corporation, 2021).

³² The old saying from Lord Palmerson holds that Great Britain had neither permanent allies nor permanent enemies, but just permanent interests. In international affairs, we cannot assume countries' interests as, analytically, we only risk to be contradicted empirically: some countries pursue wealth, other security, some others influence while others status. National interests cannot in fact be easily defined as they change across time and space and are affected by a plurality of variables. Some countries' national interests extend significantly beyond their borders due to the importance of international trade or



purposes, we can divide the external interests of the EU around three categories: ideational, economic and security related.³³ The protection of one's values or principles, like democracy, individual rights or international law, belongs to the first category.³⁴ The protection of critical enablers of economic well-being, like access to natural resources abroad or international markets, belongs to the second category.³⁵ Finally, tackling indirect security threats belong to the third category: growing terrorist activity, civil wars or interstate conflicts in one's own immediate neighborhood are a case in point. More European defense in this context may then mean:

- the politico-institutional capacity to define such interests;
- the politico-institutional capacity to act in protection of such interests;
- the development and possession of the means necessary to intervene in defense of such interests.

Out-of-area. Across history, many powers have aimed to maintain stability or a military balance in nearby regions, for the purpose of preventing the rise of possible challenges and threats as well as to pursue more continuously their external interests.³⁶ Arguably, one could claim that Europe should be no exception and thus aim to preserve stability or prevent the rise of challenges in its surrounding regions, specifically North Africa, Sub-Saharan Africa, Central Africa, the Middle East, the Balkans or and the Caucasus. To some extent, current EU documents already advance similar ideas, although with more emphasis on non-military instruments.³⁷ The skeptics could ask why Europe should even consider these options. This is a legitimate question.

Hypothetically, one could think that as European territorial defense grows more robust, adversaries will have an incentive to attack it asymmetrically, for instance by fostering crises on its periphery

dependency on some natural resources, while for others national interests include the protection of some ethnic or religious minorities in more-or-less close areas. For a broader discussion, see Henry A. Kissinger, *Diplomacy* (New York, NY: Simon & Schuster, 1994). For a more specific view, see Jutta Weldes, "Constructing National Interests," *European Journal of International Relations*, No. 2, Vol. 3 (1996): 275-318.

³³ Andrew Moravcsik, *The Choice for Europe: Social Purpose and State Power from Messina to Maastricht* (Ithaca NY: Cornell University Press, 1998).

³⁴ For instance, in the 19th century, after the Congress of Vienna banned slavery, Great Britain actively suppressed it through the Royal Navy's maritime supremacy. Chaim D. Kaufmann and Robert A. Pape, "Explaining Costly International Moral Action: Britain's Sixty-year Campaign Against the Atlantic Slave Trade," *International Organization*, Vol. 53, No. 4 (1999): 631-668.

³⁵ Dale C. Copeland, *Economic Interdependence and War* (Princeton, NJ: Princeton University Press, 2015).

³⁶ The Vatican in the 15th and 16th century intervened in Italy and Germany to prevent the formation of a central unitary state akin to Spain, France and England. In the 19th Century, Great Britain constantly intervened in Continental Europe to check aspiring hegemonies. In the 20th Century, the United States's declared policy consisted of preventing the rise of regional hegemonies in Europe, Asia or the Middle East. See Anna Grzymała-Busse, *Sacred Foundations: The Religious and Medieval Roots of the European State* (Princeton, NJ: Princeton University Press, 2023); Paul M. Kennedy, *The Rise and Fall of British Naval Mastery* (Amherst, NY: Humanity Books, 1976); Hal Brands, *What good is grand strategy?: Power and purpose in American statecraft from Harry S. Truman to George W. Bush* (Ithaca, NY: Cornell University Press, 2014).

³⁷ Council of the European Union, *A Strategic Compass for Security and Defence: For a European Union that protects its citizens, values and interests and contributes to international peace and security* (Brussels: Council of the European Union, 2022). In this respect, several aspects need to be clarified, including whether Europe should aim to preserve stability in all these regions or only in some of them, in one theater at the time or in multiple theaters simultaneously, for what type of contingencies and for how long. Thomas G. Mahnken, "A Three-Theater Defense Strategy How America Can Prepare for War in Asia, Europe, and the Middle East," *Foreign Affairs*, June 5, 2024.



(with the goal of halting international trade, generating humanitarian emergencies or favoring terrorist attacks).³⁸ Analogously to the previous section, more European defense in this case may mean:

- the politico-institutional capacity to define the areas and types of intervention;
- the politico-institutional capacity to act;
- the development and availability of the means necessary to intervene.

Public goods and global commons. The international system is constituted of sovereign states interacting through diplomacy and agreements which favor and regulate the flows of people (migration, work and tourism), goods and services (trade), as well as data (e.g., collaboration among countries). Such flows, however, largely occur through the global commons: the seas, the air, the cyberspace and the space.³⁹ These flows, in turn, represent public goods: their benefits are dispersed among all countries (albeit not equally), whereas their costs are concentrated.⁴⁰

The international system after the end of World War II and, even more, after the end of the Cold War, worked because the United States commanded those global commons and provided international public goods like stability (primarily through conventional deterrence), international trade (by disincentive free riding), and freedom of navigation. In this context, calls for Europe to do more on defense could, arguably, signify higher contributions to the protection of the global commons and to the provision of the related international public goods, eventually in some specific regions, like the Mediterranean or the Atlantic. In turn, such commitment would require specific capabilities as well as institutional frameworks for decision-making.

Insight: Without clarifying what is to be defended, Europe cannot have any strategy and any defense policy. The different levels discussed in this chapter highlight the wide spectrum of possible capabilities necessary to achieve each goal and its related tasks. Defending one's own territory requires capabilities and assets which differ significantly from those required for protecting maritime trade in the Red Sea. Additionally, pursuing both goals require an overall higher level of defense spending in order to develop, operate and maintain the two different types of necessary capabilities.

4. What is more EU and more European defense??

What does it mean to have more European defense?⁴¹ Defense policy is about transforming inputs (financial resources) into outputs (military means), i.e. developing military capabilities, and then both

³⁸ Barry R. Posen, "The War for Kosovo: Serbia's Political-Military Strategy," *International Security*, Vol. 24, No. 4 (Spring, 2000): 39-84.

³⁹ Barry R. Posen, "Command of the Commons: The Military Foundation of U.S. Hegemony," *International Security*, Vol. 28, No. 1 (Summer, 2003): 5-46.

⁴⁰ Charles P. Kindleberger, "International Public Goods without International Government," *The American Economic Review*, Vol. 76, No. 1 (March 1986): 1-13.

⁴¹ *La battaglia di Pavia e il futuro della difesa europea: 1525-2025* (Rome, Italy: Aspen Institute – Italy, 2022).



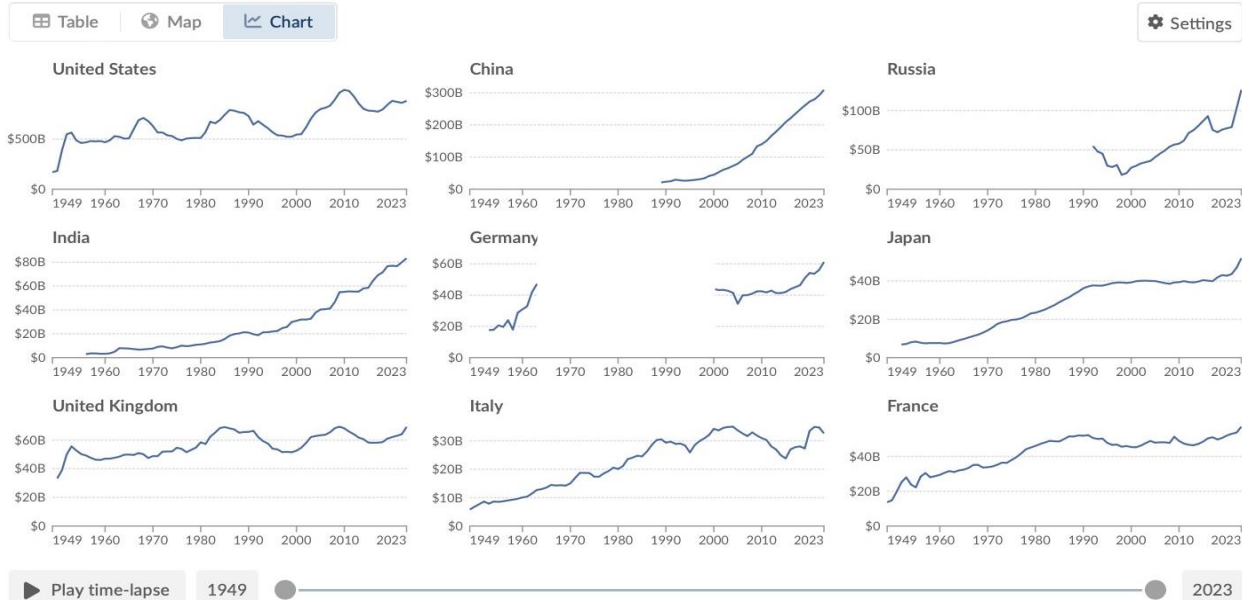
deploying and employing military force as well as connecting these three elements for reaching strategic goals.⁴² More European defense thus inevitably brings the discussion to budgetary allocations: should Europe increase inputs, in order to generate more output, or should Europe improve internal processes and allocations, in order to generate more outputs without increasing inputs?

The following tables show the defense expenditure of some of the biggest and wealthiest countries in the world. Overall, the United States spends around \$900bn, China \$300bn, while France, Germany and the UK are around \$60bn per year. Combined, EU countries are expected to spend over €300bn in 2024. Two considerations are warranted. First, countries have different defense commitments as well as geographical, political and military ambitions and this is reflected in their defense expenditure: the U.S. armed forces are located and operate all around the world; no other country has even vaguely such comparable global reach. Second, countries have also different goals and thus their expenditure should be considered from this perspective. Russia's defense expenditure is significantly lower than all Europe's combined. However, while Russia may intentionally aim to use (or threat to use) force against the EU, EU countries do not – at least for offensive reasons. The actor holding offensive intentions thus enjoys both surprise and target selection advantages, which force the defensive actor to spend proportionally much more. To use an analogy, we protect all banks although criminals may only target some, not all.

Military spending

Includes military and civil personnel, operation and maintenance, procurement, military research and development, infrastructure, and aid. This data is expressed in US dollars and adjusted for inflation.

