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Opinion and Discussion Group on Political Economy

# *The New Industrial Policy of the European Union*

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## Executive summary

This *Policy Brief* analyses the new industrial policy of the European Union (EU), highlighting its resurgence as a response to a host of crises and the growing importance of national security. As the text underscores, the EU, whose political leadership remains largely unchanged but whose economic programme represents a sharp break with the recent past in response to reports by Enrico Letta and Mario Draghi, is now giving unprecedented prominence to industrial policy in its agenda. The chief messages of the *Policy Brief* can be summarised as follows:

**1)** Resurgence of industrial policy. Selective state intervention is on the rise in the EU, where it can be seen to exert influence in decision-making on production and trade, fuelled by crises (related to finances, health and energy) and the significance of externalities for national security. Technological competition and control of critical materials also reinforce the trend.

**2)** New EU governing programme. The European Commission, with the Competitiveness Compass, seeks to respond to external threats and internal weaknesses by giving centrality to industrial policy. The new programme is inspired by diagnoses and proposals set out in the Letta and Draghi reports, which identify structural weaknesses in the EU, including shortfalls in capitalization, innovation and business dynamism.

**3)** Divergences between the Letta and Draghi reports. While both authors agree on fragmentation of the internal market as a result of regulation, Letta emphasises the need to complete the single market (capital and knowledge) and remove regulatory barriers. Draghi, for his part, advocates for increased public investment in strategic infrastructure and active sector-specific policies. He also calls for a revamp of policies on competition and sustainability.

**4)** Challenges of the new industrial policy. The leading role of industrial policy in the EU faces the difficulty of making selective interventionism compatible with a weak political structure that requires unanimity and the awkward fit of interventionism with regulation and competition enforcement, policies that are traditionally far from state dirigisme.

**5)** Potential scenarios of microeconomic policies. The *Policy Brief* poses a "trilemma" between industrial policy, regulation and competition enforcement, and outlines three scenarios: a regulated market (with a predominance of regulation and competition, reflecting the EU's traditional model); a partnership model (with a predominance of regulation and industrial policy, approximating the US model since 1980), and a dirigiste model (with a predominance of competition and industrial policy, similar to the Chinese approach). The Letta and Draghi reports support models that fall somewhere between the dirigiste and partnership options.

**6)** Policy on technological innovation. The EU lags behind in spending on R&D, especially in the private sector, and has become caught in the "mid-tech trap". It has lost technological capacity in comparison to the US and China. The *Policy Brief* analyses the causes of the EU's lagging behind, including market fragmentation, dependence on bank finance and the lower efficiency of public R&D. It highlights the need to improve the conditions for disruptive or breakthrough innovation and overhaul the Framework Programme for Research and Development, creating an "ARPA-type agency".

**7)** Green and digital transitions. The EU has given priority to these transitions, but their roll-out is slow. In terms of electric vehicles, the EU faces intense competition. In digitalization, the EU is far behind in key areas like AI. The EU has put into motion initiatives such as the Chips Act and InvestAI, but greater ambition and specific actions are required. The EU stands out in the area of quantum computing, thanks to initiatives such as Quantum Flagship.

**8)** Other pending challenges. The EU needs to become stronger in sectors such as health, pharmaceuticals, defence and aerospace, where there are dependencies or the EU has lost market share. There is a need for greater integration among Member States and more professionalized public administrations.

**9)** Future uncertainty. The future of EU industrial policy is marked by economic uncertainty and global politics, especially by the decisions of the United States. However, the EU also has internal reasons to re-examine its model.

**10**) More political integration. Industrial policy involves selective state interventionism in the economy in order to exert influence on the allocation of productive resources on the grounds of the public interest. Industrial policy benefits some groups over others. As a result, it requires a strong state that is convinced that the final result will be positive for the public interest. The EU's political bodies, in their current design, have very limited hegemony over the policies of Member States. If the EU wants to make Community industrial policy more prominent in the overall suite of public policies, as required by the scenario of bloc politics and not rule-based politics towards which the world today seems to be aimed, then Europe's advance towards greater integration looks inevitable.

In recent years, states have increasingly engaged in selective intervention in the economy in order to exert influence in decision-making on production and trade among public and private actors alike. This phenomenon, identified under the generic name of "industrial policy", has witnessed a resurgence, first as a response to a host of crises – related to finances, health and energy – that have had an effect on economic growth and shown up the vulnerability of countries in a context of interdependence in production and trade on account of globalization, and second as an acknowledgement of the importance of externalities on national security. Decisions relating to companies' production affect the ability of states to respond to actions by third parties that may compromise their security, weakening their positions in scenarios involving international negotiation. In this context, states resort to economic intervention to steer decisions on production and trade towards strategic aims such as resilience and national security.

A prime instance of the trend is the CHIPS and Science Act, approved by the government of the previous US president, Joe Biden, whose intent is to strengthen domestic production of semiconductors. The legislation is a specific expression of contemporary industrial policy, aimed at correcting the shortcomings of the free market to internalize externalities related to national security. Another more recent example is the current US tariff policy announced and partly rolled out by Donald Trump since March 2025, a policy that is subject to negotiations with the rest of the world so that it is not yet possible to know its final make-up as the *Policy Brief* is being written.

In addition, competition for technological leadership in strategic areas, such as artificial intelligence, and the growing importance of access to and control over critical materials have reinforced the role of national security as a priority in the economic and geopolitical agendas of states. The resurgence of industrial policy, therefore, hints at a structural shift in global economic governance, in which state intervention is turning into an instrument to safeguard strategic autonomy and competitiveness in an environment increasingly marked by conflict and confrontation.

The European Union faces these upheavals in politics and the global economy with a political leadership that remains largely unchanged, legitimized by the EU election results of 2024, but with a political and economic programme that represents a stark break with the programme of the previous legislature. The EU's sudden shift has been influenced not only by factors in the new political and economic environment, but also by the findings of a profound self-diagnosis on the EU's weaknesses, summarized in the reports of two former

Italian prime ministers, Enrico Letta (at the behest of the Council) and Mario Draghi (at the behest of the Commission). The document published by the Commission as a governing programme for the new legislature, which is entitled *A Competitiveness Compass for the EU* (European Commission, 2025), seeks to respond to external threats and internal weaknesses with a governing programme in which industrial policy takes on a prominence in the EU's general policy that it has not taken in the past.

The *Policy Brief* analyses the explicit and implicit industrial policy that runs through the governing programme of the European Commission. It does so from a dual perspective, first by conceptualizing industrial policy and how it fits with other traditional policies in the EU, particularly regulation and competition enforcement, and second by analysing specific examples in the areas of innovation and sustainability, where the new industrial policy may make a difference by improving on past results. The document notes that the leading role of industrial policy in the EU must overcome two chief difficulties. First, it must make a selective interventionist economic policy compatible with a weak political structure in which many of the economic decisions that would need to be taken require unanimity among Member States and their implementation would likewise require coordination among Member States. Second, it must find a way to make industrial policy fit with regulation and competition enforcement, two policy areas that are far from state dirigisme and the picking of some enterprises or sectors over others.

At a more concrete level, the *Policy Brief* identifies differences of form and substance in the diagnoses and proposals for economic policy that can be found in the Letta and Draghi reports that the *Compass,* as a summary document prepared by the Commission, seeks to reconcile, while neglecting to resolve the difficulties noted in the preceding paragraph. The two reports agree in their diagnoses of the EU's weaknesses in terms of shortfalls in capitalization and business dynamism, which hamper productivity growth and threaten sustainability of the European welfare state. However, the two reports differ in their take on the deep-seated reasons for these shortfalls and they therefore offer different priorities for public policy.

In this regard, the Letta report attributes the EU's relative lagging behind to a failure to make sufficient progress in completing the EU's internal market in two directions: a lack of harmonization across excessive and stifling regulations on entrepreneurial activity; and limited steps toward market unity in a pair of key areas necessary to stimulate investment and business growth, namely the capital market and the knowledge market. According to Letta's diagnosis, the priorities of EU policy must be to complete the single market for capital and knowledge; lift regulatory barriers that fragment markets, and simplify or remove regulations that limit the growth of companies. The ultimate outcome will be a larger internal market, where business growth is not a threat to effective competition in the EU's goods and services markets.

Draghi, in his report, does not question Letta's diagnosis about the fragmentation of the EU's internal market as a result of regulatory proliferation, but he takes the view that greater market unity, even if achieved, will not be sufficient for the EU to complete the research infrastructure, energy and transport networks, and security and defence undertakings needed to make the most of its large internal market. Rather, it will also be necessary for the public authorities to make a major effort in investment. In addition, Draghi advocates for active sector-specific policies that respond to the initial conditions that exist in each economic sector, and he proposes a revamping of the policies on competition enforcement and environmental sustainability to make static efficiency and dynamic efficiency, on one hand, compatible with decarbonization and competitiveness, on the other hand.

In their reports, neither Draghi nor Letta give consideration to a scenario of disruption in the global economic and political order, such as the one being unleashed by the recent actions of the Trump administration, which may force the EU to re-examine its new industrial policy, as has already occurred with the increase in EU resources allocated to military rearmament.

In addition to the conceptual framework put forward to better understand the meaning and scope of the new industrial policy, the *Policy Brief* sets out a somewhat detailed analysis of three historical areas of EU public policy. Specifically, the three areas are: the EU's stimulus policy to incentivize science and innovation, which is related directly to Letta's proposal to create a true knowledge market within the Community; the policy of environmental sustainability, and the aim to turn it into a lever for competitiveness and not an obstacle (through support for green energy); and the industrial policy

needed to support the EU's transport sector in its transition from combustion vehicles to electric vehicles,[1] which can be viewed as an example of useful industrial policy to solve coordination problems that can arise in the shift from situations of equilibrium around a traditional technology to a different equilibrium around a new disruptive technology (as is occurring now with the emergence of artificial intelligence). The examples of specific EU public policies in the area must help to identify past mistakes and learn from them for the future. This aim is especially pertinent, taking into account the newness of industrial policy among the EU's suite of economic policies.

## 1. The development of the EU's governing programme

The results of the European elections in 2024 revalidated the ruling coalition of centre-right, centre-left, green and liberal parties that had dominated the Parliament and EU politics in the preceding legislature and subsequently enabled Ursula von der Leyen to remain in the presidency of the European Commission (together with António Costa as president of the European Council). However, the governing programme for the new legislature is starkly different from the previous one.

As highlighted in the introduction, the shift in European policy is the result of internal diagnoses that identify structural weaknesses in the workings of the EU, compounded by a successive accumulation of external events in a relatively short period of time from the financial crisis of 2008 to today. The external events in question include the debt crisis and euro crisis; the healthcare crisis triggered by the COVID-19 pandemic, with destabilizing effects on global production and supply chains; the war in Ukraine and the energy supply crisis; the unanticipated speed of the spread of generative artificial intelligence, which has exposed the EU's weakness in this disruptive technology; and more recently, the breakdown of rules governing global free trade and military defence commitments by the United States, with Donald Trump as president.

The diagnoses of the EU's structural weaknesses (Macron's speech at the Sorbonne (E. Macron, 2024), the joint French-German document on the future of the EU, and the Letta[2] (E. Letta, 2024) and Draghi reports (M. Draghi, 2024)) take into account the effects of the various crises on the EU itself and the global economy, but they do not consider the scenario of disruption that might arise from the result of US elections in November 2024, which Trump won.

Against this backdrop, it is necessary to assess the governing programme that Von der Leyen presented to the European Parliament in the summer of 2024 under the title *Europe's Choice* (Von der Leyen, 2024). As candidate for a second term as president, she explicitly acknowledged the diagnoses and proposals in the Letta and Draghi reports and their influence on the governing programme that she planned to enact if re-elected as president of the Commission. At the same time, her programme marked a major turning from the one presented to Parliament only six years earlier. With Von der Leyen re-elected as president, the Commission published a programmatic document in February 2025, entitled *A Competitiveness Compass* (European Commission, 2025), which seeks to summarize the governing programme. (A summary of the document appears below in Box 1.) The *Compass* sets out a strategic roadmap to strengthen the EU's economic resilience, its capacity for innovation and its global influence. It also acknowledges that the EU, despite its sound economic footing, faces significant challenges, such as low productivity growth, high regulatory burdens, and growing geopolitical competition.

