FUTURE EUROPE

ISSUE #07

Draghi's Unfinished Symphony

How Liberal Ideas Can Orchestrate Europe's Economic Revolution

Issue #07 – January 2026

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JANUARY 2026

ISSUE EDITORS
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European
Liberal Forum

Draghi's Unfinished Symphony: How Liberal Ideas Can Orchestrate Europe's Economic Revolution

PUBLISHER
European Liberal Forum
Rue d'Idalie 11-13, boite 6
1050 Ixelles, Brussels

Co-funded by the European Parliament

ISSUE EDITORS
Dr Kristijan Kotarski
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ISBN
978-2-39067-069-8

DOI
10.53121/ELFFEUJ7

ISSN
2790-3354 (Online)
2790-3346 (Printed)

DESIGN
WNDR

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January 2026

ABOUT

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The European Liberal Forum (ELF) is the official political foundation of the European Liberal Party, the ALDE Party. Together with 57 member organisations, we work all over Europe to bring new ideas into the political debate, to provide a platform for discussion, and to empower citizens to make their voices heard. Our work is guided by liberal ideals and a belief in the principle of freedom. We stand for a future-oriented Europe that offers opportunities for every citizen. ELF is engaged on all political levels, from the local to the European. We bring together a diverse network of national foundations, think tanks and other experts. In this role, our forum serves as a space for an open and informed exchange of views between a wide range of different EU stakeholders.

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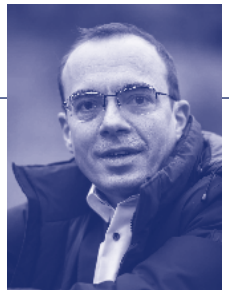

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EDITORIAL

Time to turn Draghi's plea into action

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KRISTIJAN KOTARSKI

One year ago, Mario Draghi delivered a landmark analysis of the European Union's declining competitiveness in what has come to be known as the Draghi Report. Unfortunately, since then the sense of urgency has been amplified in an increasingly fractured geopolitical world. The stakes for the EU have never been higher, especially in view of the tectonic shifts set in motion by the second Trump administration. Day by day the EU appears to be progressively squeezed by its long-standing ally, the US, and an assertive bloc of authoritarian states spearheaded by China. History is the teacher of life, and according to the Greek historian Polybius, the demise of Greek city-states came against the backdrop of the Roman Empire's rise. The primary reason for their decline was not to be found in a lack of resources, but primarily in outdated political systems, internal divisions, and complacency. There is a striking similarity with the situation in contemporary Europe.

Draghi's diagnosis was straightforward and pointed to several key obstacles facing the EU, such as a fragmented and incomplete Single Market, a large investment gap, a sputtering innovation engine, insufficient provision of European public goods, crushing energy prices, and a fundamental unpreparedness for a world of great power competition. However, there is a looming risk that the Draghi Report will follow in the footsteps of similar high-profile strategic documents from the EU's recent past and end up tucked away

in desks, without being paired with sufficient political capital for implementation. Unfortunately, one year after the report was presented to the world, the prescription for change has been largely unfulfilled and new challenges, primarily in the form of fraying transatlantic trade and security ties, have emerged.

The contributions in this issue cannot answer the fundamental question of whether the EU can summon the collective will to transform Draghi's plea into an actionable strategy, especially as we are still at the beginning of the new political cycle in Brussels. Furthermore, national elections and their outcomes always add a dash of uncertainty.

Nevertheless, this issue of the *Future Europe Journal* brings a wealth of cutting-edge insights and new empirical facts that do not merely reiterate and rephrase the Draghi Report but go beyond it. Therefore, the ten contributions in this issue, featuring authors from eight Member States and including the perspectives of both developed and less-developed EU Member States, offers an inspiring take on key challenges facing the EU for motivated policy entrepreneurs who seek to overcome the current political stasis.

In the opening article, **Velimir Šonje** addresses the question of how to reinvent productivity in the EU. He identifies the need to make the labour market more flexible, reduce direct taxes, and increase investment as crucial pillars of the EU's long-term productivity. He also advocates a counter-cyclical fiscal policy, which was largely missing during recent economic shocks to the EU economy, and whose absence explains a large portion of the productivity gap between the EU and the US. However, this policy course is not viable without a laser-like focus on improving productivity in the public sector to create the necessary fiscal space, which is too often absent from public debate.

Christian Năsulea, in the second article, exposes the current regulatory monitoring in the EU in the form of the European Semester and RRF monitoring as ineffective, focusing on administrative compliance as opposed to measuring real-world competitiveness. This approach has had an adverse impact on small businesses. Instead, he proposes decentralised, industry-led reporting, containing outcome-focused indicators such as innovation rates or SME expansion. The central claim of the article is that smarter, trust-enabled monitoring can render accountability a force for change – rather than a hindrance to competitiveness. Finally, the article offers and explains innovative concepts such as regulatory sandboxes and innovation deals with the aim of establishing a feedback loop from practice back to policy.

In the third article, **Carl-Vincent Reimers** states that the EU's progress on competitiveness is stalled by a paralysing ideological divide between Northern European market liberals and Southern European state interventionists (*dirigistes*). The author argues that these philosophies can be reconciled and proposes five key reforms. These reforms include creating a Capital Markets Union to unlock private investment, establishing a harmonised European business code, reforming competition law to allow for market-led consolidation, creating a pan-EU R&D agency modelled on the US DARPA blueprint, and finally, allowing for more legislative output in the form of Regulations instead of Directives, to avoid the gold-plating of rules at the national level and to foster legal certainty.

Constantinos Saravakos and **Christos Loukas**, in the fourth article of this issue, attribute the EU's sluggish competitiveness to excessive and fragmented regulation. The authors identify key barriers such as a failing Capital Markets Union that limits venture capital, contradictory digital regulations such as the DSA that create legal uncertainty, and rigid competition policies that prevent firms from achieving necessary scale. Instead of complete deregulation, the authors propose a targeted liberalisation agenda to foster entrepreneurial freedom, with post-merger reviews requiring verifiable evidence of innovation performance in the post-merger period. They identify this as a way to balance the goal of reaching economies of scale and preventing dangerous levels of concentration of economic and political power.

The central claim of the fifth article by **Nicolas Marques** and **Cécile Philippe** is that a massive and underestimated long-term capital deficit is the key reason for the EU lagging behind the US in terms of innovation. They have calculated that there is a nearly €20 trillion shortfall in both retirement savings and stock market capitalisation compared with the US, which has a deep pool of pension capital to fund new technologies. The authors argue that merely unifying capital markets or reallocating existing savings such as life insurance is insufficient, as these are not substitutes for the long-term, equity-focused investments that pension funds provide. Therefore, the only effective solution is the more ambitious introduction of defined-contribution pension funds across Europe and rules that enable more risk taking by those financial entities to mobilise the necessary capital to finance innovation and regain competitiveness.

The insights presented above are complemented in the sixth article by **Silvia Nadjivan** and **Lukas Sustala**. They claim that Europe is at a critical juncture: it is facing geopolitical threats from Russia and the US while experiencing a steep decline in its share of global GDP. The authors argue that to regain competitiveness, Europe must act decisively across four main areas: finances, regulation, R&D, and security. They propose a '360-degree competitiveness compact' that includes future-proofing the EU budget to fund public goods, drastically simplifying regulations to cut business costs, and creating a Savings and Investment Union to unlock trillions in private capital for innovation.

The seventh article by **Christian Sandström** offers a critical case study on the potential fallacies of EU Green Deal industrial

Photo by Sara Kurfess on Unsplash

policies, exemplified by the massive bankruptcy of Swedish battery producer Northvolt. The article argues that extensive government support and political connections enabled the company to attract huge funding and expand rapidly despite its lacking the necessary technical expertise and ability to compete with China. This fostered a culture of rent-seeking and moral hazard, where political skill was valued over creating a commercially viable product. The author concludes that instead of 'picking winners', this approach 'creates losers', and that Europe should invert its strategy to focus on removing barriers such as overregulation and high taxes.

The EU's lagging innovation performance in the digital economy is the subject of the eighth article, by **Diana Năsulea**, who offers a fresh and comprehensive analysis of the effects of the EU's ambitious digital regulations, such as the DSA and DMA, which have created a complex and fragmented system that unintentionally stifles innovation and undermines European competitiveness. The article proposes a strategic shift towards 'smarter regulation' through a comprehensive 'Omnibus Digital Competitiveness Package'. This framework would streamline the digital rulebook with a principles-based foundation, mandatory competitiveness tests for new laws, and simplified compliance for SMEs. The ultimate goal is to reduce fragmentation and transform the 'Brussels effect' from a model of overregulation into a competitive, innovation-friendly standard, making the EU a leader in digital innovation, not just regulation.

Otto Brøns-Petersen and **Line Andersen** cover the interconnectedness of climate policy and competitiveness in the ninth article of this issue. They argue that the EU's climate policy, while aiming for decarbonisation, is inefficient and harms competitiveness due to a patchwork of overlapping and costly regulations. The authors posit that the EU's most efficient tool is the Emissions Trading System (ETS), and that all other measures – including command and control standards, state aid, and redundant reporting such as the CSRD – should be abolished. For a cost-efficient green transition, the EU must consolidate its separate ETS frameworks into a single system covering all sectors with a uniform carbon price. This streamlined approach would minimise economic costs, enhance market orientation, and ultimately strengthen the EU's competitiveness without sacrificing climate goals.

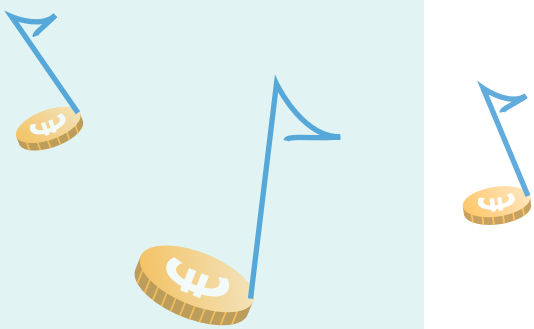
The analysis and ideas conveyed in the final article by **Carlo Stagnaro** permeate all the previous contributions as energy forms the core of all economic activities. The author challenges the Draghi Report's diagnosis that structurally flawed energy markets are the cause of Europe's high prices and declining competitiveness. In contrast to the prevailing narrative, Stagnaro argues that the markets are not fundamentally broken. On the contrary, prices are high due to the cumulative effect of distorting policy interventions, especially climate policies that choose specific technologies instead of setting neutral climate goals. Draghi's proposed solutions, such as joint gas procurement and decoupling electricity from gas prices, are criticised as further misguided interventions that are unlikely to lower prices. The article concludes that the reasons for crushing energy prices are to be found in governmental failure, not market failure, and that a better approach would be to remove policy barriers and allow market mechanisms to find the most efficient solutions.

History is the teacher of life, and according to the Greek historian Polybius, the demise of Greek city-states came against the backdrop of the Roman Empire's rise. The primary reason for their decline was not to be found in a lack of resources, but primarily in outdated political systems, internal divisions, and complacency. There is a striking similarity with the situation in contemporary Europe.

We hope readers will enjoy reading and digesting key takeaways from all contributions in this issue. Additionally, we hope that some of them will have an opportunity to transform those takeaways into actionable strategic documents delivering tangible results for a large majority of EU citizens.

SECTION 1

Articles



ARTICLE

Reinventing Productivity in the European Union

Three Missing Links

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Citation suggestion: Velimir Šonje, VS (2026). Reinventing Productivity in the European Union: Three Missing Links *Future Europe*, 7(1), 18–31.

Abstract

The recent shift in policy focus in the EU to competitiveness and productivity growth is likely to lead to regulatory simplification, the removal of remaining barriers in the Single Market, and a greater emphasis on innovation. This contribution explores the three key ingredients missing from the policy mix that are needed to boost labour productivity growth: improved labour markets; greater fiscal elasticity throughout the business cycle in relation to the labour productivity in the public sector; and the structural accumulation of fiscal space needed to reduce tax burdens.

Introduction

The European Union's cumulative labour productivity lag behind the US was 13.7% as of 2023, using 1998 as the base year. The annualised labour productivity drag rate was 0.5% over a quarter-century (see Figure 1 and Table 1). This finding, or, more precisely, the frustration it motivated, led to the analysis and publication of policy documents including the Draghi Report on EU Competitiveness (Draghi, 2024) and the Letta Report on the Single Market (Letta, 2024). These two documents provided the background for the new European Commission's (2024–2029) policy strategy under the umbrella of the EU Competitiveness Compass (European Commission, 2025), aimed at restoring innovation capacity, productivity, and competitiveness in the EU.

The quality of policies depends, among other things, on the accuracy of diagnosis. However, diagnosing productivity gaps is notoriously tricky. The absence of reliable labour productivity statistics in the services sector, especially in the public sector, requires a cautious approach to productivity measurement and

policy design. Cross-sector externalities further complicate the assessment process. Caution is also necessary because the EU's productivity gap compared with the US has widened mainly during recessions. Therefore, there is a risk of misdiagnosis and implementation of policies that lack focus and effectiveness.

A puzzling feature of the European labour productivity gap, besides its cyclical nature, is that it cannot be explained by the difference in labour productivity growth in manufacturing and the information and communications technology (ICT) industries. Labour productivity growth in US manufacturing has been lagging behind that of Europe since 2010. This article shows that the productivity growth differential in ICT is positive for the US, but it explains only a fraction of the total productivity gap since the late 1990s. The sluggish labour productivity growth in other service industries explains the bulk of the economy-wide productivity gap.

Policy discussions have so far focused on two crucial aspects of future productivity growth: (i) the potential for increased productivity related to the completion of the EU Single Market, including simplification of regulation, and (ii) a considerable potential for fostering competition and innovation by promoting cross-industry spillovers related to the innovation and implementation of new technologies. However, there are policy areas that deserve more attention: (i) improvements in counter-cyclical macroeconomic policies in Europe, (ii) measurement of the value of public goods and improvements in the efficiency of their provision, and (iii) dealing with EU fiscal malaise that inhibits the moderation of tax burdens, which can contribute to investment and productivity growth.

The first section presents an analysis of productivity developments. The second section discusses policies.

Productivity growth and the productivity gap across the business cycle

According to OECD data on real GDP per hour worked, cumulative labour productivity growth in the US over the 25 years from 1999 to 2023 was 50.3% (1.64% annualised). In the euro area (EA), it was 23.5% (0.85% annualised), and in the EU, it was 32.2% (1.12% annualised, see Table 1). The difference between the EA and the EU-27 was due to faster productivity growth in Central, Eastern, and Southeastern Europe (CESEE). The average annual rate of increase in the productivity gap between the EA, which was not influenced by the CESEE convergence, and the US was 0.79% over a quarter-century. With the CESEE convergence effect included in the EU-27 data, the productivity gap relative to the US, as mentioned, accumulated at a lower annualised rate of 0.52%.[1]

While the title of this article suggests it is about the EU, the remainder of this section will focus on the EA. Besides the fact that the EA's 2024 GDP was 85% of the EU's GDP, the measurement focuses on the EA because productivity comparisons between it and the US are more meaningful, as they compare more developed parts of the EU with even more developed US. Therefore, both the indicators and the conclusions presented below also hold at the EU level.

The labour productivity gap index (US labour productivity divided by EA labour productivity – see Figure 1) shows that a significant portion of the cumulative labour productivity gap of 21.7% accumulated over three relatively short periods totalling six years: (i) 4.4% gap (20% of the total) emerged in 2002–2003, (ii) 5.9% gap (27% of the total) emerged in 2008–2009, and (iii) 3.7% gap (17% of the total) emerged in 2020–2021. Therefore, close to two-thirds (64%) of the 25-year labour productivity gap was accumulated during 24% of the time marked by recessions. Equally important is the fact that 75% of the gap was accumulated before 2010. After a pause from 2011 to 2017, the productivity gap has started to widen again.

The labour productivity gap has also been widening during periods of business expansion, but to a much smaller extent. There is a concentration during short periods when GDP growth was slow: in 2004–2005 (a 2.5% gap or 11% of the total) and in 2023 (a 2.5% gap or 12% of the total). When these three years are combined with the years of recession mentioned earlier, 87% of the labour productivity gap has accumulated in just 36% of the time, specifically in nine critical years out of 25. The productivity gap has a strong cyclical component.

Explanations of productivity differentials usually emphasise fundamentals such as the quality of institutions, knowledge accumulation, innovation, and technical progress; however, these differences tend to accumulate over the long term. The analysis presented here suggests that potential explanations should be extended to include inertia (hysteresis effects) during and after recessions. Flaws in counter-cyclical macroeconomic policies during times of crisis may lead to prolonged adverse effects on productivity. We will revisit this topic in the policy discussion.

It is also essential to look beyond the aggregate figures. The economy-wide productivity gap arises from industry-level developments that need not be correlated: (i) long-term industry productivity gaps over 25 years tend to vary significantly across industries, (ii) the volatility of industry-level productivity gaps throughout the business cycle differs, and (iii) there are externalities, that is, spillovers among industry-level productivity gaps. For example, a negative productivity shock in energy generation harms productivity growth in energy-intensive industries. At the same time, a positive productivity shock in ICT or infrastructure may affect productivity growth in other sectors.

It is difficult to measure all three aspects at the industry level because there are no comparable OECD statistics on hourly labour productivity at the industry level for the US and the EA. Still, an educated guess is possible based on data from the US Bureau of Labor Statistics and Eurostat for selected industries.

Labour productivity in the EA manufacturing sector outperformed that of the US manufacturing sector from 1999 to 2023. Annualised growth rates were 2.21% in the EA and 1.72% in the US (see Table 1 and Figure 2). The productivity gap with the US in the numerator (see Figure 2) accumulated at an annualised rate of –0.48% (EA productivity growing faster), indicating a structural break: US manufacturing accumulated a productivity advantage up to 2009. The manufacturing productivity differential in this period recorded two short-term increases in favour of the US during the recessions of 2002–2003 and 2008–2009. Therefore, cyclical volatility in the first decade of the century in manufacturing partially explains the dynamics of the aggregate productivity gap (see Figure 1). However, after 2010, a long-term decline in US manufacturing productivity began: labour productivity in manufacturing in the US compared with labour productivity in EA manufacturing was 11.3% lower in 2023 than in 1998.

This is puzzling because the growth of US Big Tech and the vibrant start-up scene centred around Silicon Valley were expected to create a constant flow of positive spillovers in US manufacturing through the adoption of new digital technologies and the fostering of research and development (R&D) and industrial innovation. However, no such positive effect is evident in the US manufacturing productivity data over the last 15 years, as labour productivity in manufacturing and ICT in the US have exhibited contrasting trends during this period (see Figure 2). This serves as a sobering warning: dynamism in the ICT industries does not necessarily translate into increased manufacturing productivity, as other factors affecting productivity in manufacturing (e.g., global competition in the case of the US) may prevail.[2]

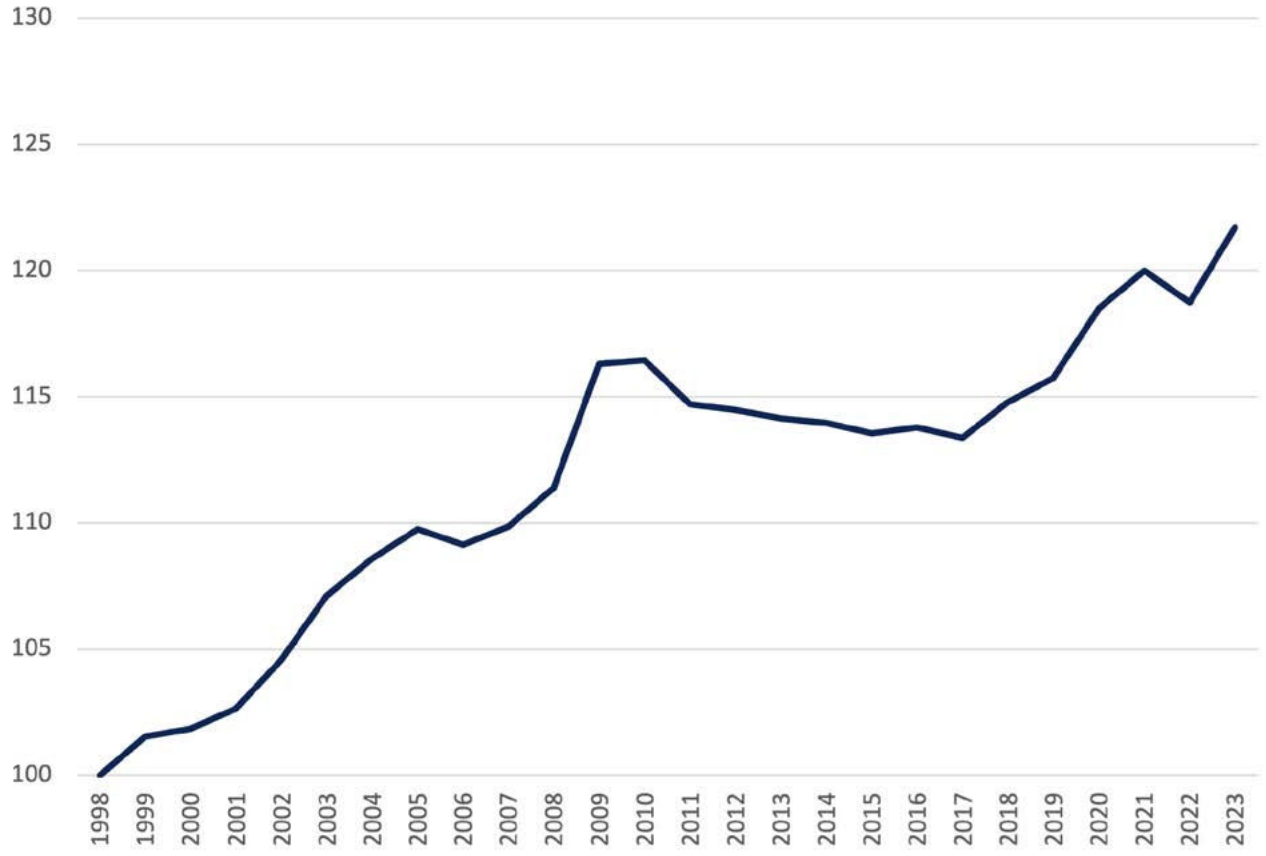

Figure 1. Index of relative real labour productivity in the US vs the EA (1998 = 100) - Source: OECD.

The annualised growth rate of labour productivity in the ICT sector from 1999 to 2023 was 2.93% in the US and 2.55% in the EA. The ICT sector exhibits an annualised rate of productivity gap accumulation of 0.36%, resulting in a cumulative differential of 9.48% (2023/1998) in favour of the US. However, ICT's share in GDP has been single-digit on average during this period. Thus, its direct influence on the accumulation of the total productivity gap was of minor importance.[3] This contradicts assumptions regarding the role of ICT in the accumulation of the productivity growth differential, at least when its direct effects are taken into account. The indirect effects of ICT's impact on productivity related to ICT applications in other industries may be much more substantial.