Our World
in Data



Data source: Stockholm International Peace Research Institute (2024) - [Learn more about this data](#)

Note: This data is expressed in constant 2022 US\$.

OurWorldinData.org/military-personnel-spending | CC BY

⁴² Drew and Snow, *Making Strategy*.

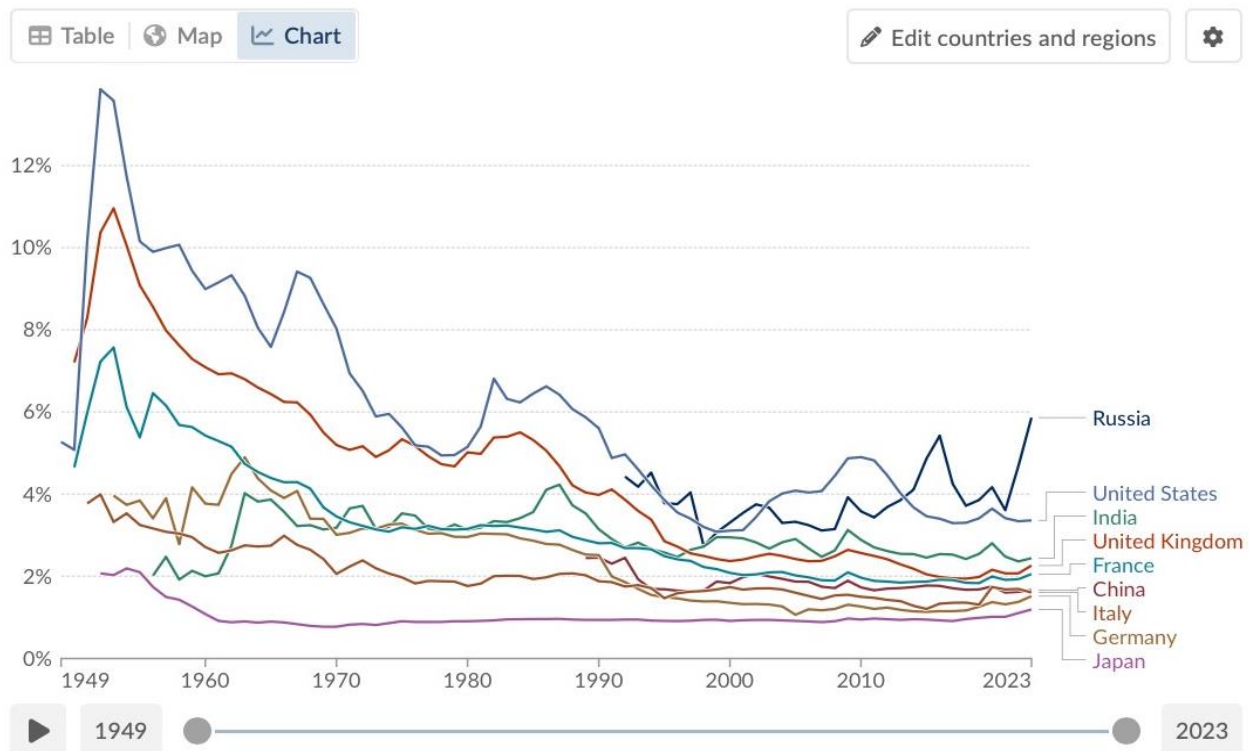


Beside looking at total defense expenditure, it is also worth considering defense expenditure on GDP: this parameter represents a proxy for the level of national efforts. In this respect, NATO has long been asking its Allies to spend 2% of their GDP on defense.⁴³ From the end of the Cold War until a decade ago, only few European countries met this goal. However, in recent years, the number has grown and even those that do not reach this target yet have increased their level of defense spending.⁴⁴ Currently, however, many voices are calling NATO countries to increase the target to 3%.⁴⁵ In real numbers, this means that total European defense expenditure has been growing from €182 in 2014 to €326bn (expected) in 2024, or 1.9% of Europe's total GDP.⁴⁶

Military spending as a share of GDP, 1949 to 2023

Our World
in Data

Military expenditure divided by gross domestic product, expressed as a percentage. Includes military and civil personnel, operation and maintenance, procurement, military research and development, infrastructure, and aid.



Data source: Stockholm International Peace Research Institute (2024) - [Learn more about this data](#)
OurWorldinData.org/military-personnel-spending | CC BY

⁴³ Anthony H. Cordesman, *NATO's Pointless Burden Sharing Debates: The Need to Replace a Mathematically Ridiculous 2% of GDP Goal with Real Force Planning* (Washington, DC: Center for Strategic and International Studies, 2019); Anthony H. Cordesman, *NATO Force Planning: Rethinking the Defense Industrial Base* (Washington, DC: Center for Strategic and International Studies, 2022).

⁴⁴ Jens Stoltenberg, *The Secretary General's Annual Report 2023* (Brussels: NATO HQ, 2024).

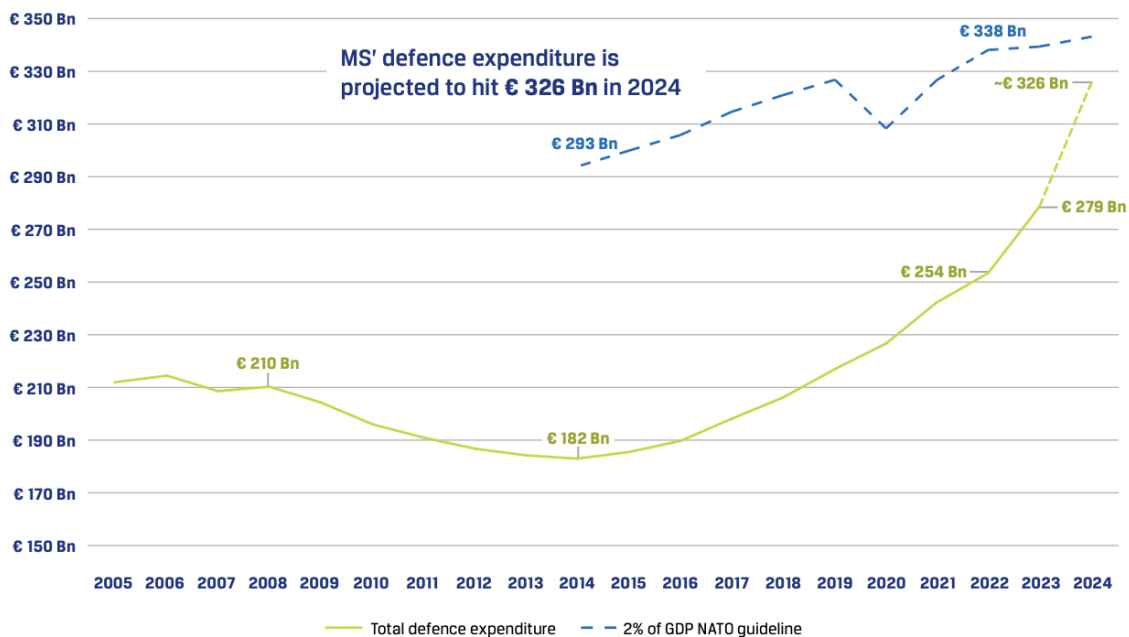
⁴⁵ Dustin Walker and Mackenzie Eaglen, "Trump wants NATO to hit 3 percent GDP on defense. The US could fall short," *Breaking Defense*, October 3 2024.

⁴⁶ European Defence Agency, *Defence Data 2023-24* (Brussels: European Defence Agency, 2024).



Figure 1. Total Defence Expenditure vs the 2% of GDP NATO guideline

Figures are in constant 2023 prices



Source: European Defence Agency, *Defence Data 2023-24* (Brussels: European Defence Agency, 2024): 4.

Defense expenditure must, in any case, be considered with a grain of salt: it is per se an imperfect measure of military power as it does not say anything about efficiency, optimal allocations or effectiveness.⁴⁷ This is the reason why, among others, NATO does not just ask its Allies to spend 2% of their GDP in defense, but also 20% of this 2% on capabilities. This brings to the discussion of the sources of defense expenditure:

- *R&TDTE* (Research, Technology, Development, Testing and Evaluation): the resources allocated to fund entire cycle of research from the initial technology to its transformation into a platform until it technical performance and operational assessment.
- *Procurement* (equipment): the resources allocate to acquire the platforms resulting from R&TDTE.
- *Operations and Maintenance*: the resources allocated to train, operate and maintain all capabilities.
- *Personnel*: the salaries of the defense workforce and, in the case of European countries, also the pensions.
- *Infrastructures*: the resources for building, operating and maintaining all defense physical infrastructures, primarily bases and facilities.

⁴⁷ Political scientists have surprisingly used for long time as a measure of states' actions and intentions without acknowledging its limits. For a discussion, see Keir A Lieber and Gerard Alexander, "Waiting for balancing: Why the world is not pushing back," *International Security*, Vol. 30, No. 1 (2005): 109-139. For a broader criticism of traditional metric, see Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton, NJ: Princeton University Press, 2004).



From the previous tables,⁴⁸ it is worth highlighting not only that both Europe's total defense expenditure and % of GDP defense expenditure are significantly lower than the United States, but also Europe generally spends more on personnel while its procurement and (especially) research expenditures are significantly lower than the U.S. both in absolute and relative terms. The present discussion thus leads to the multiple and also potentially contradictory meanings that more European defense" can have:

- More coordination/cooperation/integration of European countries' defense policies, starting from their budgetary allocations;
- More defense expenditure;
- More expenditure in some allocations (like R&TDTE or procurement);
- More collaborative European expenditure in some allocations (like procurement) to generate economies of scale;
- More consolidation in some sources of expenditure to generate economies of scale or even reduce duplications (like procurement, but also personnel or infrastructures).

Insight: "More European defense" may be an effective political slogan, but it is a weak analytical category and a vague policy imperative. There are different ways to achieve more, different areas to achieve European and different realms of defense: one can decide to tackle them altogether, one step by step, or otherwise. However, more European defense means too many different things for immediate action.