The publication of the *Compass* coincided with the publication in the Official State Gazette of Spain in December 2024 of a draft bill on industry and strategic autonomy put forward by the Spanish government (BOCG, 2025). On page 7 of its preamble, the draft bill summarizes its aims as follows:

"The aim of the new law on industry is to mark the chief lines, instruments and mechanisms of governance to

[1] The case for no EU industrial policy in the transition of the automotive industry from combustion to electric vehicles appears in a separate working document in Spanish entitled "La política industrial europea en la transición hacia el vehículo eléctrico".

[2] For an in-depth review of Letta's report and his proposals to strengthen the single market in all of its dimensions, including the circulation of goods, services, people and capital, see González Mínguez (2024). While much attention has been given to the report's proposals on moving towards a genuine capital market in the EU, it also makes another new and important contribution, namely Letta's recognition of a fifth fundamental freedom for the single market, the freedom of research, innovation and education (the other four relate to people, goods, services and capital).

achieve greater strategic autonomy through the promotion and transformation of industry to rebuild the industrial base of Spain, increase its competitiveness on the international stage while advancing towards a circular economy, and achieve climate neutrality by 2050".

The Spanish government is not the only one to draft its own industrial legislation with similar economic and political aims. Spain's draft bill explicitly sets forth its alignment with the general policy of the EU. However, if the desire is genuinely to make headway in the coordination of national policies under a common integrated scheme that seeks to reinforce the single market, then it would be more logical to begin by rolling out Europe-wide policies that are then followed up through national policies, subordinated to Community policies.

**Box 1**

**Top strategic priorities:**

**1. Closing the innovation gap**

- Promote disruptive innovation by backing emerging enterprises and ensuring the integration of new technologies in traditional industries.
- Launch a strategy for emerging enterprises and emerging growth enterprises in the EU to address financial and regulatory barriers.
- Strengthen venture capital investment and increase private-sector spending on R&D.
- Promote AI, quantum technologies, semiconductors, biotechnology and advanced materials.

**2. Decarbonization and competitiveness**

- Implement a clean industry pact to align ecological policies with industrial growth.
- Reduce energy costs through an affordable energy action plan and investments in renewable energy networks.
- Support energy-intensive industrials (steel, chemicals, automotive) in their transition towards low-carbon production.
- Improve circular economy practices and introduce legislation on the circular economy to bolster recycling and cut waste.

**3. Reduce dependencies and strengthen security**

- Diversify supply chains and reduce dependence on critical raw materials and key technologies from countries that do not belong to the EU.
- Set up joint purchasing platforms for essential resources such as rare minerals and pharmaceutical products.
- Bolster cooperation in the defence industry and increase investment in European defence.
- Enhance resilience against cyber threats, climate risks and supply chain disruptions.

**Transversal enablers of competitiveness**

- Regulatory simplification: reduce the administrative burden by at least 25% for all enterprises and 35% for SMEs.
- Expansion of the single market: remove barriers to intra-European trade, especially in digital and financial services.
- Savings and investments union: better integrate capital markets and channel the savings of European households.
- Skills and quality jobs: improve vocational training and STEM education and attract global talent.
- Better policy coordination: align national and EU industrial policies through a competitiveness coordination tool.

The Commission's programmatic document also raises many questions. One concerns the compatibility of the different strategic priorities and how the priorities and horizontal enablers will be spelled out in practice. Nor is the document clear about how to bring about the coordination of national industrial policies and their subordination, or not, to the EU's general policy. In any event, given the political turn of the United States imposed by President Trump, what is more likely is that Community industrial policy will need to be reformulated in relation to the initial policy set out in the *Compass*. Under these circumstances, the *Policy Brief* is written with a dual purpose: first, to provide a conceptual framework for an analysis of the fit, or lack of fit, of industrial policy within the microeconomic policies of the EU and its Member States as a whole; and second, to analyse proposals to revamp the EU's current policies in areas such as innovation, sustainability, digitalization and energy, which will be necessary no matter what the future may hold.

## 2. The proposed new industrial policy for Europe

### 2.1 Industrial policy in the context of public policies

Our particular interest here is to highlight the compatibility between industrial policy and other microeconomic policies used by the public authorities to exert influence on the production and sales decisions of companies, specifically the policies related to regulation and competition enforcement.

Competition enforcement includes state interventions aimed at counteracting internal market dynamics that lead enterprises to reduce competitive rivalry in order to increase private profit at the cost of greater losses to the collective welfare. Examples of such interventions are the prohibition of collusive or predatory behaviour, the removal of strategic barriers to entry for new enterprises, and the prevention of business concentrations, which increase the market power of companies to the detriment of consumers and workers. The formulation and implementation of policies to enforce competition face the difficulty of balancing the end results of static efficiency (which is achieved when prices hold steady near the marginal costs of production) and dynamic efficiency (which results from sustained innovation in production and processes that improve both the quality and the cost of produced goods and services). Competition enforcement actions become more complicated in market settings with economies of scale or network effects, such as those of digital platforms, which encourage the "natural" concentration of enterprises on such platforms, since the marginal costs are close to zero and the fixed costs of entry and operation are high (Tirole, 2024).

Regulation includes public actions that seek to affect or limit the decisions and actions of economic actors when the discipline of competition is not sufficient to achieve the desired results from the perspective of the public interest. One example arises when the structural conditions of a market are conducive to the consolidation of a natural monopoly (e.g. transport, energy distribution and telecoms networks). The state can nationalize a monopolistic firm so that it behaves as it would do in a competitive market. Or the state can allow it to carry on as a private firm, but regulate the price (setting a price ceiling) at which the firm can sell its goods and services or, alternatively, set an upper limit on the monopolist's return on capital. Regulation is also indicated when excessive competition can give rise to undesirable results from the perspective of the public interest, because the externalities that arise from such competition are not adequately internalized. Hence, the emergence of regulation in the labour market, regulation of the financial/banking markets, environmental regulation, and regulation of goods and services markets on the basis of minimum standards of quality and information transparency.

In many cases, regulations are enacted through specialist agencies, such as energy or banking regulators, or through governmental legislation in areas such as labour or the environment. The aim of such regulations is to ensure competitive results in markets that do not have enough viable competitors or to protect the economy from the negative effects of externalities that competition does not adequately internalize. Regulation has been shown to be relatively effective in ensuring static efficiency in the allocation of resources, but it has proven less successful in promoting dynamic efficiency. The drawbacks of regulation are that it tends to reduce incentives for innovation in sectors with natural monopolies and/or it generates rigidities that affect the competitive responses of national enterprises to competition from enterprises that operate in countries with regulations that are more lax (in the form of social and environmental dumping and, even in some cases, financial dumping).

Broadly speaking, industrial policy refers to deliberate and consistent governmental policies designed to change or sustain a given pattern of production and trade in the national economy, both in terms of the portfolio of products and in terms of the quantity and quality of inputs used in their production.[3] Industrial policy is implemented through a variety of tools: direct aid to enterprises on the condition that they make certain production decisions; taxes (or subsidies) on activities to be limited (or expanded); tariffs or import quotas; tax incentives on business profits; direct subsidies; public demand and procurement, and the direct involvement of the state in production (through public enterprises and bodies).

[3] Industrial policy has traditionally been the area that sparks the most controversy. Different takes on the advantages and drawbacks of industrial policy over time can be seen in Goldberg et al., 2024; Juhász et al., 2023; Maloney and Nayyar, 2017; Harrison and Rodriguez-Clare, 2009; Rodrik, 2004; Krugman, 1997; Myro, 1994.

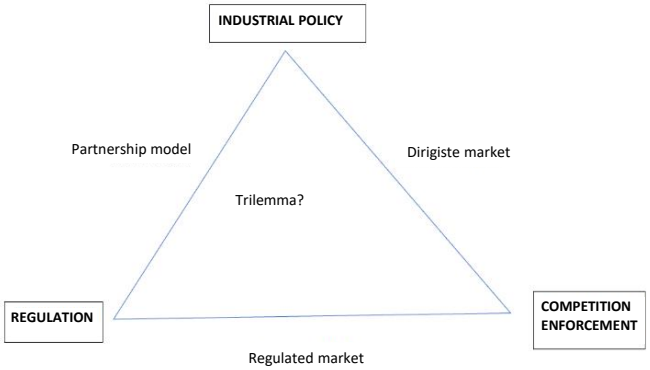
Industrial policy seeks to correct market failures in situations where the social value of certain goods and services (security, strategic autonomy, creation of new knowledge) is greater than the private gain, with the result that the free market, which responds to the private interest, ends up producing less than is socially optimal. Industrial policy is also related to infant industries, where the advantages of first-movers accrue as a consequence of accumulating economies of learning; when a country is late to an infant or emerging industry, industrial policy protects the national industry from external competition until it accumulates enough experience to compete openly on equal terms. Industrial policy comes close to economic planning, that is, to economic dirigisme by the state, when market failure makes it impossible to figure out which path to take in order to move collectively from one equilibrium to another, guided solely by market signals. At present, Europe and the world at large must take action in order for military and economic security, the assimilation of artificial intelligence, and environmental and social sustainability to be compatible. But this entails a highly disruptive shift that the free market cannot manage on its own. Hence the call for industrial policy.

Industrial policy has been the subject of criticism, because accepting that the state can intervene directly and selectively in the economy, giving priority to some companies and sectors over others, paves the way for interested parties to attempt to exert influence on the state in an attempt to become the winners of such selective policies.

The three microeconomic policies –competition enforcement, regulation and industrial policy– can be combined, but any attempt to apply them together can give rise to sharp contradictions, which in the end can lead to a "trilemma". More specifically, the search for an equilibrium between the three policies by way of a complex and difficult process of trial and error can require giving preference to two of the policies over the third. Some examples of the contradictions between industrial policy and regulation can be found in the regulations governing protection of the natural environment and the roll-out of clean energies, or the fight against climate change and the construction of large data centres, or the impetus of electric vehicles and the continuation of certain kinds of agricultural or fishery production. Other examples can be found in the Community's new digital regulations, which limit the storage and exchange of data and the development of artificial intelligence, or the labour regulations that protect the job instead of the worker, or finally the financial regulations that impede the growth of venture capital funds and institutional investor funds at the expense of innovation. In this manner, the policy on competition enforcement pursued by the EU, defined ex ante and focused on the reduction of prices and static efficiency, would hamper the consolidation of the Community market in some sectors such as telecoms, railway equipment and banking.

As a function of the preference given to industrial policy and either of the other two microeconomic policies, it is possible to envisage three main scenarios (see Figure 1).

**Figure 1. Microeconomic policies and their combinations**




1. *Partnership.* In this case, market concentration around large corporations is allowed and even encouraged in order to facilitate partnership between the public and private sectors. Regulations remain in place in key areas of the economy, such as labour, finance and the environment, but if the regulations should result in any extra cost for the private sector, then the state may go so far as to compensate the affected companies directly. Partnership may also include actions such as the state taking a stake in private companies on the grounds of "national interest" or the state approving the mergers of national companies that lead to market concentration in exchange for the result of a national champion that accepts pursuit of an investment programme agreed with the government. Also part of public-private partnership are programmes of investment in security and defence, and certain public procurement policies.