We will focus on other sectors soon, but first, notice that the productivity gap in ICT shows no clear cyclical pattern (see Figure 2). Still, the pace of accumulation was very different in 1999–2013 compared with 2014–2023: in the first period, the EA accumulated a positive productivity differential, which was reversed after a structural break in 2013 when the US took the lead.[4] As pointed out in the preface of the Draghi Report, the latter trajectory may be explained by global economies of scale achieved by the US Big Techs after the Great Recession.

In the energy sector and in the professional, scientific, and technical (PST) services, the annual rates of productivity gap accumulation in favour of the US were substantial: 1.49% and 1.78%, respectively. However, the productivity gap in the energy sector does not display a cyclical pattern. The gap arose due to a negative structural break in 2021–2022 related to a sudden and extreme contraction in energy production in the EA. This reflects the broader impact of the energy crisis in Europe, as the EA recorded faster productivity growth in the energy sector before the recent shock.

The productivity gap in the PST services exhibits a more regular cyclical pattern, with 71% of the cumulative productivity differential until 2023 emerging between 2002 and 2005 and

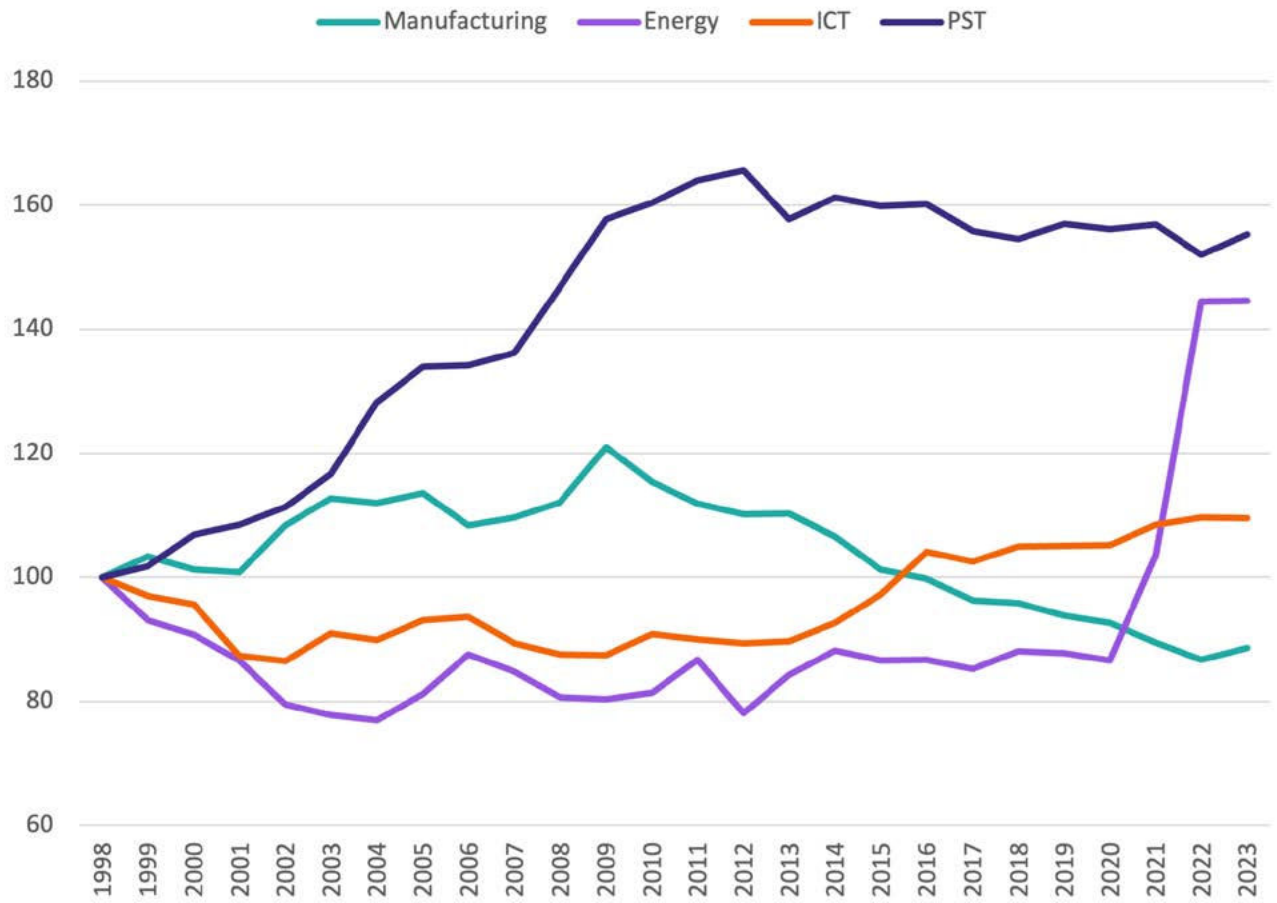

Figure 2. Index of relative labour productivity in selected industries in US vs euro area (1998 = 100) - Sources: Eurostat, US Bureau of Labor Statistics, author's calculations. Note: PST – professional, scientific, and technical services.

Photo by Mathieu Stern on Unsplash

again between 2008 and 2009.[5] The vibrant US ICT sector had a positive impact on the US services industries earlier in this century. The rate of adoption of new productivity-enhancing technologies in the PST services in the US was particularly high up to 2012, while EA productivity in the PST services was on a long-term decline: annualised rates of labour productivity growth in 1999–2012 in the PST services were 2.53% and –1.10% in the US and the EA respectively, as European PSTs were late adopters of technological change. Then, trends reversed from 2013, and labour productivity started to grow faster in the EU PSTs (1.14% vs 0.55% in the US). Productivity growth was generally slower after the Great Recession. However, as far as the PST services are concerned, the US still enjoyed a significant accumulated productivity advantage of 55.3% in 2023 compared with 1998, because the annualised rates of labour productivity growth in PST in the 2013–2023 period, when the EA took the lead, were lower than they had been previously (see Table 1).

Development in the PST sector is indicative of a broader productivity gap accumulated in the services industries in Europe. The key question is: what has happened to the services industries in Europe? If the manufacturing–ICT nexus, which comprises around one-fifth of GDP, does not explain a significant fraction of the economy-wide labour productivity gap, then the gap related to the remaining four-fifths of GDP, consisting of non-ICT services, must be even larger than the economy-wide productivity gap.

The calculation of the productivity gap in other industries is beyond the scope of this analysis; however, the construction industry warrants special attention, as real hourly labour productivity in the EU construction sector declined by 14.9% from 1998 to 2024 (CAGR is –0.67% up to 2023, without a visible structural break – see Table 1). This decline may be related to the slow adoption of new technologies, the prolonged effects of cyclical downturns, insufficient economies of scale and scope linked to costly regulation, supply constraints (e.g., restrictive zoning regulations), demand constraints (limited public infrastructure investment that could support the growth of large construction companies), and regulatory barriers within the imperfect EU Single Market.

Three other service industries in the EA reported modest labour productivity growth over a quarter-century: finance and insurance (annualised rate of labour productivity growth of 1.55%), trade (1.95%), and transportation and storage (0.82%), with the latter exhibiting a structural break in 2013 (productivity began a long-term decline after 2013 – see Table 1). The slow adoption of new technologies and a lack of market dynamism are widely accepted explanations for the relatively slow productivity growth in Europe, which also applies to the services sector. Adilbish et al. (2025) pointed out that (i) large leading firms across Europe are lagging in terms of innovation and productivity, (ii) too few young high-growth firms make it to the top, and (iii) many early high-growth firms settle too early and remain mature low-growth firms. In the light of these findings, practical recommendations for boosting productivity growth across Europe involve the broader adoption of digital technologies and general technical progress, along with deregulation and the elimination of remaining barriers in the EU Single Market, as well as increasing the availability of risk-tolerant capital for company growth. All policy documents reiterate these recommendations. But does it cover the whole problem?

Research has shown that high direct taxes, particularly corporate income taxes, are a significant hindrance to investment and productivity growth

The dynamics of labour productivity in the public sector have been overlooked in discussions on productivity and policy design, despite the public sector representing a substantial portion of GDP in the EA/EU. Policy documents acknowledge the importance of externalities generated by the security, education, science, and health sectors; however, they are largely silent on the public sector's labour productivity level and growth. This is partly due to a lack of data. Neither Eurostat nor the US Bureau of Labour Statistics measures labour productivity for public administration, defence, education, science, human health, and social care activities. Estimating labour productivity in the production of public goods is notoriously tricky. GDP measurement assumes the impossibility of directly measuring the output of the part of the public sector that produces non-market goods.[6] Therefore, Eurostat's ESA2010 methodology (like the United Nations' System of National Accounts)

calculates the real value of government output by summing the actual costs of its production, which include the cost of labour, the cost of intermediary inputs, and the consumption of fixed capital required to produce public services. Economists sometimes use proxies – for example, productivity in PST services may serve as a proxy for productivity in public administration – but still, wherever a public service in terms of the provision of non-market goods involves a complex interplay of production cost, quantity, and quality alongside externalities, the absence of market data (prices) makes it nearly impossible to calculate the real value produced per worker hour.

The measurement problem is closely related to the management problem: it is difficult to manage what is hard to measure. Hence, the government sector is a productivity black box, although government final consumption accounted for 21.6% of the EU's and the EA's GDP in 2024. There may be an internal productivity problem related to inertia and a lack of incentives for labour productivity growth in the public sector, which affects the entire economy due to spillovers. This problem is related to broader themes of public management quality and the EU's fiscal malaise. In addition to the productivity measurement and management problem, the overall political atmosphere in nearly all Member States is such that it appears almost impossible to discuss significant reductions in tax burdens, despite the EU having the highest taxes on average in the world. Research has shown that high direct taxes, particularly corporate income taxes, are a significant hindrance to investment and productivity growth (e.g., Hanappi, Milot, & Turban, 2023); therefore, a comprehensive discussion about long-term labour productivity growth must also address tax policy.

Policy discussion

The Draghi Report on EU competitiveness, published on 9 September 2024, laid out a path for Europe's new industrial policy (the New Industrial Deal). The report reflects on the productivity gap vis-à-vis the US as an existential threat to the EU. Written in the aftermath of the 2022 energy price shock, the report acknowledges the productivity issues in energy generation, as Europeans pay around three to four times more per unit of energy compared with the US and China. Moreover, the report assumes that the tech sector is the primary factor in the productivity gap vis-à-vis the US. Mario Draghi's foreword to the report emphasised that only four out of the world's 50 largest Big Tech companies are based in the EU. Consequently, the report stresses the role of the tech–innovation–manufacturing nexus.[7] Five horizontal policies are also outlined in the Draghi Report: accelerating innovation, closing the skills gap, sustaining investment, revamping competition, and strengthening governance. Several of these policy recommendations have the potential to boost productivity growth in the critical service industries: closing the skills gap will require a revamp of the education sector, and sustained investment, if successful, will enhance productivity in finance and insurance, with positive spillovers to other growing industries.

The Draghi Report's findings and recommendations shaped the strategy and policies of the new European Commission (EC). The Commission Vice-President is now responsible for regulatory simplification, aiming to reduce the reporting burden by 25% for all companies and 35% for small and medium-sized enterprises (SMEs). The EU Competitiveness Compass was adopted in January 2025 as a political translation of the Draghi Report into an official document that will guide the EC's work through the mandate, focusing on three pillars of transformation: closing the innovation gap, decarbonisation, and competitiveness, as well as reducing dependencies and increasing security.[8]

Deregulation and the removal of the remaining barriers to the Single Market's functioning, along with digitalisation and innovation, are additional cornerstones of European policy. It is expected that these policies will have the most potent effects in the service industries, as the Letta Report indicates that the greatest productivity growth potential lies in completing the Single Market in electronic communications, energy, financial markets, and defence.

Therefore, the discussion on the Single Market in the remainder of this section is brief, as it is already well established and firmly centred as a focus of policy. This section is devoted primarily to three policy areas that have been underrepresented in European policy documents and which may be critical for policy focus and effectiveness: (i) potential reform of counter-cyclical macroeconomic management to avoid the protracted accumulation of labour productivity lag during future recessions, (ii) improvements in the measurement and management of labour productivity in the production of public goods, and (iii) resolving the EU's fiscal malaise by lowering direct tax burdens to promote investment and productivity growth in Europe.

Counter-cyclical macroeconomic policy and labour productivity

In this century, US recessions have been milder and shorter than those in the EU/EA. Interventions via fiscal and monetary policies in the US have been faster and stronger. In 2008–2010, the general government fiscal balance as a percentage of GDP in the US recorded figures of –6.6%, –13.2%, and –11.0%, while the corresponding figures for the EA were –2.1%, –6.1%, and –6.0%. This difference was repeated during the COVID-19 pandemic and its aftermath, as the average annual fiscal balance-to-GDP ratio for the US (2020–2024) was –8.7%, compared with –4.4% in the EU.

INDUSTRY	DESCRIPTION	2023 VS 1998	SELECTED PERIODS*	

Calculation of productivity differential growth for selected industries

			2010 vs 1998	2023 vs 2010
Total economy	EA	0.85	1.03	0.73
	US	1.64	2.32	1.10
	Diff. US vs EA	0.79	1.28	0.37

			2009 vs 1998	2023 vs 2009
Manufacturing	EA	2.21	1.95	2.42
	US	1.72	3.73	0.17
	Diff. US vs EA	–0.48	1.74	–2.19

			2013 vs 1998	2023 vs 2013
ICT	EA	2.55	2.97	1.94
	US	2.93	2.23	3.99
	Diff. US vs EA	0.36	–0.72	2.01

			2012 vs 1998	2023 vs 2012
Professional, scientific, and technical services (PST)	EA	–0.12	–1.10	1.14
	US	1.65	2.53	0.55
	Diff. US vs EA	1.78	3.67	–0.58

			2020 vs 1998	2023 vs 2020
Energy (electricity, gas, steam, air cond.)	EA	–1.10	1.11	–15.93
	US	0.36	0.45	–0.26
	Diff. US vs EA	1.49	–0.65	18.64

Labour productivity growth in other selected industries in the EA

Construction	EA	–0.67	*No structural break*
Finance and insurance	EA	1.55	*No structural break*
Trade	EA	1.95	*No structural break*

		2013 vs 1998	2023 vs 2013
Transportation and storage	0.82	1.46	–0.53

Table 1. Labour productivity per hour and productivity differential, US vs EA – compounded annual growth rates (CAGR) in respective periods in % - Sources: Eurostat, US Bureau of Labor Statistics, author's calculations.
*Selection of periods is based on visual inspection.

The fiscally fuelled recovery of aggregate demand after a recession can be beneficial for subsequent productivity growth if it leads to a more rapid increase in investment. A faster investment recovery can promote the reallocation of capital and labour, thereby contributing to long-run productivity growth through Schumpeterian creative destruction. However, evidence of enhanced investment responses in the US following recessions is not straightforward. Both the EA and the US experienced low investment periods following recessions, as measured by the investment-to-GDP ratio. Real GDP in the US in the aftermath of recessions grew faster than in the EA on average, so real investment in the US also increased at a faster pace. However, this does not imply a causal relationship between real investment and real GDP.[9]

Improvements in labour productivity in providing public services could have a substantial effect on society's overall productivity, fiscal capacity, and elasticity.

It is unclear whether more expansionary macroeconomic policies are beneficial when considering their long-term effects on productivity. Thus, the discussion should not focus on replicating the US approach to macroeconomic stabilisation during cyclical downturns; overly strong fiscal expansions can (i) create high indebtedness and loss of fiscal capacity in the long run (the US is facing this problem, as its public debt ratio reached a burdensome 123% of GDP after two US fiscal explosions in this century),[10] (ii) lead to overly lax economic conditions in which low-productivity zombie firms may survive too long, and (iii) share prices of established listed companies may inflate too much, which can slow down the process of reallocation of capital and labour towards less reputable high-productivity firms and industries which are undervalued due to higher risk during early stages of growth. In general, it is hard to distinguish between output and productivity recoveries after recessions that are sustainable in the long run and those that are transitory, driven by unsustainable excess demand.[11]

Therefore, theories that (i) EU fiscal rules were a straitjacket, and that (ii) the euro system's monetary policy was overly restrictive because its mandate is focused only on low inflation instead of both low inflation and full employment as in the US, may be considered only after other potential explanations have been rejected. We need to examine other aspects of macroeconomic stabilisation mechanisms that may have adversely impacted the allocation of capital and labour, as well as labour productivity, during recessions and their aftermath in this century. The key may be hidden in the labour market.

The coefficient of variation of monthly unemployment rates in the US during this century was almost twice as high as in the EA. Even when peak variations in 2020 are excluded from the calculation, the US coefficient of variation of monthly unemployment rates was 0.32, compared with 0.18 in the EA.[12] Greater short-term variability of unemployment rates in the US may be associated with greater ease of hiring and firing due to less restrictive labour market regulation. Studies have documented faster job-to-job transitions in the US (IMF, 2025). At the same time, there is well-documented labour hoarding by European firms during economic slowdowns (Arce & Sonderman, 2024).

Considerations of labour market dynamics are often presented as a trade-off. Supposedly, a more Darwinian US labour market may be economically efficient, but it leaves too many people behind. Many workers who have no savings and/or no access to family or social safety nets may be forced to accept the first job offered, which, on average, is below their skills and potential. This creates additional downward pressure on wages, resulting in a suboptimal allocation of labour, increased income inequality, and lower labour force participation rates.

However, the difference in labour force participation between the US and the EA is not that significant. Labour force participation rates are very similar in the age bracket of 55–64 (around 69%). A four-percentage-point difference occurs in the prime age bracket of 25–54 in favour of the EU, with many possible explanations: it may be related to a shift in labour supply, where workers enter employment directly from inactivity rather than transitioning from prior unemployment in the US. This may be explained by restrictive or low

unemployment benefits and the high share of unregistered immigrant workers, both of which are more prevalent in the US. Therefore, the relatively low variability of unemployment rates in the EA compared with the US in this century, if associated with a slower process of labour reallocation, likely explains the slower growth of labour productivity. Recessions amplify this effect.

Even if some human capital is preserved due to lower variability of unemployment rates, the EU should better balance the pace of labour reallocation with the preservation of human capital. This can be accomplished by adopting labour market organisation models that maximise transitions (i) from inactivity to both employment and unemployment, (ii) from unemployment to employment, and (iii) between jobs. Models of flexicurity, higher retirement ages, and active labour market policies (ALMP) align with well-established best practices that involve both supply-side and demand-side incentives for education, lifelong learning, and promoting entrepreneurship. Best practices for such policies in EU Member States are observed in those that experienced faster than average long-term productivity growth (e.g., Denmark and Sweden).

While ALMP falls under the category of national policies, there is potential for improved EU coordination by adopting best practices and utilising the expertise and resources of other Member States. This can be achieved by activating common financial instruments, such as SURE, but not for funding job retention schemes, as seen during the COVID-19 crisis, when it was anticipated that existing economic activities would resume. Instead, these instruments should support smoother job-to-job and unemployment-to-job transitions during periods of economic strain. By implementing elastic labour market interventions, which are typically amplified during recessions, rigid labour market regulations can be relaxed, thereby preventing labour hoarding by less productive firms.

However, liberalising labour market regulation is politically challenging. It is a policy within the national domain. The strength of labour unions and the tradition of protecting workers, which lie at the core of the European social market model, limit the room for manoeuvre for reform. However, national labour market reforms should become easier as the population ages, as the gap between the number of older workers exiting the workforce to retire and the number of young workers entering the labour force is growing across Europe. The risk of long-term structural unemployment is reduced owing to demographic trends. With this in mind, and through common EU coordination and expert and financial assistance, national policymakers should feel more confident in initiating labour market reforms.[13]

A cyclically elastic labour market policy would accelerate the reallocation of labour towards higher-productivity firms and industries if counter-cyclical public investment policy also becomes more elastic across the business cycle. Stronger upward responses of public investment during recessions, compared with what we have seen in the first two major recessions of this century, would represent a new approach, as the public investment ratio has remained consistently around the average of 3.3% of GDP in this century, with a slight increase to 3.9% and 3.7% in 2009–2010 due to sharp contractions of economic activity, and no significant changes during the pandemic and its aftermath. The rigidity of the public investment ratio stems from the limited fiscal capacities of Member States. Constraints on a more elastic fiscal stabilisation policy are not related to the (in)flexibility of fiscal policy rules.[14] Budgetary cyclical (in)elasticity runs much deeper. The ability to accumulate fiscal space during economic expansions, which is necessary for effective fiscal expansion during recessions, is a structural feature influenced by complex political and economic considerations. We will revisit these topics in the following two sections, as public sector productivity is closely related with accumulation of fiscal space.

Measurement of the value of public goods and improvements in the efficiency of their provision

Greater cyclical flexibility of fiscal policy in countries where general government expenditures converge towards 50% of GDP requires very efficient public sectors operating at high labour productivity standards. However, we do not know the exact labour input (i.e., the number of employed individuals and the hours worked). As of mid-2025, only eight EU Member States irregularly contribute to Eurostat's comparable statistics on the number of people employed in the general government sector. Measuring real output in the government sector is even more challenging than counting workers and hours of work: there are no market prices or quantities of public services. At the same time, immeasurable externalities, both positive and negative, are omnipresent. For example, how do we measure benefits such as risk reduction (from regulation and public goods such as safety and security), the rule of law, health, or knowledge? There are indirect measures (e.g., healthy life expectancy, indicators of resolved court cases, results in PISA tests, publications in scientific journals, etc.), but with benefits such as security, ownership protection, health, knowledge, and innovation being produced from multiple sources, partly thanks to individual efforts and additional services acquired in the private markets, how can we measure a portion of such social benefits created by the public sector's entities that are directly involved in the production of services?

Without advancements in measuring the quantity and quality of public services, a significant public sector management issue arises: the quality of public management often suffers when measurement is lacking. Additionally, labour may be hoarded in the government sector, and pressures for technological

change and efficiency in the production of public services may remain limited, especially if public sector trade unions are strong. As externalities from the production of public goods are overwhelming, lagging labour productivity growth in the government sector may have a significant negative impact on the entire economy and society.