5. How much is enough?

The previous section has shown that Europe, as a whole, spends significantly more than Russia but remarkably less than the United States. What conclusion should we derive: that Europe spends too much or too little? The question is, ultimately, how much is enough?⁴⁹ For good or bad, defense budgets do not win wars or ensure peace: trained, equipped and motivated armed forces, organized around coherent operational plans within broader strategic frameworks do.⁵⁰

⁴⁸ It is worth highlighting that, for instance, some defense spending does not appear under ministries of Defense' budgets and some defense budgets include non-defense measures. For instance, in the United States, the Department of Veteran Affairs is responsible for the pensions and healthcare of veterans: in most European countries, military pensions appear under the budgets of Defense ministries. Analogously, in countries like Italy or France, just to make an example, military police forces perform domestic security roles (like the Carabinieri or the Gendarmerie), that logically do not (or only marginally contribute) to the defense function but they are still funded by the defense budget.

⁴⁹ Alain C. Enthoven and K. V. Smith, *How Much Is Enough? Shaping the Defense Program, 1961-1969* (Santa Monica, CA: The RAND Corporation, 1971).

⁵⁰ Importantly, the military is one of the many elements of statecraft and, thus, other instruments of power should be contemplated and employed, either synergistically, to increase the odds of success, or separately, to avoid the use of military force. Since this discussion would go beyond the scope of this report, we focus on military aspects only although, in principle, it is possible to envisage lesser reliance on military capabilities in some realms and the simultaneous growth in the employment of other means: for instance, development aid towards specific countries could be leveraged to enable



In order to assess European defense and understand where action is needed, it is then necessary to assess the coherency between defense goals (identified in the previous chapter) and defense instruments.⁵¹ In this chapter, we describe three elements at the core of defense instruments: strategy, posture and structure. Next, we illustrate the current (NATO-driven) defense strategy, posture and structure in Europe. Finally, we discuss what this means from a more European defense perspective.

Strategy, posture and structure

Countries have defense goals. They then transform these goals into a set of military objectives which are achieved through defense policy. Defense policy, in particular, identifies the strategies, the postures and the force structures.⁵²

Strategy connects goals with concepts and translates concepts in military objectives. Peace, for instance, can be achieved either through deterrence or compellence.⁵³ the former raises *ex ante* the costs of a possible enemy attack in order to convince the adversary to abandon its plans; the latter aims at imposing *ex post* unsustainable costs to force the adversary to return to the status quo.⁵⁴ Next, deterrence and compellence are translated into specific objectives like suppression of enemy air defenses or long-range precision strike.

Posture is about the combination of strategies, capabilities and positioning of military forces to achieve the military objectives: military forces can be concentrated or distributed, deployed near the front or in the rear, for offensive or defensive purposes.⁵⁵

Finally, force structure is about the very composition of these forces, across and within domains: the ratio among land, naval and air forces and, in each domain, the ratio between different functions, like air defense vis-à-vis ground attack or submarine vs surface ships.

partners' armed forces to fulfill on one's behalf some security roles. See Bryan R. Early and Keith Preble, "Grand Strategy and the Tools of Economic Statecraft," In Thierry Balzacq and Ronald R. Krebs (eds.) *The Oxford Handbook of Grand Strategy* (Oxford: Oxford University Press, 2021): 271-85; Theodore H. Moran, "Grand strategy: the pursuit of power and the pursuit of plenty," *International Organization*, Vol. 50, No. 1 (1996):175-205; Michael Mastanduno, "Economics and Security in Statecraft and Scholarship," *International Organization*, Vol. 52, No. 4 (1998): 825-854.

⁵¹ Statecraft is about employing multiple instruments of power: military, economic, diplomatic, information. The first question concerns the reliance on military power vis-à-vis the other instruments. For instance, an actor could develop military capabilities to defend its maritime trade, or could use diplomacy and economic tools to have others either addressing possible threats or taking over this task. The European Union has, historically, preferred civilian tools. However, any discussion about defense cannot prescind from the other elements. A second consideration is warranted and concerns defense policy. There are two main approaches to defense policy. On the one hand, a supply-based approach starts from the resources, i.e. an actor devises its defense capabilities on the basis of a predetermined amount of allocated resources. On the other, a demand-based approach starts from the goals to achieve. In turn, demand-based defense policy can be threat-based (about addressing theater-specific scenario) or capability-based (about achieving some goals irrespective of the theater). No country perfectly does one or the other, but the fact that European countries depend on the U.S. for several types of military missions highlight that they do not do capability-based planning either at the national or at the EU level. Eric V. Larson, *Force Planning Scenarios, 1945–2016 Their Origins and Use in Defense Strategic Planning* (Santa Monica, CA: RAND Corporation, 2019).

⁵² This analytical construction is simplified for the sake of the current discussion.

⁵³ One could think of détente as the opposite of compellence, but for the sake of this discussion, this option is not included as it entails arms control and confidence-building measures.

⁵⁴ Lawrence Freedman, *Strategy: A History* (Oxford, UK: Oxford University Press, 2013).

⁵⁵ Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton, NJ: Princeton University Press, 2014); Erik Gartzke and Matthew Kroenig, "Nuclear Posture, Nonproliferation Policy, and the Spread of Nuclear Weapons," *Journal of Conflict Resolution*, Vol. 58, No. 3 (2014): 395-401.



Current Strategy, posture and force structure in Europe

NATO is responsible for Europe's territorial defense.⁵⁶ NATO military strategy aims to achieve deterrence and defense through a mix of punishment, denial and reinforcement: NATO is capable of massively sanctioning an enemy attack (punishment), preventing it to succeed by targeting incoming enemy forces (denial) and then to exhaust the enemy through ongoing and major follow-on forces from the entire Alliance (reinforcement).⁵⁷

NATO posture can be summarized in three main parts: a set of (relatively small) forward enhance-presence deployments on the Eastern Front largely serving as tripwire;⁵⁸ and a set of rear and concentrated strategic-level (Allied Command Operations in Mons), operational-level (Joint Force Commands in Norfolk, Naples and Brunssum) and tactical-level (Maritime Command in Northwood, Air Command in Ramstein-Miesenbach and Land Command in Izmir) commands; complemented by national Allies' bases and deployments with the U.S. playing a pivotal role (beside its 100,000+ troops in Europe, the U.S. has also large home reserves ready to be activated and be deployed in case of crisis).⁵⁹

NATO force structure consists of the forces that its Allies have committed to the Alliance (i.e., they do not necessarily commit all their forces to NATO).⁶⁰ Overall, NATO force structure can be seen as the total number of people in uniform, equipment and assets allocated for NATO deterrence and defense, crisis prevention and management and cooperative security missions: the land, sea, air, cyber and space capabilities and the enablers which permit them to operate together. NATO force structure is currently undergoing a major transformation called New Force Model which aims to raise the number for rapid, short-term and medium-term deployment troops.⁶¹ NATO force structure has several features: first, its air and missile defense is not complete; second, in theory it emphasizes denial capabilities (like suppression of enemy air defenses and electronic warfare), however, since

⁵⁶ European countries have their own independent armed forces, military strategies, defense postures and force structures. However, since European countries do not contemplate going to war against each other, face common threats and would fight together in case of attack even against a single European nation, the most effective framework to understand European defense is through NATO architecture. Antonio Missiroli, *La difesa dell'Europa. Chi garantisce la sicurezza del continente?* (Milano: Mondadori, 2024).

⁵⁷ Sean Monaghan, "Resetting NATO's Defense and Deterrence: The Sword and the Shield Redux," *CSIS Brief* (Washington, DC: Center for Strategic and International Studies, June 2022). The defense of Europe's extra-regional interests is ensured, indirectly, through NATO military strategy (its NATO crisis prevention and management mechanisms) as well as both U.S. military presence and individual NATO/EU countries' own strategies (the UK, France, Italy and to a lesser extent Spain). Similarly, stability in nearby and faraway regions as well as the defense of global commons are primarily guaranteed by U.S. global and regional presence, also in conjunction with its allies (France and the UK both in the Middle East and Asia and countries like Israel, Turkey and Saudi Arabia in the Middle East, and Australia, Japan, South Korea and New Zealand in Asia-Pacific).

⁵⁸ The idea of tripwire was mostly popularized by the limited U.S. military presence in Berlin, during the Cold War: such force would have no chance of resisting a Soviet invasion. However, since Soviet troops would have to attack U.S. forces to conquer Berlin would trigger an American response which, in turn, would have served as deterrent. Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960).

⁵⁹ For a country-by-country analysis, see King Mallory, Gene Germanovich, Jonathan W. Welburn and Troy D. Smith, *Burdensharing and Its Discontents Understanding and Optimizing Allied Contributions to the Collective Defense* (Santa Monica, CA: RAND Corporation, 2024).

⁶⁰ This has multiple reasons, including that some have other national commitments (the US, the UK, France) or other international obligations (UN- or EU-missions).

⁶¹ John R. Deni, "The new NATO Force Model: ready for launch?," *NDC Outlook*, No. 4 (Rome: NATO Defense College, 2024).



these are currently in scarce supply, de facto, NATO force structure strongly depends on its nuclear element and on the logistical component for transporting the follow-on forces.

More European defense: strategy, posture and force structure

What does more European defense mean when it comes to strategy, posture and force structure?⁶²

- Strategy-wise, the main question is whether European countries should adopt a different strategy for its collective defense. For instance, some in Europe may want to revisit the current NATO strategy based on punishment, denial and reinforcement to focus much more heavily on denial. The United States would probably welcome such a change provided it comes with a significantly superior European contribution.⁶³
- Posture-wise, the twin-question for Europe is whether and how to adopt a new posture to meet a novel strategy and/or to make the current strategy more coherent and effective. For instance, many Central and Eastern EU countries would probably welcome much bigger deployments from other Allies on the Eastern front, and thus bigger, permanent hardened bases hosting a wider mix of capabilities.⁶⁴
- Structure-wise, European countries face two intertwined questions. How can they better meet NATO's current force structure requirements and, in particular, which capabilities should they prioritize? Although NATO capability targets and the forces each country allocates to the Family of Regional Plans in the NATO New Force Model are classified, there is wide consensus about Europe's capability gaps.⁶⁵ Second, should Europe pursue a different force structure, for instance emphasizing more the naval or air domains rather than ground assets?⁶⁶ NATO Allies, for instance, could contemplate a significantly bigger role in their force structures for air- and sea-launched long-range strike and suppression of enemy air defenses in order to force Russia to move resources away from the land component – with the goal of reducing the threat to European countries.⁶⁷

⁶² Here we do not delve into the nuclear domain both because it is very sensible and because Europe has, in the short-to-medium term limited chance to develop an autonomous nuclear deterrent either comparable to the U.S. or capable of checking Russia's nuclear forces. Héloïse Fayet, Andrew Futter and Ulrich Kühn, "Forum: Towards a European Nuclear Deterrent," *Survival: Global Politics and Strategy*, Vol. 66, No. 5 (September 2024): 67-98. For a different view, see Etienne Marcuz's thread on X, November 24, 2024, available at https://x.com/M51_4ever/status/1860614247522226462 and <https://threadreaderapp.com/thread/1860614247522226462.html>

⁶³ In 2021, the newly elected Biden administration informally aired the proposal to reduce the role of nuclear weapons in NATO's deterrence and defense strategy, just to be quite vehemently rejected from its European allies.