2. *Dirigiste market.* In this model, the aim is to preserve competitive market structures –in terms of the number of competitors and effective opportunities for market entry and exit– but collaboration is allowed, for example, between companies within a single market in order to produce shared goods or services and reduce costs (for instance, joint R&D projects and decarbonization). Also, the state uses public interest criteria (i.e. security) to

select the countries with which it will enter into trade agreements and/or introduce selective tariffs. By contrast, regulation will be sacrificed to gain flexibility and reduce the effects of unfair competition by countries with more lax regulations (for example, to protect the environment or labour rights). At the same time, the state uses tax stimuli and subsidies to foster R&D&I and on-the-job training for workers with the aim of influencing the quality of production inputs at a time when intangible assets have an increasingly greater impact on productivity. Regulations can be sacrificed if it is considered that the benefits to be gained by doing so will offset the losses resulting from more lax regulations. Examples include a potential compromise between improving the competitiveness of companies in a sector by modifying environmental or social laws or even by risking financial stability through the funding of large-scale investment projects.

3. *Regulated competition.* This combination of microeconomic policies involves giving up industrial policy as a tool of economic management, and instead entrusting the push for progress and economic efficiency, both static and dynamic, to competitive rivalry in markets without dominant companies. This entails giving priority to competition enforcement, limiting market concentration and guaranteeing a wide range of options from which consumers can choose. At the same time, the model reflects the application of strict, non-discriminatory regulations that are focused on fundamental areas such as legal certainty, the environment, financial stability, job quality and security, and consumer protection.

## 2.2 The Draghi report's position on the compatibility of the three microeconomic policies

To date, the framework of microeconomic policies that would best describe the microeconomic policy pursued by the EU is, in our view, one of regulated markets and competition. By contrast, the US model has swung from the dirigiste model in place up to the end of the 1970s, when telecoms, air travel and financial markets were liberalized, to the partnership model in place since then, marked by a predominance of ex post competition policy, which intervenes only after it has been proven that competition has been harmed and consumers have suffered from the negative effects. The Chinese model, with its special characteristics, appears to approach the dirigiste model, with a wide-ranging industrial policy that nevertheless enforces competition and reduces regulations to a minimum.

In addition to macroeconomic policies – for example, monetary, tax and budgetary, and territorial (CAP, regional policies) – the EU has sought to establish a common regulatory framework to protect the basic rights of people (labour, environmental, social, consumption, mobility, legal certainty), and has engaged in "aggressive" competition enforcement in terms of business concentrations and/or abuses of dominant positions. Macron, Letta, Draghi and other European leaders who have spoken on these issues in recent years take the view that regulated competition, combined with the ECB's monetary policy and the EU's stability and growth pacts, have nevertheless failed to prevent the loss of EU competitiveness in comparative terms with other economic powers, especially the United States and China (which can be seen from the loss of market share by European companies and the absence of European companies among the world's tech leaders). In their speeches and reports, the mentioned leaders lay out their diagnoses and recommendations for political action by the EU authorities in two complementary directions: increasing the effectiveness of the current mix of regulated market/competition, and adding industrial policy to the current mix of microeconomic policies.

### *Overcoming the fragmentation of markets and completing the single market*

Letta, in his report, points out that the EU does not yet have a genuine single market in key areas, such as capital including banking integration, energy, transport, telecoms, and the market for knowledge, research and innovation. In addition to the lack of progress toward market unity at the EU scale in the listed areas, the EU has also witnessed the gradual build-up of a spider's web of European and national regulations that fragment markets and curb the growth opportunities of companies. Also contributing to these obstacles is a policy of competition enforcement that blocks operations that would bring about business concentration on the grounds of preventing too much market concentration.

Drawing on this diagnosis, Letta and Draghi concur that the EU must act to remove regulatory barriers that fragment markets and curb business growth as a result of a lack of demand (Draghi puts forward the specific recommendations to "show more self-restraint" and "reduce the regulatory burden"; Draghi report, part A, p. 18), and to create conditions that are conducive to the emergence of genuine single markets for capital, energy, transport, telecoms and knowledge. Markets of greater

scope and depth promote the efficient specialization of companies, increase the availability of investment funds at a lower cost of capital, enable companies to grow in size without reaching "excessive" market concentrations, and spur disruptive or breakthrough innovation because the payoff for success in bringing innovation to the market is greater. In short, the EU has room for improvement in the effectiveness of its current mix of microeconomic policies – that is, the regulated market model – by creating conditions that are favourable for market competition to be compatible with EU companies that are larger, more efficient and more innovative. Such favourable conditions would involve taking advantage of all the EU's potential demand, savings and labour if it could succeed in economic integration into a genuine single market.

### *The new sector-specific policy*

The Draghi report is not limited to backing Letta in his recommendations to improve the workings of the EU's internal markets. Rather, Draghi goes much further, putting forward a proposal for industrial policy without precedent in the EU, especially in relation to vertical or sector-specific policies (in horizontal policies such as innovation or the environment, the EU already has some experience, although the report also proposes radical changes in their design and execution). Specifically, the Draghi report segments the EU's sector-specific policies as set out below, taking into consideration the EU's current position on the global economic playing field in each sector.

1. *Sectors where the EU has lost its competitive advantage*, such as solar panels. In such cases, the EU should accept Chinese imports. Regaining lost competitiveness would require excessive and ineffective subsidies, which would ultimately make decarbonization more expensive for European consumers.

2. *Sectors where it is necessary to hold onto domestic production and employment,* such as automobiles. Here, the EU should use trade and industrial policies to protect European industry from unfair competition. In labour-intensive sectors such as the automotive industry, which keeps millions of jobs in the EU, but whose technology is not necessarily strategic from the perspective of security, the EU could open up to Chinese investment, with the application of local content requirements in parts and components.

3. *Sectors relevant for security*, such as defence and AI. The EU needs to have the knowledge and means of production in case of an escalation in geopolitical tensions. Europe could sustain these strategic sectors through the application of local content requirements on the grounds of national security.

4. *Emerging industries* where the EU has an innovative advantage and high potential for future growth, such as the pharmaceutical industry. The EU should put in place temporary trade protections to prevent China's overcapacity and protectionism from curbing European innovation.

The report justifies the need for sector-specific industrial policy for Europe with arguments that convey a certain degree of making strategic use of regulations and public money for companies on the part of states:

"[…] a focus on sectoral or industrial competitiveness can be particularly useful in situations where otherwise productive companies are disadvantaged by an unlevel global playing field, be it asymmetries in regulation or large subsidies abroad. In such scenarios, levelling the playing field may be necessary for continued productivity growth. Finally, a modern competitiveness agenda must also encompass security. Security is a precondition for sustainable growth, as rising geopolitical risks can increase uncertainty and dampen investment, while major geopolitical shocks or sudden stops in trade can be extremely disruptive" (Draghi report, part A, p. 13).

In a more proactive and less reactive sense than the industrial policies carried out by other states, the EU's new industrial policy must seek to increase its innovative capacity in the face of a new round of digitalization driven by the spread of artificial intelligence. It must also seek to lower the price of energy while continuing with the decarbonization of its economy and it must increase the security of the EU in a world that is geopolitically less stable.[4]

[4] In recent years, the perceived value of industrial policy as a tool of economic policy has gone up as a result of proven success in the use of key instruments, such as subsidies and tax breaks, when they are given to companies that operate in competitive markets (Juhász et al., 2023; Juhász et al., 2020; Lane, 2020; Aghion et al., 2021); the experiences of technology development policies in the US, above all through innovative procurement and through key agencies such as ARPAs (Mazzucato, 2014), and of course the policies implemented in China, through a variety of tools and programmes (Jia Barwick et al., 2019).

## 2.3 How industrial policy fits in the mix of microeconomic policies

Industrial policy is a new addition to the EU's suite of economic policies, at least in terms of the scope and depth of the recommendations that are set out in the Draghi report and that Von der Leyen has included in her governing programme. The question that arises is whether this proposal of industrial policy will be compatible with the EU's regulation and competition enforcement as they have been applied to date, or to the contrary, it will cause conflict between them and there will be a need to choose some at the expense of the others. Specifically, the question is whether the new industrial policy is going to involve a major shift in the EU's existing policy on competition enforcement. Predictably, increased political dirigisme to select what to produce, how to produce it and who to trade with will interfere in the free workings of the market and price system in the management of resources. But it will also have an effect on the rules of competition (beyond the undesirable influences of private actors in public decision-making in pursuit of their own private gain).

Draghi acknowledges the potential conflicts between industrial policy and competition enforcement. In doing so, though, he leaves no doubt as to the high value that he ascribes to market competition when he writes: "stronger competition not only delivers lower prices, but also tends to stimulate greater productivity, investment and innovation" (Draghi report, part B, p. 298). To his positive assessment of competition enforcement, however, he also adds a few caveats: "there is a question about whether vigorous competition policy conflicts with European companies' need for sufficient scale", and "the lack of innovation in Europe is sometimes blamed on competition enforcement"" (Draghi report, part B, p. 298). Lastly, he asks competition authorities "to adapt to a radically changing world […] and be more forward-looking and agile" (Draghi report, part B, pp. 298-299). Implicitly, what the Draghi report suggests is that, to date, the EU's competition enforcement has given priority to static efficiency and not sufficiently taken dynamic efficiency into account. For example, certain mergers and acquisitions of companies in relatively concentrated markets have not received approval from the competition authorities because the market concentration after merger would raise prices greater than costs, ignoring the possibility that the new company's large size could result in cost savings and/or expanded innovative capacity.[5]

From this perspective, Draghi proposes a "revamp" of EU competition enforcement, partly to avoid conflict with the state interventionism that results from application of the new industrial policy. Along these lines, the first revamping proposal put forward in the competition section is for the relevant bodies that make decisions on the approval or rejection of mergers and acquisitions to take greater account of the arguments presented by the affected companies in "defence of innovation". That is, the focus of the authorities' concern for competition enforcement needs to shift towards a concern for the impact of the merger on the relevant market concentration, an appraisal of investment plans, and the effects that, according to the companies themselves, could be obtained only through consolidation, but not without consolidation. The argument of "innovation defence" to justify mergers and acquisitions is not new. In the past, however, it has been given little heed. Indeed, it has been regarded as lacking credibility and very hard to verify. According to Draghi, however, circumstances change and there is now a need to persevere in pursuit of formulas that can overcome the current blocking of business growth projects that are potentially innovative. Ultimately, Draghi notes, the EU's current policy of competition enforcement has not kept Europe from lagging behind technologically.

Other proposals to revamp competition in Draghi's report include "providing clear guidelines and templates on novel agreements, coordination, and co-deployment between competitors" (proposal 2) and "integrating security and resilience criteria into competition assessments by the authorities responsible for competition enforcement" (proposal 3). In the case of proposal 2, the report recommends that the competition authorities reconsider the assumption that any relationships between competitors will always end in collusive arrangements, and that they should be more open to allowing joint projects to share in the internalization of common externalities (for example, projects to cut emissions among competitors). In the case of proposal 3, the integration of criteria distinct from the traditional enforcement of consumer interests in the assessments made by the competition authorities raises concerns over the discretion that may be used to weigh different aims and justify any decision.

[5] A recent example is the rejection of AIG's merger with Air Europa, which was the result of a test applied by the Commission on the outcome in terms of competition in each and every route instead of looking at the bigger picture and broader dynamics.