Improvements in labour productivity in providing public services could have a substantial effect on society's overall productivity, fiscal capacity, and elasticity. Such improvements would also have positive external effects, such as (i) greater citizen trust in public institutions due to increased democratic control over the administration and its output, (ii) greater transparency, less corruption, and more productive informed policy choices, and (iii) increased and more stable aggregate demand for productivity-enhancing technologies by the government sector, which might facilitate the growth of innovative private companies and industries that can produce such technologies, reaching economies of scale which would not be possible solely on the basis of contracts in the private markets.[15] Procurement by the government sector focused on productivity growth, which acts as an early adopter of new technologies, may have a stronger and longer-lasting impact on the spread of technological innovations than state aid. While fragments of such policies are presented in EU policy documents, such as the adoption of artificial intelligence (AI) in the provision of public services, this welcomed measure is not framed within a prioritised programme for enhancing labour productivity in the public sector. This is a missing link in European policy documents.

There are methods for measuring inputs, outputs, and labour productivity in the provision of public services (Somani, 2021). Additionally, some EU Member States have developed public management techniques that rank among the best in the world. At the EU level, sectoral statistical standards, such as CEPEJ-STAT for judicial systems, serve as a valuable evidence-based tool for public management (CEPEJ, 2024). However, the absence of measurements similar to CEPEJ across public services means that it is not possible to comment in depth on how they are being produced and delivered. Common administrative productivity standards and public management toolkits are lacking. International institutions active in this area, such as the OECD and the World Bank, have developed practical tools and internationally comparable indicators.[16] The EU should do much more and provide these in more detailed and standardised forms shared among Member States to inspire labour productivity growth in the public sector.

Overcoming the EU's fiscal malaise and tax burden

Greater focus on public sector productivity growth is necessary to achieve increased budgetary elasticity across the business cycle, thereby expanding the fiscal space for counter-cyclical public investment, implementing tax reforms, and addressing the EU regulatory and fiscal malaise. The recent regulatory simplification agenda is welcome, but the EU needs additional public sector management tools to widen the space for tax reforms, as cuts in personal and corporate income tax rates may be essential to accelerate investment and labour productivity growth. Studies have shown a significant impact of corporate income taxes on investment and productivity (e.g., Hanappi, Milot, & Turban, 2023).

This topic has been largely excluded from European policy debates, with the exception of tax credits related to investment in R&D. The likely reason is that it falls under the political jurisdiction of national authorities. Additionally, the anticipated social costs of ageing, which will impact public pension and health systems, limit the ability to reduce direct taxes and social contributions. Awareness of this fundamental problem may hinder more ambitious political communication regarding tax cuts. However, this is a mistake; enhanced efficiency and productivity in the provision of public services can relieve the pressures of ageing on fiscal deficits, paving the way for the substitution of inefficient public expenditures by productive expenditures related to ageing: higher living standards and healthier lives after 60 or 70 years of age may help to sustain aggregate demand and create motivation to work to a more advanced age. The same effect would be produced by the contribution of higher investment and productivity growth due to a more investment-friendly tax environment.

The ratio of direct taxes and social contributions to GDP varies significantly across the EU, with a lower ratio being associated with lower real income per capita (see Figure 3). Deviations from the expected value represented by the regression line are an essential consideration because the distance may be associated with long-term productivity growth. Focusing on the outliers, particularly on the right-hand side of the chart where high-income economies are located, is illustrative. Countries with relatively low direct tax burdens – such as the Netherlands and Sweden – recorded annualised rates of labour productivity growth in 2024 versus 1998 of 0.8% and 1.2%, respectively, while the opposite outliers – Belgium, France, and Italy – recorded annualised growth rates of 0.7%, 0.7%, and 0.2%, respectively.[17]

This is little more than a statistical anecdote. Isolating the long-term impact of direct taxation on long-term labour productivity growth requires a level of analysis that is beyond the scope of this article. Nevertheless, decades of economic research and the logic of investment convey the same message as does Figure 3: it is the expected net return versus risk that influences investment decisions. Higher direct taxation reduces the net return–risk ratio; hence, it leads to a lower supply of equity and less investment, ceteris paribus, which is critical for labour productivity growth. Thus, reasonable tax policies, particularly concerning the direct taxation of capital and labour, are crucial for boosting investment and productivity growth.

Elimination of the remaining barriers in the EU Single Market

The IMF's research on the EU's potential to catch up with the US in terms of labour productivity has prioritised completing the Single Market, as the remaining intra-EU barriers to trade are reportedly much higher than extra-EU barriers, representing tariff equivalents of 44% for goods and 110% for services (Kammer, 2024). Besides removing the usual obstacles through the harmonisation of regulations and the opening of protected sectors, the fundamental measures are significantly more challenging to achieve as they relate to the mobility of labour and capital. European projects in infrastructure and savings and investment union are critical in this regard. Based on the findings concerning industry-level productivity presented in the first section, achieving mobility-related completion of the Single Market and associated public investment may be vital for stimulating labour productivity growth in non-ICT service sectors such as construction, waste management and recycling, transportation and logistics, trade, finance, and public services. These are precisely the sectors where productivity lags behind the US, explaining the bulk of the total economy productivity lag that was accumulated in this century.

Conclusion

The main finding of this article is that the economy-wide labour productivity differential between the US and EU, which has been accumulating since the late twentieth century, has primarily occurred in non-ICT services. This is not to imply that the manufacturing–ICT nexus is unimportant for explaining the productivity gap, as it may have significant indirect effects on the adoption of new technologies and productivity growth in service industries. Therefore, industrial policy informed by the Draghi Report on EU competitiveness, along with deregulation and regulatory harmonisation driven

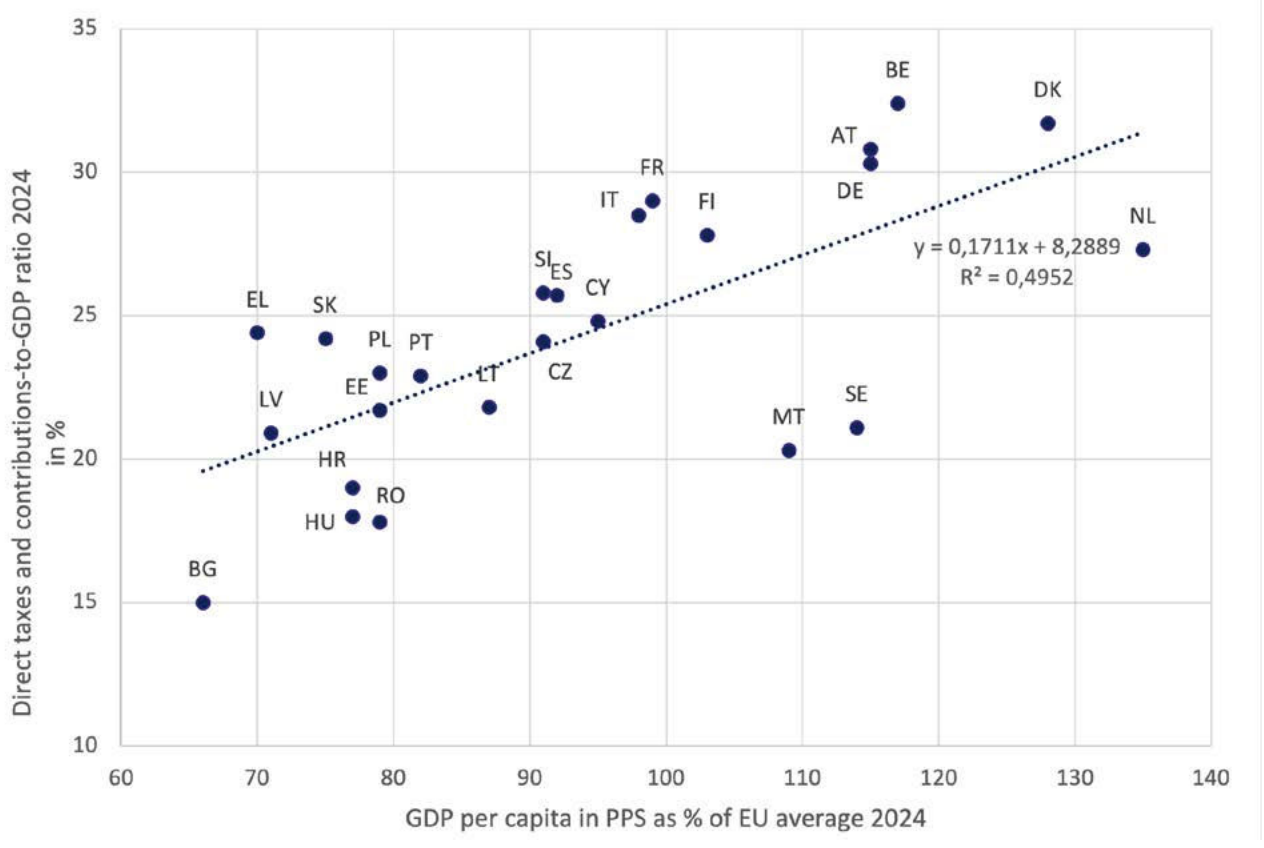

Figure 3. Direct taxes and contributions-to-GDP ratio vs GDP per capita in purchasing power standards (PPS) as % of EU average, 2024- Sources: Eurostat, author's calculations.

by the Letta Report on the Single Market, may not be sufficient to revive labour productivity growth in the EU. While simplifying regulations, completing the savings and investment union, reforming education, stimulating innovation, and eliminating the skills gap are critical components of the policy mix for revitalising productivity growth, this article identifies three essential elements that are missing from the policy mix.

Firstly, the flexibilisation of labour market regulations and fiscal policy, particularly concerning public investment, may help cushion productivity gaps that emerge during recessions and their aftermath. The labour market and investment are the keys to eliminating the cyclicality of the productivity gap. Secondly, greater fiscal elasticity throughout the business cycle demands significant improvements in public sector productivity, as increased efficiency and effectiveness in the public sector are necessary to expand fiscal space without further raising tax burdens. This is related to the third missing component, which concerns the structural accumulation of fiscal space required for reducing tax burdens. This specifically pertains to direct taxes, as research has indicated that direct taxation impedes investment and labour productivity growth.

Labour market reforms and structural fiscal adjustments based on fundamental improvements in labour productivity in the public sector are politically challenging. That, along with the fact that both policies fall within the national policy domain, explains why the three policy blocks have been underrepresented in European policy debates and documents to date.

However, the reasons for underrepresentation may run deeper. The spirit of new interventionism haunts Europe and the world. State aid, tax incentives, and credit for selected sectors and companies, as well as hidden subsidies, political favouritism towards special sectors and companies, and favourable financial arrangements, which were once considered to be in opposition to free market and competition principles, are now back. It is politically easier to distribute fiscal resources towards industrial priorities than to promote reforms such as labour market liberalisation and enhancing the efficiency of the public sector.

That is a trap. A sobering warning was issued by Brandao-Marques and Toprak (2024) from the IMF about the impact of state aid in the EU: while firms that receive state aid increase revenue and employment, it has no effect on their investment and labour productivity. Moreover, there are adverse spillover effects on competing firms that negate any positive outcomes for recipient firms. The authors leave the door open to the potential efficiency of EU-level state aid over national-level state aid to companies, but this is a normative statement that rests on the belief that competition in the Single Market would eliminate national market distortions created by national-level intervention. However, distortion is distortion, regardless of the level.

There are other effective channels for indirect support of innovative and productive companies. Public procurement related to investment in new technologies in the public sector aims to increase labour productivity, which in turn helps grow innovative and efficient companies able to deliver productivity-enhancing technologies to the public sector.

Therefore, some of the recently planned and implemented EU policies are safe bets, as they address the weak points revealed by productivity diagnostics: an increase in pan-European public investment projects, simplification of regulations, and the elimination of remaining obstacles in the Single Market. However, three missing blocks that are underrepresented in the policy mix remind us that policy success is far from guaranteed. Let us hope that the safe bets prevail and that the missing blocks will soon be included in the policy mix.

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ARTICLE

Accountability without Overreach

Rethinking EU Monitoring for Competitiveness

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Citation suggestion:Christian Năsulea, CN (2026). Accountability without Overreach: Rethinking EU Monitoring for Competitiveness. *Future Europe*, 7(1), 32–43.

Abstract

A year after the Draghi Report's call to restore European competitiveness, the EU remains short of outcome-oriented instruments to accurately monitor the tangible effects of its regulatory agenda. This article proposes a new, streamlined monitoring system based on three foundations (decentralisation, outcome-based indicators, and incentivised compliance) and discusses ways in which blockchain and artificial intelligence can lower compliance costs and enable real-time monitoring though regulatory sandboxes, innovation partnerships, and smarter, trust-enabled monitoring, rendering accountability a force for change.

Introduction

The 2024 Draghi Report bluntly warned that Europe's chronic low growth and slow innovation, if unaddressed, would lead to 'slow agony', diminishing the European Union's global influence (Blenkinsop, 2024). His call for a revival of European competitiveness underscored the urgent need for swift reforms and decisive action. In response, EU leaders rhetorically embraced competitiveness – Commission President Ursula von der Leyen even integrated parts of Draghi's agenda into her 2024–2029 programme (European Commission, 2025) (e.g., the Competitiveness Compass) – yet tangible improvements remain elusive on the ground.

One of the main problems is that Europe's existing monitoring and governing instruments are not producing meaningful change. The Single Market Scoreboard, European Semester, and Recovery and Resilience Facility (RRF) performance trackers all produce reams of reports and data but too often on inputs and process compliance, as opposed to real economic results. As the European Court of Auditors (ECA) recently reported on the RRF, milestones and objectives 'focus on output rather than results' (European Court of Auditors, 2024) and preliminary reports had limited information on performance. The report confirmed that the monitoring system of the RRF did monitor implementation progress but only partially monitored the RRF's performance, which indicated a gap in measuring real-world impact. Similarly, the European Semester – the EU's yearly economic policy coordination cycle – is prone to focusing on fiscal rules, structural reform packages, and administrative checklists, with varied results in energising growth-friendly reforms. The Single Market Scoreboard, while providing an exhaustive overview of law transposition and compliance by Member States, tends to focus on formal compliance (e.g., transposition rates, infringement cases) rather than tangible competitiveness outcomes in each Member State. The result is a ream of statistics and forms which all too frequently fails to induce real reforms or provoke significant changes in the business environment of the EU.

This overinvestment in compliance procedures has the potential to be self-defeating, particularly for Europe's legion of small and medium-sized enterprises (SMEs), which represent 99% of business in the EU (European Commission, n.d.c). Administrative burden is also an age-old grievance because SMEs do not have the armies of lawyers and consultants that larger firms have to deal with regulatory requirements (Mauer, 2024). The Draghi Report itself points to regulatory burdens as an investment and innovation barrier frequently cited by EU businesses. Over 60% of EU businesses view regulation as an investment barrier, and regulatory barriers and administrative burden is identified by 55% of SMEs as their greatest challenge (BusinessEurope, 2025). EU politicians have made commitments to cut red tape, with scant success: von der Leyen set a target for her Commission to reduce reporting requirements by at least 25% overall (and 35% for SMEs) (Draghi, 2024; Eurochamber, 2024). Industry representatives assert that overall regulatory burden has, in fact, grown in recent years in the face of a wave of new EU action (Draghi, 2024; Eurochamber, 2024). New monitoring systems in the EU are therefore susceptible to designing 'burdensome compliance checks that create no actual value', channelling efforts into box-ticking rather than results (Mauer, 2024).

This article contends that the EU should and must revisit competitiveness monitoring – attaining accountability for results without unleashing new bureaucratic overkill. The goal is to substitute the current bloated but empty monitoring with lean, smart frameworks that are in tune with innovation, market dynamism, and institutional trust. The monitoring of progress must not mean adding more layers of bureaucracy but, instead, crafting clever feedback loops that stimulate policy learning and adaptation. What we propose in this article is a new monitoring system grounded on three pillars: decentralisation, results, and incentives. These three pillars are a roadmap to streamline EU competitiveness monitoring into a more efficient and business-friendly process and sustain the Draghi agenda of a dynamic Europe without damaging the economy.

Before detailing the structure of the pillars, we first discuss why current EU monitoring mechanisms are inadequate, and why there needs to be a paradigm shift. We then describe each pillar – (1) decentralised, industry-led monitoring, (2) open, results-based indicators, and (3) incentive-driven compliance – with detailed proposals for implementation. We also analyse the role that new technologies such as blockchain and artificial intelligence (AI) can have in making compliance cheaper and providing real-time regulatory feedback. Finally, we address how innovation partnerships and regulatory sandboxes can deliver real-time insights on regulation-in-action, shaping investment in smarter rules. Throughout, the emphasis is on accountability without overreach: holding policymakers and market players to account for competitiveness effects, but through fluid and trust-based mechanisms rather than coercive micro-regulation.

The shortcomings of current EU monitoring frameworks

Europe's current tools for tracking reforms and competitiveness are extensive but too frequently ineffectual. One example is the European Semester (European Commission, n.d.e) – the EU flagship economic monitoring procedure initiated in 2011. The Commission and Council publish country-specific recommendations (CSRs) and demand structural reforms (from labour market reforms up to research and development (R&D) expenditure) as well as Member State reports on progress on an annual basis. Although the Semester has enhanced policy coordination, its real competitiveness performance impact has been limited, in part due to voluntary compliance and a lack of enforcement. Member States too often pursue only portions of the recommended reforms, and there is no direct connection between checking off reform 'inputs' (e.g., enactment of legislation) and producing outcomes such as increased productivity or innovative ability. The system produces lengthy reports and formal 'scores', but these report on whether procedures were followed through on – and not whether people's abilities improved or new companies were created as a result. Most EU Member States, as the OECD (2022) explained, do not systematically assess whether rules really work. This discrepancy between formal compliance and real outcomes is at the core of Europe's competitiveness monitoring issue.

In a similar manner, the Single Market & Competitiveness Scoreboard (previously simply the Single Market Scoreboard) (European Commission, n.d.f) gathers wide-ranging measures of Member States' implementation of Single Market rules and performance against a succession of 'competitiveness drivers' – such as innovation capacity, digital uptake, SME participation in cross-border trade, and business environment quality. The most recent Scoreboards monitor such matters as numbers of Single Market infringement cases, EU directive transposition deficit, and some outcome indicators (e.g., SME shares of exports, innovation measures). Though helpful for transparency, this too is plagued by information overload with little impact. Member States are colour coded on scores of indicators but there is little evidence to show that a red or yellow in the Scoreboard initiates effective policy reform. Compliance measurement has not been shown to ensure competitiveness. For instance, a nation may be nearly 100% lawfully compliant on Single Market rules and yet have low results for the creation of new businesses or digital take-up. The breadth of the Scoreboard can also weaken concentration – administrations may employ strong scores on some indicators to gloss over weaknesses on others. Overall, an enforcement-only dashboard with no real accountability or incentives for reform is tantamount to a 'naming and shaming' exercise to which no one pays attention. Nor does it examine the progress achieved in the dismantling of entrenched impediments, such as barriers to cross-border public procurement or the lack of mutual recognition for professional qualifications – issues reflected today but also first reported 20 years ago (ERT, 2024).

The RRF (European Commission, n.d.b) performance monitoring highlights the weaknesses of the EU's input orientation. The RRF – the EU's €723 billion COVID-19 recovery fund – was marketed as 'performance-based', with payment tied to milestones and targets instead of cost reimbursement (Darvas, Welslau, & Zettelmeyer, 2023). On paper, this meant money for results. Practically, though, the term 'results' was watered down. The European Commission's national recovery plan guidelines firmly discourage result indicators, and many nations barely included any actual outcomes in their plans. A majority of milestones tracked progress against investment completion or the adoption of legislation instead of the effects of the measures. As the ECA also concluded in late 2023, the RRF design 'measures implementation progress but only partly [captures] performance' by emphasising outputs rather than outcomes (European Court of Auditors, 2024). The ECA noted that initial RRF reports met reporting requirements but did very little to inform on whether supported projects had the desired economic impact. That is, a bridge may be constructed on schedule (output), but is it adding to connectivity and development in the region (outcome)? These were questions that remained unanswered. The RRF Scoreboard, which is supposed to deliver transparency, was not free from data quality and transparency issues either. The RRF is the embodiment of the problems haunting the EU: significant reporting infrastructure including endless details, but without a clue whether policies are having any effect on the ground.

Aside from these specific tools, there is a more general issue of excess bureaucracy undermining competitiveness that current surveillance does little to combat. The EU procedures are fixated on legalistic adherence – whether it is about regulations being properly transposed, paperwork filled out, or requirements fulfilled – rather than questioning whether those regulations are smart, essential, or if they could be improved. There is a tendency to double down on overregulation, piling on rules and reporting under a misguided assumption that more control will translate into better results (Thomadakis & Marcus, 2025). In practice, complicated regulations serve big corporations (which most of the time can handle them) and overburden small businesses. These results speak to an inverted reality: over-monitoring and paperwork can turn into competitiveness hindrances, draining entrepreneurial energy and diverting resources from innovation to compliance (Heiber & Helzer, 2023).

Importantly, the EU's power to impose change through such monitoring mechanisms is constrained by design. In contrast to monetary or trade policy, most of the levers of competitiveness (education, taxation, R&D, industry regulation) remain in the hands of Member States. The Semester and accompanying processes depend on soft pressure since Brussels cannot force national governments to maximise their systems or lower tax rates. The outcome is an implementation gap: European institutions can define problems and even dictate solutions, but they cannot follow through. Too frequently, this results in frustration on both sides – EU officials repeatedly threaten to freeze reforms, while national leaders resent what they perceive as overreach or top-down interference. In the absence of clear responsibility and ownership, no one is truly accountable for delivering tangible outcomes.

In short, the current state of EU monitoring is marked by fragmented efforts, an emphasis on process rather than outcomes, and burdensome bureaucratic reporting. It generates significant amounts of data but very little useful information, and few consequences for inaction. Worse, it can impose actual compliance costs – a €65 billion direct yearly cost of compliance by companies in one Member State (Germany) alone, and another €146 billion of unrealised economic value lost because of bureaucratic delay (Mauer, 2024) – with no offsetting benefits. Seemingly, Europe requires a new way: one that holds governments and businesses accountable to the goal of competitiveness but does not micromanage.

The shortcomings outlined above reveal that Europe's current competitiveness monitoring landscape is not just inefficient – it actively undermines the very goals it purports to serve. A new approach is urgently needed, one that moves beyond formal


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compliance and begins to engage more seriously with real-world outcomes, business realities, and innovation dynamics. This shift requires a conceptual reset: away from centralised bureaucracy and towards flexible, collaborative, and data-informed governance. Such a model must build trust between institutions and economic actors, minimise administrative burden, and ensure that monitoring supports – rather than stifles – competitiveness. In the following section, we present a three-pillar framework designed to achieve precisely this. These pillars – (1) decentralised, industry-led monitoring, (2) outcome-oriented performance metrics, and (3) incentive-driven compliance – form the core of a reimagined monitoring system that aligns institutional oversight with market realities and the EU's long-term growth agenda.

