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Identifying European public goods: economic foundations and practical challenges

Several studies, including the 2024 Draghi report, find that a significant share of the European Union's (EU) public investment requirements concerns European public goods, requiring EU-wide governance and financing. This article explores the public goods that could benefit from such governance, such as those related to defence and the climate. Nevertheless, the diversity of proposals and analyses suggests that the notion of a European public good is evolving and does not enjoy unanimous consensus. A more consensual approach could emerge by taking account of differing preferences between countries, identifying these goods in a more targeted manner and integrating the notion of EU strategic priority. From a central bank perspective, by promoting the competitiveness and resilience of the euro area, increased funding of European public goods would contribute to price stability.

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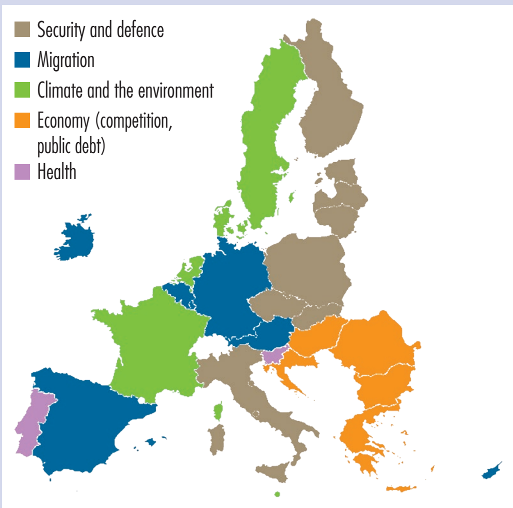
JEL Code
H4

EUR **800** billion
in additional annual investment needed in the European Union (EU), according to the Draghi report

EUR **2,018** billion
allocated to the EU's 2021-27 multi-annual financial framework and to NextGenerationEU

79% of EU citizens
are in favour of a common security and defence policy

Support by Member State for different EU medium-term strategic priorities
(response most frequently cited by respondents, by country)



Source: *Eurobarometer*, 102, Autumn 2024.
Question asked: "In your opinion, in which of the following areas should the EU take action in the medium term, i.e. over the next five years?"

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1 European public goods need European governance

In order to strengthen the European Union's (EU) long-term competitiveness and resilience, the Draghi report (2024) recommends redirecting the EU budget towards the financing of European public goods (see Box 1). Due to cross-border externalities, the production of these goods would benefit from being coordinated at EU rather than national level. From a central bank perspective, increased funding for European public goods would be beneficial: it would help make the euro area more competitive and resilient, which in turn would underpin medium-term price stability.

Opting for European governance of public goods would help in finding the balance between the advantages of centralisation and the disadvantages related to diverse preferences. In the EU, public goods can be managed at local, national or European level. To ascertain whether or not there is "European added value" to managing a public good at EU rather than national level, three criteria need to be analysed (Alesina et al., 2005; Claeys and Steinbach, 2024).

- The existence of economies of scale at European level: this generally relates to the presence of high fixed costs, with an average production cost that decreases as quantities increase. The defence sector is a case in

BOX 1

Public goods: market failures and public intervention

The concept of public goods refers to non-rivalrous and non-excludable goods (Samuelson, 1954). A good is said to be non-rivalrous when its consumption by one agent does not prevent its consumption by another agent. Non-excludability means that it is impossible to prevent an agent who has not contributed to financing a good from consuming it (e.g. public lighting).

These two characteristics can lead agents to engage in "free-riding", in other words, consuming a public good without paying enough for its provision. As a result, this type of good is likely to be underproduced by the private sector vis-à-vis its socially desirable quantity. This therefore justifies public intervention to provide these goods in "optimal" quantities, i.e. by increasing their production for as long as the marginal cost to society remains lower than the marginal collective benefit.

Public goods are characterised by positive production and consumption externalities. For example, public education has benefits for the community (respect for civic values, productivity gains, innovation, etc.) that exceed their private benefits. Factoring in these externalities involves integrating social welfare considerations into agents' production decisions. The state can avoid sub-optimal provision of this good in three ways: by producing it directly; by financing and delegating all or part of its production to firms; or by introducing rules and incentives to enable private agents to provide it.