In any event, all indications are that the fit between industrial policy and competition enforcement in the EU will not be easy, and that the revamp proposed by Draghi will be the subject of internal contestation. The European Commission's Directorate-General for Competition (DG COMP), in a comprehensive and thorough study entitled *Exploring aspects of the state of competition in the EU*, which uses both direct information (company surveys) and indirect information (EU statistics), concludes that "competition within the Union forces companies to produce cheaper, better quality products, allowing them to be more competitive in foreign markets". The study's conclusion can be interpreted as DG COMP's response to those who, like Draghi, call for "revamping" the policy of competition enforcement pursued by the EU to date. At the same time, it is true that the surrounding conditions and rules of global trade are changing and the EU needs to take better advantage of internal demand to bolster growth.[6]

## 3. Guidelines for European industrial policy

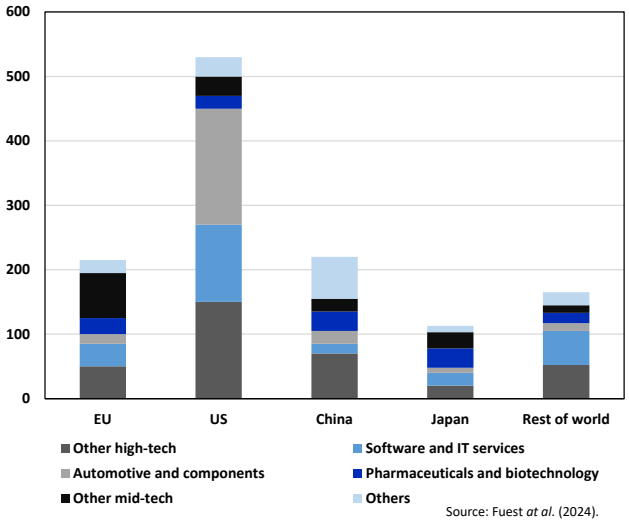
The two reports and the governing programme of the Commission concur that the competitive challenge that now faces Europe calls for more ambitious industrial policy. By examining the limitations of the policy rolled out so far, we can gain a better idea of what is needed and what guidelines should be followed.

### 3.1 Technological innovation

First and foremost comes the EU's policy on technological innovation. Among the most important intangibles in the development and competitiveness of companies, a key role is played by innovative property, which values the accumulation of specific patents and know-how that companies possess or obtain from their investments in research and innovation. The EU's annual spending on R&D stands at 2.3% of GDP, which is 1.2 percentage points lower than in the United States. This gap in spending has been relatively steady for the past 30 years, which accounts for the EU's lagging behind in the accumulation of technological capital.

As the Draghi report indicates, the gap in technological effort between the two economies lies in private spending, not in public spending. On one hand, a portion of the gap in private spending can be explained by the fact that European companies engage in production that is more mature and therefore less technology-intensive. On the other hand, however, and to a non-negligible extent, the gap is due to lower innovative effort by European companies.[7] As for the rest, if European innovation is focused on more mature technologies at the expense of new technologies (the three European firms that register the greatest innovative effort are all automakers), Europe will have fallen into the "mid-tech trap", which is an expression used in the study by Fuest et al. (2024) and illustrated nicely in Graph 1, elaborated from the study in question.

**Graph 1. Spending on R&D by technology levels for the 2,500 largest companies in 2021** (billions of euros)




Source: Fuest *at al.* (2024).

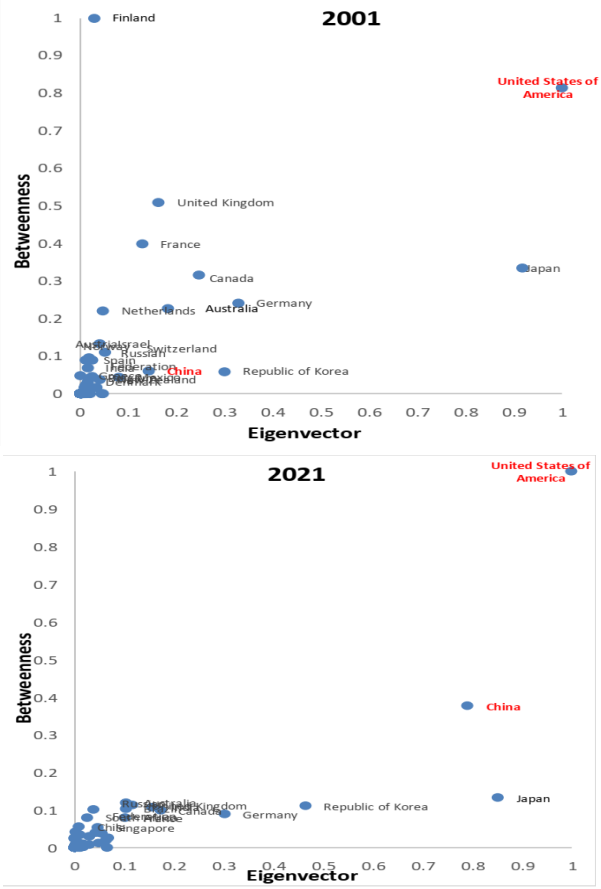
However, the EU has lost technological capacity with respect not only to the US, but also to China. In effect, a recent study carried out by Vázquez and Visintin (2024) shows that China, in the past 20 years, has risen to a significant position in the network comprising the patent systems of all countries, emulating the central position that the US has always held. The number of countries in which China has patented its products has gone up, measured by the "eigenvector" in Graph 2, and it has done so more intensely in the countries that, in turn, possess even denser networks with all of the other

[6] A recent piece by Mario Draghi poses the hypothesis that the major importance of foreign trade for Europe is related to the existence of higher barriers for intra-Community trade than for extra-Community trade (Draghi, 2025).

[7] Prior to 2013, the difference in the sector-specific structure of innovation accounts for 90% of the disparity in private spending on R&D, but since then it accounts for only 60%, given a sharp increase in research effort in activities relating to more advanced technologies in the US, which is not reflected in the EU (Fuest et al., 2024).

countries (measured by the "betweenness" indicator). By contrast, European countries have lagged behind in the same international network of patents, where they now rank below China.

**Graph 2. Position in the global patent system**

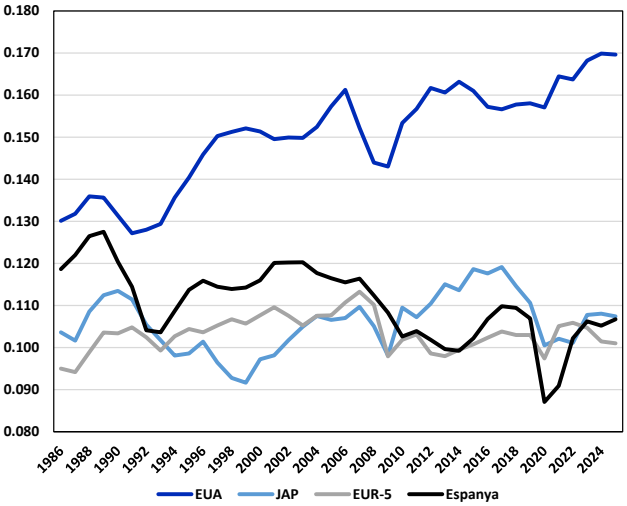



Source: Vázquez and Visintin, 2024

Of course, it must be taken into account that the sheer number of registered patents across a wide number of countries says little about the actual quality or importance of the achieved innovation. Indeed, it is well-known that the Chinese government sets patent targets that artificially hype the number of patents, albeit primarily at the domestic level (Yuen et al., 2023). Even bearing this fact in mind, however, China's achievements remain outstanding, as is notable from their significant progress in the number of registered patents in at least two out of the five top offices (that is, the IP5 patent families), which is documented in the Draghi report (Draghi report, part B, p. 231). Even so, the data from the balance of foreign payments for intellectual property do add nuance to these comparisons. China had a deficit of negative USD 35.108 billion in 2021, whereas the US had a positive value in the same year of USD 77.978 billion and Germany had a positive value of USD 37.626 billion (Vázquez and Visintin, 2024).

The lower innovation of EU companies and their lagging behind in new technologies leads to lower profitability, as Graph 3 shows. In reality, high-tech sectors were only slightly more profitable than mid-tech sectors in the European Union and China between 2003 and 2022, unlike in the US, where they nearly doubled their unit margins (Fuest et al., 2024; see graph in the Appendix, part 4). The relative profitability of high-tech sectors in the US has gone up sharply since 2013, perhaps illustrating the conditions of natural monopoly in which they pursue intensive activities in R&D, according to the explanation put forward by John Sutton (Sutton, 2007).

**Graph 3. Rate of return on physical capital** (Gross operating surplus over the stock of physical capital, as a %)




Note: EUR-5: Germany, France, Italy, Spain and UK
Source: Ameco.

In any event, lower innovation and lower commitment to high-tech sectors are two aspects that have gone hand in hand in the EU in comparison to the US, particularly since the financial crisis. Advanced technology sectors have increased their productivity, sales and technological effort in the US, strongly influencing the widening gap between the innovative effort of US and EU companies.

It comes as a surprise to encounter that the EU did not react earlier to foster the development of ICT sectors, even after confirmation of their positive impact on total factor productivity in the US, in particular during the period 1995-2004 (Jorgenson et al., 2007).

### *Identifying the responsibility of EU companies*

Fuest et al. (2024) look at the competitive weakness of EU companies and see limited contestability of markets in favour of incumbents, which would account for the striking longevity of the largest European firms in comparison to US firms in spite of strong competition

enforcement in the EU. Fuest et al. (2024) also point to the role of big lobbies among other reasons. At a more anecdotal level, Münchau (2024) attributes the limited backing of ICT sectors by German companies to the major opportunities created for mid-tech products with the opening and growth of Asian markets, which encouraged a certain degree of corporatism among bankers, industrialists and politicians with mercantilist ambitions, and which would appear not to have equipped the companies with broad strategic capability. The big automakers offer a good example of this. Despite their long stay in China, the leadership teams of the companies, all world leaders, failed to notice the enormous importance of the technological advances being made by Chinese manufacturers in the production of electric vehicles, and they were unable to react with sufficient foresight and effectiveness. Fortunately, the same cannot be said of every sector. Particular attention should be given to the proven quality of governance and management between EU and US companies.

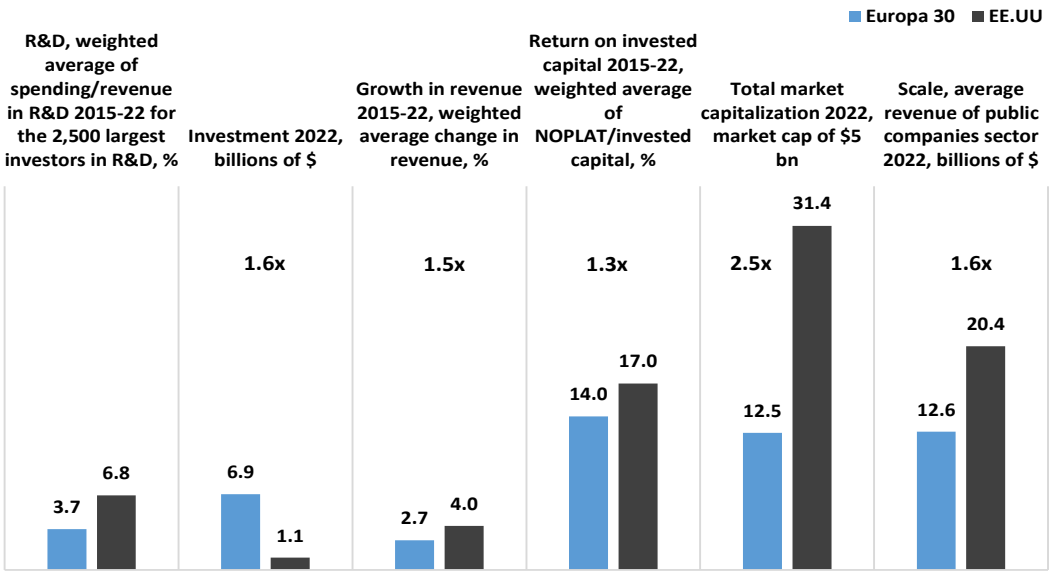
In any event, McKinsey has made use of telling data in a number of reports to summarize the gap between the performance of EU companies as a whole with respect to US companies. Graph 4, which brings together data on the gap, is self-explanatory.

The comparative data on ROA (return on assets) for the companies' physical capital merely confirms what has already been observed for the economies in aggregate (see Graph 3), namely that EU companies see lower performance in terms of returns on invested capital than US companies over an extended period of time. Reis (2024) offers additional arguments in support of the hypothesis that the management and governance of companies in Europe have failed to rise to the level needed to meet the demands of international competition.