A Three Pillar Model

Pillar 1: Decentralised, bottom-up monitoring – an industry-driven approach

The first component of a new system would be a step away from EU-led, top-down monitoring towards industry-led, decentralised systems of monitoring. Rather than EU institutions alone collecting and evaluating all the relevant data (usually with considerable lag and bureaucracy), the vision is to enable the private sector – companies and industry associations – to generate voluntarily and in real time what are considered the key competitiveness indicators. In essence, it would be to create a network of lean, cooperative data platforms in which firms themselves, sector by sector, report measures that are essential to competitiveness, including innovation and market performance. This bottom-up monitoring would supplement official statistics and scoreboards with rich, real-world data without heavy-handed mandates. Because participation would be voluntary and tailored to what firms already track for operational purposes, it would not impose an additional administrative burden but rather harness existing information flows for policy relevance.

How could this work in practice? Industry-led platforms could be created for key industries or clusters (a digital innovation platform, a manufacturing competitiveness dashboard, etc.), as outlined in Pillar 3. Firms may release data points indicating their competitive performance and the business environment, for example, number of patents filed, product launch time-to-market, number of new start-ups or SMEs established, success rate of scale-up, R&D spending, SME export growth, and so forth. Most importantly, these are top-line indicators of competitiveness – they tell us whether innovation is occurring and companies are expanding – not procedural indicators such as the number of regulatory requirements met.

Platforms would be supported by open standards and third-party authentication to be credible. All participating firms would report data according to agreed definitions/formats (much as financial reporting follows standards), making the information comparable and aggregable. Third parties, for example, universities, research institutions, or certified auditors, would validate data at a sample or aggregate level to avoid misreporting or manipulation of the system. Crucially, this assurance would not involve intrusive audit of all companies (which would recreate burden), but rather light-touch verification or statistical confirmation to underpin confidence in the dataset. Blockchain technology (discussed in a subsequent section) might even assist in generating tamper-evident evidence of uploaded measurements, further supporting trust (Kaul, 2024).

One of the core principles of this decentralised strategy is that it does not run the risk of instigating public criticism or regulatory sanctions against individual companies for the information they provide. The goal is to create candid, valuable data, not 'sticks' for non-compliance. Therefore, data may be published anonymously or in aggregate form, particularly if commercially sensitive. As an example, an industry platform could display sector means or distributions of time-to-market for new products without mentioning the value of each firm. Companies can then report their performance indicators accurately and without fear of public exposure or reputational harm. The data would be used cooperatively, for diagnosis: to detect bottlenecks (e.g., if mean time-to-market is increasing, e.g., with slower regulatory approvals) and to exchange best practices. It flips the tone from 'regulators watching over the regulated' to 'everyone taking care of the system's well-being together'.

Decentralised monitoring takes advantage of the reality that companies are best positioned to have the timeliest information about what is going on in their market. Instead of waiting for the official surveys a year hence, a tech start-up group could, for example, voluntarily release a monthly index of the number of AI start-ups formed and how efficiently they coped with licensing procedures. When a new regulation single-handedly reduces that index, it serves as a quick red flag – and one raised within the industry itself. This sort of real-time, crowdsourced knowledge can alert policymakers to unintended effects sooner than conventional reviews. It also minimises duplicate reporting: firms already must monitor a significant quantity of these numbers internally (for corporate performance), so reporting them through an automated feed or periodic format is much less burdensome than typing them onto independent government forms. Over time, one could envision these sites integrated with firms' systems through application programming interfaces (APIs), so contribution becomes a question of a one-click tour.

One of the key advantages of the industry model is that it can maintain business autonomy and minimise bureaucratic

overhead. Businesses are still accountable for their data sharing (within the stipulated frameworks) and can add context or stress to the numbers through discussion forums on the platform. Peer pressure and collaboration might arise: businesses, for instance, might compare themselves to industry averages on the platform and attempt to bridge the gap if they are lagging. Sector groups would hold seminars on how best to enhance specific measures (e.g., reducing product approval lead times) and meet with regulators armed with concrete data. This would be achieved without the EU authority micro-managing centrally. The role of the EU would be that of a facilitator and standard setter, not that of an all-seeing inspector. This does not conflict with the principle of subsidiarity and utilises the capability of the private sector to innovate. It acknowledges that in a rapidly evolving and volatile economy, distributed networks are better positioned than centralized hierarchies to detect and adapt to change swiftly and accurately.

Notably, there have already been some steps in that direction in certain areas. The European Commission has become interested in 'competitiveness proofing' and forward-looking stakeholder consultation. In 2023, for example, the Commission introduced compulsory competitiveness checks for all its legislative impact assessments. The most recent Competitiveness Council discussions include cooperation with businesses as part of improved regulation. The Competitiveness Compass suggested keeping rules simple and adopting innovation-friendly approaches in early 2025 (European Commission, 2025; Whelan, 2025). By providing industry with a direct route to communicate where rules are hindering competitiveness (through data and feedback mechanisms), policymakers would be made aware of the realities on the ground.

Pillar 2: From procedural metrics to outcome-oriented metrics

The second pillar involves a fundamental shift of focus in what we are measuring and tracking: namely, to move away from procedural metrics towards open, results-based metrics directly connected to competitiveness outcomes. That is, discontinue measuring success in tick-box terms and instead begin measuring it in economic terms. This involves being clear about competitiveness and innovation indicators, making them transparent, and including them within public accountability systems.

Why outcomes? Because what gets measured gets done. The EU's recent practice of measuring inputs (e.g., cost incurred, laws enacted) or outputs (documents prepared, tasks accomplished) has been inadequate and insufficient (Darvas, Welslau, & Zettelmeyer, 2023). As the former Commission Vice-President Kristalina Georgieva once put it, 'we can build a road with 0% error rate, but if it goes nowhere, it is still a road to nowhere' (Darvas, Welslau, & Zettelmeyer, 2023). A flawless procedural badge is worthless if the result is bad. By contrast, outcome metrics force everyone to focus on the end goal – making the economy more dynamic, innovative, and productive – rather than the paperwork along the way.

By providing industry with a direct route to communicate where rules are hindering competitiveness, policymakers would be made aware of the realities on the ground.

What type of metrics? We suggest that the EU and Member States employ a set of key competitiveness indicators (KCIs) which are publicly monitored. These would cover innovation outcomes (e.g., number of patent filings or high-tech patents issued, particularly in frontier technologies), new business creation and expansion (e.g., start-up density per capita, rate of successful scale-ups, SME growth in revenue and jobs), digital adoption (e.g., rate of firms adopting advanced digital technologies such as AI or cloud – similar to metrics followed by the Digital Economy and Society Index) (European Commission, n.d.d), R&D performance (e.g., percentage of R&D expenditure as a share of GDP, but most significantly rate of commercialisation of research), skills and talent indicators (e.g., number of STEM graduates, rate of individuals undertaking upskilling courses), and quality of regulatory environment (possibly measured by international ratings or business attitudes towards regulation surveys). Some of these indicators already exist in some form or other – the European Innovation Scoreboard and

DESI already aggregate most of the relevant data points. The innovation there would be to bring these outcome indicators into the spotlight of surveillance, as opposed to taking them as background statistics.

Such outcome-focused measures should be placed on public dashboards which facilitate easy comparison among Member States. Imagine an easy-to-use web portal where one can view, say, how France, Germany, and Poland rank on start-up levels or on average number of days to obtain a business permit, refreshed annually or quarterly. The Single Market Scoreboard achieves that to some extent with a handful of indicators of performance, but a competitiveness dashboard could further highlight the outcomes. Ideally, it would be interactive and provide real-time information to the extent possible (with the decentralised data streams of Pillar 1 keeping the information up to date). Most of all, these dashboards need to be made accessible not only to specialists but also to the public, media, and national parliaments in a non-technical format. For instance, a Europe heat map indicating which nations are green, yellow, or red on certain competitiveness KPIs could prompt healthy public debate. If a country sees itself lagging behind its peers, that becomes a prompt for voters and lawmakers to ask why, and what needs to be done?

Member State benchmarking has the effect of unleashing a little competitive energy and peer pressure – a proven instrument in the EU's "open method of coordination" (European Parliament, 2014). National governments can be made accountable by their own citizens and firms with open results. A parliamentarian can point to the dashboard and ask the government: 'Our neighbour has twice our rate of new innovative firms – what reforms are we putting in place to catch up?' Similarly, investors and civil society can mobilise around the evidence to create pressure for change. By laying out actual outcomes, it becomes more difficult for underperformance to hide behind bureaucratic compliance.

For example, if Country A has enacted all the 'right' laws according to EU advice (compliance process), but still its productivity or innovation levels stagnate, the outcome dashboard will pick up on that. In contrast, if Country B followed a different policy path but its start-up scene is flourishing (outcome success), then that too is highlighted. This encourages focusing on policies that work, and not policies that merely check EU boxes. Furthermore, it can even produce policy innovation: nations can borrow success recipes from their neighbours (it is simpler to take note of best practices if success is well defined).

In effect, the focus on monitoring shifts from 'Did you do what Brussels needed?' to 'Is your economy creating competitiveness gains?'. The latter is what matters for citizens – employment, earnings, innovation. Monitoring should be tailored to that.

It is important to note that outcome monitoring should not 'name and shame' in and of itself; instead, it should apply constructive pressure and facilitate learning. The EU can do this by tying the dashboards to annual forums or competitiveness reviews – open debates where Commission staff, external experts, and national governments debate why some are performing better and how lessons can be learned from success. This echoes the idea of the Semester concept but in terms of outcomes: not merely in Commission-to-country recommendations, but perhaps more as a multilateral review of scoreboard outcomes.

Some fear that an emphasis on results would force governments to attempt to achieve targets regardless of their health. But the indicators that are chosen must be balanced and consistent with sustainable competitiveness (e.g., innovation quality instead of quantity; jobs in industries at the front edge instead of any jobs). Moreover, outcome monitoring does not amount to ignoring rule of law or compliance – it is 'in addition to', not 'instead of'. Governments would still need to comply with EU law, but the emphasis would be on delivering what those laws were meant to do.

By monitoring such outcomes as innovation and growth on a straightforward basis, the EU can better align its wide agendas (e.g., Green Deal or Digital Decade) to competitiveness. For example, if decarbonisation is a mission, then one of the indicators could be a 'green innovation index' – are EU businesses more strongly patenting and exporting green technology solutions? Draghi's report emphasised linking the decarbonisation agenda with competitiveness, 'not allowing the pursuit of one to be at the expense of the other' (Chang, 2024). Outcome metrics could capture this balance (e.g., emissions reduced and cleantech market share gained).

Pillar 3: Incentives over mandates – encouraging compliance through rewards

The third pillar addresses the question of how to promote compliance and change in a manner that reduces coercion and encourages voluntary take-up. Since the EU generally does not have hard instruments of enforcement in competitiveness policy at its disposal (except for the infringement or conditionality of finance), it is reasonable to bet on incentive mechanisms. The idea is to encourage those making credible attempts to fulfil competitiveness goals, rather than only rewarding Member States or firms that are already top performers. This approach of positive reinforcement can help foster a culture of continuous improvement and trust, in contrast to the resistance often provoked by rigid, top-down mandates.

What forms could these incentives take? A range of options is available, targeting both Member State governments and individual firms or sectors:

- ***Regulatory green lanes or simplified reporting for good performers:*** the EU may choose to reward a nation or a business firm if they consistently achieve competitiveness benchmarks or anticipate reform by giving them relief from certain administrative burdens. For instance, companies with a sterling track record of compliance along with proof of innovation may be subject to less frequent scrutiny or receive regulatory clearances on time. In fact, the principle of proportionate supervision has already been introduced – for example, the EU's proposals related to agriculture, to subject farms with long-term engagement in sustainability to fewer inspections and controls (Anghelescu, 2025). The same applies to other sectors: if you prove competitive improvement in good faith, the regulatory framework allows you room to breathe. This gives the high-flyers space and lightens the burdens (makes compliance more bearable).

- ***Financial incentives and recognition:*** the EU or governments may provide tax credits, innovation subsidies, or lower charges to companies adopting competitiveness-driven practices or undertaking productivity investment (such as tax relief for green investment or R&D). At the Member State level, allocation of EU funds can involve bonus schemes: for example, a Member State that meets certain innovation or SME performance criteria can receive an additional structural fund top-up or be granted greater flexibility in their allocation. While RRF was a one-off, future EU funding can involve a modest competitiveness performance reserve. Another soft incentive could be public recognition, for example, an EU Competitiveness Award or ranking that governments effectively desire for political motives. People and institutions react to reputation; structuring a leading vs lagging narrative on competitiveness (underpinned by outcome evidence) can motivate action.

- ***Conditional relief or leniency:*** in certain instances, the EU can commit to holding back on suspension or refraining from taking punitive action against a Member State should it reform at will according to competitiveness objectives. For instance, if a nation is lagging on some procedural aspect but is obviously heading in the right direction regarding outcomes, the Commission has leeway in enforcement. While rule of law needs to be followed, there is room for discretionary adjustment in timelines and interpretation. If utilised effectively, regulatory leniency as a carrot will get laggards to move on to the new technology without worrying about ongoing infringement wars. Transparency and fairness are paramount – leniency only for concrete progress.

- ***Peer and market pressure via transparency:*** some incentives are indirect but powerful. By making comparative results public (as Pillar 2 recommends), the EU leverages peer pressure – a more efficient approach in a community of democracies than fear of legislation. No government likes to be seen as the one where doing business is hardest. Furthermore, investors (markets, firms) would observe the data and act accordingly. On the one hand, a nation which repeatedly performs poorly on the EU's competitiveness data might experience lower investment, pressuring leaders to act. One which is improving, on the other hand, might receive increased investment, rendering a positive incentive. Transparency in and of itself is thus an incentive tool, inducing voluntary convergent alignment with best practices.

Spontaneous readjustment towards EU standards – and reputational clout and openness – is often a more attractive second-best option to command-and-control strategies. This particularly applies to cyclical industries and heterogeneous economies. In troubled industries (during a downturn), draconian directives may be self-defeating, but the provision of support and flexibility in return for reform attempts can elicit greater compliance. For instance, instead of imposing new, expensive regulations on manufacturing plants straight away during an industrial downturn, the EU might relax its rules temporarily but on the condition that the company invests in efficiency or retraining (so that competitiveness is increased through the recovery).

Evidence suggests that compliance improves when businesses are met with open doors rather than drawn swords – voluntary schemes built on mutual benefit tend to generate more engagement than those driven by fear of sanctions.

A real-world analogy is regulation of the environment: several nations have 'voluntary compliance programmes' where companies that exceed the minimum are rewarded with incentives such as reductions in inspections or public certification. Evidence suggests that compliance improves when businesses are met with open doors rather than drawn swords – voluntary schemes built on mutual benefit tend to generate more engagement than those driven by fear of sanctions (Anghelescu, 2025). The EU itself has implicitly followed the same approach – for example, the EU Transparency Register for lobbyists, ostensibly voluntary but incentivised by providing access to policymakers for opt-in registrants (an 'incentive-based system' for transparency) (European Commission, n.d.g).

An important feature of compliance based on incentives is that it forms a more trusting relationship between the regulators and the regulated. If Member States and businesses understand that the *EU will reward good behaviour* – in whatever guise, be it positive publicity, a lighter touch, or assistance – they will be more likely to come to compliance in good faith, not just as a cost to be minimised. It is cooperation in the interest of common objectives (competitiveness, sustainability, etc.), not a cat-and-mouse game of conflict. That fits with the idea of *institutional faith* at a more general level: if companies have faith that the monitoring mechanism is equitable and discerning, then they will cooperate more, divulging better data and results. A coercion framework, however, precipitates minimum-necessary compliance, creative evasions, or a culture of box-ticking.

Technology can reduce regulatory reporting costs and labour, so that potentially onerous work becomes an automated real-time process.

Naturally, the incentives must be clearly defined so as not to induce moral hazard or indolence. The incentives must be linked to meaningful progress milestones (hence the importance of outcome measures). An example would be a tax reduction contingent on a company boosting its R&D spending or employee training. Simplifying a country's reporting may be made dependent on it agreeing to a reform roadmap. The European Commission's recent introduction of a 'competitiveness check' in legislative assessments is a promising ex ante step. However, we recommend extending this approach to ex post governance as well – actively guiding the acquis through targeted support mechanisms for those genuinely advancing EU competitiveness goals.

Ursula von der Leyen's recent action points towards an incentive policy. The Commission's 2025 'Omnibus' regulation simplification package is a move towards industry's desire to 'simplify EU rules, increase competitiveness, and free up investment', potentially even delaying or revising some of the upcoming requirements (Directorate-General for Financial Stability, Financial Services and Capital Markets Union, 2025). By recalibrating burdens (e.g., encouraging voluntary measures rather than mandatory requirements where possible), the EU is acknowledging that coaxing cooperation can work better than compelling it. Our proposal builds on that insight: use incentives to support those who genuinely strive to meet competitiveness targets, rather than assuming everyone must be forced or punished.

In practice, the EU might integrate an 'incentive framework' into the European Semester or a new Competitiveness Pact (Baccini, 2024), that is, a menu of incentives that are offered to Member States (technical support, additional funding, reduction of some EU regulation) in exchange for committing to and achieving concrete reforms. For companies, the EU can collaborate with national governments to promote similar regulatory sandbox or grace-period ideas for entrepreneurs.

Lastly, compliance by incentive is also aligned with human nature and organisational behaviour principles (Zhu et al., 2023). Human beings respond positively to constructive feedback. A fear-driven or burden-driven culture leads to do-the-minimum behaviour; an aspiration-driven and reward-driven culture leads to continuous improvement. The challenge for Europe, to become competitive again, is as much cultural as it is technological – it will require the cooperation of officials, employees, and entrepreneurs on all sides. Incentives can prompt that cooperation.

Leveraging technology: Blockchain and AI for smart compliance

Enabling all three pillars can also represent a strategic application of breakthrough technologies such as blockchain and AI to automate compliance and monitoring. Technology can reduce regulatory reporting costs and labour, so that potentially onerous work becomes an automated real-time process. In the creation of a lean monitoring environment, the EU would do well to adopt so-called regtech (regulatory technology) solutions – digital tools specifically designed to simplify and streamline regulatory compliance. These solutions can help companies meet their obligations more

efficiently, using automation and data integration, rather than adding new layers of reporting burden (Charoenwong et al., 2024).

Blockchain technology is unique in its ability to enable transparency and trust in compliance information without requiring constant audits. A blockchain is an immutable, distributed ledger that allows all relevant parties to access a single, verifiable record of transactions or compliance events. Unlike traditional self-certified reporting, where companies internally produce compliance declarations subject to later verification (if at all), blockchain enables real-time, tamper-proof disclosure of relevant data that is visible to regulators as it is generated. In self-certified reporting, firms attest that they are compliant – often through periodic forms or reports – without providing underlying data unless specifically audited. This creates a time lag, room for selective reporting, and a reliance on trust or later inspections. In contrast, a blockchain-based system records compliance activities (e.g., emissions data, licensing renewals, safety checks) as they happen, with cryptographic proof that the data has not been altered. For example, a factory's emission output could be automatically logged via sensors into a blockchain-linked system, allowing regulators to access *a real-time living ledger* of environmental data. Because entries are time-stamped, decentralised, and resistant to tampering, regulators no longer need to wait for disclosures or verify them after the fact – the evidence is embedded in the process itself. This approach drastically reduces the need for paper-based bureaucracy and repetitive audits. If the data is already securely recorded, publicly verified, and trustworthy by design, then there is less need for supplementary forms or manual confirmation. In short, blockchain shifts the compliance model from 'trust then verify' to 'verify by design'.

When it comes to competitiveness, blockchain would be applied to track the product approval cycle (every step stamped on a ledger) or the compliance supply chain (confirmation that products comply with Single Market regulations). It enables traceability – every transaction is stamped – and immutability – it cannot be edited but only added to. Checking compliance can thus be automated to a high degree. The increased level of trust enabled by a decentralised audit approach is the key factor here: instead of having to send sheaves of paperwork to a central bureaucracy to verify you did X, Y, Z, you just let the authority read the data, referenced by the blockchain record, at all times. In many situations, it may well eliminate interim reporting or reduce inspection frequency. The ECA found that the RRF scoreboard had data quality issues; a well-designed blockchain system would eliminate that by enabling data integrity at the source.

AI, and specifically machine learning, can also revolutionise regulatory monitoring by handling the analysis of large data streams and automating routine compliance tasks. For instance, AI algorithms can process companies' data to detect anomalies or trends that indicate compliance issues or emerging risks. In the finance sector, AI is already used to flag unusual transactions for anti-money laundering (Vinther Daugaard et al., 2024) – a task that would be impossibly labour-intensive manually. The same principle can apply to competitiveness monitoring: AI could churn through the decentralised data from Pillar 1 platforms and identify patterns – say, a certain permit process taking longer and longer in one country, or a dip in start-up registrations correlated with a new regulation – and alert regulators to these trends in real time.

The combination of blockchain and AI also presents new possibilities. Blockchain provides the rock-solid data pipeline; AI processes that data for intelligence. Blockchain can facilitate traceability and trust without the need for continuous audits, and AI can review compliance information and mark trends without burdensome reporting. Imagine a regulatory framework where the compliance activities of companies (standards complied with, permits secured, etc.) are tracked constantly on a blockchain. AI keeps an eye on this book, and when it detects a deviation (say, a permit that should normally be renewed monthly wasn't) it sends a reminder to the regulator and the company – perhaps even with recommendations on what to do next. But if all is well, then no report needs to be submitted at all – compliance is done quietly in the background. This turns the current model on its head: instead of burdensome routine reporting to establish compliance, compliance is assumed under the open system unless demonstrated otherwise.

Trial tools: Regulatory sandboxes and innovation deals for live testing

To successfully implement the above pillars, the EU should also expand its experimental application of regulatory instruments – regulatory sandboxes and innovation deals/agreements. These enable new regulation or policy to be piloted in live markets on a small scale, and live evidence of their impact (including unintended impact on competitiveness) is formed prior to wider roll-out. They also offer a risk-free space in which regulatory barriers to innovation may be uncovered and removed.

Regulatory sandboxes are controlled environments where a few regulations are relaxed or tailored to the participants who engage in them under the supervision of a regulator. They have been developed in fintech and are spreading into areas such as health tech, energy, and AI. The concept is to allow innovation to experiment with new products or business models without being required to meet all rules upfront, with the regulator watching and deriving lessons. This provides priceless insights: what rules stifle innovation?

What protection is really needed? Sandboxes provide us with facts on what regulatory approaches work or do not work, as compared with speculative hypotheses (Leimüller & Wasserbacher-Schwarzer, 2020).