Lastly, the scope of non-rivalry and non-excludability of public goods can vary from the local up to the global level (Barrett, 2007). For example, climate change impacts the whole planet, although its effects differ from one region to another. The climate is therefore, in principle, a global public good (Kaul et al., 1999). Conversely, the construction of public infrastructure mainly benefits the agents who use it and is therefore a local or national public good.

point: it features numerous fixed costs related to the development of technologies and equipment (Scazzieri and Tordoir, 2024; Steinbach and Wolff, 2024). A European governmental body could therefore provide the public good at lower unit costs than a plethora of national producers.

- The internalisation of cross-border externalities: if decisions to provide public goods are made at individual country level, the positive externalities generated by the supplier country for others may lead to free-riding, with the risk of underproduction of the public good at European level.
- A certain uniformity of preferences at European level for the provision of public goods: citizens' preferences vary according to their socio-economic and cultural circumstances, which influence their priorities with regard to public goods. Highly diverse preferences within the EU make it more difficult to justify federal management as this would not adequately respond to citizens' local preferences. Conversely, relatively homogeneous preferences at European level would argue in favour of federal management.

2 Given current public investment needs, financing European public goods is the focus of renewed attention

Creating a central fiscal capacity to round out Economic and Monetary Union (EMU) has been debated in economic literature for several decades (see Box 2). More recently, the need to finance the EU's strategic challenges has highlighted the relevance of the European budgetary allocation mechanism.

BOX 2

Macroeconomic stabilisation, cohesion, allocation: which priority for the EU budget?

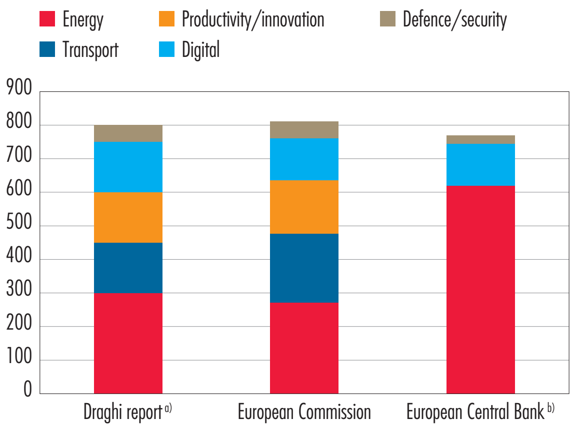
In theory, fiscal policy fulfils three functions, valid at both national and federal level (Musgrave, 1959): resource allocation, which includes the financing of public goods; redistribution, through transfers aimed at reducing inequalities between individuals or regions; and economic stabilisation in the event of an asymmetric shock, when the economies of two regions are affected differently.

Although there is no broad consensus around this issue (Heijdra et al., 2018), there is a wealth of literature that supports expanding the EU budget. Proposals have mainly focused on macroeconomic stabilisation mechanisms such as EU unemployment insurance (Gossé et al., 2022), in phase with optimal currency area theory and the incomplete nature of Economic and Monetary Union (Mundell, 1961; Kenen, 1969; Farhi and Werning, 2017). Compared to the United States, the EU's meagre budget, together with the incompleteness of the Capital Markets Union and the Banking Union, limit the area's economic stabilisation capacity (Cimadomo et al., 2022).

More recently, in an environment characterised by more frequent supply shocks and increased geopolitical risks, the debate on the European budget has shifted towards the issue of European public goods. This debate is taking place against a backdrop of three factors that could justify greater European integration: the launch of the NextGenerationEU recovery plan in 2020 during the pandemic; overhaul of the European budgetary framework in 2024; and intensification of the digital and climate-related structural challenges common to all Member States.

C1 Estimates of additional annual investment needs in the European Union

(EUR billions)



Sources: See Bibliography – Draghi, 2024; European Commission, 2023; Bouabdallah et al., 2024.
a) Period 2025-30. 2025 in annual terms, and deflator used in estimates for previous years. Private and public investment is included.
b) Period 2025-31.