In the current moment, particular mention should also be made to the reduced competitiveness demonstrated to date by EU arms producers. According to the SIPRI report (2024), only one of the top 10 arms producers in the world is European (UK), while three more figure among the top 20, namely the Airbus consortium, Leonardo (Italy) and Thales (France). Navantia is the only Spanish company among the top 100 and it ranks in 84$^{th}$ place. Meanwhile, the United States occupies the top five positions of companies by annual revenue in 2023. The highest-ranked company sells arms at an annual amount that is five times greater than the sales of Airbus and 60 times greater than the sales of Navantia (which stood at USD 1.190 billion in 2023).

It proves complicated if not impossible to separate out responsibility across the state (public policies), market competition (less dynamic than desired), and the quality of governance and management of companies to account for the EU's lagging behind in technology and investment and, ultimately, its loss of competitiveness as an economic bloc. However, it will be difficult to retain the savings of Europeans to finance the growth of EU companies and curb the outflow of their savings to the United States, if EU companies do not offer at least the same levels of profitability on offer from their US counterparts.

**Graph 4. Companies with revenues greater than a billion dollars in Europe 30 compared to the US**




Note: NOPLAT is net operating profit less adjusted taxes.

Source: McKinsey Corporate Performance Analysis.

### *Determinants of the EU's technological lag*

In any event, apart from these and other institutional and cultural differences, at least three factors are determinant of the EU's lower technological effort, that is, of its innovation problem.

The first factor relates to the fragmentation of the European market, which is brilliantly highlighted in the Letta and Draghi reports. Market fragmentation has kept European companies from acquiring a scale conducive to supporting greater technological effort. It also increases the burdens and costs of their actions within the EU as a result of the different regulations that govern the markets of each and every Member State.[8] This is clear in many markets. In the case of telecoms operators, a services market, the Draghi report makes the following observation (part B, p. 69): "The EU has a total of 34 mobile network operators (MNOs) and 351 non-investment-based virtual operators (MVNOs), compared with three MNOs in the US (plus 70 MVNOs) and four MNOs in China (plus 16 MVNOs). The EU fixed broadband market – where the top three operators hold a joint share of 35% across Europe – is also less concentrated than that of the US (with a joint share of 66%) or China (with a joint share of 95%). Lower prices in Europe have undoubtedly benefitted citizens and businesses but, over time, they have also reduced the industry profitability and, as a consequence, investment levels in Europe, including EU companies' innovation in new technologies beyond basic connectivity".

Another good example concerns the defence industry, which is doubtless even more surprising in that its demand comes largely from the public administrations of Member States. Yet Member States use a dozen different types of tanks, while only one type of tank is produced and used in the US. This state of affairs impedes gaining any benefit from economies of scale, which are crucial in such a capital-intensive sector. It also leads to issues related to a lack of standardisation and the interoperability of equipment (Draghi report, part A, p. 59).

A second cause of lower technological effort in the EU, which is even more important than the first one, rests on companies' excessive dependence on bank finance, which is less likely to take risks. Bank finance is better suited to provide support to large, mature companies, with strong cash flows and vast assets to act as collateral (Cornaggia et al., 2015; Rajan and Zingales, 1998). To finance emerging companies, by contrast, the key is venture capital funds, which have seen relatively lower development in Europe. In spite of rapid growth in recent years, however, the finance offered by venture capital funds in the EU amounts to only 21% of the amount put up in the US and only 30% of the amount put up in Asia (Teruel, 2021). This issue, together with market issues, now poses difficulties, for example, for the implementation of the Chips Act. This is why there is now a proposal to set up the Chips Fund, which would provide "a greater availability of loans, venture capital finance and specialist funds, including capital investment solutions created through specific investment mechanisms, with participation from the group of the European Investment Bank (EIB), other financial institutions and private capital partners" (European Commission, 2022, p. 72).[9]

Probably as a consequence of this situation, the number of emerging companies in Europe is much smaller (0.26 per 1000 inhabitants in the EU compared to 0.62 per 1000 inhabitants in the US), albeit with major differences between countries. Germany and France have close to 0.5 emerging companies per 1000 inhabitants, more than double the number for Spain and quite a lot more than Italy, although still only half of the amount in the UK and a quarter of the amount in the Netherlands (Teruel, 2021). The share of emerging companies that survive beyond their early stages and enter into the growth phase, however, is lower, which would account for the smaller number of unicorns in the EU, according to the Draghi report, at only 8% of the total in 2023, compared to 66% in the US and the remaining 26% in China.

Additionally, the EU is lacking in the development of institutional financing (pension funds, investment funds and insurance companies), which proves key for the increasing size and scalability of companies. For example, in 2017, institutional investors in the US put EUR 56 billion of finance into the hands of innovative young companies compared to only EUR 665 million in France (Aghion et al., 2021).

[8] There is also a challenge in finding enough specialist staff to make headway in the digitalization of companies, the introduction of AI, and the pursuit of innovation in the areas of organization and management.

[9] The smaller development of European capital markets in comparison to their US equivalent is influenced less by the fragmentation between states, which is lower than the fragmentation between financial intermediaries, than it is influenced by the lack of development in major markets, such as the German, Italian and Spanish markets, in comparison to their Swedish or Dutch counterparts (Arnal, 2025).

A third determining factor of Europe's innovation problem lies in the lower efficiency of public R&D activity as a consequence of budget constraints and difficulties in accessing funding from the public R&D budget, the fragmentation of efforts undertaken by different Member States, and their lack of focus on underlying technological challenges, which are extreme. As the Draghi report adds in a footnote: "Member States do not coordinate their national public spending on R&D to align it to EU-wide priorities" (Draghi report, part B, p. 236). It might also be added that such priorities have never been very clear, nor has their aim been to meet the needs of the productive sector.

The EU Framework Programmes receive a substantial financial envelope, but they distribute their funds across Member States (thus losing economies of scale by their actions) and keep only a very small amount for actions aimed at the EU as a whole, for example, EUR 7 billion out of the EUR 95.5 billion allocated for the current Horizon Europe programme for the period 2021-2027. The previous programme, which was called Horizon 2020, has been criticized on many grounds, including the unequal distribution of funds among countries, the lower interrelationship of research studies shared by different states, the excessive complexity of procedures, the high administrative burden, the lack of flexibility to react to unforeseen circumstances, insufficient synergies among EU programmes and funds, and the difficulty of combining EU action with other public interventions and public funding (Karakas, 2018). Also, the previous Horizon 2020 programme, like the current one, covered a great many areas but did not focus specifically on disruptive or breakthrough innovation. As the Draghi report effectively points out, the core instrument to address innovation – Pathfinder, which falls under the European Innovation Council (EIC) – had a budget of only EUR 254 million in 2024, which is a much smaller amount than the budget of EUR 4.1 billion for DARPA in the US[10] and an additional EUR 2 billion for the other ARPAs. Moreover, the Pathfinder budget represented only 2.5% of the total EIC budget.[11]

The fact that EU public spending on R&D has remained relatively far from the needs of industry and services, making it hard to turn new knowledge into innovation, has given rise to the so-called "European innovation paradox", a phrase that captures the stark contrast between the achievement of a leading position in the international rankings of scientific publications and a notable lag in the creation of new products and production processes.[12]

While the paradox still exists, it is not as striking as typically thought, because research in the EU does not reach the same level of excellence as it does in the US and China (Rodríguez Navarro, 2024). While it is the case that the European Union outperforms the US in terms of its relative weight in international scientific publications, it does not top China. It is also the case that the EU is on a par with the US in its weight among the ten most cited publications, although once again it falls behind China. However, the EU has hardly any universities among the top 50 worldwide (unlike the United Kingdom). Indeed, the number is 6, which is the same as China, whereas the number for the United States is 26. This disparity is underscored in the Draghi report, as is the fact that the EU has no innovation clusters among the top 10 worldwide and only one among the two 20 (compared to 7 in China and 10 in the US), or the fact that in the Nature Index of leading research centres in the natural and health sciences, the EU has only 3 out of the top 50, in contrast to 21 in the US and 15 in China. Once again, EU fragmentation accounts for these results, which have also been affected by Brexit, given that the UK is home to more leading universities among the top 50 than the whole of the EU and also more leading research centres in the natural and health sciences.

The Draghi report sets out a wide range of recommendations to establish a genuine innovation

[10] The Defense Advanced Research Projects Agency (DARPA) was founded in 1958 by Lyndon B. Johnson as a reaction to the launch of the Sputnik satellite by the Soviet Union. The purpose was to promote innovation in defence and space exploration. DARPA has played a decisive role in the development of high-risk projects, such as the internet, GPS and touch screens.

[11] As noted by Fuest et al. (2024, p. 6), "The EIC seems more focused on remedying perceived capital market imperfections than on promoting innovation, as a substantial share of its spending supports the capital structure of small to medium-sized enterprises (SMEs) and, to a more limited extent, startups. Moreover, serious governance issues may undermine its mission of boosting breakthrough innovation: the EIC is mostly led by EU officials rather than top scientists; some eligibility criteria impose severe constraints, rendering the selection mechanisms highly bureaucratic; collaborations are mandated rather than accompanied; and the disbursement of funding is slow".

[12] Unlike what occurs with the EIC, the body in charge of the common scientific policy, the European Research Council (ERC), works with great efficiency and considerable independence from the public authorities.

policy and fix the indicated shortcomings. Its recommendations can be summarized as follows: "Europe must improve the conditions for breakthrough innovation by addressing the weaknesses in its common programmes for R&D". The report recommends reforming the EU's next Framework Programme for R&D in terms of its focus, budget allocation, governance and financial capacity. First, the programme should be refocused on a smaller number of commonly agreed priorities. Second, an increased share of the budget should be allocated to financing disruptive innovation and, to make efficient use of the funding, the EIC should be reformed to become a genuine "ARPA-type agency", supporting high-risk projects that have the potential to deliver breakthrough technological advances. Third, the governance of the programme should be managed by project managers and by people with a proven track record at the forefront of innovation and application processes should be faster and less bureaucratic to maximize access for young, innovative companies. The organisation of the programme should be redesigned and streamlined to become more outcome-based and efficient. Finally, conditional on reforms, the budget of the new Framework Programme should be doubled to EUR 200 billion for seven years (Draghi report, part A, p. 33).[13]

Special attention needs to be given to the recommendation of setting up ARPA-type agencies, which is a view shared by many analysts (Aghion et al., 2021; Fuest et al., 2024). Such agencies would get involved in the initial stages of technological development, where there is uncertainty or high risk (levels 3 to 5 on the TLR, or technology readiness level), with the aim of transforming initial ideas and projects into developments whose risks can be taken on by companies. Typically, such agencies pursue a given mission, such as national defence in the case of the US's DARPA, but they may also focus on sector-specific aims, such as energy or biology. In addition, they bring together many scientists and combine a top-down approach with a bottom-up one in the development of breakthrough or disruptive innovation projects (Aghion et al., 2021). A ministerial department funds the programmes (top-down) and selects the programme directors, who are hired for a period of three to five years. Programme directors typically have training in entrepreneurship and an entrepreneurial mind-set, exercise freedom to choose their own teams, cooperate with emerging companies and university labs, and decide whether to allocate more resources to ongoing projects, halt them or abandon them in spite of sunk costs (bottom-up). In accordance with the above explanations, it is clearly advisable to transpose the management style of the ARPAs to the EU's EIC.

### 3.2 Green and digital transitions

As noted at the beginning of the *Policy Brief*, the EU has sought to respond to the call for a more ambitious industrial policy over the past three years by rolling out a wide range of actions in relation to technology and production of all kinds. The most important actions seek to encourage the green and digital transitions through a variety of programmes, beginning with those financed through Next Generation EU funds. First and foremost, it is necessary to note the wisdom of putting these two transitions at the forefront of public action, given their transformational importance in the economic space.