The EU has recognised the value of sandboxes. The European Commission recommended their use in 2020 and even published guidance on 'test beds' and sandboxes within its Better Regulation Toolbox (European Council, 2020). Various pieces of EU legislation now specifically permit sandbox methods (e.g., the draft AI Act contains sandbox rules for AI developers). The Commission Staff Working Document on regulatory experimentation (European Commission, 2023b) points out that experimental environments are useful in detecting whether a regulatory environment remains fit for purpose or must be adjusted by engaging with experimenters in live or near-live scenarios (European Commission, 2023a). Essentially, sandboxes generate immediate feedback on the way regulation really works – and how it can stifle innovation. This feeds directly into wiser monitoring: regulators receive early warning of unreasonably burdensome regulations.

Innovation deals (also referred to as innovation agreements) are a related instrument. They represent bilateral collaboration arrangements between innovators (e.g., companies), the authorities, and the Commission aimed at the identification and circumvention of regulatory obstacles to innovation. Launched as a pilot in 2016, innovation agreements were created to bring together all relevant actors when a company encounters legislation that is either unclear or not well suited to an innovation (European Commission, n.d.a). The goal is to find practical solutions without necessarily having to amend the law. It works as a kind of fast-track dialogue: the company presents the regulatory obstacle, and authorities assess whether the law can be interpreted flexibly. If not, the issue may be escalated for possible legal revision. In essence, it is a bottom-up, entrepreneur-driven approach that uses real cases to guide regulatory adaptation. For example, one of only two EU-wide piloted Innovation Deals resolved regulatory uncertainty around the use of recycled water in industry in a circular economy initiative (Leimüller & Wasserbacher-Schwarzer, 2020). The deal convened national officials and Commission experts to resolve the uncertainty as to how EU water legislation had been applied, thus unblocking the initiative and informing policy development going forward (in practice, the outcomes can be input to the REFIT – Regulatory Fitness – assessments).

Both innovation partnerships and sandboxes aim to establish a feedback loop from practice back to policy. They complement our monitoring pillars by offering qualitative evidence and case studies that can inform the interpretation of quantitative trends. For example, if our Pillar 1 decentralised data indicate patenting is declining in industry X, then a sandbox in industry X would continue to find that an outdated rule is making experimentation way too expensive – something learned through live testing. Or if country Y's outcome measures (Pillar 2) reveal they are lagging in some digital service, an innovation agreement can be signed with businesses in that country to ascertain what national rule is inhibiting growth.

Notably, our tools also implement the *decentralisation and trust* vision. They entail regulators trusting innovators enough to ease rules in a managed manner, and innovators trusting regulators enough to voluntarily open up about the challenges they face. This creates a win–win relationship and shared knowledge that can then be leveraged to drive more industry-tailored rule-making. It also tames the adversarial approach – firms know that regulators are open to hearing them out and changing, so they will cooperate more and even assist in creating improved regulations.

As the EU progresses, a well-defined sandbox and innovation agreement framework being a part of integrated policy initiatives could become the norm. For instance, each new major regulation could come with an accompanying sandbox duration or a clause granting permission for short-term pilot deployment. The upcoming AI Act already considers this, and others should follow.

Conclusion

One year after the release of the Draghi Report, the EU is still struggling to attain competitiveness under efficient oversight without bureaucratic weight. A thinner model of accountability through decentralisation, outcome-based monitoring, and compliance via incentives, all means which would redirect focus away from procedural box-ticking towards actual economic advancement, is greatly needed yet still absent from the scene.

By engaging with industry directly, measuring actual outcomes such as innovation and growth in SMEs, and rewarding reformers with flexibility and trust, the EU can shift away from compliance towards performance enablement. New technologies such as blockchain and AI enable this vision, providing low-burden, real-time insights.

Rather than more rules, Europe needs smarter governance, tailored to produce results, not reports. If implemented, this approach would enhance trust, transparency, and innovation – making 'accountability without overreach' not just a principle, but a source of competitive advantage.

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RULES AND
REGULATIONS

ARTICLE

Liberalism and *Dirigisme* – a Potential Love Story

How Five Concrete Reforms Can Overcome the EU's North–South Divide

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Citation suggestion: Carl-Vincent Reimers, CVR (2026). Liberalism and Dirigisme – a Potential Love Story: How Five Concrete Reforms Can Overcome the EU's North–South Divide. *Future Europe*, 7(1), 43–54.

Abstract

This article claims that the EU's progress on competitiveness is stalled by a paralysing ideological divide between northern market liberals and southern state interventionists (*dirigistes*), arguing that these philosophies can be reconciled. Five key reforms are proposed, including creating a true Capital Markets Union to unlock private investment, establishing a harmonised European business code, reforming competition law to allow for market-led consolidation, creating a pan-EU research and development agency modelled according to the US DARPA blueprint, and finally, allowing for more legislative output in the form of Regulations instead of Directives, to avoid the gold-plating of rules at the national level and to foster legal certainty.

Introduction

It is hard to overestimate the impact of the Draghi Report in reinvigorating the European debate on competitiveness. 'For some political positions, you have to swear an oath on the Bible. In the European Commission, I had to swear on the Draghi report', stated Danish commissioner Dan Jørgensen at a press conference last February (European Commission, 2025).

But while agreement on the diagnosis of the problem has been almost unanimous in policy circles, it has been harder for European leaders to agree on the most effective treatment. Not even Draghi defines

what 'competitiveness' really entails – this is a manifestation of an ideological cleavage among Member States, with its roots in economic and political theory.

On the one hand, we can observe a market-liberal understanding of competitiveness, with a strong focus on microeconomics and reducing red tape. This resonates well in the ordoliberal circles of Germany and the northern European countries. On the other hand is a macroeconomic perspective, highly influenced by geopolitical analysis, advocated most vocally by France. These two perspectives have been present in European debates for decades, but in recent years their opposition has been amplified through what political scientists refer to as the 'fizzy bifurcation' between globalisation and geopolitics (Balfour, 2024: 97). Politicians who, in the liberal 1990s, agreed on the convergence between geopolitical interest and economic liberalisation, now instead seem utterly divided. This divergence has not only created a fragmented debate about how to best achieve competitiveness on the European stage. It has also fuelled opposition among European policymakers to the point of paralysis of action. Yet our ability to reform Europe depends on our ability to see these two divergent traditions as complementary, rather than opposed.

This is the main theme of my report 'Draghi's Dilemma: Competitiveness, Great Power Competition and Europe's Next Move' (Reimers, 2025), which analyses five key reforms that can bridge the divide between northern European market liberals and continental technocrats.

Competitiveness: A fluid concept

We can better understand the fluidity of 'competitiveness' by looking into our recent history. In 1994 the economist Paul Krugman published the article 'Competitiveness: A Dangerous Obsession' in *Foreign Policy* magazine. Krugman's article was a direct retort to a 1993 speech about competitiveness delivered in Copenhagen by the president of the European Commission (EC), Jacques Delors, which explained Europe's lack of competitiveness in relative terms, comparing it with the performance of the US and Japan on international markets. Krugman disagreed with Delors, claiming that competitiveness is a meaningless concept when comparing nations, as countries and enterprises operate under very different sets of economic rules. In summary, Krugman makes three key arguments: (1) nations do not compete for market shares in a zero-sum game in the way companies do, and states lack the final limit for such competitiveness, which is bankruptcy; (2) a nation's standard of living is determined by productivity – how much it can produce per worker – not by its performance on export markets. An obsessive focus on trade deficits misunderstands how the economy operates at the national level; (3) macroeconomic policy cannot follow the microeconomic logic of individual companies. CEOs may propose cost-cutting and export-led strategies, but countries must consider aggregate demand, employment, and monetary/fiscal policy (Krugman, 1994). 'A country is not a company', as a later article by Krugman (1996) stated. Krugman's argument was strongly critiqued as early as the early 2000s, not least by the German economist Horst Siebert, who claimed that Krugman missed the importance of the geographical competition of mobile factors of production (capital, technology, and talent). The loss of these assets diminishes a nation's productivity and long-term growth prospects, and thus its long-term competitiveness. Therefore, governmental decisions on infrastructure, business climate, and human capital are crucial, directly influencing international competitiveness at the macro level. This perspective of competition stands in stark contrast to Krugman's 'micro only' view and emphasis on internal productivity (Siebert, 2005).

This critique has been strengthened over the past years. Even Krugman seems to have changed his mind. Notably, Krugman now recognises that climate change and national security issues involving new technologies have increased the role of strategic competition and government policy, increasing the need for industrial policy. He also sees locational competition as more important today than it was in the more goods-based economy of the 1990s (Krugman, 2025). We see this in how states are using trade relations to distort other states' competitiveness and gain geopolitical advantages. One example is China, which exploits the weaknesses of economic rivals through espionage and intellectual property theft (SAIS Review of International Affairs, 2023). Over the past decades we have witnessed several such cases, including China's use of rare earth minerals to blackmail Japan over a fishing dispute in 2010 (World Economic Forum, 2023) and the blocking of imports from Australia and Canada due to claimed sanitary reasons (European Parliament, 2024).

This increases the state's role in the relative competition for factors of production – in short, it makes competitiveness more of a geopolitical concept. This has resonated well in countries such as France, which has a strong political tradition of putting power politics and competitiveness in the same policy basket (Le Maire, 2019).

At the same time, however, the argument that Krugman made in 1994 still resonates strongly in some policy circles, not least in northern European liberal circles. Against the backdrop of lower productivity growth compared with the US, this argument has gained even more traction. 'Focus on the Micro, not the Macro', as professor of public policy Luis Garicano wrote earlier this year (Garicano, 2025). Basically, this line of thought argues that structural reforms matter more than financing macro-level debt, and that there is a clear risk of wasting taxpayers' money in European countries with poor institutional quality. But wealthy, well-functioning countries can also fall into this trap, as has been pointed out by senior

economists in the current discussion about Germany's sharp increase in state borrowing (Treeck, 2025). In short, if the fiscal capacity of states is used for consumption rather than financing competitiveness reforms, debt burden can easily spiral out of control.

Europe's problem: More innovation than general productivity

If we want to overcome this political division, we must first try to establish facts around the central question: what, really, is Europe's key problem? As Draghi shows in his report, Europe has a problem with lower productivity growth compared with the US. Up-to-date research suggests that, if we apply a long-term perspective, Europe has been catching up with the US on productivity. In 1995, the European GDP per hour worked (PPP) was about 73% of US productivity. In 2024, this number had reached 82% of US productivity. Europeans have thus become more productive compared with Americans, if we examine the entire period from 1994 to 2024 (Zsolt, 2023; Flam, 2024). In some of the more productive countries, such as Germany, this figure is just over 100% of US productivity. One can say that this is too low, but the positive trend is still evident.

However, it is still clear that Europe has a problem with a lack of productivity growth compared with the US in certain sectors of the economy. As Velimir Šonje shows in his contribution to this issue, Europe is lagging behind US productivity in the service sector, most likely due to faster adoption of new digital technologies. This can be explained in part by the close interaction and spillover effects from Silicon Valley's tech cluster to the broader service sector. In manufacturing productivity, however, Europe has outperformed the US during the past decade.

We now know the manifestations of this problem all too well. In the past 50 years, no company in the European Union has reached a market capitalisation of more than €100 billion, while all six US companies that have reached such market capitalisation were launched during this period. None of the world's ten largest large-scale innovation clusters is located in the EU, while several are found in the US and China (Conte, 2025; Draghi, 2024: 29). And none of the world's leading quantum computing companies are European, while five are from the US and four are from China (Draghi, 2024: 29).

Draghi's analysis shows that this innovation problem has root causes in both a market-liberal economic and a geopolitical analysis: a general lack of scale and capital concentration in the most innovative tech sectors, fragmentation of rules on the single market, out-of-date competition law that hinders consolidation, geopolitical weaknesses that hit Europe harder than other continents, and the lack of a common capital market with the associated lack of venture capital for productive investments. Therefore, instead of engaging in several more years of debates and political deadlock, northern European market liberals and continental *dirigistes* must recognise that each of their perspectives carries a part of the solution to address the competitiveness challenge.

Here, five concrete reform proposals from Draghi and Letta can help us see why.

Five reforms for increased competitiveness

Regulations vs Directives

The Single Market is generally characterised as something that can be described as ritual dishonesty. In the EU Council and in high-level meetings, EU leaders praise the Single Market as a source of pride. Yet the Single Market has not achieved the level of harmonisation reflected in our politicians' bombastic statements. Not only does the EU have a much larger amount of regulation than the US, but the legislation is also more fragmented, especially in respect of services and the digital sector. Market liberals know that common rules create the basis for free competition, something that is distorted by national derogations.

However, they seem to disagree with *dirigistes* on the cure to the current disease. While the former argues for deregulation and even rolling back European rules to the national level, *dirigistes* seem to see the problem as too little harmonisation and few European laws that guide the market towards new technologies and investments. The truth is somewhere in between these two answers.

In his report, Enrico Letta shows that the Single Market is characterised by something that we can call false harmonisation (Letta, 2024: 125). This means the production of common European rules that, in the implementation phase, get broken down into 27 national rule books. Sadly, the EU knows too many cases of this kind.

For example, the Commission's second report on the application of the GDPR shows that national fragmentation persists despite the ambition to create a single data protection framework (European Commission, 2024). This is partly due to voluntary specification clauses, which are openings for national rules. Above all, stakeholders have reported that national fragmentation exists because national data protection authorities interpret the GDPR's provisions differently, creating legal uncertainty and hindering the free movement of data in the Single Market (European Commission, 2024). The US-

based Future of Privacy Forum notes that some stakeholders cite cases wherein national authorities do not follow the European Data Protection Board (EDPB) guidelines or issue their own guidelines that directly conflict with those of the EDPB (Future of Privacy Forum, 2024).

But the list of rules for the Single Market is characterised by a series of exceptions, minimum requirements, and opportunities for 'gold-plating'. In some Member States, the list of EU laws that are subject to gold-plating is long (Letta, 2024: 125; Fors, 2024).

To address this, Letta proposes gradually phasing out Directives and making Regulations the preferred type of law for establishing binding rules in the internal market. He notes that Regulations are best placed to achieve effective harmonisation of rules and, consequently, to achieve maximum harmonisation coupled with mutual recognition, otherwise known as the 'Delors method' (Letta, 2024: 125). This is a reasonable general principle which, when applied to specific legal requirements, has the potential to ameliorate the lack of coherence in legal requirements and significantly reduce opportunities for gold-plating and introducing nation-specific rules.

EU institutions must match their ambition to increase harmonisation with a commitment to improve the quality of legislative proposals

Market liberals might be concerned that this kind of principle would reduce the scope for countries to adopt better rules at the national level than the European rules. This highlights a key tension in EU policymaking circles between the common EU interest in harmonisation and the interest of individual Member States in establishing a particular type of regulation, similar to the prisoner's dilemma. Overcoming this dilemma is an important task for pro-European liberals. Letta's proposal is a step in that direction.

It can certainly be argued that Directives can help create better national rules and in turn serve as a source of institutional competition between Member States, benefiting the EU as a whole. However, we need to bear in mind what Draghi reveals in his analysis: that the lack of harmonisation *itself* is a key obstacle to competitiveness. Of course there is a trade-off between these two values. In short, from a market-liberal perspective, specific national rules that are better adapted to business conditions may be preferable to a fully harmonised but bureaucratic regulatory framework. This is precisely why EU institutions must match their ambition to increase harmonisation with a commitment to improve the quality of legislative proposals, for example by improving the EC's impact assessments when analysing costs related to new legislative proposals.

This means addressing the inconsistencies between EU legal requirements for businesses. An analysis by the European trade association Business Europe, which Draghi quotes, examined 13 EU laws and found differences in requirements in 29% of cases. One-tenth of the rules in the laws also had outright contradictions (Draghi, 2024: 69). Thus, harmonisation without addressing the lack of quality will be a fruitless enterprise.

Letta asks in his report where these inconsistencies come from, concluding that the problem lies in the EU's unique legislative process. Because the EU institutions' legislative process is based on a search for compromise between three institutions – the so-called trilogue between the European Parliament, the European Commission, and the EU Council – under time pressure, the result is often legislation that reflects the balance of power between the divergent interests of these institutions, rather than the purpose of the law itself. Such legislation lacks coherence and comprehensibility, creating difficulties for businesses that want to comply with the law and ultimately undermining the Single Market.

This raises questions as to whether full harmonisation is even possible without European authorities having interpretative primacy over national authorities, in a somewhat more federal structure. However, while problems of interpretation of Regulations by national authorities remain a basis for fragmentation, the proposal to make Regulation the main rule could at least address part of the problem. Letta's principle should therefore be widely embraced by both Member States and EU institutions, in combination with increased political awareness of the importance of removing opportunities for gold-plating in EU legislation. Here, Member States must keep in mind that the long-term gain from harmonisation outperforms short-term gains for an individual state.

Towards a fully harmonised European business code

If common rules constitute the basis for free competition, it is impossible to ignore the very poor track record of the EU in harmonising company law. But here market liberals disagree with *dirigistes* on the diagnosis.

While *dirigistes* (especially the French) argue for a European codification of company law,[18] market liberals have long argued that competition between different contract law and company law regimes constitutes a form of institutional competition, which is beneficial to the internal market. As we have seen, this argument can be applied to the competition between countries to offer the most advantageous conditions possible. In this way, market liberals justify the positive effects of fragmentation. The question is whether this institutional competition positively outweighs the negative effects of fragmentation, not least for the more innovative sectors.

To illustrate this, we can compare the EU with the US, which has a universal company law, the Uniform Commercial Code (UCC), drafted as early as 1952. Work on the UCC began in 1945, and it was one of the largest codification projects in American legal history, run by two private legal organisations. Consequently, the UCC itself was only a recommendation, which has since been adopted by almost every state (with the exception of Louisiana) through legislation.

Although the UCC partly reflects the somewhat different American legal tradition, it serves as an illustration of how private actors can contribute to the harmonisation of actual legislation, a modus operandi which should encourage European market liberals to do the same. In the EU, by contrast, national company law forms a patchwork quilt, which means that the harmonisation of the internal market cannot be compared to that of the US. In a comparison with the US, harmonising company law on the EU level therefore appears as a fundamental stepping stone for completing the Single Market.

Both Draghi and Letta support the view that a common European company law framework is necessary, an opinion that is also shared by European entrepreneurs. In a 2024 market survey conducted by Eurochambres – a European umbrella organisation of European chambers of commerce – 68% of respondents cited differences in contract law or legal practices in the Single Market as a 'significant' barrier to trade (Letta, 2024: 108). Letta argues that these barriers hit small and medium-sized enterprises (SMEs) hardest, as they lack the legal and technical expertise of large companies to deal with national differences in company law (Letta, 2024: 108). Both Draghi and Letta see the solution in creating a fully harmonised European company law through a so-called 28th regime, that is, a set of rules that companies can choose as an alternative to the internal market's patchwork of different national regulations.

Draghi calls this regime 'Innovative European Company', and Letta 'Simplified European Company'. However, both aim to create a fully harmonised and simplified set of rules on insolvency, labour law, and tax law – to be used by companies that want to rely on a common set of rules and avoid the patchwork of national company law. The feasibility of the proposal can be enhanced by avoiding contradictions between a common European regulatory framework and national regulatory frameworks. It offers businesses a choice regarding which regulatory framework they want to adhere to, while providing a pathway for SMEs to reduce requirements for legal and bureaucratic expertise. In this way, both Draghi's and Letta's chosen methods are profoundly liberal.

For visionary European liberals, a 28th regime is only the first step on the road to achieving a fully harmonised European business code. Such a project will undoubtedly face significant challenges in reconciling the contract law tradition of northern Europe with that of continental Europe, and a fully harmonised code cannot be the reflection of a single country's legal tradition if it is to be widely accepted. But the goal of eventually creating a single legal framework for all company law should be pursued. A bold but by no means unattainable goal should be establishing a fully harmonised company law inspired by the American UCC.

Innovation cluster in defence: Liberal lessons from America's Defense Advanced Research Projects Agency (DARPA)

If removing over-regulation and harmonisation is akin to easing up on the brakes, better research systems would be equivalent to hitting the accelerator in innovation policy. Here, we see outright opposition between market liberals and *dirigistes*. While the latter argue for more ambitious public spending to boost research and development (R&D), including joint debt, the former are hostile to that approach. Instead, market liberals favour improving tax incentives for private funding of new technologies. So, who is right?

Draghi's report suggests doubling the budget for the EU's Horizon programme, but this is a dubious proposal. The EU's total public funding for research, including the budgets of EU institutions and Member States, represents a higher share of GDP than in the US. The difference is that the US has a higher share of private company turnover going into R&D and, therefore, can concentrate its public resources in an industry-focused innovation system for cutting-edge research. In this way, the US has established an innovation system in which public resources complement and leverage the R&D already funded by private resources (Tirole et al., 2024). In contrast, as Draghi shows, Horizon is characterised by a dispersion of resources across too many projects in a system that lacks focus and is overly bureaucratic. Member States can do a lot to incentivise the private sector to boost innovation financing by providing tax breaks linked to innovation and capital (see

proposals on capital markets). However, much of this falls outside EU decision-making competence.

The lowest hanging fruits are, however, to spend the EU's public research funds better. The EU should be cautious about establishing research systems that compete with the private sector in applied research on new technologies. However, there is an area where public funding has always been a central and natural component of technological innovation: the defence sector.

In this context, the EU should seize the opportunity of turning its massive ongoing rearmament into an accelerator of innovation and competitiveness. Better than doubling the Horizon budget, therefore, is another of Draghi's proposals – to create a European DARPA based on the US model. This could be achieved by transforming the EU institution responsible for funding low-maturity breakthrough technologies – the European Innovation Council (EIC) – and providing it with a budget similar to that of its US counterpart (around $6 billion).

DARPA has been a common reference point for pro-European politicians for several years, not least in French policy circles. This has generated a great deal of scepticism and well-founded objections from northern European liberals. Establishing a European DARPA could result in the kind of ineffective industrial policy that we know from historical experience will have negative economic consequences. This is mirrored in the academic debate, where the Italian-American economist Mariana Mazzucato,[19] who argues for a state-governed mission economy that aligns the capitalist model around central state-planned goals, has received harsh criticism from market-liberal economists.[20] However, national-security and military innovation seems to be partly governed by different rules of the game than other civil sectors of innovation; as such, innovation is driven by geopolitical logic and strategic competition between states. Research on the links between technology, states, and war shows that even in the most capitalist economies states are central actors in financing defence innovation, accelerating creative destruction, and investing in new technologies (Chin, 2019). There are also good examples of commercially driven enterprises in civil technologies in Europe. Here, Airbus has been highlighted as a potential blueprint for a similar European enterprise in artificial intelligence (Coyle, 2025). If it is to be successful, a European DARPA must therefore emulate US success and avoid replicating extant inefficient research systems. It should also avoid becoming a frontrunner of a harmful 'entrepreneurial state'. Firstly, a European DARPA should focus on a small number of innovation programmes where it can complement private funding, similar to the US system, namely breakthrough technologies and innovation in the defence sector. The EIC currently lacks such a focus, and in 2023, it spent €159 million on 43 new projects across five domains (Frølund & Murray, 2024).