Following estimates by the European Commission and the European Central Bank (ECB), the Draghi report (2024) recommends additional annual, private and public investment of between EUR 750 billion and EUR 800 billion by 2030 (the equivalent of between 4.4% and 4.7% of EU GDP in 2023) to finance the green and digital transitions, defence requirements and innovation in the EU. While no direct distinction is made between public and private investment, public investment would account for between 20% and 50% of the total investment programme under the scenarios simulated by the Commission.

To meet these investment requirements, many studies (see Table 1 below) recommend strengthening the EU's role in managing and financing sectors identified as European public goods.[1] Certain sectors, such as defence, are highlighted for their large potential economies of scale. Basic research and health and environmental protection, meanwhile, could benefit from significant cross-border externalities. Other sectors, such as energy security and the digital transition, are more controversial due to less obvious features related to diverse preferences and the significant presence of private actors in these spheres. However, measurement of the divergence in preferences, which cannot be inferred from the characteristics of public goods alone, is often not explored in depth in the analyses.

Currently, the EU budget only has embryonic instruments for financing public goods. The majority of the dedicated programmes do not exceed EUR 25 billion for the 2021-27 period (see Chart 2, p. 6), out of the EU's multi-annual financial framework of EUR 2,018 billion.

The launch of the NextGenerationEU (NGEU) programme in 2020 only provided a marginal boost to certain investments in public goods of Europe-wide significance. Most of the additional funds mobilised went into a recovery and resilience facility (EUR 338 billion in subsidies and EUR 386 billion in loans) to finance Commission-approved national investment programmes, with limited cross-border impact (European Fiscal Board, 2024). Although this instrument is significant and unprecedented, it remains a temporary measure and its renewal is uncertain (Allemand et al., 2023).

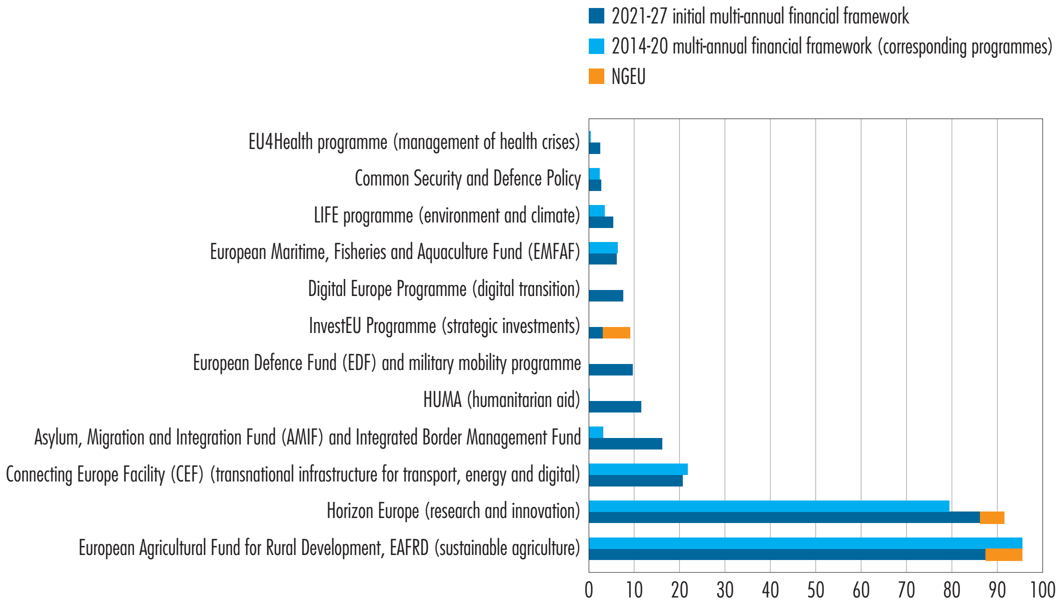
1 Several studies, such as that by Claeys and Steinbach (2024), consider that the criteria of non-rivalry and non-excludability are too restrictive, and prefer to study goods that have to contend with market shortcomings, which include more categories.