⁶⁴ Michael Hunzeker and Alexander Lanoszka, "Fort Trump: A Silly Name Masks a Good Idea (September 21, 2018).

⁶⁵ Europe basically lacks long-range intelligence, surveillance and reconnaissance systems capable of operating in segregated environments, air-to-air refuel tankers, and counter-battery fire while it is short on long-range air-to-ground and ground-to-ground missiles as well as artillery, main battle tanks, as well as anti-submarine and electronic-warfare capabilities, among others.

⁶⁶ Bryan Clark and Dan Patt, *Campaigning to Dissuade: Applying Emerging Technologies to Engage and Succeed in the Information Age Security Competition* (Washington, DC: Hudson Institute, 2023).

⁶⁷ This is at the core of the concept of competitive strategy. See Thomas G. Mahnken (ed.), *Competitive Strategies for the 21st Century: Theory, History, and Practice* (Stanford, CA: Stanford University Press, 2012).



Insight: Strategy, posture and structures go hand-in-hand, but not linearly and predictably. European countries can think about changing only their strategy, the underlying posture or the constituting structures, or revisit them altogether, but any change should be considered for the problems it addresses, the effects it is intended to generate and especially its unintended consequences. For European countries, at their current efforts aimed at strengthening European defense, this question is particularly important because it leads to investigate whether one should spend more on tanks or more on aircraft, on warships or submarines, on bases or mobility.

6. What are the problems, gaps and obstacles?

Discussions about the problems, gaps and shortfalls characterizing European defense are long-dated and generally agreeable. However, two considerations are warranted. On the other hand, these issues do not exist in a vacuum: they ultimately depend on underlying strategy-posture-structure choices. On the other, it is necessary to understand their origins as well as the nature of the possible solutions. In this chapter, we present a framework to identify how and where the possible problems, gaps and obstacles can be located.

Foundations of military power. Military power is generally divided into four components: *Force structure:* the division of the forces in subgroups like divisions, brigades and battalions. *Modernization:* the equipment employed by the forces, like jet fighters, submarines and main battle tanks. *Readiness:* the amount of combat-ready deployable troops. *Sustainment:* the logistical capacity, the reserves, the stockpiles and the industrial base to conduct operations over time. Any element undergoes a three-phased cycle: training, deployment, and rest and recuperation, or repair and maintenance. Let's now look at some examples.

Force structure. Consider a country possessing just a division-strong army (7-22k troops). In each division there are 3 (A, B and C) brigades (2-8,000 troops), and in each brigade 3 (1, 2 and 3) battalions (400-1,200 troops).⁶⁸

- In pre-crisis times, this country needs to deploy a battalion. With its single division-army, this country can have the 3 battalions of brigade A respectively in training, deployment and in rest and recuperation. Later, brigade B will take over from A, and further later brigade C will take over from B.
- A crisis erupts and the same country now needs to increase its contributions from a battalion to a brigade. At this point, its one division-strong army will be basically stretched thin: brigade A (with its 1-2-3 battalions) will be in training, brigade B (with its 3 battalions) will be deployed and brigade C (with its 3 battalions) will be in rest and recuperation. Should any new contingency emerge or were just one of its battalions to suffer high casualties, the country would soon be unable to meet its current commitments.

⁶⁸ The scenario is fictional and intentionally simplified for clarity purposes. For a broader discussion, see for example Glenn A. Kent, *A Framework for Defense Planning* (Santa Monica, CA: RAND Corporation, 2019).



Modernization. Assume the previous country possesses a tanks fleet for equipping just 4 battalions.

- In pre-crisis times, its tanks fleet will be split among deployment (with battalion A1) training (A2) as well as repair and maintenance (A3). As brigade B takes over from A, it will have sufficient tanks for training and later deployment.
- As the crisis erupts, and the country is now asked to deploy a brigade, or 3 battalions, its tanks fleet will not be sufficient. It can initially equip its deployed brigade A. However, brigade B will have the tanks to train only one of its three battalions and its capacity to deploy fully will depend on the extent of repair and maintenance the tanks fleet used by Brigade A will have to undergo.

Readiness. Military deployment requires that the personnel and the equipment comply with required levels of readiness. However, if troops are not able to undergo initial training and testing, advanced testing to increase overall readiness, or continual training to sustain readiness levels, this may not be the case. Similarly, if the equipment cannot be repaired, maintained, updated or upgraded, the equipment is also not available. Simply put, the fact that a country has a notional army brigade or a brigade-sized tank fleet does not necessarily mean the brigade can deploy.

- In pre-crisis times, the country may have decided to keep active only brigade A while putting on hold brigade B and C. This means that for these two brigades, both training and exercises and maintenance and repair of equipment have significantly slowed down. As a result, while on paper the country has three brigades, de facto only one is active.
- As the crisis emerge, before being able to deploy brigade A, the country needs to increase the readiness levels of brigade B and C. Importantly, readiness may be impacted by different factors, including new doctrines, techniques, tactics, and procedures as well as new equipment.⁶⁹

Sustainment. Countries do not have just to deploy their military forces once. They have to sustain their efforts over time. Self-evidently, the issue is related to the cycles of deployment, training/repair and rest and recuperation but entails also broader challenges.

- The challenges of deploying military forces grow with time for the simple reason that military personnel ages, gets sick or injured, and quits; equipment breaks down; and stockpiles deplete. This is a natural process that even limited engagements with enemy forces can significantly exacerbate: anti-tank weapons, mines and machine guns are easily and widely available.⁷⁰
- Let assume a notional battalion consumes 10, 100 and 1000 of munition, spare parts and fuel on a daily basis. As the deployed force augments to a brigade, in order to address a worsening security situation, the sustainment effort grows more than proportionally. In the new scenario, the battalion's consumption grows to 20, 200 and 2000 per day, but for the

⁶⁹ Andrea Gilli and Mauro Gilli, "The Diffusion of Drone Warfare? Industrial, Organizational, and Infrastructural Constraints," *Security Studies*, Vol. 25, No. 1 (2016): 50-84.

⁷⁰ Costantino Pischedda, Andrea Gilli and Mauro Gilli, "Weapons of the Weak: Technological Change, Guerrilla Firepower, and Counterinsurgency Outcomes," *Journal of Conflict Resolution* (forthcoming).



entire deployment of a brigade this means 60, 600 and 6000; a 600% increase in consumption levels.

- The challenge then grows outside of the military force and entails also the defense industrial base. Specifically, production needs to be scaled. This is difficult in any business, but it is particularly difficult in defense for its higher security requirements. The challenge of quickly increasing production in front of a rapidly growing demand may lead to two equally negative consequences: inflation (thus reducing the purchasing power of defense budgets) or hoarding among allies.⁷¹
- Finally, transporting munitions, fuel and spare parts to the front requires logistical capabilities which few countries in Europe possess. As the deployed force grows in size, the necessary logistical capabilities grow exponentially, thus putting further strain on the existing capabilities.

In this chapter, we have highlighted the exponential growth in the complexity related to defense policy and planning as new tasks, theaters and scenarios must be accounted for. For simplicity, we have discussed relatively small increases in deployments of forces belonging to a single domain (land). Logically, as deployment grows further (from one to several brigades) and involves also other domains (air and naval), the challenges grow massively. Expenditure has hence to increase:

- *Research*: expenditure has to increase to fund research on new threats.
- *Equipment*: expenditure has to increase to augment fleets size as well as to acquire newer generation platforms.
- *Operations and Maintenance*: expenditure has to increase to fund deployment, maintenance, repair as well as training;
- *Personnel*: expenditure has to increase to recruit new personnel, to acquire necessary skills and to sustain the higher costs related to operations (including medical expenses).
- *Infrastructures*: expenditure has to increase to fund new accommodation and training facilities as well as forward operating bases where troops station on in theater.

Insight: the gaps, problems and shortfalls to be addressed are a product of the political goals, their underlying strategies, postures and structures adopted.

7. What are the trade-offs, the unintended consequences and the possible vulnerabilities?

Strategy is not just about some linear ends-ways-means connections. Strategy is about complicating the adversary's calculus in multiple ways – including dissimulation, cost-imposition, disinformation

⁷¹ Edward G. Keating and Mark V. Arena, "Defense inflation: what has happened, why has it happened, and what can be done about it?," *Defence and Peace Economics*, Vol. 27, No. 2 (2016): 176-183; Philip Pugh, *The Cost of Sea Power: The Influence of Money on Naval Affairs from 1815 to the Present Day* (London: Conway, 1986).



and escalation.⁷² Along the same lines, security is inherently relative, and a security strategy is necessarily a trade-off exercise between short- and long-term goals, among multiple threats as well as between security and other public goods, like freedom or economic growth.⁷³ Accordingly, if a strategy entails trade-offs, and the adversary's strategy is aimed at complicating our trade-off calculations, more European defense must also be geared in formulating strategies which complicate the adversaries' calculations, hopefully consolidating competitive advantages, while minimizing one's own possible disadvantages, weaknesses and vulnerabilities.

In this respect, it is important to stress that economic competition, business competition and strategic competition share some similarities but also display remarkable differences.⁷⁴ In particular, actions not contemplated in economic competition frameworks and falling under the criminal code in business are business practice in strategic affairs.

Russia is not just trying to make its weapons cheaper and more effective: it is directly trying to destroy Ukraine's weapons production capacity, in order to break the morale of the Ukrainian population as well as, through disinformation and nuclear coercion, to halt Western support to Kyiv. This difference is fundamental when devising any strategy as it forces policy makers not only to consider the competitors' possible symmetric reactions but, more importantly, also the asymmetric counter-moves.⁷⁵ For instance, a forward-leaning deterrence and defense posture (i.e. with troops deployed near the possible points of attack), by implying strong physical defenses in some specific geographical areas, may invite enemy attack in other, less protected zones and/or with unconventional means. Analogously, a rear-leaning deterrence and defense posture grants more flexibility but may inherently invite rapid, unexpected attacks against front areas.⁷⁶

For these reasons, it is necessary to consider the possible trade-offs, unintended consequences and vulnerabilities of any strategy. Since we cannot provide an exhaustive analysis, we provide some illustrative examples.