Secondly, a European DARPA must build on the positive aspects of the US industry-led model – that is, programmes should be managed by experts with a high degree of autonomy and not by EU officials. In the US, this autonomy has enabled DARPA programme managers to identify so-called technology white spots where funding is lacking and prioritise them. This can be contrasted with the EIC, which is based on an institutionalised process of peer review, with strong political consideration of the research programmes' diverse objectives. According to the Danish tech expert Lars Frølund, an EIC board member, this slows down the creative innovation process and could lead to the exclusion of the most innovative technologies or ideas (Frølund & Murray, 2024).

Thirdly, a European DARPA must build on the approach of its US counterpart in terms of establishing strict investment requirements. US DARPA managers have full autonomy to cut off funding to projects that, over time, prove to lack potential. This rather heavy-handed approach is in sharp contrast to the EU funding approach, which, in principle, never suspends funding even if a programme fails to achieve the desired results (Frølund & Murray, 2024).

A European DARPA model based on these market-liberal premises would require a much higher degree of trust from both Member States and EU institutions in the independent decision-making powers of programme managers. This means putting innovative excellence firmly at the centre and moving away from considerations based on geographical balance or political micromanagement.

Let the market choose European Champions

The fourth major reform that highlights the division between market liberalism and geopolitics is reforming the EU's outdated competition law. Here, *dirigistes* see reform as necessary to open the way for state-sponsored 'European Champions' that can compete with their Chinese or American competitors. Market liberals, in contrast, are most often opposed to such a reform, arguing that the state should not create champions, and that current rules prevent the emergence of harmful monopolies on the market, effectively lowering consumer prices.

One can argue that current competition rules ensure that large companies, or cartels, do not exploit a dominant position. These are all reasonable principles in a well-functioning market, of course, and they have enabled the EC to prevent mergers of companies that would have undermined competition in a European market, resulting in higher consumer prices. However, one can also argue (like Draghi) that the EC uses an overly narrow, national context when assessing competition (Draghi, 2024: 35), and that this has become an Achilles' heel for the EU in geopolitical competition with China and the US. This is the case in the telecoms market, which has locked

The EU should seize the opportunity of turning its massive ongoing rearmament into an accelerator of innovation and competitiveness.

the EU into a fragmented patchwork of 34 mobile network operators, often in structures where formerly state-owned companies have cemented a leading position. The result is inefficient corporate structures that make it impossible to mobilise the necessary private resources for European investment in 5G networks (Draghi, 2024: 31). In this way, competition rules are in fact hindering organic consolidation in the market.

Such an environment could create a European market where Chinese and US companies exploit their market leadership, potentially resulting in high economic and political costs for the EU. In the field of technological dependencies, this could result in the use of these dependencies for geopolitical gains. Some Chinese examples of this kind of economic warfare have already been cited. To this, one can add the unofficial ban on exports to Sweden of a special type of graphite used in electric vehicles in 2020 (Sveriges Radio, 2024), or China's economic coercion against Lithuania in 2021 following an upgrade in the country's diplomatic relations with Taiwan, which damaged Lithuania's high-tech laser industry (Cutler & Wester, 2024). Over the last year, this strategy has also been increasingly adopted by the US political leadership, particularly by entrepreneur Elon Musk, a close associate of Donald Trump. Musk's threat to cut off Starlink's satellite connection to Ukrainian units and his aggressive rhetoric against the Polish government, to intimidate these countries and rally support for the Trump administration's foreign policy, are examples (BBC, 2025).

But one can also argue for reforming competition law from a market-liberal standpoint. The Austrian economist Joseph Schumpeter worried that too much competition would reduce the opportunities for companies to make a profit and thus finance R&D.[21] This is partly confirmed by empirical studies, provided that companies are in fact exposed to a preventive threat of 'creative destruction' (Nicholas, 2003: 1054–1055). A prerequisite for maintaining such a 'preventive threat' is, in turn, a functioning market with low thresholds where the states or the EU do not design regulations to favour individual companies. However, what is the most favourable balance between firm consolidation and firm competition remains an open question in the academic debate.

A reasonable path forward is Draghi's proposal to update EC merger guidelines that the Directorate-General for Competition (DG COMP) follows in its decisions. This means allowing mergers in key sectors only if they can present valid reasons for why this would strengthen innovation capacity. Such rules should also consider geopolitical risks and economic security, for example, to eliminate potential costs resulting from geopolitical blackmail, such as the kind we have seen from China instrategic sectors such as raw materials, digital infrastructure, or microchip manufacturing.

It should be clear that such a reformation of EU competition law is not the same as loosening rules on state aid and creating publicly funded European Champions. On the contrary, opening the EU's competition law for organic and market-based consolidation in certain sectors is the direct opposite of such state-funded endeavours. In other words, European liberals should welcome European Champions if they are the result of such a market-based consolidation. As Draghi argues in his report, today, the global context is increasingly the most relevant when applying competition and antitrust principles, not the intra-European one.

A fully European capital market

All proposals from the Draghi Report would be ineffective without the necessary funds. Here, market liberals often argue that the European capital markets must be boosted with lower capital taxes and fewer sustainability rules that constrain capital to certain sectors. *Dirigistes*, in contrast, argue that the private sector will not be enough and that the bulwark of the financing must come from public sources, including more joint European debt to finance investments, a claim that Draghi partially accepts.

Yet the real answer to financing necessary reforms lies in Europe's fragmented capital markets, with 295 national trading venues and disparate regulatory regimes. The fragmentation inhibits cross-border investment, reduces liquidity, and stymies the scale-up of high-growth firms. Draghi's call for a true Capital Markets Union with a single European regulatory body is therefore one of the most transformative proposals in his report, uniting the market-liberal focus on private funding with the scale in dirigiste reasoning.

Europeans save more than Americans, but these funds rarely reach capital markets. Less private capital available in the EU for productive investment has contributed to the innovation problem and to systematically lower investment in R&D compared with the US. Based on the European Central Bank's (ECB) estimate of the potential capital that could be mobilised through smarter savings – €8 trillion (Lagarde, 2024) – we can assume that measures that change the savings behaviour of Europeans could have major long-term positive effects on competitiveness as well. In fact, €8 trillion is about ten times more than the amount Draghi says is needed, mainly

from the public sector, to meet the investment needs. This demonstrates that it is the private sector, not the public, that has the largest potential to raise the necessary funds to finance Draghi's proposals.

Draghi's main reform to achieve this is to transform the European Securities and Markets Authority (ESMA) into the single regulator for European capital markets, with a role similar to that of the US Securities and Exchange Commission. He also proposes a model for ESMA that is inspired by the ECB's Governing Council, which has enforced mechanisms to avoid political interference in governance.

Such a reform would have several favourable effects on capital markets. Firstly, a common regulatory framework would open EU capital markets to a higher degree of market competition, with the potential to increase the number of financial savings products available on the market. Even today, EU capital markets are characterised by national regulations, which reduce cross-border trade in capital. Secondly, a single common regulatory framework has the potential to reduce compliance costs for firms operating in multiple capital markets. This, in turn, is likely to make the EU a more attractive destination for foreign capital.

In this context, it is important to mention that some Member States have already achieved a modern, highly performing capital market.

Unlike the rest of the EU, Sweden has had a capital market with considerable participation from companies, small investors, and venture capitalists for several decades. Sweden holds the European record for the most initial public offerings (IPOs). Over the past ten years, more than 500 companies have been floated on its stock exchange, which is more than in France, Germany, the Netherlands, and Spain combined. The unique Swedish form of broad-based, popular capitalism began in the 1980s with the so-called *Allemansfonderna* and gained further momentum during the 1990s when share ownership became even more widespread.

Over time, the model has evolved and improved, most recently with investment savings accounts (ISKs), which have made it even more attractive for broad sections of society to invest in the stock market owing to favourable taxation and virtually no administrative requirements. The ISK is exempt from tax up to around €15,000. Above this, the investor only pays a yearly flat-rate tax based on the total value of the account amounting to around 0.5–1% of the value of the savings account. In 2026, the ceiling for tax exemption will rise further to around €30,000.

The second part of the Swedish success story that Draghi highlights is its well-functioning pension system. While many European countries are still stuck in a pension system based solely on contributions – called 'pay as you go' – the Swedish system is based to a greater extent on funded savings, for example, the public pension system, wherein 2.5% of pensionable income is allocated to private fund management companies or the state-owned Seventh National Pension Fund in a system with a large degree of freedom for the individual to choose between funds. But more important is the occupational pension (second pillar), which is also to a large degree invested on the Swedish financial markets. This has made a large amount of Swedish pension contributions available to Swedish innovative companies and contributed to an environment conducive to such companies wanting to stay in Sweden and not move abroad. However, Sweden is an exception: in the EU, pension investments account for only 32% of GDP, while they account for 142% in the US and 100% in the UK, which is a remarkable and extreme difference (Draghi, 2024: 64).

With the Swedish example in mind, it is evident that a harmonised regulatory framework would likely spur further modernisation in those Member States that are lagging behind.

In March 2025, the EC took a first step by presenting a strategy for an Investment and Savings Union. It announced that in 2025 it will present a European blueprint based on the most successful models for savings and investment accounts, together with recommendations to Member States for the taxation of such accounts. Such a savings standard would draw lessons from the Swedish ISK model, with flat-rate taxation, zero reporting requirements, and user-friendly and digital trading platforms.

However, making such new savings products available to European savers must be done by banks and financial institutions, not by EU institutions. In this context, it is interesting to observe the new calls for pan-European banks as a way of accomplishing the Capital Markets Union (Edelmann, 2024). This is why the market-based integration of EU capital markets and common regulation through a single regulatory body should be a political priority.

Conclusion

The Draghi Report has undoubtedly injected a large dose of energy to the ongoing debate on European competitiveness. However, for the EU to move the rock of Sisyphus uphill and institute the necessary reforms, it must once and for all overcome the division between liberals to the north and *dirigistes* to the south of Brussels. In other words, we must focus both on the micro and the macro.

In this article, I have argued that this is possible through five key reform proposals from Draghi and Letta. Common to these proposals are that they show how market liberal and more dirigiste forms of policy in fact are not opposed but

intertwined. Many of the macroeconomic goals favoured by the continental *dirigistes* to counteract the increase in geopolitical competition – such as establishing European Champions, the European DARPA, and the Capital Markets Union – can only be successfully achieved by applying market-liberal principles. In the case of European Champions, this would be accomplished by the organic, market-based consolidation process through competition law reform. In the case of a European DARPA, it would be by drawing on the market-oriented lessons from its less statist, and less bureaucratic, American model. And in the case of a European Capital Union, it would be by facilitating creative destruction through opening national capital markets to competition and spreading the modern savings products that are already there.

In the opposite camp, market liberals must overcome their ritual dishonesty and realise that the fragmentation of the Single Market can only be overcome through increased centralisation of market rules. The current regulatory model has failed and created a patchwork of national rules, 'gold-plating', and laws of poor quality. This been a giant blow, for example, to the European tech sector, crucial for European innovation, where opportunities for scaling up are paramount for succeeding globally. Draghi's and Letta's proposals for making regulation the norm on the Single Market and a 28th regime company law are therefore necessary for achieving a dynamic and resilient Single Market and increasing European competitiveness.

All these five policy proposals are not only coherent and mutually reinforcing but also grounded in a pragmatic vision of market liberalism adapted for today's geopolitical realities. Europe does not lack talent, capital, or institutional capacity. What Europe lacks is the political will to overcome its north–south deadlock that hinders necessary reforms to harmonise, to integrate, and to scale up. If European policymakers do that, then we will have leaders who not only 'swear on the Draghi report' but also let it guide them in their concrete policy actions.

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ARTICLE

Innovation in the Shadow of Regulation

Removing the Barriers

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Citation suggestion: Constantinos Saravakos & Christos Loukas, CS & CL (2026). Innovation in the Shadow of Regulation: Removing the Barriers. *Future Europe*, 7(1), 55–65.

Abstract

This article engages with a central dilemma highlighted in the Draghi Report on European competitiveness: how to protect innovation while avoiding regulatory overreach. While the report accurately identifies market fragmentation and excessive regulation as key obstacles, it stops short of offering a coherent deregulation roadmap. This article addresses that gap by advancing a policy vision grounded in institutional streamlining and market-compatible safeguards, arguing that the EU must shift towards a more innovation-conducive framework that dismantles unnecessary regulatory constraints on entrepreneurial freedom, voluntary exchange, and capital formation. The article proposes a liberalisation agenda to enable dynamic scaling and competitiveness, emphasising procedural safeguards, post-merger innovation benchmarks, and enhanced legal clarity.

Introduction: The battle between regulatory fairness and effectiveness

The current pursuit of global competitiveness in Europe seems to be colliding with a deeply rooted regulatory culture. As international rivals scale and invest rapidly in innovation, the European Union faces a dual challenge: preserving market fairness through regulations, the effectiveness of which is debatable (Shefrin & Statman, 1993; Schwartz, 2010), while enabling firms to grow, adapt, and lead technologically.

Regulations, although designed to preserve market fairness, often walk a tightrope between market fairness and economic efficiency. This debate on the fairness–efficiency dichotomy is particularly relevant in the EU's attempts to ensure a level playing field while at the same time seeking to promote innovation, investment, and growth.[22] On one side is the need for the market economy to grow and flourish; on the other is the need to maintain a level of state oversight to ensure fair development. This tension has led EU institutions to produce a large body of complex legislation. This legislation not only impacts the EU's legal framework but also shapes the legal systems of Member States through Regulations, which have immediate legal effect, and Directives, which have indirect effects that are often amplified by gold-plating. This regulatory extension has resulted in 'rules without end', which need to be reduced and improved in quality (Guinea & du Roy, 2024). At the same time, it has produced 'regulations that shape the global business environment', making the EU a leading actor in setting global market standards (Bradford, 2020).

However, regulations that intervene frequently and deeply in markets – often in the name of fairness – can produce various forms of economic inefficiency. The literature has explored the effects of regulatory fairness on economic efficiency. Coffee (1987) examined how regulatory strategies that aim for fairness are often compromised by the practical need to ensure procedural efficiency, showing that even well-intentioned fairness mechanisms can lead to contentious trade-offs. Trebilcock and Howse (1998) argue that efforts to reconcile fairness with competitive trade policies across jurisdictions face significant regulatory complexity, highlighting the difficulty of harmonising fairness in global markets. This trade-off lies at the heart of the EU's current policy dilemma: how to foster competitiveness without undermining fairness. Initiatives such as the Competitiveness Check and the Better Regulation Agenda reflect efforts to recalibrate this balance.

Nevertheless, the attempt to regulate and grow at the same time has led to the well-documented phenomenon of *overregulation* in the EU,[23] a symptom of regulatory culture. This overregulation is also accompanied by market fragmentation and rigid competition rules, which risk stifling entrepreneurial ambition and hindering the emergence of firms capable of operating at scale. At the same time, calls to relax these rules raise legitimate concerns about entrenching dominant players and weakening consumer protections. Balancing these priorities, namely encouraging innovation without sliding into protectionism or complacency, is now central to the EU's economic agenda. In this article, we aim to critically examine the regulatory tensions outlined in the Draghi Report, particularly how to promote innovation and scale without compromising the principles of competition and consumer welfare. To this end, we first examine how financial rigidity has restricted cross-border capital flows and investment for enterprises, as well as how fragmentation and overregulation, in the telecoms and digital sectors, have constrained firm growth by creating barriers to scale through excessive red tape and rigid competition law. Second, we evaluate how current content regulation and delegated enforcement mechanisms under the Digital Services Act risk deepening market fragmentation and disadvantaging smaller actors. Third, we explore the institutional role of national competition authorities (NCAs), proposing a shift towards more flexible, coordinated enforcement to avoid legal asymmetry and duplication. Finally, we offer a comprehensive analysis of the Draghi Report's approach to EU merger control, and we discuss potential formulas to enable innovation and scaling while protecting against regulatory capture and the entrenchment of complacent oligopolies.

Institutional barriers to innovation: Fragmented markets, rigid finance, and regulatory overreach

Financial rigidity and the failure of capital market integration

In 2015 the EU launched the Capital Markets Union (CMU) initiative in response to the long-standing weaknesses faced in the European capital market. The CMU aimed to reduce businesses' reliance on bank financing and to create a true Single Market for raising capital, which would allow firms, namely small and medium-sized (innovative) enterprises (SMEs), to access financing from investors anywhere within the EU (Moloney, 2016). In theory, the CMU mechanism should both boost economic convergence and market resilience and enhance the transmission of innovation for start-ups that require equity financing (Allen & Pastor, 2019). However, the CMU's theoretical design differs significantly from its practical implementation. Multiple institutional barriers have created regulatory rigidity and restricted cross-border capital flows. Three main factors have contributed to this result: a) according to Véron and Wolff (2016), the disproportionate tax treatment between equity and debt capital encourages debt financing; b) the lack of depth in national capital markets, even in countries such as Germany, prevents the creation of strong secondary markets for new innovative firms (Bhatia et al., 2019); and c) the inefficiency of European pension funds, which rarely invest in equity or venture capital, limits the availability of long-term financial capital (Allen & Pastor, 2019).

The latest figures on EU venture capital investment are disappointing: as a percentage of GDP, it is estimated to be ten times smaller than in the US and seven times smaller than in China (European Commission, 2025). Innovative and fast-growing companies often fail to expand due to risks related to venture capital investments and are therefore forced to either relocate or remain trapped due to limited

access to capital. To address these capital flow inefficiencies, the Draghi Report (2024) proposes a series of interventions which target harmonising tax systems to attract investment; strengthening pension schemes via robust funded systems, which can incentivise investment in innovation; and creating European platforms for raising capital. In a similar vein, Philippe et al. (2025) underline the importance of simplifying rules and enhancing transparency so that the CMU becomes a supporting institutional scheme for firms to raise capital.

Fragmented markets and the costs of overregulation

Drawing on recommendations from the Draghi Report and recent EU legislation, such as the Digital Markets Act (DMA), the Digital Services Act (DSA), and state aid frameworks, the dual challenge that the EU faces becomes clear: cutting red tape where it is not needed, and removing barriers that prevent voluntary scaling, investment, and cross-border competition. Addressing the fragmentation of the Single Market, by removing cross-border regulatory barriers, limiting national gold-plating, and eliminating ring-fencing, could become the key drivers to reactivating spontaneous market coordination, lowering entry barriers, and unlocking entrepreneurial freedom across the EU (Letta, 2024).

The cost of regulatory burdens in the EU remains high, although the Single Market was designed to lower such barriers and improve the ease of doing business. Processes and national checks, such as licensing and staff qualification permits among others, can severely delay and hinder investments; the Single Market is not as single as it was originally designed to be. Garicano (2025) identifies three main reasons for the EU's market fragmentation: a) mutual recognition between EU Member States often breaks down in implementation; b) EU Directives fall short of fully harmonising national legislation across Member States; and c) the European Commission has not adequately enforced the rules underpinning the Single Market. The first issue reflects domestic regulatory obstruction of the principle that products can be sold in every EU Member State if they are sold legally in the Member State of origin – with a few legitimate exceptions. The second highlights gold-plating and multiplying barriers which derive from a single regulation that in principle was designed to

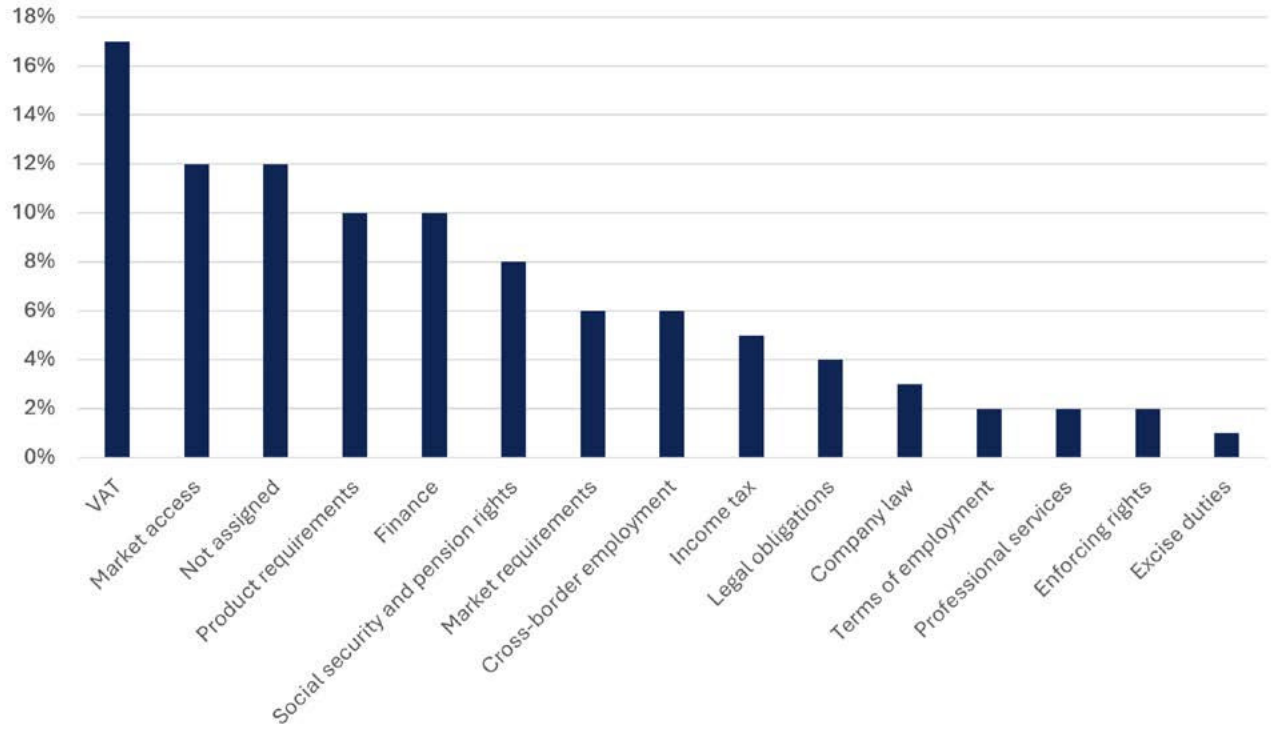

Figure 1. Figure 1. Percentage of top 15 categories of reported barriers
Source: European Commission (2025).

repeal domestic overregulation – the AI Act is an example. The third points to weak supranational EU law enforcement, as compliance delays have increased significantly.