T1 List of European public goods identified in a selection of recent studies

	Draghi 2024	Wyplosz 2024	Claeys and Steinbach 2024	Felbermayr and Pekanov 2024	Buti, Coloccia and Messori 2023	Allemand et al.[a] 2023	Fuest and Pisani-Ferry 2019
Defence	•		Different preferences between Member States	•	•	Including combating terrorism and cyberattacks	•
Environment	•	Global public good, but pertinent EU action	Different preferences between Member States		•	Battling climate change and protection of resources	•
Basic research	•	Partly	•	•		R&D and targeted programmes for young people	R&D for risky projects
Health	•	Joint purchasing and data sharing	Management of health crises		Purchasing of vaccines and near-shoring[b]		
Cross-border infrastructures	•		•	•	•		
External management of borders			•		•	•	•
Energy security	•		Different preferences between Member States		Cross-border energy projects	•	
Digital transition		Private sector, excluding data protection and cybersecurity			Digital infrastructure	Digital infrastructure	Digital sovereignty
Macroeconomic stabilisation			Different preferences between Member States			Unemployment insurance	
Critical raw materials					Joint procurement		
International relations							Foreign policy and development aid

Source: Authors (based on a review of the literature).
a) Allemand (F.), Creel (F.), Leron (N.), Levasseur (S.) and Saraceno (F.).
b) Nearshoring: outsourcing part of a business to geographically close countries.

C2 Amounts allocated to the main European programmes related to public goods
(EUR billions)



Source: European Commission, 2021.
Note: NGEU, NextGenerationEU programme.

3 One of the major challenges in identifying European public goods lies in taking account of different preferences between Member States

Identifying European public goods is hampered by differences in preferences and interests between Member States. Preferences can be quite diverse, particularly in areas such as defence, energy and immigration. Moreover, not all Member States benefit equally from the provision of a public good by the EU, either in terms of positive externalities or financially.

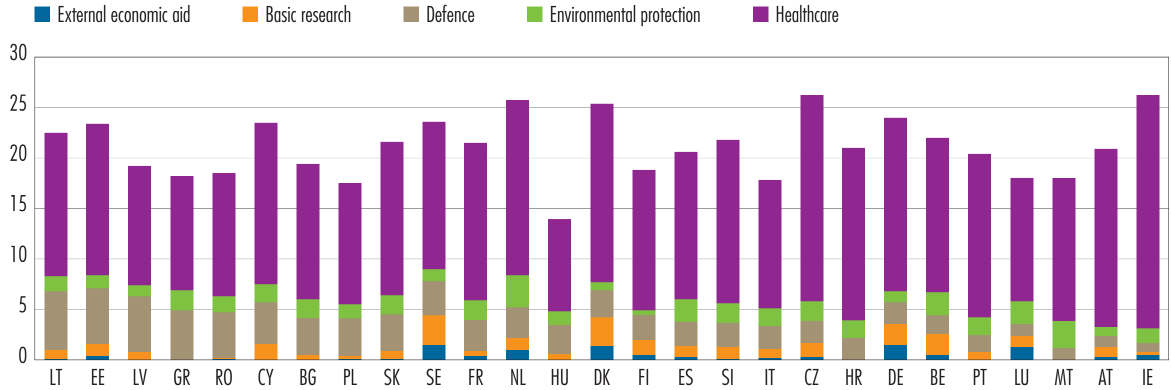
Identifying European public goods, while taking account of differences in preferences between Member States

To distinguish between national and European public goods and determine the appropriate level of governance, it is essential to assess the extent of the divergence in preferences between Member States (Alesina, 2005).

The divergence in citizens' preferences is apparent at the individual, national and European level. Two methods can be used to measure preferences by country: (i) analysing the structure of Member States' public spending, which can reveal significant differences in the importance attached to environmental, research or defence policies (see Chart 3 below); and (ii) looking at specific surveys of their priorities, such as Eurobarometer surveys (Claeys and Steinbach, 2024) – see Chart 4. As regards the choice of EU strategic priorities, EU citizens often cite security and defence, climate and the environment, and health as their top priorities, although there is considerable variation between countries.