- *Trade-offs*: European countries currently face an implicit but massive trade-off between immediate military support to Kyiv and the development of their deterrence and defense capabilities in the medium-term against Russia. If European countries prioritize the latter, they are potentially setting themselves up for a much bigger challenge because deterrence and especially defense against Russia are not only more expensive and more especially difficult than military support to Kyiv: Ukraine's current challenges leaves no doubt about

⁷² Mie Augier and Andrew W. Marshall, "The Fog of Strategy: Some Organizational Perspectives on Strategy and The Strategic Management Challenges in The Changing Competitive Environment", *Comparative Strategy*, Vol. 36, No. 4 (2017): 275-292. For an historical discussion, see Norman Friedman, *The U.S. Maritime Strategy: Policy, Programmes, Tactics* (Annapolis, MD: Naval Institute Press, 1988); Austin Long and Brendan Rittenhouse Green, "Stalking the Secure Second Strike: Intelligence, Counterforce, and Nuclear Strategy," *Journal of Strategic Studies*, Vol. 38, No. 1-2 (2015): Pages 38-73; Brendan R. Green and Austin Long, "The MAD Who Wasn't There: Soviet Reactions to the Late Cold War Nuclear Balance," *Security Studies*, Vol. 26, No. 4 (2017): 606-41.

⁷³ Kenneth N. Waltz, "The Emerging Structure of International Politics," *International Security*, Vol. 18, No. 2 (Fall, 1993): 44-79.

⁷⁴ Gautam Mukunda, "We Cannot Go On: Disruptive Innovation and the First World War Royal Navy," *Security Studies*, Vol. 19, No. 1 (2010): 124-159; Carl von Clausewitz, *On War* – edited and Translated by Michael Eliot Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1989).

⁷⁵ Edward N. Luttwak, *Strategy. The Logic of War and Peace* (Cambridge, MA: The Belknap Press of Harvard University Press, 1987).

⁷⁶ Evan Braden Montgomery, "Contested Primacy in the Western Pacific: China's Rise and the Future of U.S. Power Projection," *International Security*, Vol. 38, No. 4 (Spring, 2014): 115-149.



this.⁷⁷ On the other hand, by prioritizing military support to Kyiv, European countries would potentially leave themselves exposed to ongoing Russia's attacks and coercion for the months or years to come. Between 2022 and 2024, European countries' defense expenditure has increased from around €250 to €320bn billions per year, with the share to equipment growing from €62bn (2022) to more than €100bn (2024). At the same time, military aid from EU countries has topped €40bn (€60bn including the UK, Norway, Iceland and Switzerland).⁷⁸ Since EU countries' equipment expenditure has increased approximately by \$50bn (+10 in 2023 and + 40 in 2024), and newer equipment is generally more expensive than the (older) one (donated to Ukraine), this very recent increase in European countries' defense procurement expenditure seems so far to have primarily replaced the very equipment donated to Ukraine, thus accelerating military modernization and (in part) expanding industrial manufacturing capacity.⁷⁹ For the years ahead, the trade-off however remains: should European countries prioritize the production of what Ukraine needs or focus on what their deterrence and defense strategies require?

- *Unintended consequences*: Strategic choices do not only impose trade-offs, they may also lead to unintended consequences, sometimes offsetting or even cancelling some of the expected gains. A good example concerns the goals discussed in chapter 3. If Europe were only to strengthen its territorial defense, paradoxically the outcome may not be more security but more attacks against its external interests. An enemy would just exhaust Europe where it is weaker: attacks against its undersea cables and pipelines, its maritime trade routes or the areas where Europe sources some of its raw materials.⁸⁰
- *Vulnerabilities*: any strategy entails vulnerabilities and, specifically, possible single points of failures.⁸¹ NATO's current deterrence and defense postures is built, as discussed, around the assumption that the logistical capabilities necessary to bring follow-on and reinforcement forces to the front are available.⁸² Were such capabilities to lack, be unusable or be attacked, NATO strategy would be under serious pressure. As more European defense is pursued, a critical task consists of identifying the possible past, present and future vulnerabilities, including those emerging from any change in strategy-posture-structure, and next of finding possible solutions and countermeasures.⁸³

⁷⁷ Additionally, were Russia to emerge victorious in Ukraine, its appetite and capabilities, and thus the related threat to Europe, could grow even bigger while Europe's deterrence credibility would inevitably result significantly undermined.

⁷⁸ Pietro Bomprezzi, Ivan Kharitinov and Christoph Trebesch, "Ukraine Support Tracker – Methodological Update & New Results on Aid "Allocation"," *Research Note UST* (Kiel: Kiel Institute for the World Economy, June 2024).

⁷⁹ A more detailed analysis would be required in this respect. However, this aspect further highlights the important of understanding, strategically, where new resources should be allocated: if European countries donated artillery and armor to Ukraine, should they buy newer artillery and armor or, rather, they should invest their higher resources elsewhere.

⁸⁰ Andrea Gilli and Mauro Gilli, "Imitation, innovation, disruption: challenges to NATO's superiority in military technology," *NDC Policy Brief*, No. 25 (Rome: NATO Defense College, 2019).

⁸¹ Luttwak, *Strategy: The Logic of War and Peace*; Barry Posen, *The Sources of Military Doctrines: France, Britain, and Germany Between the World Wars* (Ithaca, NY: Cornell University Press, 1984).

⁸² Sarah Tarry, "NATO's Deterrence and Defence: Protecting the Future," in John Andreas Olsen (ed.), *Routledge Handbook of NATO* (London: Routledge, 2025).

⁸³ Gilli *et al.*, "Strategic Shifts and NATO's New Strategic Concept.," Pierre Morcos and Luis Simón, "NATO and the South after Ukraine," *CSIS Brief* (Washington, DC: Center for Strategic and Budgetary Assessment, 2022).



Insight: Any strategy entails trade-offs. Strategists and politicians must be aware of these trade-offs and assess them carefully to avoid that Europe's security end up harmed rather than enhanced.

8. More or different, efficient or effective defenses?

Our last question is directly inspired by recent public interventions from no less than Elon Musk (founder of Tesla, SpaceX and owner of X), Marc Andreessen (founder of Andreessen & Horowitz) and Shyam Sankar (CTO of Palantir Technologies) as well as by earlier comments from Christian Brose (Anduril Industries) and Steve Blank (Hacking for Defense) who have asked: do we need more defense or do we need a different defense?⁸⁴ This group of tech luminaries is ultimately wondering whether the way defense departments and the armed forces are organized and they operate should not be revisited, *de facto* reiterating some of the skepticism advanced by Edward Luttwak in the 1980s.⁸⁵

Two theories of military superiority. There are two different theories of military superiority. To understand this debate, it is useful to connect it to the intellectual dialectics in management between Michael Porter and Clayton Christensen.⁸⁶ According to Porter, companies succeed by specializing in the areas where they have a competitive advantage.⁸⁷ According to Christensen, in contrast, great companies by focusing on their area of strength neglect emerging markets, customers, technologies or innovations, thus leaving the door open for new competitors to overtake their position.⁸⁸

In the realm of defense, this debate is equally split. On the one hand, some think the U.S. sits an unrivaled position of strength thanks to its decade-long investments in science, technology, industry, organizations and armed forces, whereby all the actors have developed such a deep and broad mutual understanding that they can effectively translate strategic ideas into advanced military capabilities.⁸⁹ Thus, by continuing this business model made of extremely complex, costly and advanced weapon systems, the U.S. can dissuade its adversaries by simply setting the threshold for competition extremely high.⁹⁰ On the other, some think, the military superiority of the U.S. is eclipsing because of the collusion between, and organizational apathy of, military officers, defense

⁸⁴ Christian Brose, *The Kill Chain: Defending America in the Future of High-Tech Warfare* (New York, NY: Hachette Books, 2020); Shyam Sankar, *The Defense Reformation* (Washington, DC: Palantir Technologies, 2024). Shyam Sankar is also tapped to take a leading research and engineering position at the Pentagon. See Paul McLeary and Jack Detch, "Trump considering tech exec to run Pentagon's engineering arm," *PoliticoPRO*, December 4 2024.

⁸⁵ Luttwak, *The Pentagon and the Art of War*.

⁸⁶ Joshua Gans, *The Disruption Dilemma* (Cambridge, MA: The MIT Press, 2016).

⁸⁷ Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: Free Press, 1980); Michael E. Porter, *The Competitive Advantage: Creating and Sustaining Superior Performance* (New York, NY: Free Press, 1985).

⁸⁸ Clayton M. Christensen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Cambridge, MA: Harvard Business Review Press, 1997).

⁸⁹ Eugene Gholz and Harvey M. Sapolsky, "The defense innovation machine: Why the U.S. will remain on the cutting edge," *Journal of Strategic Studies*, Vol. 44, No. 6 (2021): 854-872.

⁹⁰ Andrew F. Krepinevich and Robert Martinage, *Dissuasion Strategy* (Washington, DC: Center for Strategic and Budgetary Assessment, 2008); Gilli and Gilli, "Why China Has Not Caught Up Yet?"



bureaucrats and the traditional defense industry.⁹¹ The only way to restore U.S. military primacy thus consists of reducing bureaucratic requirements, empower operational forces in acquisition procedures and accelerate technology and force development to reduce time to market/battlefield: this would occur through opening the defense business to the dynamic, entrepreneurial and commercial technology ecosystem the U.S. possesses.⁹²

Why does this matter to Europe and what should Europe do about it?

This debate is fundamentally important for Europe. On the one hand, if the defense business is going to be disrupted analogously to other businesses, European countries should think about organizing their new defense initiative around these new principles, concepts and solutions. At the end, SpaceX has totally changed the space business, putting European contractors in difficult situations. In theory, we cannot rule out the same could happen to other strategic industries related to aerospace and defense.⁹³ On the other, and related, if the disruption understanding were actually doomed to fail (e.g., Michael Porter provides a more compelling account than Clayton Christensen), European countries should pay even closer attention. In fact, if Trump is going to empower individuals such as Musk, Andreessen, and Shankar, the transformation they would bring about could significantly, and negatively, impact the military support the United States can provide Europe with. Europe should thus accelerate its defense to offset the weakening of U.S. military power. Additionally, this debate still forces European countries to reason about some of the facts and possible solutions.