At present, the aim of the green transition is more ambitious and better defined. It is spelled out in detail in the European Green Deal Industrial Plan, which seeks to spearhead clean technologies and achieve decarbonization of manufacturing production, not only through greater energy efficiency but also through manufacturing processes that are less polluting (the EU's Net-Zero Industry Act). It also seeks to promote the production and storage of renewable energies, emphasizing electricity and green hydrogen, which are key pieces in a new mobility based on zero-emission vehicles and the integration of the energy market, with common rules and better cross-border infrastructure.

Given the importance of the European automotive industry, the electric vehicle lies at the core of the programme for the green transition. The aim is to boost production of electric vehicles, supporting the development of battery production and the production of other parts and components, and spur growth in demand, above all through subsidies to buyers. The EU

[13] Of course, it is possible to go even farther. One giant step with enormous benefits for the EU would be to transfer part of the funding by states to the EU. It "would enlarge the pool of projects to choose from, and the pool of independent experts who can give an informed opinion on these projects. It would increase the (physical, cultural, social) distance between principal investigators and reviewers, conferring more integrity on the review process. Finally, and specifically for the case of disruptive innovation, the fact that ambitious R&D is bound to fail with non-negligible probability means that it is hard to conduct advanced research without risking a media backlash if very few projects succeed. The law of large numbers at the EU level makes this occurrence less likely…" (Fuest et al., 2024, p. 7).

also seeks to reduce excessive and risky foreign dependencies, incentivizing the development of every stage in the value chains. The latter goal, which also extends to industrial equipment used in the generation and transport of renewal energies, is one of the main goals of the Critical Raw Materials Act (CRMA) and the Chips Act, which is an initiative that seeks to promote the design and manufacture of semiconductors in order to double the EU's share of worldwide production from 10% to 20%. Vehicles are one of the chief users of this product, which has been in short supply since the pandemic and is even more crucial for the digital transition.

The roll-out of these programmes is slow for a variety of reasons, including a lack of clarity over the technologies to use and promote (for example, in terms of batteries and electric vehicles), differences of focus across Member States, insufficient coordination of actions, restrictions on giving help to companies, and a host of bureaucratic obstacles. It is important now, however, to give a strong boost to these programmes because the EU faces intense international competition, especially from China.

In the case of electric vehicles, the results obtained so far, which are unequal across Member States, are not sufficient to meet the formidable competitive challenge posed by Tesla and the leading Chinese companies (Myro and Salas, 2025).[14] Tesla, which offers models that are more autonomous and advanced than European models, is expanding its facilities in the EU, while the leading Chinese companies today (BYD, SAIC, Chery) offer electric vehicles of high quality that are very price competitive and already had a share of total EU imports in excess of 50% by 2023, after having started from a barely noticeable level in 2019 (Bencivelly et al., 2024). Europe also competes in the manufacture of electric vehicles with the United States, which offers a great deal of help to companies with facilities on US soil through the Inflation Reduction Act.[15] On 5 March 2025, the European Commission published a communication entitled "Industrial Action Plan for the European Automotive Sector", which creates flexibility in compliance with the CAFE regulations for emissions reduction and reiterates its commitment to an industrial action plan, but without yet including any specific relief actions.[16]

As for the second major transition, the digital transition, the aim is no longer simply to expand and improve digital infrastructure, which is already largely being undertaken by governments and implemented at an acceptable pace. The aspirations now are much more far-reaching. The aim is to develop cloud computing and edge computing, data economy and artificial intelligence, and their applications for individuals and companies. These are all aspects where the EU lags far behind the US and China. To achieve these aims, therefore, the EU in 2024 enacted the second Important Project of Common European Interest (IPCEI) in microelectronics and communication technologies, which has been added to the previously mentioned Chips Act. Likewise, the EU launched the initiative InvestAI in February 2025 to mobilize EUR 200 billion for the construction of AI gigafactories in the context of a public-private collaboration for which the European Commission created a start-up fund of EUR 20 billion. Also of recent creation are other less far-reaching initiatives, such as DARE (Digital Autonomy with RISC-V Europe), coordinated by the Barcelona Supercomputing Centre, which is the owner of the MareNostrum 5 supercomputer. The DARE initiative, which seeks to develop high-performance computing chips, is considered, in spite of its limited investment,[17] a large-scale strategic action that could become as important as the CERN, Galileo or Airbus programmes in terms of investment and impact on production.

[14] The policy rolled out by the EU to encourage the transition toward electric vehicles is a good example of the difficulties encountered by a united Europe in undertaking industrial policy and coordinating Member States (Myro and Salas, 2025).

[15] China has also increased its rivalry at a surprising pace in other heavy equipment linked to the green transition, such as large natural gas turbines, which are suitable for electricity generation and powering large ships, replacing heavier and more polluting diesel engines, whose manufacture today is concentrated in three companies: General Electric, Siemens and Mitsubishi.

[16] The case of electric vehicles reflects the gravity of the mid-tech trap very well. European companies have been major leaders in vehicles with combustion engines, have achieved high levels of profitability, and have benefitted from the growth of the Chinese market, but they have failed to see the rising importance of software in the move towards autonomous cars.

[17] The total investment in DARE, in the initial stage, will be EUR 240 million. Half of the investment, EUR 120 million, will be provided by the European Commission through EuroHPC JU (European High-Performance Computing Joint Undertaking). The Spanish Ministry of Science, Innovation and Universities will contribute EUR 34.4 million, while the rest will come from 45 European partners attached to the project.

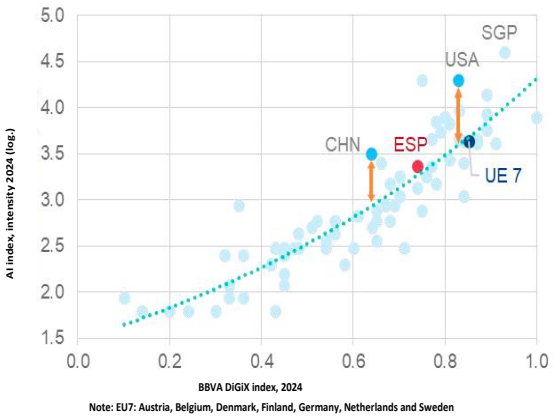
There can be little doubt that these recent initiatives all point in the right direction, but they still need greater specificity and impetus. AI must be the focus of a lion's share of the efforts undertaken by Community authorities. As laid out in the Draghi report, it is not merely urgent to promote general research in the area of AI, starting with redirecting the focus of the EU's three supercomputers toward this aim and expanding their activities beyond fulfilling the requirements of science towards meeting the needs of companies. It is also important to investigate and develop the potential of AI at the sector-specific level, or risk European competitiveness being fragmented across a growing number of activities.

In the area of generative AI, McKinsey sees enormous potential for progress in European productivity by 2030 (56%) across a large number of sectors (Sukharevsky et al., 2024), although the consulting firm's expectations appear rather overstated in light of other estimates, including the one put forward by Doménech et al. (2025) using the model of Daron Acemoglu, according to which the impact on total factor productivity (TFP) will fall 3 percentage points over the next 10 years with little variation by country, or the one from Phillipe Aghion, who finds that France could achieve an increase of up to 14% over the same period. As with the development of ICTs, however, it may well be another situation in which the effects of new technologies on productivity take years to appear in the statistics. In other words, a new Solow Paradox.

According to McKinsey, the EU today lags quite far behind the US on the two chief fronts in the case of AI: (1) adoption by companies (EU companies spend between 45% and 70% less than their US counterparts, depending on the item, but broadly across all sectors); and (2) company start-ups, in which private investment in 2023 was only EUR 11 billion in the EU (compared to EUR 67 billion in the US) and only EUR 2 billion went to generative AI. Only 25 of the 101 AI models considered important by Stanford University are European. On the second front, the EU occupies a good position in facilities for the production of semiconductors (ASML), and is making progress on foundational models, which is an area where strong headway is being made by the French firm MistralAI, whose technology, which involves open-source coding, has been used to build the Chinese company DeepSeek, and in AI applications and services (where a number of unicorns have emerged and there are global software leaders, including Dassault Systèmes, Hexagon and SAP), but the EU lags far behind in raw materials, design and manufacture of AI semiconductors, cloud infrastructure and supercomputers (Sukharevsky et al., 2024). We could also speak of a third front, specifically the cheap energy needed for the operation of data centres, where the EU also trails the US.

The EU's relative prospects in AI that can be drawn from the available global indices are quite a bit less favourable than the one offered by McKinsey, as reflected in Graph 5, which combines two such indices.[18] The differing prospects must be a result of differences in the measurement of the items under scrutiny and the use of different baseline information. For example, the data on AI adoption by companies used by McKinsey measure their spending on AI, whereas the DiGiX data measure employees' use of GitHub commits and top-level domains.

**Graph 5. Artificial intelligence development indices**




Source: BBVA Research based on the European Commission and the Global Artificial Intelligence Index 2024.

To increase the adoption of generative AI by companies, McKinsey proposes launching professional retraining programmes as well as programmes to attract and retain AI talent. The consulting firm also advises providing help to companies to transform their business model by integrating the new technology and also enrich their databases continuously, with their own data and real-world data, ensuring accessibility to the entire organization in order to facilitate intelligent decision-

[18] DiGiX is a multidimensional index created by BBVA Research to capture the overall evolution of digitalization in 98 countries. The index combines 24 variables grouped in six dimensions that represent three pillars: supply (infrastructure and costs), demand (users, government and enterprise adoption), and institutional environment. The Global Artificial Intelligence Index, prepared by Alexis Mostrous, Serena Cesareo and Joe White, expanded the list of examined countries to 83 in the 2024 edition, including new indicators and enhanced data organized in three pillars: implementation, innovation and investment. Overall, the three pillars address talent, infrastructure, operating environment, research, development, commercial ecosystem and government strategy.

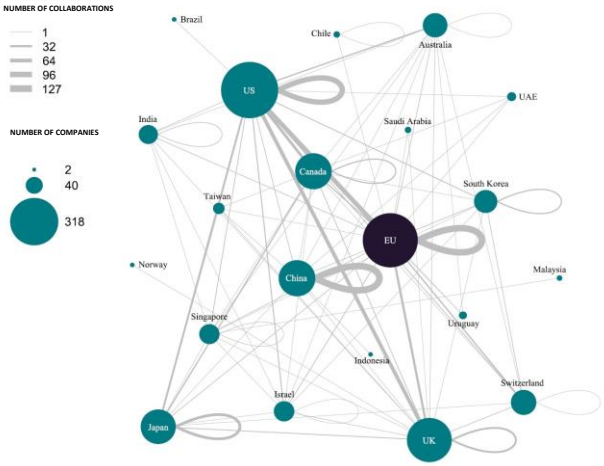
making at all levels. In addition, it is necessary to help them to adapt in line with the regulations established in the EU AI Act.

In the area of AI start-ups, it is regarded as essential to promote generative models and applications based on local data and adapted to specific EU characteristics. Similarly, it is essential to increase the capacity for data storage and computing. Europe possesses 18% of global capacity, but only 5% belongs to EU companies. Lastly, it is crucial to make headway in the production of advanced semiconductors, attracting research centres and steering them quickly in the direction of other promising fields of design, such as analogue, neuromorphic and optical semiconductors and semiconductor quantum computing. McKinsey takes the view that the Chips Act, signed in 2023 with a funding commitment of over EUR 40 billion, represents an important first step towards strengthening the EU's semiconductor industry, although it does cover a wide range of technologies instead of focusing exclusively on chips for AI.

The EU is a leader in one AI field, namely quantum computing, where Germany stands as a prime representative. In this area, the Draghi report notes the following: "The EU has developed a comprehensive plan to further support the development of quantum companies, including the Quantum Flagship programme for R&D&I support, EuroQCI to develop and deploy a pan-European quantum communication infrastructure, and the deployment plan of a pan-European quantum computing infrastructure under the Euro-HPC Joint Undertaking" (Draghi report, part B, p. 80).