C3 Government expenditure on a number of public goods

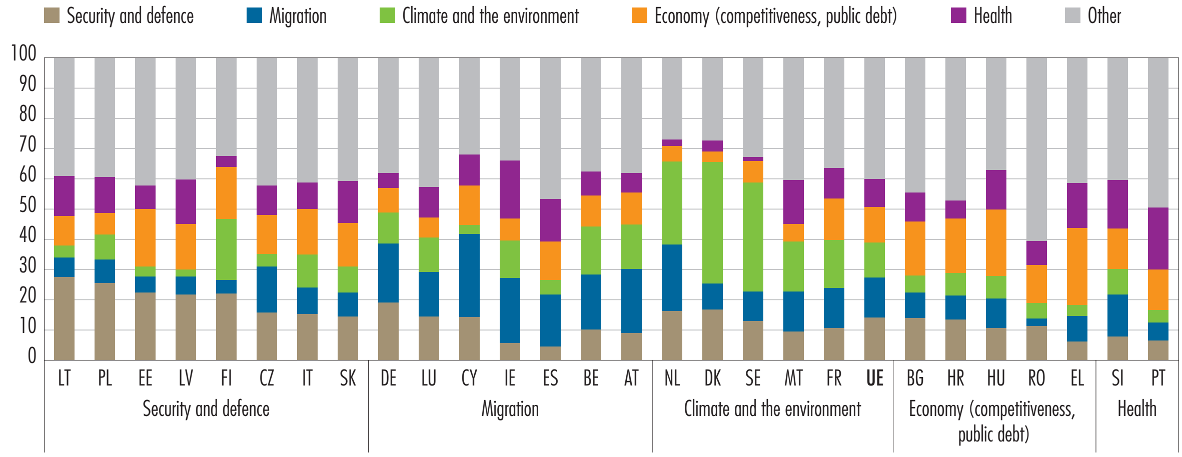
(% of total government expenditure, 2022)



Source: Eurostat, 2024
Note: Correspondence between ISO codes and countries at *https://www.iso.org*

C4 Medium-term support by Member State for different EU strategic priorities

(response most frequently cited by respondents, by country)



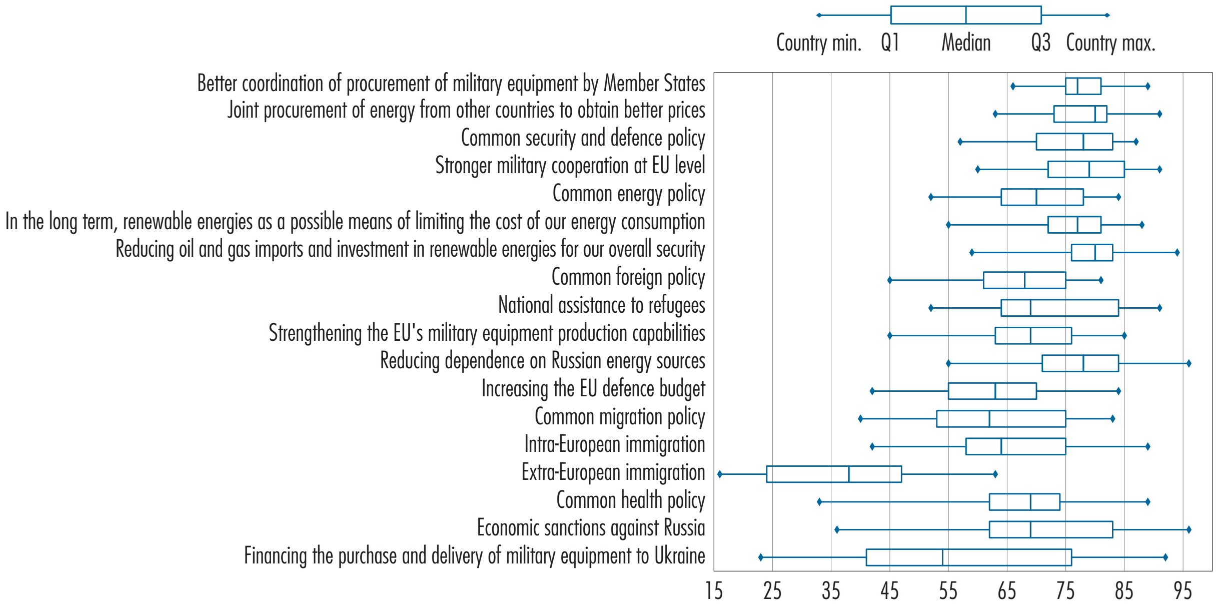
Source: *Eurobarometer*, 102, Autumn 2024.
Question asked: "In your opinion, in which of the following areas should the EU take action in the medium term, i.e. over the next five years? In the first instance?"
Note: Correspondence between ISO codes and countries at *https://www.iso.org*

Moreover, analyses of the dispersion of responses between countries around a series of public policy issues (see Chart 5) reveal both a relative uniformity in preferences for certain themes, such as coordination of military procurement and cooperation, as well as energy issues, and relatively strong divergence in respect of migration and health, for example.