- With a €330bn combined defense budget, it is imperative to ask why European countries can generate relatively little military power as well as how and why they lag behind even in some emerging fields dominated by recent start-ups (like drones, cyber defense or space observation).
- Many want Europe to consolidate both its military procurement (demand) and its defense production (supply). Without necessarily marrying the disruption interpretations, it is evident that there are some risks. First, if European countries buy and produce together more weapon systems, the total number of European weapon systems will shrink to the levels of the United States.⁹⁴ Consolidation may bring down average unit costs (by spreading fixed costs over a higher number of units). However, high demand (due to higher budgets) and lower competition could actually also reduce the incentives towards efficiency and effectiveness and thus, ultimately lead to more expensive weapons systems designs: like it happens in the United States.⁹⁵

⁹¹ Steve Blank, *The Small, the Agile, and the Many The Navy's Hedge Gordian Knot Center for National Security Innovation* (Stanford, CA: Gordian Knot Center for National Security Innovation, 2021); Steve Blank, "The DoD is getting its innovation act together, but more can be done," *Defense News*, January 5, 2024; Steve Blank, "How to Fix a Broken Defense Department to Beat China and Russia," *War on the Rocks*, November 27, 2024.

⁹² Brose, *The Kill Chain*; Sankar, *The Defense Reformation*

⁹³ Todd Harrison, *Building an Enduring Advantage in the Third Space Age* (Washington, DC: American Enterprise Institute, 2024).

⁹⁴ Carlo Cotarelli and Leoluca Virgadamo, "Defense Expenditure in EU Countries," *Policy Brief* (Milan: Institute of European Policy-Making, 2024).

⁹⁵ Robert Jervis, *System Effects: Complexity in Political and Social Life* (Princeton, NJ: Princeton University Press, 1997); "DOD Is Not Yet Well-Positioned to Field Systems with Speed," *Report to Congressional Committees: Weapon Systems Annual Assessment* (Washington, DC: United States Government Accountability Office, 2024); Ethan B. Kapstein and Jean-Michel Oudot, "Reforming Defense Procurement: Lessons from France," *Business and Politics*, Vol. 11, No. 2 (2009):



- By lowering the number of weapons programs, countries may face another risk, namely that suboptimal weapons designs are selected. In Vietnam, the U.S. Navy combat aircraft performed better than the U.S. Air Force's while after the end of the Cold War,⁹⁶ both the U.S. Navy and the U.S. Army selected several highly questionable weapons designs which, ultimately, were either cancelled or significantly downsized: the Littoral Combat Ship, the DDG(X) Zumwalt-class destroyer and the Future Combat System.⁹⁷ Those claiming that European defense needs more direction, integration and cooperation points to more centralization which, in contrast, for the disruptors like Musk and Blank represents the major sources of problems for the defense world. For this reason, they suggest that combatant commanders and more generally the operation forces should be empowered in procurement over acquisition bureaucracies. Also in this case, this argument should be given some attention. The U.S. flew its Medium-Altitude Long-Endurance (MALE) drone *Predator* in 1996: almost 30 years later, European countries have not deployed yet any indigenous MALE drone.⁹⁸
- Last but not least, if weapons procurement and production are consolidated around a few decision-making groups and in a few companies, adversaries may potentially have a much easier game in undermining European defense: they just need to target a fewer number of critical nodes for disrupting the entire process. This may mean, *inter alia*, targeting individuals, manufacturing plants or supply-chains, even in hybrid ways, or just devising specific counter-measures or counter-systems. Self-evidently, this highlights the tension between efficiency vs effectiveness in defense policy: efficiency may simplify the life of the adversary thus compromising effectiveness, which is the priority for defense policy.⁹⁹

Insight: do we need more defense or a different defense, and do we need efficiency or effectiveness? Twenty years ago, the mantra of European defense was cooperation. After having pursued cooperation, now European countries are realizing they lag behind in innovation. More attention to a different defense should be paid, not least to check the foundations of the assumptions on which modern defenses are built upon.

1-25. Over the past 70 years, the attempts to fix multinational defense procurement have delivered mixed results: as governance mechanisms were introduced to reduce time delays and cost-overruns, the result was a higher number of defections. The F-35 Lightning II/ Joint Strike Fighter is bought by the U.S Navy, Air Force and Marine Corps and produced by a single consolidated company. However, it is still produced in 50 different electoral districts, hardly a sign of manufacturing efficiency, but more the product of political expediency. For a discussion of Europe, see De Vore, "The Arms Collaboration Dilemma".

⁹⁶ John Stillon, *Trends in Air-to-Air Combat Implications for Future Air Superiority* (Washington, DC: Center for Strategic and Budgetary Assessment, 2015).

⁹⁷ Joaquin Sapien, "The Inside Story of How the Navy Spent Billions on the "Little Crappy Ship"," *ProPublica*, September 7, 2023.

⁹⁸ Andrea Gilli and Mauro Gilli, "Emerging Technologies and Unmanned Aerial Weapons," in Hugo Meijer and Marco Wyss (eds.), *Oxford Handbook of European Security* (Oxford: Oxford University Press, 2017).

⁹⁹ Luttwak, *The Pentagon and the Art of War*.



Conclusions

Many of the questions discussed in this report do not lead to obvious answers, not least because some require political direction while others technical expertise.¹⁰⁰ In the following paragraphs, we offer some recommendations based on our own understandings, interpretations and experience.

Why more European defense and what to defend? Europe needs to step up its defenses. However, we believe that the most sensible approach consists of devising the entire process in dialogue, not in opposition, to the United States.

- Europe and the U.S. largely share the same values and strategic interests all around the world: both would benefit from more European defense and this should be pursued with the goal of relieving the U.S. from some regional responsibilities in Europe and, eventually, also in North Africa and the Middle East (at least in part).
- A fully autonomous European defense would take decades and be unaffordable, a dialogue with the United States would permit to mediate between immediate needs and medium-to-long term solutions, without having to compromise any. Additionally, a transatlantic split would just weaken Europe, as the Nordic, Baltic and Central-European countries, if forced to choose between Washington and Brussels, would likely prefer Washington.

Why not European defense yet. Without understanding what has so far constrained European defense, it is impossible to strengthen it. In this regard, the doubt is whether we are before “breathtaking opportunities disguised as insoluble problems” or before a “problem [...] with] no solution [which then] may not be a problem, but a fact—not to be solved, but to be coped with over time.”¹⁰¹ Here, the issue at stake is national sovereignty and national bureaucracies. It does not seem that European countries want to go beyond their national sovereignty, at least now. The process would, in any case, be particularly long and difficult as it would require a revision of the treaties. If this assessment is correct, solutions should be built around national sovereignty not to overcome it. It is noteworthy, however, that:

- Not infrequently, European countries lack the data to assess specific issues and, thus, take decisions. Sovereignty seems then at least in some cases used either as a default defensive mechanism or as cover for much more mundane vested interests.
- Closely related, no progress in European defense can be achieved if some national bureaucracies have even implicit political incentives (including risk-aversion) to resist cooperative solutions at the European level.¹⁰²

¹⁰⁰ A related question is whether those question should come from bureaucrats or politicians. See Alberto Alesina and Guido Tabellini, “Bureaucrats or Politicians? Part I: A Single Policy Task,” *American Economic Review*, Vol. 97, No. 1 (March 2007): 169–179; Alberto Alesina and Guido Tabellini, “Bureaucrats or politicians? Part II: Multiple policy tasks,” *Journal of Public Economics*, Vol. 92, No. 3–4 (April 2008): Risa Brooks, “Paradoxes of Professionalism: Rethinking Civil-Military Relations in the United States,” *International Security*, Vol. 44, No. 4 (Spring 2020): 7–44.

¹⁰¹ The first citation is from John Gardner while the second from Shimon Peres. See John L Hennessy and David A Patterson, “A new golden age for computer architecture,” *Communications of the ACM*, Vol. 62, No. (2019): 48-60.

¹⁰² From this perspective, sovereignty is not an obstacle to European defense: the interpretation of sovereignty some bureaucrats give is the problem.



What is more European defense: or how much is enough. The priority for European countries is understanding whether the current level of defense expenditure is sufficient or not, it just needs to be more efficient or also to be allocated differently. Europe's defense expenditure amounts to €279 in 2023 (€326bn in 2024), of which €72 (€102bn in 2024) to procurement (26% and 31%).¹⁰³

- There are limits to the efficiency which can be realistically pursued and achieved through cooperation and integration. However, current and likely future growth in European defense expenditure definitively offers opportunities for increasing overall efficiency.
- Currently, procurement represents between 25 and 30% of the total European defense expenditure. If European countries are inefficient in procurement, realistically they are inefficient also in the remaining of 70-75% of defense expenditure. Opportunities for efficiency should be pursued also here.
- The United States spent around €190bn in procurement and €140bn in research in 2024. Europe spent €102bn and €5, respectively. While procurement expenditure is increasing, research remains extremely low. This is a structural weakness which must be address but points to a deeper political problem about defense research, i.e. how to incentivize investments and share its benefits among multiple countries.
- In order to define how much is enough, Europe should conduct deeper analyses: studies, simulations, war-games. However, European ministries of defense, armed forces and external think tanks very rarely can conduct these deeper analyses. Europe would benefit from having at the national or at the EU level something akin to the Office of Net Assessment in the United States. However, such a solution should not be devised as another rigid bureaucracy undermined by political consensus, diplomatic agreements, or organizational dynamics.
- While easy to grasp, parameters like 2 or 3% of defense expenditure on GDP are meaningless as they do not identify any goal, any strategy and any capability. As such, they should be avoided and replaced with more relevant measures.¹⁰⁴
- The current division of labor between NATO and the EU sees the former specialized in defense planning and military forces while the latter assuming greater responsibilities in defense-relevant fields like research, industry, infrastructures and markets.¹⁰⁵ There are strong political, economic and organizational reasons to exploit further this situation.¹⁰⁶ In this respect, European countries should try to fill as soon as possible NATO capabilities requirements and acquire the strategic enablers that European countries lack – with the financial and institutional support of the EU.¹⁰⁷

¹⁰³ European Defence Agency, *Defence Data 2023-24* (Brussels: European Defence Agency, 2024).