This fragmentation, which derives from a combination of regulatory and administrative barriers, mostly hinders the development of SMEs. The recent SME Relief Package aimed to reduce these burdens by an ambitious target of 25%. According to the Annual Single Market and Competitiveness Report by the European Commission (2025),[24] the key regulatory obstacles facing firms range from restrictions on access to regulated professions and limitations on which entities are authorised to provide services, to inconsistencies in employment and tax legislation across Member States. Regarding the administrative burdens, detailed reporting obligations for posted workers and the certification of social security coverage pose significant challenges to enterprises. Finally, the complexity of company law and the lack of harmonisation among national rules for establishing new businesses or registering subsidiaries continue to hinder service providers that rely on physical proximity to their clients (Figure 1).

Flexible instruments, such as regulatory sandboxes, simplified merger guidelines, and cross-border coordination mechanisms, are not only administrative tweaks but also key tools to reduce uncertainty and unlock innovation in complex, high-growth sectors.

A classic example of fragmentation and barriers to economies of scale is the telecommunications market. Since the 1990s, the Common Market has transitioned from an oligopoly of state companies into a competitive and dynamic market comprising private firms. The benefits of competition, which kept prices low, were seen as an achievement for EU consumers, with North America lagging behind on that front (Marques & Portuese, 2023). The situation today is different in respect of technological development: the European telecom companies are incapable of investing in edge technology because they face low profitability as their products become commodities (PwC, 2024). In 5G deployment, for example, the EU has lagged both the US and several Asian countries. Marques and Portuese (2023) argue that there are three main reasons for this: inefficient taxation, anti-growth competition law, and a deficit of savings. The authors support this claim by stating that production taxes net of subsidies constitute about 1% of telecoms revenues – twice as much as in other markets. In Germany, for example, Deutsche Telekom faces an average corporate tax rate of 37%, compared with 28% for other large German companies. Excessive taxation is thus an obstacle to network investment.

Another significant obstacle is the current competition law. With a population of 445 million, the EU has approximately 40 mobile providers. In contrast, the US has just three major providers for a population of 332 million. This fragmentation has resulted in an average return on equity (RoE) in the EU telecoms sector of 10.6% (2002–2022) compared with 14.2% globally and 19.4% in the US (Marques & Portuese, 2023). Still, the average capital intensity of Western European telecom operators, measured as capital expenditures (CapEx) as a percentage of total revenues, was 19–20% (Larsen, 2024), close to that of the US (17–18%) in 2022–2023 (Yahoo Finance, 2024). This indicative comparison reveals that EU operators are proportionally reinvesting more of their revenues into infrastructure than their US counterparts, despite operating in a more fragmented market and under tighter regulatory constraints, whereas in the US, profitability is higher but is not reinvested at the same rate, reflected in stronger RoE rather than infrastructure spending. Nevertheless, the EU investment does not translate into better network infrastructure or innovation outcomes,[25] and the reason for this may be structural inefficiencies such as duplicated infrastructure, lower average revenue per user (ARPU) levels,[26] and heavier regulatory or tax burdens. At the same time, Meyers (2024) argues that telecoms in the EU constitutes a well-functioning market, where innovation is based mostly in slow-moving international initiatives. These two conflicting perspectives on the telecom sector suggest that telecoms in the EU operate within a structurally constrained environment, one where high reinvestment coexists with modest innovation gains. This constrained environment can be partly attributed to the institutional complexity and multilevel governance of the EU, which prioritises coordination and stability, ensuring lower prices for consumers, over a model of rapid, market-driven innovation with more expensive products and services.

A final barrier is the EU's low total market value of shares for listed companies (market capitalisation), which accounts for one-third of the respective figures for the US (€10.4 and €38 trillion, respectively) (Day, 2023). The EU's capitalisation-to-GDP ratio stands at 70%, compared with the OECD average of 147%. France, the highest EU performer, achieves only 106% (Marques & Portuese, 2023). The primary reason for this is the underdevelopment of retirement funds, which elsewhere help channel savings into innovation.

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Digital regulation and the paradox of control: Innovation at the mercy of fragmented governance

Conflicting mandates in the Digital Services Act and Digital Markets Act

Of particular significance are the threats posed by fragmented and discretionary regulatory interventions, including extraterritorial content regulation, over-removal of content through delegated enforcement,[27] and punitive tax policies that distort price signals and suppress capital formation.

The DSA allows national governments to establish 'administrative authorities' with the aim of flagging illegal content, and these will also be able to impose their rulings on other EU countries. If a company (or user) in one EU country has their content removed due to a decision made by a 'trusted flagger' or authority in another Member State, then the DSA requires them to seek redress through the appropriate authority in the latter country. This requirement creates several challenges, as users (individuals or SMEs) must pursue foreign legal procedures and face potentially hostile regulatory environments, raising concerns about access to justice and procedural fairness across the Single Market.[28] This mechanism for filtering out content raises a twofold concern by giving an excess of power to flaggers and establishing a troublesome process for challenging unfair rulings (Barczentewicz, 2024).

If a company or an individual considers their content to have been unfairly flagged, they must take their complaint to the administrative authority, which, given that it chose to side with the flagger in the first step of the procedure, may be unwilling to change its verdict. From here there are two routes forward: accept the unfair ruling and move on or take it to the courts. The latter option is usually unavailable to individuals or SMEs that cannot afford the legal expenses. Despite the DMA's stated aim being to regulate big technology firms, this decision poses an unfair disadvantage to smaller actors in the sector (Azguridienė & Bakula, 2024; Husovec, 2021).

Additionally, the goals of these two pieces of legislation seem to conflict. The DMA aims to centralise control of regulation in the tech sector to avoid market fragmentation and strengthen the Single Market. By turning digital platforms into 'gatekeepers' and subjecting them to a uniform set of ex ante obligations (prohibiting self-preferencing, ensuring data portability), they allow interoperability. The rules are enforced exclusively by the European Commission and not domestically by Member States, to prevent regulatory fragmentation and ensure a harmonised legal framework across the Single Market. At the same time, the DSA gives discretion to national authorities to take down ('flag') whatever content they deem to violate the law or the platform's guidelines, with little room for creators to fight back if they think they have been treated unfairly. The first Act pushes for more central control whereas the second pushes for less, and this apparent conflict is difficult to explain. Perhaps it stems from factors related to politics more than economics. When such institutional inconsistency occurs, it often risks reinforcing fragmentation of the Single Market, encouraging divergent enforcement practices across Member States, and creating legal uncertainty. Moreover, it can increase the compliance burden for firms operating across borders, raising barriers to scale and weakening the EU's digital competitiveness.

The role of NCAs: Coordination or fragmentation?

Regarding national competition authorities, too, it is important to examine how they can limit regulatory sprawl and decentralise enforcement while avoiding legal fragmentation. This article, in arguing that innovation and regulation are not necessarily at loggerheads, offers a model of 'regulatory transformation' based on the ideals of legal certainty, institutional prudence, and openness to market-led experimentation. Flexible instruments, such as regulatory sandboxes, simplified merger guidelines, and cross-border coordination mechanisms, are not only administrative tweaks but also key tools to reduce uncertainty and unlock innovation in complex, high-growth sectors. Regulatory sandboxes allow for the development of new business models for start-ups and scale-ups, under regulatory supervision, without directly imposing full compliance burdens. This process can rapidly boost evolving sectors such as fintech and digital health. In addition, improved coordination among domestic authorities would help prevent legal conflicts and delayed market access for cross-border innovators. The shift in the rigid regulatory framework can be achieved, via such an adaptive, innovation-enabling framework, in sectors where Europe is found to be falling behind the US and Asia in scale, investment, and competitiveness. To unlock such reforms, measures are needed to determine whether politics is aligned with economic priorities. To this end, a 'Competitiveness First' agenda could add a binding ex ante competitiveness check as a requirement for major EU legislation and its ex post evaluation, removing burdens identified as major obstacles. Aligning regulatory streamlining produced by politicians with widely supported EU goals recommended by experts, such as green innovation or digital sovereignty, could help build the consensus needed to overcome institutional inertia.

For a company to attain the status of gatekeeper, it needs to have a significant influence on the EU internal market, maintain an entrenched position, and act as a bridge connecting business users with end users. Quantitatively, the Commission has spelled out the following criteria: 1) the company had an annual turnover in the European Economic Area above €7.5 billion in each of the last three financial years in at least three Member States; 2) the company operates a core platform

service (CPS) with more than 45 million monthly active end users and 10,000 active business users yearly; and 3) the company met the second criteria for the last three financial years (Grant Thornton, 2024).

Two issues immediately arise. Firstly, incentives to innovate and increase the consumer base are decreased, since taking full advantage of economies of scale can lead to a company being more closely monitored by antitrust authorities. Furthermore, resources that could otherwise be spent on research and development (R&D) or other productive activities will be redirected towards compliance in order to stay within the tight legal framework. Secondly, it is assumed that by strangling large enterprises, more SMEs will be able to innovate and grow. This is not necessarily the case. Some SMEs take advantage of the economies of scale provided by larger firms, and it is likely that only a handful of them will benefit while the majority will be negatively impacted. By only looking at the small number of new technology firms that may or may not pop up, not enough attention is paid to the many non-technology-related SMEs that will lose from this arrangement. For example, if Google is not allowed to promote its services to quickly identify nearby restaurants, then independent restaurants will not be easy to find, consumers will have trouble finding a place to eat, and chain restaurants that are more well known will be easier to track.

Given these difficulties, there is an important role to be played by NCAs. Their prior experience and swiftness to act can be useful in a transition period, until compliance rates on competition rules are significantly higher and a more centralised form of regulation is in place. They could be used for emergency situations and, when actions need to be taken against gatekeepers, act only in coordination at the EU level in order not to fracture the Single Market (Santacruz & Stagnaro, 2024). Certainly, not all competition authorities are equally competent or well equipped to deal with digital regulation, and for this reason cross-border cooperation is essential.

Despite the recommendation for more collaboration between NCAs, any strengthening of excessive independence of these authorities should be avoided. Although in theory this could enhance regulatory efficiency, in practice such institutional expansion could lead to the overlapping of their powers with those of the DMA, DSA, and Digital Governance and, in the absence of clear jurisdictional boundaries, questions would inevitably arise over which authority has ultimate responsibility for market regulation, a problem that inconsistent enforcement would further exacerbate.

Mergers that create stable, dominant players can, over time, lead to market complacency, reduced innovation, and diminished consumer welfare, hallmarks of what economists refer to as 'lazy oligopolies'.

Merger policy in an age of innovation: Balancing scale, competition, and strategic autonomy

Scaling without entrenchment: Rethinking EU merger control

The main legislative framework regulating business concentrations within the EU is Regulation (EC) No. 139/2004, commonly referred to as the EU Merger Regulation (EUMR). The regulation establishes quantitative thresholds, which are based on revenue and market share, that determine whether a proposed merger requires notification and approval by the European Commission's Directorate-General for Competition (DG COMP) (Council of the European Union, 2004). The shift from the 'dominance' test to the significant impediment to effective competition (SIEC) test under the EUMR marks a significant change in EU merger control, as it broadens the scope of what counts as anti-competitive if no dominant position emerges (Jones & Sufrin, 2016).

In support of this regulatory framework, the Commission has issued interpretative guidelines, most notably on horizontal and non-horizontal mergers, which outline the primary 'theories of harm' considered during merger assessments. These include unilateral effects (where the merged firm gains power to act independently of competitors), coordinated effects (where the merger facilitates tacit collusion among remaining

firms), and foreclosure (where rivals are denied access to key markets or inputs). These theories of harm guide how the Commission evaluates market dynamics, entry barriers, and claimed efficiencies, particularly under the SIEC test framework introduced in 2004 (Whish & Bailey, 2018). The legislative texts and guidance are publicly available through EUR-Lex,[29] and academic commentary such as that published in the *Oxford Journal of European Competition Law* offers critical perspectives on their application.[30]

The Draghi Report from 2024 highlights critical concerns about the potential rigidity of current EU merger rules. The report argues that stringent application of competition law may inadvertently stifle the creation of so-called European Champions, firms with sufficient scale and integration to compete globally with dominant US and Chinese corporations.

To address this, the report advocates for the adoption of an 'innovation defence'. The EU could allow mergers that enhance investment in R&D, although they could result in a temporary decline in competition metrics (Cleary Gottlieb, 2025). This rationale aligns with a broader policy shift which recognises dynamic efficiency and long-term innovation as vital components of competitive markets.

Moreover, the report recommends blending ex ante merger controls with robust ex post assessments, a hybrid model that would permit conditional approvals, contingent upon post-merger performance in innovation and consumer welfare. Such an approach is consistent with calls from both academic and policy circles for more adaptive regulatory mechanisms, particularly in fast-evolving industries such as technology and biotech (Cleary Gottlieb, 2025; European Commission – Competition Policy, 2025).

Navigating the trade-off: Scale versus lazy oligopolies

The current policy debate is focused on how to navigate the trade-off between enabling economies of scale and guarding against the emergence of 'lazy oligopolies'. On the one hand, large firms can be significantly more efficient, through channels such as integrated supply chains, increased R&D capacity, and global market reach that are crucial in industries marked by high fixed costs and technological intensity. On the other hand, excessive concentration can dampen competitive incentives, leading to reduced pressure to innovate or improve productivity once market dominance is achieved.

This concern is vividly illustrated in academic and policy debates on dynamic competition. Mergers that create stable, dominant players can, over time, lead to market complacency, reduced innovation, and diminished consumer welfare, hallmarks of what economists refer to as 'lazy oligopolies' (Stigler Center, 2023). Therefore, designing frameworks that incentivise efficiency without sacrificing market dynamism is the real challenge for regulators.

In this context, merger review must operate not merely as a legal threshold exercise, but as a strategic economic assessment, which could balance short-term gains with long-term sectoral health. Adaptive tools such as conditional approvals, innovation benchmarks, and post-merger audits, as proposed in the Draghi Report, are crucial to addressing this delicate balance in modern competition policy.

The Draghi Report calls for a looser merger policy (not to be revised in isolation, however, but to include some safeguards), a streamlined EU-level review, and a more dynamic focus on R&D, which indicates greater efficiency (Killick et al., 2024). This change is driven mainly by the argument that since the EU lags in innovation, companies should be able to consolidate in order to expand, innovate, and be able to compete outside the EU, even if this means higher prices for consumers for now. This drawback is expected to be offset by future innovative products.

Nevertheless, this vision also risks politicising competition policy by legitimising the so-called European Champions under the notion of resilience. The weakening of competition enforcement cannot contribute to a boost in EU competitiveness, simply because competition policy is not the ultimate cause of the EU's innovation gap or investment shortages.[31] If competition enforcement is severely relaxed, there is a danger that competition law will become a vehicle for state-sponsored consolidation, allowing EU or domestic government institutions to favour specific enterprises under the guise of competitiveness. This opens the door for less efficient firms to seek state support and regulatory shelter rather than market discipline. To address this, a more robust institutional equilibrium that preserves the autonomy and impartiality of competition enforcement is required. A first measure could be a post-merger mechanism, where a merger should be subject to mandatory and transparent economic impact reports, which would also include long-term consumer welfare and innovation effects. A second measure could institutionally insulate the European Commission's DG COMP from broader political pressures by following advice from a body of independent economists and legal experts, whose assessments would be made public and would in part be binding (with a certain formula where DG COMP could still freely decide).

In order to navigate the trade-off between enabling economies of scale and preventing the entrenchment of lazy oligopolies, a market-compatible approach could strike a tight balance: an innovation-constrained merger review model, where innovation defences must be supported by verifiable evidence (i.e., specific R&D investment commitments), regulatory transparency is strengthened through public disclosure

and audits (i.e., public access to non-confidential versions of economic models), and consumer welfare remains at the epicentre of such decision-making. This would ensure lower prices, freedom of choice, and quality for consumers. This approach aims to preserve dynamic efficiency without compromising competition or enabling unchecked consolidation.

To restore Europe's competitiveness, the EU must move away from a reactive and interventionist model of regulation towards a more balanced institutional framework – one that protects entrepreneurial freedom, encourages decentralised problem-solving, and aligns regulation with real market dynamics.

Draghi's policy proposals reflect a growing consensus that the EU must adjust its competition framework to better respond to industrial pressures coming mostly from the US and China. Embedding R&D considerations and strategic autonomy into the assessment of merger policy introduces a highly subjective criterion into antitrust action. Examples such as the blocking of the Siemens–Alstom merger showcase the difficulty between balancing long-term innovation with short-term market contestability. This particular merger was prohibited by the Commission due to concerns over reduced competition in rail signalling and high-speed trains, while its supporters argued that the merger was vital to creating a European Champion capable of competing globally, especially against China's CRRC (European Commission, 2019). This case shows that there are risks associated with weakening merger standards. Short-term loss of market contestability might not be compensated by long-term innovation gains unless they are backed by firm, evidence-based commitments which will not be reversed in the future.

Promoting European Champions to boost the industrial output of the EU may pave the way for protectionist measures that will undermine market competition in the long run. It is important that resilience and international competitiveness do not become excuses for tariffs, subsidies to artificially lower prices and boost output or impose high entry barriers to other firms trying to operate in the same markets as the Champions. Furthermore, it may lead to an antitrust policy that is too relaxed and allows European Champions to acquire or merge with any company with little to no supervision under the pretence of boosting competitiveness.

To operationalise Draghi's vision without the sacrifice of competition law or the commitment to free trade, it is essential to maintain certain procedural safeguards. Judicial review and oversight bodies can guarantee that industrial policy does not tread on the principles of free competition. Currently, the General Court and the Court of Justice of the EU assess, in certain cases, whether state aid measures or mergers violate Articles 101–109 of the Treaty on the Functioning of the European Union. Such bodies can evaluate, through legal scrutiny, whether interventions genuinely address market failures or instead disproportionately distort competition, and rule accordingly, ensuring fair competition against protectionist excesses. Furthermore, the European Commission should have a firm commitment to protect consumer welfare based on notions not of static but of dynamic efficiency by trying to see not only the current distribution of market power but also the future potential benefits in areas such as innovation and product diversification. The shift towards a more innovation-friendly merger framework needs to be accompanied by a robust ex post enforcement programme by the EU bodies. Firms should not be granted a free pass to do whatever they wish based on the possibility that they may in the future provide some vague sort of innovation; rather, a series of predefined benchmarks will have to be clearly demonstrated, and in case they are not met without a valid reason, such vis maior, corrective actions will be taken.

Conclusions and policy pathways

To restore Europe's competitiveness, the EU must move away from a reactive and interventionist model of regulation towards a more balanced institutional framework – one that protects entrepreneurial freedom, encourages decentralised problem-solving, and aligns regulation with real market dynamics. This does not mean abandoning oversight, but rather recalibrating it to support the economic processes that drive innovation and productivity. A more adaptive approach must ensure that firms can scale efficiently and compete globally, without solidifying dominant positions or distorting consumer outcomes.

The challenge is to find a careful balance that allows large firms to develop and exploit economies of scale while maintaining oversight of them so that markets do not become too concentrated and complacency and market ossification do not set in. This takes some discipline in regulation design but also confidence in the ability of the market to self-correct.

Although content moderation is already the norm for platforms, the status quo enforcement introduces gratuitous legal asymmetry and privileges larger incumbents with more compliance resources. A smarter approach would be to streamline instead of multiplying the levers of regulation.

These challenges stem from a broader European regulatory mindset that treats markets as static entities which need to be managed, rather than dynamic systems of discovery and adaptation which need to be overseen. As long as EU policymaking continues to be guided by an anti-competitive reflex and a distrust of market forces, similar regulatory frictions will continue to appear across sectors.

To support a modest but effective deregulation agenda, a few practical reforms can boost the EU's regulatory framework without abandoning its commitment to market oversight. Firstly, merger review processes should be streamlined by incorporating post-merger innovation benchmarks, allowing conditional approvals based on firms meeting clear R&D or consumer welfare goals. This approach would maintain accountability mechanisms and at the same time encourage investment and scaling. In the same vein, a rebalancing should be pursued in content moderation under the DSA, by placing the (bare minimum) burden of moderation primarily on platforms themselves, where it already exists to some extent, and by improving transparency and redress mechanisms. This would reduce legal asymmetries across borders and mitigate the risks of politically motivated censorship. The role of NCAs should also be clarified, focusing them on coordination and rapid response rather than parallel enforcement, to avoid unnecessary fragmentation of the Single Market. The use of regulatory sandboxes should be encouraged, and pilot schemes would give firms the ability to test innovations under lighter regulatory conditions, generating a real-world feedback mechanism and leading to more responsive policymaking. Finally, reforms to deepen European capital markets, through more active use of pension funds and retail investment tools, could help redirect domestic savings towards innovation, reducing reliance on state aid. We should note that these reforms are not about deregulation for its own sake, but about refining and realigning regulation to work with, rather than against, the entrepreneurial and competitive forces Europe needs to thrive in an era of intensified competition and free market retrenchment. Each of these steps seeks to favour flexibility over rigidity, discretion over doctrine, and evidence-based policymaking over ideology. This blueprint of a liberalisation agenda, which is modest in ambition but potentially transformative in outcome, reinforces Europe's capacity to compete, innovate, and grow without surrendering the core values of its Single Market.

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ARTICLE

Europe's Long-Term Capital

Insufficient Funding for Innovation

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Citation suggestion: Nicolas Marques & Cécile Philippe, NM & CP (2026). Europe's Long-Term Capital: Insufficient Funding for Innovation. *Future Europe*, 7(1), 66–79.

Abstract

Europe is economically falling behind, and without structural reforms it will be impossible to recover lost ground. Although the scale of Europe's decline is widely acknowledged, and the importance of savings is frequently emphasised, the long-term savings gap is frequently underestimated. Europe suffers from two major deficits – underdeveloped retirement savings and low stock market capitalisation. While unifying markets is desirable, and financial and insurance regulations should be made more flexible to encourage investment equity, these approaches alone cannot compensate for the significant decline in European long-term capital investments. Only the widespread introduction of defined contribution pension funds in European countries where they are currently lacking will significantly enhance economic financing, improve pension value for money, and help reduce public deficits.

Introduction: Is Europe's long-term savings deficit limited to €300 billion annually?

Can Europe catch up with the action plans introduced by the European Commission and various national governments that aim to better reallocate savings towards financing productive investments?

The answer remains uncertain. Without structural reforms, recovering lost ground may prove impossible. Although the extent of Europe's decline is undisputed, and the importance of savings is frequently discussed, there is a real risk that the European response will fall far short of what is needed – primarily due to misjudgement of the true scale of the long-term savings gap. According to Enrico Letta, former prime minister of Italy, €300 billion of European savings are diverted abroad each year, mainly to the US. That is money that could have otherwise supported the development of companies within the European Union. The reason for this diversion of funds, Letta argues, is the fragmentation of Europe's capital markets and financial system (Letta, 2024). In just a few months, this number – €300 billion – has become central to discussions among central bankers and EU representatives.