These findings highlight the importance of accurately assessing the differences in preferences within the EU for effective governance of European public goods. This will make it possible to respond more effectively to common challenges and needs while complying with the specific characteristics of each Member State.

C5 Public support for a range of issues in EU member states

(%)



Source: *Eurobarometer*, 102, Autumn 2024.
Key: For each topic, the chart shows the minimum, first quartile (Q1), median, third quartile (Q3) and maximum values for all responses provided in each EU Member State. For example, a common security and defence policy is supported by at least 70% of respondents in three quarters of EU Member States (Q1), and by at least 78% of respondents in half of Member States (median), with maximum support of 87% in one Member State.

Taking account of the distribution of benefits among Member States when implementing EU-level financing of public goods

Providing a public good at European level implies that investments are made in certain Member States rather than in others. Within the framework of a budget earmarked for public goods, all countries theoretically benefit from positive externalities. In practice, however, financing a public good out of the EU budget can lead to unequal financial transfers, without being able to determine an allocation key beforehand.

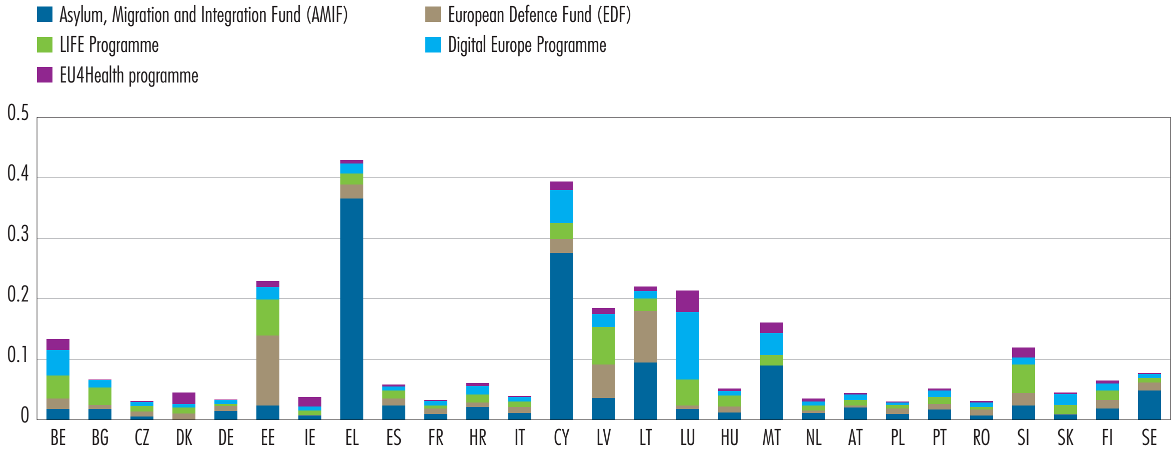
An ex-post analysis of the EU's 2021-27 multi-annual financial framework highlights unequal distribution between Member States of funds earmarked to finance various public goods (see Chart 6). The funding allocation key is not based on a pre-established rule, but on a variety of factors such as country-specific characteristics and political aspects of negotiations. For example, defence funds are relatively important for countries with a large defence industry[2] as well as for the Baltic countries, but they are not earmarked exclusively for them.

Furthermore, the positive externalities generated by a public good (considering that "collective welfare" includes areas such as climate and security) vary from one Member State to another. Some countries may be more interested in the provision of a public good at EU level. For example, although all Member States are exposed to climate risk, the use of an aggregate risk indicator (see Map 1 below) shows that some of them, particularly in southern Europe, are more exposed. Similarly, defence and security risks are unevenly distributed among European countries, depending on their geographical borders (see Map 2).