¹⁰⁴ Anthony H. Cordesman, *NATO's Pointless Burden Sharing Debates: The Need to Replace a Mathematically Ridiculous 2% of GDP Goal with Real Force Planning* (Washington, DC: Center for Strategic and Budgetary Assessment, 2019).

¹⁰⁵ Two decades ago, this division of labor concerned missions: NATO would focus on collective defense while the EU would focus on crisis management. However, as the EU proved unable to work even on crisis management. See Anand Menon, "European defence policy from Lisbon to Libya," *Survival*, Vol. 53, No. 3 (2011): 75-90; Luis Simon, "CSDP, strategy and crisis management: out of area or out of business?," *The International Spectator*, Vol. 47, No. 3 (2012): 100-115.

¹⁰⁶ Alice Tidey and Paula Soler, "EU member states should 'frontload' defence budgets to finance necessary 'big bang': Kubilius," *Euronews*, December 5 2024.

¹⁰⁷ Sean Monaghan, Eskil Jakobsen, Sissy Martinez, Mathieu Droin, Greg Sanders, Nicholas Velazquez, Cynthia Cook,



Problems, gaps and vulnerabilities. Problems, gaps and vulnerabilities are a product of specific strategy-posture-structure choices. In this respect, three considerations are warranted.

- European countries have a problem with military personnel: only a limited fraction of its overall force can be deployed and employed. To put it in perspective, NATO New Force Model aims to generate 450,000 deployable troops over a 6-month period, including American forces allocated to Europe. After the October 7 2023 attacks, Israel mobilized basically overnight 360,000 reservists which augmented the 150,000-strong Israeli Defense Force. Europe has 500m inhabitants, Israel less than 10m. There are clearly some problems. Reforms of European armed forces are hence necessary: to attract younger cohorts and specialized skills, to create reserve forces, set limits to years of service and to favor transitions to the civilian life for uniformed personnel.
- NATO sets capability targets and defines requirements in terms of forces' readiness. However, NATO has no direct monitoring and enforcing mechanism behind socialization and moral suasion. Whether and how Europe could play a role in this domain is an open question. With the introduction of the Euro, the European Central Bank was assigned some banking supervision powers.¹⁰⁸ A similar mechanism would be politically sensitive but definitively important from a strategic and operational perspective.
- European countries should do much more training, exercises, war-games and simulations to anticipate, identify and address possible problems, gaps and vulnerabilities.
- NATO countries are currently discussing the option of deploying a peace-keeping force in Ukraine. Such a solution would represent a massive endeavor as European countries would either be unable to fulfill all their other possible commitments or would have to generate significantly larger forces.¹⁰⁹

Trade-offs, unintended consequences and vulnerabilities. Strategy is not about simple logical connections between ends-ways-means or resources-instruments-goals. Strategy is, fundamentally, about complicating the adversary's calculus and, in this way, generating some competitive advantages to be exploited politically or militarily. Any strategy, thus, inevitably leads to some trade-offs, some unintended consequences and some vulnerabilities, both due to domestic actors' or allies' reactions and to adversaries' countermoves. Any attempt aimed at promoting more European defense cannot prescind from these considerations.

- Unfortunately, there are not many ways to detect all possible trade-offs, unintended consequences and vulnerabilities. Studies, analyses, war-games and simulations are an important and useful instrument as they permit to unveil and verify assumptions, raise uncomfortable questions and reason about data interpretation and data availability.

Anna Dowd, and Maeve Sockwell, *Is NATO Ready for War? An Assessment of Allies' Efforts to Strengthen Defense and Deterrence since the 2022 Madrid Summit* (Washington, DC: Center for Strategic and International Studies, 2024); Douglas Barrie, Ben Barry, Lucie Béraud-Sudreau, Henry Boyd, Nick Childs and Bastian Giegerich, *Defending Europe: scenario-based capability requirements for NATO's European members* (London: International Institute for Strategic Studies, 2019).

¹⁰⁸ We thank Daniel Gros for having highlighted this similarity.

¹⁰⁹ Hans von der Burchard, Laura Kayali, Jacopo Barigazzi and Joshua Posaner, "NATO and European leaders to discuss peacekeeping troops to Ukraine," *Politico*, December 13 2024.



More or different, efficient or effective defense. Whether the defense business will fundamentally change or whether it is just evolving remains to be seen. Irrespective, Europe has a clear problem with innovation, with pertains not only to the civilian domain but also to military affairs. Recent EU and NATO initiatives are unlikely to address the problem.¹¹⁰

- European countries should establish a Defense Advanced Research Projects Agency-like institution (DARPA) for developing new solutions. The first requirement for this agency is barring it from having project managers, lawyers, HR managers, communication officers, annual conferences, external visits and a high salaries. It should be designed to keep the careerists out, bring the visionaries in, grant them sufficient room to experiment and generate new ideas without any political pressure to deliver immediate results or, even worst, focus on specific areas (and not in others).
- Without reforming procurement regulations, start-ups cannot win any defense contract. The EU has already entered, years ago, the realm of defense procurement through its directives.¹¹¹ However, newer interventions may be necessary in order to open defense procurement to new entrant, not just to other countries' companies.

¹¹⁰ The European Defense Fund of the EU has a component focused on emerging technologies; NATO Defence Innovation Accelerator for the North Atlantic similarly supports start-ups and small companies managerially developing solutions around emerging technologies while NATO Innovation Fund would support them financially.

¹¹¹ Jay Edwards, "The EU Defence and Security Procurement Directive: A Step Towards Affordability?," *International Security Program Paper ISP*, No. 05 (London: Chatham House, 2011).



APPENDIX I

This section briefly provides a holistic view of the entire defense ecosystem.

Defense function. The defense function is one of the traditional traits of sovereignty, since the capacity to defend oneself from foreign aggression is deemed essential to national survival. As a result, countries have historically resisted attempts to cede even parts of their defense functions.¹¹² Defense is also one of the obvious examples of a pure public good since it is non-rival in its consumption and non-excludable, i.e. this is one of the functions which inherently belong to the State, given that a market would not be able to exist: individuals would tend to eschew direct payment and the State would not be able to exclude them from benefiting from the public good defense.

Demand. Ministries of Defense are responsible for organizing the defense function with the goal of providing the public good defense. In this endeavor, by allocating their budget to various sources, ministries of defense represent the demand in defense markets.¹¹³

Supply. All the companies providing goods and services to the defense function represent the supply, spanning from companies producing jet fighters and submarines to those providing IT equipment, cleaning services or transportations.¹¹⁴ Since the defense ecosystem also requires human capital, in particular (but not only) for the armed forces, also the population of a country represents the supply in the equation related to military recruitment and long-term sustainability and when countries hire foreign mercenaries, the supply is also constituted of foreign nationals.¹¹⁵

Defense expenditure=defense market. The level of defense expenditure *ipso facto* defines the size of the defense market. Defense expenditure is divided in five main parts:

- Research (& Technology, & Development, & Test and Evaluations) (for future capabilities);
- Equipment (acquisition of current capabilities and related integrated logistic support);
- Personnel;
- Maintenance and Operations (operational costs, often including training and exercises);
- Facilities and infrastructures.

There is no specific metrics, but the share of the budget allocated to R&D and facilities and infrastructures generally tends to be lower (5-15% in total) than equipment, personnel as well as maintenance and operations (around 20-to-30% each).¹¹⁶

Armaments market. Defense expenditure allocated to equipment constitute the armaments market. Defense companies operate in monopsonistic markets at home (one buyer) but generally in

¹¹² Fearon, "Enforcement, and International Cooperation."

¹¹³ Eugene Gholz and Harvey M. Sapolsky, "Restructuring the U.S. Defense Industry," *International Security*, Vol. 24, No. 3 (Winter, 1999-2000): 5-51; Gholz and Sapolsky, "The defense innovation machine".

¹¹⁴ Richard A. Bitzinger (ed.), *The Modern Defense Industry: Political, Economic, and Technological Issues* (Santa Barbara, CA: Greenwood Publishing, 2009).

¹¹⁵ Andrea Asoni, Andrea Gilli, Mauro Gilli and Tino Sanandaji, "A mercenary army of the poor? Technological change and the demographic composition of the post-9/11 US military," *Journal of Strategic Studies*, Vol. 45, No. 22 (2022): 568-614; PW Singer, *Corporate Warriors: The Rise of the Privatized Military Industry* (Ithaca, NY: Cornell University Press, 2007).

¹¹⁶ European Defence Agency, *Defence Data 2023: Key findings and analysis* (Brussels: European Defence Agency, 2024); Jens Stoltenberg, *The Secretary General's Annual Report 2023* (Brussels: NATO, 2024): 47-51.



oligopolistic markets at the international level (few sellers).¹¹⁷ Beside critical considerations about the security of supply (having access to weapons in case of war), countries have an inherent vested interest in supporting and protecting their industry given the extra-profits and political leverage oligopolistic markets tend to yield.¹¹⁸ Defense production, however, is also historically characterized by relatively high number of manufacturing jobs in concentrated areas, which thus raises the electoral salience of this issue.¹¹⁹ Domestic legacies, national cultures, institutional path dependency strengthen further the divergence among countries' procurement choices and processes.

Deterrence, defense and warfighting trends. From Ministries of War in the past, countries now have Ministries of Defense whose functions consists primarily in deterrence (averting and preventing war) and defense (winning war if deterrence fails). These political goals must be understood from the prospective of change in both technology and war:

- Over the past century, a first firepower revolution has occurred making the battlefield increasingly lethal, i.e. exposure to enemy fire may lead to quickly unsustainable losses, which have forced armed forces to operate more dispersed, in small-unit actions, exploiting cover and concealment, seamlessly synchronizing the employment of assets from different branches.¹²⁰
- A second revolution-like change has occurred with the invention of nuclear weapons, which have arguably strengthened deterrence.¹²¹
- A third fire-power revolution has occurred with the introduction of software and electronics, which has made long-range detection, identification, targeting and striking possible, thus extending the lethality of the battlefield both in range and to other domains, specifically the sea and the land.¹²²

This tripartite revolution implies that better trained, organized, equipped and manned armed forces are more likely to succeed at least at the tactical-operational level,¹²³ while at the strategic level availability of resources (both in terms of capability spectrum and scale) remain a key factor for strategic success.¹²⁴

¹¹⁷ Eugene Gholz, "The Curtiss-Wright Corporation and Cold War–Era Defense Procurement: A Challenge to Military-Industrial Complex Theory," *Journal of Cold War Studies*, Vol. 2, No. 1 (2000): 35–75.