Key in the development of quantum technology (computing, communications and sensors) is collaboration between companies, both in innovation and in applications. A pair of recent analyses (Guinea et al., 2025; Erixon et al., 2025) show Europe's position in the network of companies that collaborate on the development of quantum computing, communications and sensors (see Graph 6), and they note that "the US and EU are key contributors to the development of quantum technology. Both regions occupy key positions in the network, together representing a significant part of all registered collaborations (the US accounts for 29% of all associations, while the EU accounts for 20%), and a significant share of the companies (the US has 318 companies, followed by the EU with 295). In addition, both regions are also each other's most important partners, including 84 collaborations with private companies. In terms of the diversity of associations, the EU collaborates with 16 partners, followed closely by the US with 15 partners. Such diversity is a key characteristic of how companies in the EU and US tackle the development of quantum technology. By contrast, the profile of China's quantum collaborations is more insular: 84% occur exclusively among Chinese companies, which shows the close ties that connect the country internally. This percentage is much higher than the corresponding percentage for intra-EU and intra-US collaborations, which are 37% and 25% of their respective totals," (Guinea et al., 2025, p. 9).

**Graph 6. Network of collaborations in quantum technology**




Source: Guinea et al., 2025

In spite of this notable development, however, the Draghi report states that, given the low degree of technological maturity that still marks EU companies and their orientation towards basic science, innovation calls for the presence of private capital in order to promote industrialization and early commercialization. In this respect, though, the capacity of European venture capital funds is still limited (Draghi report, part B, p. 81). ECIPE researchers also point to the existence of an investment gap that may impede the EU's hold on its current prominent position. Indeed, although the EU has a high number of companies in quantum technologies, only four figure among the top 30 worldwide, ranked by amount of funding between 2012 and 2014 (specifically, the Danish company Novo Nordisk, the Finnish IQM Quantum Computers, and the French companies Sanofi and PASQAL).

### 3.3 Other pending actions and challenges

Along with the programmes noted above, Europe is moving forward on programmes in health, pharmaceuticals and vaccines, in which the EU, despite possessing solid technological development, has notably lost market share in the past decade, above all in biologicals, orphan medicines and advanced therapy medicinal products (Draghi report, part B, pp. 188-190), and it will likely not be long before the EU does so in sectors where there are dependencies on other countries that are high and risky. In the case of robotics and machinery, imports from China are reaching very high levels, just as they are in lithium batteries, solar panels, smart phones, computers, medical instruments and offshore wind turbines (Arjona, 2023).

The EU is also trying urgently to strengthen its aerospace and defence industry, given the heightened risks after the war in Ukraine. As noted in the study by Fuest et al. (2024, p. 12), this industry "represents one of the few sectors where EU companies spend almost as much on R&D as those in the US (EUR 8.7 billion versus EUR 9.4 billion). The main difference is the size of the market, as can be seen from net sales of EUR 260 billion for the US and EUR 140 billion for the EU: defence spending is much higher in the US and most of this spending naturally benefits US companies".

On the other hand, each of the Member States is using Next Generation EU funds to foster industries in which it has comparative advantages. Thus, for example, Spain has put in motion 12 strategic projects for economic recovery (PERTES, in Spanish), aimed at a variety of sectors apart from the ones already mentioned, such as food, aerospace, maritime and the circular economy. As noted earlier, Spain has also recently passed the new Industry and Strategic Autonomy Act to align with the EU's plans, which among other things promises to deliver planning and promotion of greater strategic autonomy, resilience, safeguarding and growth of the industrial base, and the digital transformation of the industrial sector, including services, infrastructure and other related activities.

Current EU programmes seek to promote what have come to be called "common industrial goods" with wide-ranging positive externalities for the EU as a whole. As a result, they call for a common financial policy and framework so that a lack of resources does not prevent Member States from taking part. Accordingly, new Community funds need to be approved, above all if strict fiscal rules are to be followed. This also relates to a recommendation in the Draghi report, which is to set the EU's annual investment needs at 5% of overall GDP, which is approximately EUR 800 billion a year. This is a figure that has surprised European authorities and some analysts, who argue that EU structures cannot take on such a high level of spending without waste and without first improving its capacity for governance.

In any event, EU industrial policy still has three major challenges that have barely been addressed. The first and most important, which has already been alluded to, concerns innovation, which is in need of major ambition. Indeed, innovation is the first duty of any industrial policy, as the *Policy Brief* has noted before. If a question is asked about the European Union's position in the innovation that is steering the green and digital transitions, the reply is that the EU lags quite far behind the US and China in the digital sphere (e.g. the internet of things, cloud computing, quantum computing, cybersecurity, cryptography and artificial intelligence), where production processes, markets and products are being substantially transformed, and it promises to do so even more intensely in the future with the help of AI as well as being a key factor in decarbonization. However, the EU is overtaking China and even more so the United States in the technologies that are part of the green transition, albeit with the exception of the three prime outputs, namely solar panels, batteries and electric vehicles (Draghi report, part B, p. 233).

The second challenge that has hardly been addressed concerns the increased integration of EU countries, a matter on which both the Letta and Draghi reports are insistent. There remains a high cost for EU fragmentation, which the European Parliament puts at EUR 2 billion. As noted earlier, fragmentation limits the scale of companies and leaves them defenceless against large capital funds and sovereign funds. It also poses an obstacle to internal trade, especially in the area of services. Greater integration needs to go hand in hand with progress towards a more common industrial policy that is better coordinated among countries, so as to remove the negative externalities related to the fact that each Member State applies its own (Hodge et al., 2025).

The third major challenge is to create public administrations that are more professionalized, with better human and material resources, reinforced capacities to undertake and coordinate new activities, and support from institutions able to cooperate in depth with the private sector (agencies, technological institutes), which they must ask for greater structure and clarity in the definition of the challenges that confront

them. The Draghi report also puts across the idea previously floated by a number of analysts that the EU needs its own DARPA and ARPAs.

As the positive effects of public spending on GDP increase with the efficiency and quality of the responsible public institutions (Andrés et al., 2024), it seems clear that the EU's industrial policy will be more effective and result in fewer trade-offs with other microeconomic policies, the better and more professionalized its governance is.

## 4. Conclusions

Any analysis and reflection on EU industrial policy at the time of writing this *Policy Brief* must offer up conclusions that are merely tentative, not definitive. This is clearly the case in the face of uncertainty about the global economy and politics as a consequence of the unpredictable decisions and behaviours of the new US administration. That said, it is also true that the EU has its own internal reasons to re-examine its organisation and internal workings (stagnant investment, technological lag, and a widening productivity gap with the US) in line with the diagnoses and proposals set out in the Letta and Draghi reports, regardless of the results of US presidential elections. The changes in the roadmap set out in the governing programme for the second term of EU President Von der Leyen in relation to her first term are the result of fundamental reasons, not cyclical ones. Added doubts are posed by the EU's institutional capacity to steer the changes and show enough commitment in decision-making when important policies from the past, such as those on sustainability, come into conflict with other policies for the future, such as the industrial response to the externalities of national security.

Against this backdrop, the *Policy Brief* has sought to identify some of the conflicts arising out of decisions as to which public policies to implement, specifically as a consequence of the prominent place given to industrial policy in the Commission's governing programme. Indeed, it finds a number of opportunities for improvement in areas as significant as technological innovation and the green and digital transitions.

The starting point of analysis is a confirmation that industrial policy, which has now taken a leading role that it has never before taken within in the new governing programme of the European Commission, may not fit easily with the competing policies of regulation and competition enforcement, the two microeconomic policies to which the EU has shown preference since its founding, as a solution to the trilemma that arises from attempting to apply all three at once.

In effect, the addition of industrial policy to the full suite of microeconomic policies opens up three possible policy combinations. The first scenario is the one that has prevailed in the European Union to date, dominated by the policies of regulation and competition enforcement. We call this scenario a "regulated market". The second scenario gives little attention to competition enforcement, replacing it instead with industrial policy. This option is closer to the one established since 1980 in the United States. Called a "partnership" model, it is marked by the predominance of regulation and industrial policy. Lastly, the third scenario puts importance on competition enforcement and industrial policy at the same time, while giving less weight to regulations. This final combination goes by the name of the "dirigiste market" and it is closer to the model prevailing in China.

The third and final combination of policies aims to deliver competitive market structures with attention to the number of competitors and the opportunities for market entry and exit, but companies are also allowed to collaborate within a single market in order to produce shared goods and services and reduce costs. The state uses public interest criteria (such as security) to choose the countries with which to enter into trade agreements and/or introduce selective tariffs. Regulation is sacrificed to gain flexibility and reduce the effects of unfair competition from countries with more lax regulations (for example, on environmental protections and labour rights). The state also uses tax incentives and subsidies to foster R&D and on-the-job training for workers in order to exert influence on the quality of production inputs at a time when intangible assets have an increasingly greater impact on productivity.

The Letta and Draghi reports and recent addresses by France's President Emmanuel Macron clearly advocate for an ambitious industrial policy designed sector by sector, which assesses competition in its dynamic perspective, that is, taking into account the importance of innovation and the role that can be played by cooperation among companies, while limiting regulations only to those that are strictly necessary. In other words, they move between the dirigiste market

and partnership models, depending on the emphasis on regulations, which is not always explicit. They also argue that industrial policy needs to be rolled out at Community level and not at the level of the state, in order to prevent any potential negative externalities and any excessive competition among Member States. Or put another way, industrial policy needs to foster EU integration and at the same time its implementation needs to be facilitated through the use of Community funds when the aim is to enhance common goods, such as defence, health and artificial intelligence.

The second aim of the *Policy Brief* has been to define the core points of a more ambitious EU industrial policy and offer guidelines for its implementation, contrasting the needs identified in the indicated reports and other studies with actions that have been undertaken recently. The document has highlighted the key role played by a genuine innovation policy to overcome the mid-tech trap in which the European Union finds itself, taking as a benchmark the evidence of the US's formidable recent advance in high-tech sectors and China's rise in the international patent system, overtaking European countries and approaching the US at a rapid pace. The analysis of EU policy in this area shows that it has been pursued primarily at the level of Member State, resulting in major differences in the allocated resources and achievements attained by countries.

The common innovation policy has received very little attention because the main instrument, the Framework Programme, has rested on the actions of each Member State without specifying sufficiently clear guidelines, adequate coordination or enough concern for disruptive or breakthrough technologies. In addition, such actions have lacked the necessary connection with productive activities, focusing more on scientific research, while making less effort in turning scientific results into innovations. This has given rise to talk of a European innovation paradox, potentially overstating its scientific achievements.

In any event, lower innovation and lower commitment to high-tech sectors are two aspects that have gone hand in hand in the EU when compared to the US, especially since the financial crisis. Advanced technology sectors have increased their productivity, profitability, sales and technological effort in the US, which in turn has had a strong influence on the widening gap between the innovative effort of US and EU companies.

EU industrial policy has recently come into sharper relief in other areas by accurately focusing on the green and digital transitions and embracing the aims of national security. To this end, there has been an increase in initiatives and programmes ranging from decarbonization of industry to support for semiconductors, or a reduction in dependencies on minerals, metals and raw materials from China. All of these efforts point in the right direction, but their ambition is very limited, especially in contrast with the more powerful policies pursued by the US and China. What is missing is an ambitious plan for the development of artificial intelligence, which promises to permeate all productive sectors and transform their products and their production and commercialization processes. This is where Europe lacks a sufficiently robust technological base, but rather faces a key opportunity that it is urgent to seize.

Similarly, the EU lacks an ambitious plan to transform industries that already have a solid footing in Europe's industrial fabric, in which EU companies remain world leaders, such as the automotive sector. In this sector, there has been a lack of resolute commitment across the Community to expand charging networks, boost the demand and production of electric batteries, and drive innovation in all parts of the EV value chain. Innovation in a new sector entails large-scale investments in a context of uncertainty as well as a process of trial and error, but only by making headway in new industries is it possible to enter into a virtuous circle of learning by doing. This is what China has done with the necessary state backing.