2 A study by Alexander Roth (2017) demonstrates that the European defence industry is not evenly distributed within the EU, suggesting that increased military spending may not benefit all Member States equally.

C6 Funding received by each Member State under a series of European programmes related to public goods

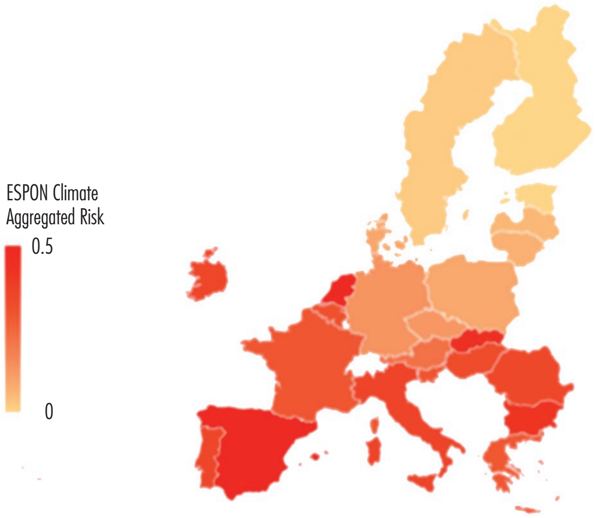
(% of each Member State's GDP, based on cumulative funding for the 2021-23 period)



Source: European Commission (2021-27 multi-annual financial framework).
Notes: Correspondence between ISO codes and countries at *https://www.iso.org*
The Digital Europe Programme aims to finance projects in the fields of artificial intelligence, cybersecurity, digital skills, etc.; the LIFE Programme is intended to support innovative projects for the environment and climate; the European Defence Fund (EDF) promotes military research and capabilities within the EU; the Asylum, Migration and Integration Fund (AMIF) seeks to improve border management and the common migration policy.

M1 Level of exposure to climate change by country in 2022

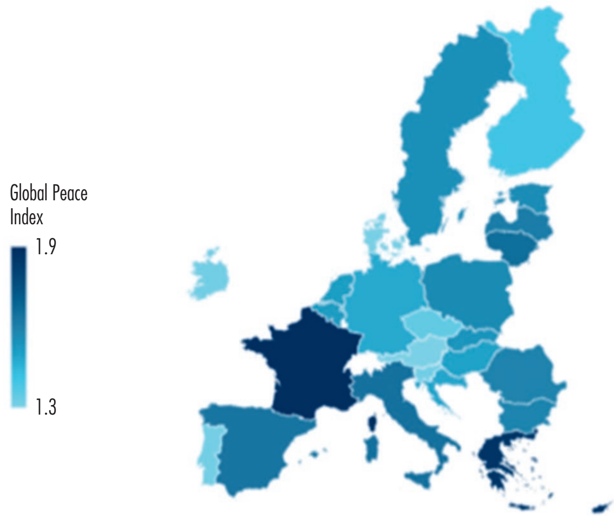
(aggregated climate risk indicator)



Source: ESPON (European Observation Network for Territorial Development and Cohesion), 2022.
Notes: The aggregated risk indicator is based on heat waves, floods, fires and droughts.
Baseline scenario, average per country.

M2 Level of commitment to security and defence by country over the 2019-23 period

(Global Peace Index)



Source: Institute for Economics & Peace (IEP), 2023.
Note: The Global Peace Index (GPI) measures global peace in the form of an indicator ranging from 1 to 5, based on 25 criteria relating to exposure to threats, militarisation and involvement in national and international conflicts.

The unequal distribution of financial gains and welfare does not undermine the concept of European public goods. Indeed, this concept aims to move beyond a "fair return" approach, which would imply strict equivalence between each Member State's financial contributions and the benefits it receives. Nevertheless, the promotion of European public goods makes maintaining a balance between financial transfers and the distribution of gains in welfare within the EU crucial.