¹¹⁸ Jonathan B. Tucker, "Partners and rivals: a model of international collaboration in advanced technology," *International Organization*, Vol. 45, No. 1 (1991): 83-120.

¹¹⁹ Andrew Moravcsik, "Armaments Among Allies: European Weapons Collaboration, 1975 — 1985," in Peter B. Evans, Harold K. Jacobson and Robert D. Putnam (eds.), *Double-Edged Diplomacy: International Bargaining and Domestic Politics* (Berkeley: University of California Press, 1995): 128-168.

¹²⁰ Stephen D. Biddle *Military Power: Explaining Victory and Defeat in Modern Warfare*, (Princeton, NJ: Princeton University Press, 2004).

¹²¹ Frederick S. Dunn, Bernard Brodie, Arnold Wolfers, Percy E. Corbett and William T. R. Fox (eds.), *The Absolute Weapon: Atomic Power and World Order* (New York, NY: Harcourt, Brace and Company, 1946); Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1989). For the opposite perspective, see Keir A. Lieber and Daryl G. Press, "The New Era of Counterforce: Technological Change and the Future of Nuclear Deterrence," *International Security*, Vol. 41, No. 4 (Spring 2017): 9–49.

¹²² Antonio Calcara, Andrea Gilli, Mauro Gilli, Raffaele Marchetti, and Ivan Zaccagnini, "Why Drones Have Not Revolutionized War," *International Security*, Vol. 46, No. 4 (Spring 2022): 130–171; Tyler Hacker, *Beyond Precision: Maintaining America's Strike Advantage in Great Power Conflict* (Washington, DC: Center for Strategic and Budgetary Assessment, 2023).

¹²³ Stephen Biddle, *Nonstate Warfare: The Military Methods of Guerillas, Warlords, and Militias* (Princeton, NJ: Princeton University Press, 2021).

¹²⁴ Phillips Payson O'Brien, *How the War Was Won: Air-Sea Power and Allied Victory in World War II* (Cambridge: Cambridge University Press, 2015); Christopher A. Lawrence, *War by Numbers: Understanding Conventional Combat*



Technology. Closely related, three main trends have characterized the evolution of military technology over the past decades.

- First, military technology has become exponentially more complex, and thus not only different from its commercial counterparts but also raising steep entry barriers to competitors and industry (especially small and medium enterprises, SMEs).¹²⁵
- Second, electronics and software have progressively acquired growing importance in advanced weapon systems, thus making defense production dependent at least in part on non-defense suppliers.¹²⁶
- Closely related, non-traditional suppliers are progressively entering the defense business either directly (through the production of novel weapon systems) or indirectly (through the production of commercial solutions with defense applications, like Starlink).¹²⁷

Users. The armed forces, generally divided in Army (land), Navy (sea) and Air Force (air), are the users. They represent the critical interlocutors of the demand and supply in defense markets as they must explain their needs to ministries and work with the industry to develop their preferred solutions. Like any organization they have their cultures, practices as well as their bureaucratic dynamics.¹²⁸ Self-evidently, the relative allocation of manpower as well as of resources for equipment to the three services is not given or inevitable: some countries may spend more for its naval forces while others for its airpower, some may not have an air force (Baltics) or a navy (Switzerland or Czechia) while others may have a relatively small army (UK).¹²⁹

NATO. The North Atlantic Treaty Organization is a multilateral international organization composed of 32 members and responsible for the security of the North Atlantic region. NATO's primary task concerns deterrence and defense, i.e. preventing adversaries from attacking NATO territory and, in case deterrence fails, neutralizing such attacks through a mix of nuclear and conventional capabilities as well as land, naval, air, space and cyber assets.¹³⁰ In contrast to the EU, NATO does not have legislative, judiciary and executive powers, does not have taxation authority, does not have its autonomous budgets and can neither monitor nor enforce directives or decisions. This is because defense is a closely guarded sovereign issue by its members. NATO, thus, primarily favors coordination and cooperation at the strategic, operational and tactical level among its various members, their armed forces and their defense companies. As an alliance, NATO is inherently subjected to collective action problems, visible in the issue of unbalanced defense spending across

(Dulles, VA: Potomac Books, 2017).

¹²⁵ Gilli and Gilli, "Why China Has Not Caught Up Yet?"

¹²⁶ John A. Alic, Lewis M. Branscomb, Harvey Brooks, Ashton B. Carter and Gerald L. Epstein, *Beyond Spinoff: Military and Commercial Technologies in a Changing World* (Cambridge, MA: Harvard Business School Press, 1992); J. Michael McQuade and Richard M. Murray with Gilman Louie, Milo Medin, Jennifer Pahlka and Trae Stephens, *Software is Never Done: Refactoring the Acquisition Code for Competitive Advantage* (Washington, DC: Defense Innovation Board, 2019).

¹²⁷ James Hasik, *Arms and Innovation Entrepreneurship and Alliances in the Twenty-First Century Defense Industry* (Chicago, IL: University of Chicago Press, 2008).

¹²⁸ Adam Grissom, "The future of military innovation studies," *Journal of Strategic Studies*, Vol. 29, No. 5 (2006): 905-934.

¹²⁹ Richard Rosecrance and Arthur A. Stein (ed.), *The Domestic Bases of Grand Strategy* (Ithaca, NY: Cornell University Press, 1993); Andrés J. Gannon, "Allies as Armaments: Explaining the specialization of state military capabilities," *Security Studies* (forthcoming).

¹³⁰ Katherine Kjellström Elgin, Sean Monaghan and Sara Bjerg Moller, "Understanding NATO's Concept for Deterrence and Defense of the Euro-Atlantic Area," *Research Brief* (Washington, DC: Center for Strategic and Budgetary Assessment, 2024).



the Atlantic, as well other issues such as hesitation to deploy troops as well as competition over standards-setting.¹³¹

The European Union. In their founding treaties, both European Economic Community and the European Union were explicitly barred from touching upon defense issues.¹³² This has progressively changed starting from the 1990s as a result of multiple developments, including the EU enlargement to Northern, Central and especially Eastern Europe, where political conditionalities required a reform of civil-military relations; the humanitarian crises emerged on Europe's periphery after the end of the Cold War which called Europe to play a stabilizing role, including with defense capabilities; the unicum represented by the European defense market which was characterized by non-competitive national procurement practices, protectionism and fragmentation along national borders; the need to fund major domestic and international infrastructural projects with possible strategic value for collective defense; research & development funding which could directly and indirectly support dual-purpose technologies.¹³³

Currently, the European defense ecosystem broadly works in the following way.

- Any random C_i country autonomously decides both the amount of national income dY to allocate to the defense function and its further suballocation among different military services and sources (Research, equipment, personnel, operations and maintenance, and facilities).
- When C_i is a NATO member (all EU members but Ireland, Austria, Malta and Cyprus), its political leadership is involved in the definition of NATO's strategic priorities (*Strategic Concept*); such priorities are translated into military strategies and plans (*Concept for Deterrence and Defense of the Euro-Atlantic Area*); executed by NATO Command Structure (its strategic-, operational- and tactical-level commands) through to NATO Force Structure (the national forces allocated to NATO); which possesses capabilities identified and generated at the national level through a NATO-level coordination effort (NATO Defense Planning Process).¹³⁴
- NATO broader architecture is supposed to deliver collective results in terms of capabilities development, strategy alignment and armed forces' readiness. However, NATO has limited monitoring powers and almost non-existent enforcement mechanisms. In other words, NATO cannot force, correct or sanction its members for not fulfilling their recommended course of actions in terms of expenditure, capabilities development or troops deployment. In fact, NATO history is a constant political compromise aimed to address market failures like collective action problems, crowding out and free riding in the non-market without pricing mechanisms represented by its collective security task.¹³⁵

¹³¹ Mancur Olson, Jr. and Richard Zeckhauser, "An Economic Theory of Alliances," *The Review of Economics and Statistics*, Vol. 48, No. 3 (August 1966): 266-279; Philipp Taylor, "Weapons standardization in NATO: collaborative security or economic competition?" *International Organization*, Vol. 36, No. 1 (1982):95-112.

¹³² Kiran Klaus Patel, *Project Europe. A History* (Cambridge and New York: Cambridge University Press, 2020).

¹³³ Hugo Meijer and Marco Wyss (eds.), *The Handbook of European Defence Policies and Armed Forces* (Oxford: Oxford University Press, 2018).

¹³⁴ Nele Loorents, "NATO's Regional Defence Plans," *Brief - Washington Summit Series*, No. 5 (Tallin: International Centre for Defence and Security, July 2024); Christian Tuschhoff, "The Impact of NATO's Defence Planning and Force Generation on Member States," in Sebastian Mayer (ed.), *NATO's Post-Cold War Politics: The Changing Provision of Security* (Berlin: Springer Nature, 2014): 194–211.

¹³⁵ Gregory W. Pedlow, "The Evolution of NATO's Command Structure, 1951-2009," accessible at:



- Country *Ci* can apply for (limited) NATO or (a bit less limited) EU funding related to emerging technologies, start-up, R&D, procurement or infrastructures. In the past few years, in fact, the European Union created its European Defense Fund – EDF (supply-side, innovation) and more recently EDIRPA (demand-side, procurement), ASAP (supply-side, industrial ramp-up) and now EDIP (demand, supply and regulatory actions, from procurement to sustainment), while NATO launched the Defence Innovation Accelerator for the North Atlantic - DIANA (innovation) and the NATO Innovation Fund – NIF (start-ups).¹³⁶ In the past, countries relied on NATO institutions to manage multinational procurement programs, like the Eurofighter or the NH90, while from the late 1990s, they can use a European institution which, however, sits outside of the EU: OCCAR. In 2003, European countries created the European Defence Agency which mimics, in smaller scale, some of NATO functions, including setting some targets and favoring coordination and cooperation.

<https://info.publicintelligence.net/NATO-CommandStructure.pdf>

¹³⁶ Johanna Moehring, “EUDIS, HEDI, DIANA What’s Behind Three Defense Innovation Acronyms?,” *Ifri Memos* (Paris: Institut Français des Relations Internationales, September 2024).