With respect to taking actions in defence of this and other industries from unfair Chinese competition, it would preferable to avoid tariffs and reach agreements with China that would enable Chinese firms to set up in the EU and transfer technology to European firms. Such a solution would require China to transfer ever more stages of production onto European soil and prevent the EU from merely carrying out assembly activities, which is what Chinese companies are currently announcing. However, the established tariffs, if they are kept in place only on a temporary basis, could act as incentives for the shift. In reality, this appears to be the path to take, unlike the path of complete market closure followed by the US in light of the high tariffs proposed by the new administration.

In any event, EU industrial policy still has three major challenges that it has barely addressed. The first and most important challenge concerns innovation, above all innovation in high-tech sectors, which call for a high level of ambition. The second challenge relates to greater

integration between EU Member States, removing any excessive barriers and regulatory differences that still exist. Lastly, the third and final challenge is to create more professionalized public administrations, with better human and material resources, reinforced capacities to undertake and coordinate new activities, and support from institutions able to cooperate in depth with the private sector (agencies, technological institutes) which they must ask for greater structure and clarity in the definition of the challenges that confront them. In this respect, the call for the creation of one or more ARPAs, emulating the US, has been spreading among analysts in the past two years. Also, in addition to all of the above points, it is necessary to adopt as faithfully as possible the good practices put forward by Tirole (2017) for the design and implementation of industrial policy as well as the ten principles set out by Rodrik (2004).

## References

Aghion, P.; Antonin, C.; Bunel, S. (2021). *El poder de la destrucción creativa. ¿Qué impulsa el crecimiento económico?* Deusto.

Andrés, J.; Bandrés, E.; Doménech, R.; Gadea, M.D. (2024). "Bienestar social y tamaño del gobierno". BBVA Working document 24/02, January.

Arjona; R.; Cornnell, W.; Herghelegiu, C. (2023). "Una metodología actualizada para detectar las dependencias estratégicas de la UE". *Información Comercial Española*, no. 930, 41-55.

Arnal, J. (2025). España y el mito de los mercados de capitales europeos: más integración de la que creemos, menos desarrollo del que necesitamos. *Elcano Policy Paper*, Real Instituto Elcano, March.

Bencivelli, L.; Barón, A.L.; Vuletic, M.; Jorra, M.; Suárez, M. (2024). "El auge del coche eléctrico en China y su impacto en la UE". *Boletín Económico*, Banco de España, 2024/T4, pp. 2-12.

Bergeaud, A.; Cette, G.; Lecat, R. (2016). "Productivity Trends in Advanced Countries between 1890 and 2012". *Review of Income and Wealth*. Vol. 62(3), pp. 420-444.

BOCG (2024). Proyecto de Ley de Industria y Autonomía Estratégica.

Brynjolfsson, E.; Rock, D.; Syverson, Ch.( 2017). "Artificial Intelligence and the Modern Productivity Paradox: A Clash of Expectations and Statistics". *NBER Working Papers 24001*, National Bureau of Economic Research, Inc.

Camara, N. (2024). "DiGiX 2024 Update: A Multidimensional Index of Digitization". BBVA Research, August.

Cornaggia, J.; Mao, Y.; Tian, X.; Wolfe, B. (2015). "Does banking competition affect innovation?". *Journal of Financial Economics*, 115(1), 189-209.

Doménech, R.; Neut, A.; Ramírez, D. (2025). "El impacto de la IA en el empleo y la productividad". Workshop "Inteligencia artificial, capital natural y productividad". Banco de España, 23 January.

Draghi, M. (dir.) (2024). *The future of the European Competitiveness. Report by Mario Draghi*. European Commission.

Draghi, M. (2025). "Forget the US-Europe has successfully put tariffs on itself". *Financial Times*, 14 February.

Erixon, F.; Dugo, A.; Pandya, D.; Du Roy, O. (2025). "Benchmarking quantum technology performance". *ECIPE Policy Brief* 06/2025.

Escudero, I. (2023). *Estrategias tecnológicas para el crecimiento económico. Una aproximación no lineal a los determinantes de la Productividad Total de los Factores*. Tesis doctoral inédita, Universidad Complutense de Madrid, pp. 17-37.

European Commission (2022). *A Chips Act for Europe*. *Commission Staff Working Document.* SWD(2022) 147 final.

European Commission (2024). *Exploring aspects of the state of competition in the UE*.

European Commission (2025). *A Competitiveness Compass for the EU*. COM(2025) 30 final.

European Court of Auditors (2024). *La política industrial de la UE en el ámbito de las baterías. Hace falta un nuevo impulso estratégico*. Special report 15/2023.

Fuest, C.; Gros, D.; Mengel, P.L.; Presidente, G.; Tirole, J. (2024). *How to escape de Middle Technology Trap: Eu Innovation Policy*. EconPol Policy Report.

García Herrero, A.; Ng, G.; Mu, A.; Zhao, D. (2024). "Asia green tech: China's dominance clouded by over-investment and geopolitics". Natixis.

Goldberg, P.K; Juhász, R.; Lane, N.J.; Lo Forte, G.; Thurk, J. (2024). "Industrial policy in the global semiconductor sector". *Working Paper* 32651, NBER.

González Mínguez, J. (2024*).* "El informe Letta: un conjunto de recetas para dinamizar la economía europea". *Documentos Ocasionales*. Banco de España 2430.

Guinea, O.; Pandya, D.; Du Roy, O.; Dugo, A. (2025). "Quantum Technology: A Policy Primer for EU Policymakers". *Policy Brief* no. 3/2025. ECIPE.

Harrison, A.; Rodriguez-Clare, A. (2009). "Trade, Foreign Investment and Industrial Policy for Developing Countries". *Working Paper Series*, 15261. NBER.

Hodge, A.; Piazza, R.; Hasanov, F.; Li, X.; Vaziri, M.; Weller, A.; Ching Wo, Y. (2025). "Industrial policy in the EU: working together to get it right". VoxEU.

Jia Barwick, P.; Kalouptsidi, M.; Bin Zahur, N. (2019). "China´s industrial policy: an empirical evaluation", *Working Paper* 26075, NBER.

Jorgenson, D.W.; Ho, M.S.; Stiroh, K.J. (2007). "A Retrospective Look at the U.S. Productivity Growth Resurgence". Federal Reserve Bank of New York, Staff Reports.

Juhász R.; Lane N.; Oehlsen E.; Pérez V.C. (2020). "The Who, What, When, and How of Industrial Policy: A Text Based Approach".

Juhász R.; Lane N.; Rodrik, D. (2023). "The New Economics of industrial Policy". *Working Paper* 31538. NBER.

Karakas, C. (2018). "Research and innovation in the EU". European Parliamentary Research Service.

Krugman, P. (1997). *Desarrollo, geografía y teoría económica*. Antoni Bosch Editor.

Lane, N. (2020). "The New Empiric of Industrial Policy", *Journal of Industry, Competition and Trade*, 20, 209-234.

Letta, E. (2024). *Much More than a Market*.

Macron, E. (2024). Discurso del Presidente de la República Francesa sobre Europa. Élysée.

Maloney, W.F.; Nayyar, G. (2017). "Industrial Policy, Information, and Government Capacity". *Policy Research Working Paper*, 8056. Banco Mundial.

Mazzucato, M. (2014). *El Estado Emprendedor*. RBA, Barcelona.

Münchau, W. (2024). *Kaput*. Swift Press, United Kingdom.

Murias, D.; Fuentes, V.; Ruiz, A.; Otero, A.; Mendoza, I. (2024), Revista *Motorpasión*.

Myro, R. (1994). "La política industrial activa". *Revista de Economía Aplicada*, 6 (II), 171-182.

Myro, R.; Salas, V. (2025). La política industrial europea en la transición hacia el vehículo eléctrico. *Document* no. 20, EuropeG, March.

Rajan, R. G.; Zingales, L. (1998). "Financial dependence and growth". *American Economic Review*, 88(3), 559-586.

Reis, R. (2024). Letting Large European Firms Grow. European Parliament.

Rodríguez Navarro, A. (2024). "A vueltas de nuevo con la I+D". *Blog Nada es Gratis*, 14 October.

Rodrik, D. (2004): "Industrial policy for the twenty-first century". Rodrik, D. *One economics, many recipes*. Princeton University Press, 99-151.

Scott, R. E.; Mokhiber, Z. (2020). "Growing China trade deficit cost 3.7 million American jobs between 2001 and 2018". *Economic Policy Institute*.

Sukharevsky, A.; Hazan, E.; Smit, S.; De la Chevasnerie, M. A.; De Jong, M.; Hieronimus, S.; Mischke, J.; Dagorret, G. (2024). *Time to place our bets: Europe's AI opportunity Boosting Europe's competitiveness across the AI value chain.* McKinsey Global Institute, October.

Sutton, J. (2007). "Market Structure: Theory and Evidence". *Handbook of Industrial Organization*, 2301-2368.

Teruel, M. (2021). "Las start-ups como agentes disruptivos, retos y oportunidades". *Papeles de Economía Española*, 169, 91-103.

Tirole, J. (2017), *Economics for the Common Good*. Princeton University Press.

Tirole, J. (2024). "Competition and industrial policy in the 21st century". Oxford Open Economics, 3.

Vázquez Rojo, J.; Visintin, S. (2024). "The US-China race for technological centrality: A network perspective". *Structural Change and Economic Dynamic*, 71, 68-83.

Von der Leyen, U. (2024). *A Union that strives for more. My agenda for Europe*.

Von der Leyen, U. (2024). *Europe's Choice. Political Guidelines for the Next European Commission 2024-2029*.

Yuen Ang, Y.; Jia, N.; Bo, Y.; Huang, K. (2023). "China's Low-Productivity Innovation Drive: Evidence from Patents". *Forthcoming Comparative Political Studies*. SSRN.

**Documents and reports consulted on EU competitiveness and industrial**

Aghion, Ph.; Boulanger, J.; Cohen, E. (2011). "Rethinking Industrial Policy". *Bruegel Policy Brief* 2011/04.

Bock, S.; Elewa, A.; Guillou, S.; Napoletano, M.; Nesta, L.; Salies, E.; Trei, T. (2024). Documenting the widening transatlantic gap. *Policy Brief Science* 129. OFCE.

Bruegel (2024). "Re-energising Europe's global green reach". *Bruegel Policy Brief*, 11/24.

Future Policy Lab (2023). *El retorno de la política industrial*.

McKinsey Global Institute (2022). *Securing Europe's Competitiveness*.

McKinsey Global Institute (2024). "Investment: Taking the pulse of European competitiveness".

McKinsey Global Institute (2024). "Accelerating Europe: Competitiveness for a New Era".

Millot, V.; Rawdanowicz, L. (2024). "The return of industrial policies". *OECD Economic Policy papers*, 34.

OECD (2023). "Government support in industrial sectors", *OECD Trade Policy Papers*, no. 270.

Owen, G. (2024). Where now for UK industrial policy? *Policy Exchange.*

Schnabel, I. (2024). Escaping stagnation: towards a stronger euro area. 19th Walter Eucken lecture.

Sgaravatti, G.; Tagliapietra, S.; Trasi, C. (2024). "Re-energising Europe's global green reach". Policy Brief, 11/24.

Scarazzato, L. *et al*. (2024). The SIPRI Top 100 Armas Producing and Military Service Companies, 2023. SIPRI Fact Sheet.

Tagliaprietra, S.; Veugelers, R. (2020). A Green Industrial Policy for Europe. *Bruegel Blueprint series* 31.

Terzi, A.; Singh, A., Sherwoo, M. (2022). "Industrial Policy for the 21st Century: Lessons from the Past". European Commission.

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