4 Building a consensus around European public goods through a more granular approach linked to EU strategic priorities

Factoring in strategic considerations to facilitate identification of the public goods to be financed

Pooling public policies at EU level has often been based on political rather than economic arguments, which have subsequently been enshrined in hard-won agreements (Mourlon-Druol, 2024). To expand the EU budget, many analyses (Buti et al., 2023) consider that financing public goods is less likely to create tension between creditors and debtors than macroeconomic stabilisation mechanisms, since any financial transfers between countries generate cross-border externalities that benefit each Member State. In addition, it would appear useful to combine reflections on public goods with those around strategic investments, a concept that is also used in public debate to legitimise EU funding for certain public policies.

The notion of strategic investment corresponds to sectors identified as long-term priorities for the EU. Part of the challenge lies in preserving its strategic autonomy, i.e. its "capacity to act autonomously when and where necessary" (Council of the European Union, 2016), in an increasingly fraught geopolitical context (Demertzis et al., 2024). Unlike public goods, conditions of non-excludability and non-rivalry are not needed when defining a strategic investment, which provides a more pragmatic and less conceptual vision.

T2 European public goods and strategic investments

	Strategic investment	Public good	European public good
Cross-border infrastructure		•	
Research	•	•	•
Defence	•	•	•
Environment	•	•	•
Health	Partly	Partly	
Energy security	•	Not unanimous	
Digital transition	•		
Borders	Partly		
Critical raw materials	•		

Source: Authors (based on a review of the literature).

The financing of the dual ecological and digital transition is a good illustration of the concept of strategic investment as the EU has made it a major priority (European Commission, 2023). However, not all European public goods are strategic. Infrastructure, although universally recognised as a public good, does not necessarily meet a strategic need. Conversely, investment in the digital transition, although debatable from a pure public good perspective, does constitute a strategic domain. By combining the two approaches, we can identify areas that could be prioritised for governance and funding at EU level, such as defence, research and the environment (see Table 2 above).

Getting beyond the plurality of approaches by more clearly delimiting the scope of public goods

Among the existing proposals, divergences remain in the identification of European public goods, mainly due to the significant influence of political considerations. The large number of institutional and political approaches (see Table 1 above) has resulted in a broader definition of public goods, which now includes other non-economic characteristics, such as strengthening cohesion between EU Member States (Buti et al., 2023).

The diversity of Member States' positions on this subject often stems from an overly broad definition of the scope.

For example, the digital transition may cover infrastructure, services or digital sovereignty (Buti et al., 2023; Wyplosz, 2024; Fuest and Pisani-Ferry, 2019), which are subcategories that do not comply with the characteristics of European public goods in the same way. In addition to identifying major sectors, a consensus on European public goods may also require a more granular approach, such as the recent proposal to finance a common air defence system (Steinbach and Wolff, 2024). For example, the common agricultural policy, although rarely considered a European public good, actually allocates credits for the sustainable use of resources, which is a pure public good. When it comes to European public goods, it would therefore appear more appropriate for the EU to focus its action on specific public policies rather than on overly broad sector-based ones.

Lastly, for domains in which the nature of European public goods remains unclear, cost-benefit analyses, which are still very underdeveloped,[3] may prove useful.

BOX 3

Governance of European public goods

Translating the identification of public goods into public policy requires an examination of the different potential governance apparatus. Three main models may be used to provide and manage public goods at European level.

A centralised model involves refocusing EU budget programmes on the financing of cross-border public goods (examples include Horizon Europe or EU4Health). This ensures strong coordination and significant economies of scale, but requires Member States to accept greater federal control over public policies.

A decentralised model, such as the NextGenerationEU (NGEU) programme, combines centralised European funding with budgetary allocations to each country based on specific criteria. This more flexible approach responds to national requirements while ensuring consistency between the objectives pursued by Member States. However, it requires precise identification of each country's needs and oversight to ensure that funds are used effectively.

Intergovernmental models exist, such as Important Projects of Common European Interest (IPCEI) and the European Stability Mechanism (ESM). These enable groups of Member States to cooperate on specific strategic projects. This model has the advantage of flexibility, enabling cooperation around projects involving only a limited number of countries. However, it can distort competition and lead to a multi-tier Europe.

3 For example, for rail freight, Weiss et al. (2017) study maintenance costs compared to total network length; however, they highlight the limitations of the calculation, particularly the impossibility of verifying the adequacy of the level of maintenance expenditure, which makes the conclusions highly uncertain.

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