Given Europe's economic challenges, this claim of an annual €300 billion in transfers to the US – echoed by several European leaders – may be significantly underestimated, even anecdotal. For example, the Draghi Report estimates that additional investment needs in the EU will exceed €750 billion per year between 2025 and 2030, including €450 billion for the energy transition and nearly €300 billion annually to close the digital and productivity gaps (Draghi, 2024).[32] The EU's rearmament requirements are estimated to come to €800 billion over several years (European Commission, 2025b:). In addition, there are national projects, such as the revival of the French nuclear industry, estimated at €80 billion (Sapy, 2025: 13), and the modernisation of German infrastructure, estimated at €500 billion (Grasland, 2025).

Many explanations have been given for this lack investment at the EU level, which is particularly visible in Europe's 'failure to capitalise on the first digital revolution led by the internet – both in terms of generating new tech companies and diffusing digital tech into the economy'.

In the EU Compass to Regain Competitiveness and Secure Sustainable Prosperity, the European Commission highlights the importance of finding ways to better finance competitiveness (European Commission, 2025a). It emphasises that 'the EU lacks an efficient capital market that turns savings into investments'. To address this, it plans to introduce a 'European Savings and Investments Union to create new savings and investment products, provide incentives for risk capital, and ensure investments flow seamlessly across the EU'. According to the Commission, a financial union could unlock an additional €470 billion in private investment annually (Moller-Nielsen, 2025).

However, this approach is likely to fall short of what is needed, as it underestimates the challenges involved. As this article demonstrates, the actual long-term savings gap is unrelated to the figures commonly cited. Redirecting long-term savings – to repatriate them from the US – or improving the Capital Markets Union are marginal responses that do not address the underlying problem: the lack of savings in European countries without pension funds.

Insufficient funding for innovation in Europe

The lack of European leadership in innovative technologies has become a defining characteristic of the continent's economic and industrial landscape. Europe's industry appears to be caught in a middle-technology trap, exhibiting a significant divergence from that of the US (Fuest et al., 2024a, 68).

While both continents were still heavily invested in the automotive industry in 2003, their paths have since diverged. The technology sector dominates research and development (R&D) in the US, while Europe continues to rely on the automotive industry. Nearly 25 years later, the automotive sector still accounts for the lion's share of R&D in Germany, whereas in the US, the automotive and pharmaceutical sectors have been largely supplanted by the industries of the new industrial revolution, namely information and communication technologies (ICTs).

Europe remains focused on traditional sectors, which are undergoing significant technological transformation; however, European industry is

failing to take the lead. The continent is struggling to drive innovation in sectors with the highest potential for added value. Europe lags particularly in software development, where US companies account for 75% of the global total, compared with 6% for the EU (Fuest et al., 2024b).

The report by the former president of the European Central Bank (ECB) on the future of competitiveness in Europe (Draghi, 2024) comes to the same conclusion when it highlights the lack of growth in Europe compared with the US over the past 20 years. Growth is linked to production, which in turn depends on the total workforce and the number of hours worked. On both counts, Europe is lagging, with lower population growth and fewer hours worked. What is striking is the productivity gap between Europe and the US since 2000. As historian and economic expert Adam Tooze explains, '[w]hen we seek to explain labour productivity, one obvious place to look is investment. Workers equipped with more capital tend to be more productive' (Tooze, 2024).

At the macroeconomic level, investment is not at the scale needed to meet the challenges of productivity and growth. This seems to be largely due to lower corporate R&D investment in Europe, which, according to the OECD, stands at just 1.2% of GDP, compared with 2.4% in the US (OECD, 2025b). And yet, in 2002, Europe set itself the target of achieving a level of investment equivalent to 3% of GDP, a threshold it has never managed to reach.[33]

Many explanations have been given for this lack investment at the EU level, which is particularly visible in Europe's 'failure to capitalise on the first digital revolution led by the internet – both in terms of generating new tech companies and diffusing digital tech into the economy' (Draghi, 2024).

According to many analysts, business creation and development in Europe are hampered by market fragmentation, venture capital constraints, and insufficient support for innovation. It is the Commission's view that 'European start-ups have a hard time expanding within the Single Market because of persisting regulatory barriers' (Commission européenne, 2025). It also points out that they have less access to venture capital and other forms of capital than their US counterparts: the share of global venture capital funds raised in the EU is just 5%, compared with 52% in the US and 4% in China in 2023, according to the European Investment Bank (Fratto et al., 2024).

For the Commission, these two factors are mutually reinforcing: the lower growth prospects of European start-ups and the complexity of the applicable rules make them less attractive to investors. As a result, many of them seek financing in the US and set up there to benefit from a larger market and customer base.

Europe's shortfall in long-term capital for global competitiveness

The success of Great Britain, France, and Germany in the first industrial revolution is historically linked to the existence of a significant stock of savings, which were drained for the benefit of infrastructure (canals, railroads, etc.) and industry. This draining was initially carried out by notaries, at the heart of the capital market, before the development of banks, stock exchanges, and then the rise of savings from the middle or even working classes (in the form of savings banks, retirement savings from friendly societies, or mutual aid societies). The abundance of savings enabled and amplified the growth of the years 1890–1914, marked by the rise of the chemical, electrical, automotive industries, and then the aeronautics industry.

The Second World War marked a rupture between the US and Europe. In the US, corporate financing was originally quite similar to that in Europe, with a predominance of debt and non-voting shares after the Civil War. As in Europe, this configuration protected lenders from the risks associated with asymmetric information and it avoided the dilution of shareholder capital, as these financial instruments are not associated with voting rights. But the Second World War brought a change of scale with the emergence of venture capital.

The emergence of venture capital made it possible to invest in risky businesses without the massive reliance on credit that was dominant at the time, as listed equity markets were suited to companies with a certain maturity. Venture capital funds invested in unlisted securities, enabling the development of a multitude of companies in technological sectors (Parpaleix, 2019).

In the second half of the twentieth century, advances in risk quantification and management provided a client base for the rapidly expanding mutual funds. Regulatory changes – notably the lifting of restrictions preventing pension funds from investing in venture capital – broadened this clientele and made it possible to increase the number of unlisted investments. The creation of the Nasdaq in 1971 encouraged the growth of tech companies by giving them access to the listed stock market. Initially seen as an antechamber to the New York Stock Exchange (NYSE) for companies too small to be listed, Nasdaq established itself as a lasting alternative, with a significant number of companies never leaving.

This model – featuring a comprehensive ecosystem for financing innovation, from venture capital to the stock market, supported by long-term investors such as pension funds at every stage of development – is largely absent in Europe. Many European countries, devastated by the two world wars, failed to rebuild their pension capital, which had been eroded

by inflation or confiscated during wartime. To this day, they rely almost exclusively on pay-as-you-go pension systems.

In the post-war years, characterised by state-led reconstruction efforts such as the Marshall Plan, rebuilding retirement savings was not a priority. In Italy, France, and Germany, small and medium-sized enterprises and mid-cap companies managed to recover by funding their incremental growth through self-financing, bank loans, or investments from insurers. However, these traditional financing methods are ill-suited to supporting disruptive innovation – particularly as the lending capacity of banks and the investment capacity of insurers have been significantly constrained by prudential regulations (e.g., Basel I and Solvency II), thereby reinforcing the critical role of pension funds.

This contributes to delays in innovative sectors, increased European dependence on technologies developed in the US and in Asia, and thus even a loss of sovereignty. The remarkable dynamism of US digital and tech companies stands in stark contrast to the struggles of their European counterparts (Figure 1). For every young tech leader in Europe, there are 17 in the US (McAfee, 2024b). At the end of 2023, the US had 241 listed companies under the age of 50 with a market capitalisation of $10 billion or more. The combined market value of these companies was $29,566 billion.

At the same time, the EU had 14 listed companies aged under 50 (17 times less than the US) with a market capitalisation of $10 billion or more, for a combined market value of $434 billion (68 times less than the US). Of these 14 companies, three – Spotify, BioNTech, and Icon – representing a third of European capitalisation ($139 billion), were listed in the US. This disparity is partly due to the abundance of retirement savings in the US – largely invested in equities – which helps fuel innovation through markets such as the Nasdaq (Figure 2).

In a world where equity capital drives disruptive innovations, the low market capitalisation of European companies means they are falling behind in the race to innovate – and, as a result, they are losing out economically.

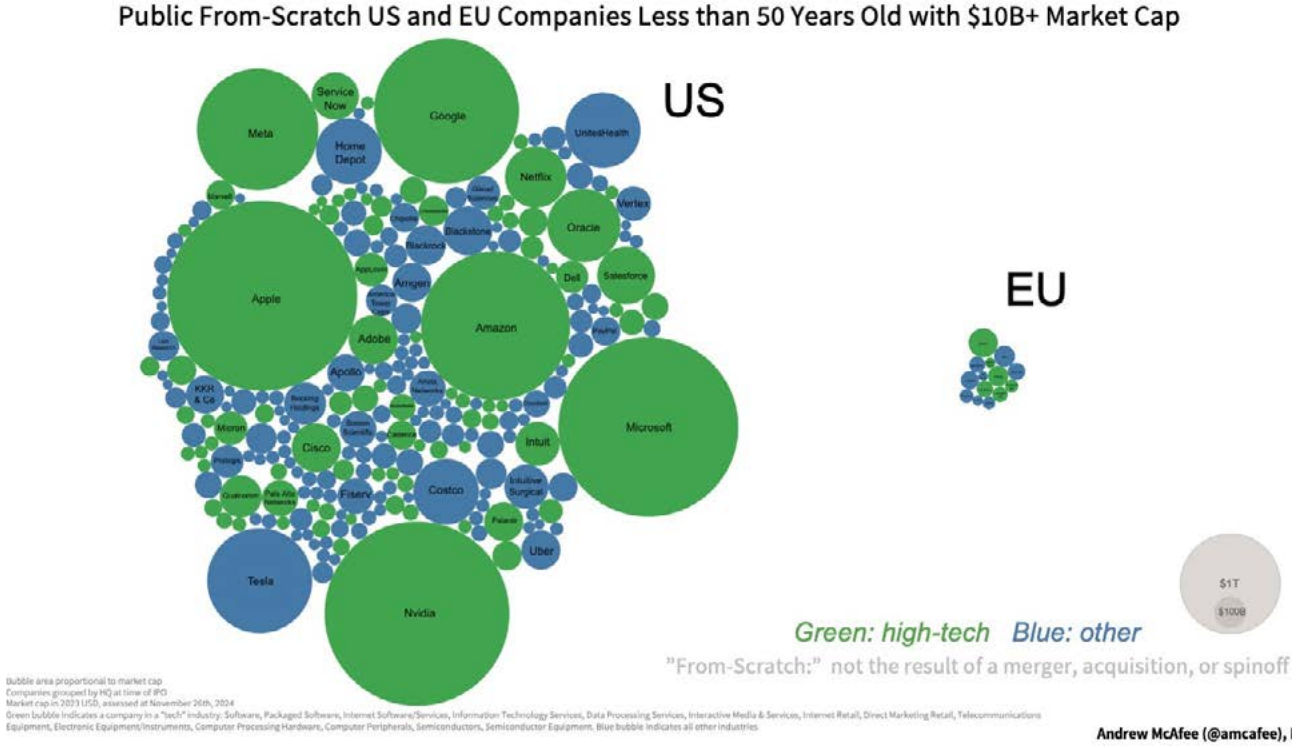

Figure 1. Public from-scratch US and EU companies less than 50 years old, with a market capitalisation of $10 billion or more.
Source: McAfee (2024a). Bubble area proportional to market capitalisation. Companies are grouped by head office at time of initial public offering. Market capitalisation in 2023 USD, valued on 26 November 2024. The green bubble indicates a company in a 'technology' sector. Blue bubbles indicate all other industries.

Europe's market capitalisation shortfall: €19.3 trillion.

Europe lags by €19.3 trillion in stock market capitalisation according to our calculation when comparing the weight of stock markets and setting aside the likely overvaluation of US assets (Sharma, 2025). European market capitalisation has grown more slowly over the past ten years. The EU has been overtaken by the US and is also losing ground compared with equity markets in the rest of the world – crucial instruments for financing innovation.

It suffers from atrophied long-term equity investment, which penalises the development of corporate equity. This is a problem for all companies, from start-ups to major international groups forced to diversify their stock markets. The Institut économique Molinari has calculated a market capitalisation shortfall of €19.3 trillion between the EU and the US by the end of 2023. The capitalisation of EU companies represented 65% of GDP, compared with 177% of GDP in the US, a gap equivalent to 112% of European GDP (Figure 3).

The EU is also outpaced by China in the equity markets that are key to financing innovation (Table 1). This contributes

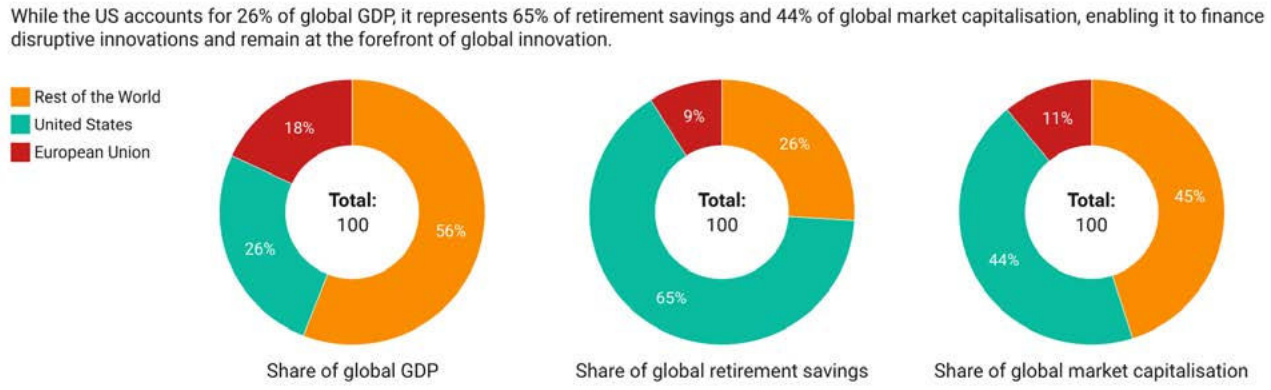

Figure 2. The US leads in retirement savings and market capitalisation (2023).
Source: Marques and Philippe (2025), based on World Bank (2025), OECD (2024), and World Federation of Exchanges (2025)

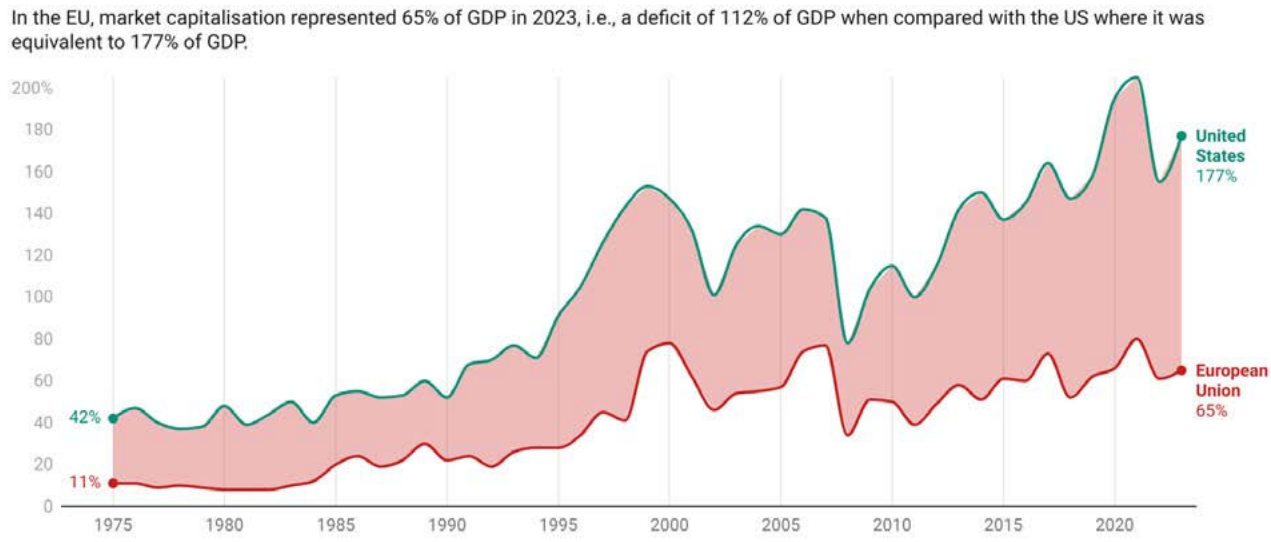

Figure 3. Europe lags behind in market capitalisation (as a percentage of GDP, 1975–2023).
Source: Institut économique Molinari calculations based on World Bank (2025), Federation of European Securities Exchanges (2025), World Federation of Exchanges (2025).

to cumulative delays in a number of innovative fields and increases Europe's dependency on technological innovation from the rest of the world.

According to the Digital Dependency Index (DDI), Germany, France, the UK, and Italy, for example, are highly vulnerable to China in respect of ICTs (between 0.86 and 0.95, where 1 is total dependence and 0 is complete autonomy). In terms of infrastructure and platforms, these countries are highly dependent on the US (0.98). For the authors of this index, 'European countries are falling behind in every dimension compared to China, South Korea, and the US. In the last decade, Europe's digital autonomy has eroded as digital interactions have become more asymmetric with China (ICT trade dependence), with the US (infrastructure and platform dependence), and the East Asian region (Intellectual property dependence)' (Mayer & Lu, 2023: 1).

If Europe wants to create leaders in technological fields and be able to finance innovation to avoid becoming a 'digital colony' of the US and China, these financial issues need to be addressed head-on. At the end of 2024, the total market capitalisation of EU stock exchanges stood at €9.7 trillion – roughly one-sixth the size of US stock exchanges, which reached €62.2 trillion for the NYSE and Nasdaq combined (Table 1). The EU's largest stock exchange, Euronext, was just one-fifth the size of the NYSE (traditional US stocks).

This is not a matter of skill – either on the part of European companies or stock exchanges – as the necessary tools and expertise are in place. Rather, it reflects the scarcity of long-term savings in Europe, stemming from the limited emphasis on capitalisation-based pension systems in many continental countries.

Europe faces a €19.7 trillion retirement funding gap

Europe faces a €19.7 trillion retirement funding gap according to our calculations. Except for Scandinavia and the Netherlands, the EU is an economic area where pension capital remains underdeveloped.[34] In much of the world, a significant share of pension benefits is financed through collective or individual

Stock market	Market capitalisation at end of 2024 (billion €)	Share of global capitalisation (%)	Zone
NYSE	31,576	25%	United States of America
Nasdaq - US	30,610	24%	United States of America
Shanghai Stock Exchange	7,186	6%	China
Hong Kong Exchanges and Clearing	4,550	4%	China
Shenzhen Stock Exchange	4,529	4%	China
Euronext	5,836	5%	EU (France, Belgium, Ireland, Italy, Netherlands, Portugal) plus Norway
Deutsche Boerse AG	2,044	2%	EU (Germany)
Nasdaq Nordic and Baltics	1,792	1%	EU (Denmark, Sweden, Finland, Estonia, Lithuania, Latvia) plus Iceland
Japan Exchange Group	6,311	5%	Japan
National Stock Exchange of India	5,131	4%	India
LSE Group	4,410	3%	United Kingdom
TMX Group	3,365	3%	Canada
Saudi Exchange (Tadawul)	2,727	2%	Saudi Arabia
Taiwan Stock Exchange	2,258	2%	Taiwan
SIX Swiss Exchange	1,971	2%	Switzerland

Table 1. The EU outpaced by the US and China (end of 2024). Top 15 stock markets accounting for 90% of global equity capitalisation.
Source: Institut économique Molinari calculations based on World Federation of Exchanges (2025).

capitalisation, with the capital being partly invested in the local economy. The EU, however, benefits far less from this source of funding.

The major European countries – Germany, France, Italy, and Spain – have low levels of retirement savings, amounting to just 7–12% of their GDPs. In contrast, the UK, Switzerland, and Iceland – none of whom are part of the EU – have retirement savings ranging from 79–182% of their GDPs. Within the EU, only Sweden, the Netherlands, and Denmark exceed the OECD average, with retirement savings representing between 107% and 198% of their GDPs at the end of 2023 (Figure 4).

In Europe, retirement savings accounted for 28% of GDP, versus an average of 143% in the US – a gap of nearly 115% of GDP (Figure 5).

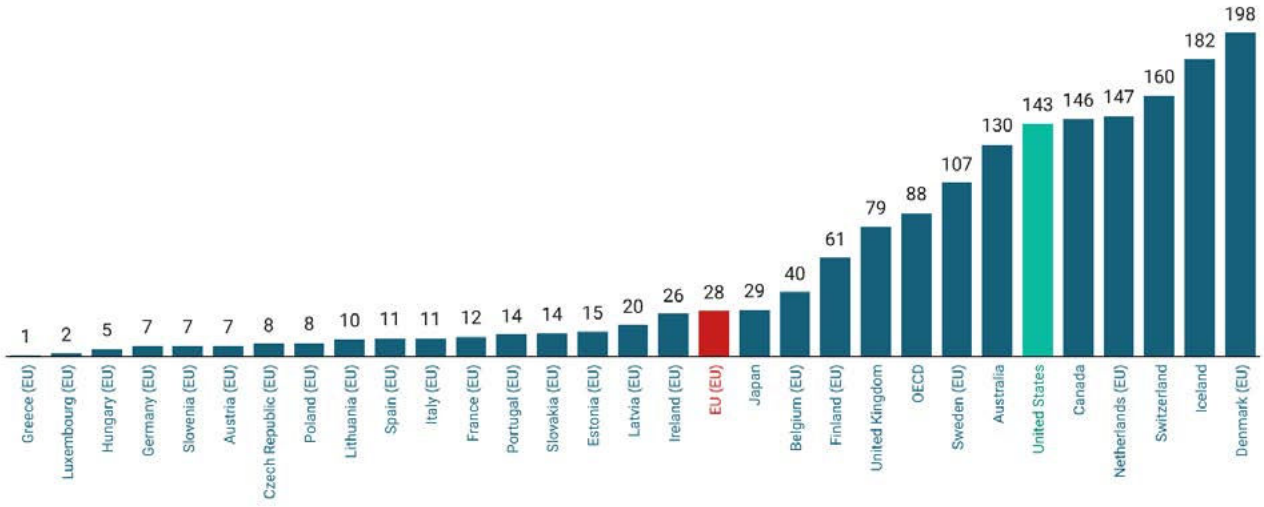

Figure 4. Retirement savings as % of GDP (2023).
Source: Institut économique Molinari calculations based on OECD (2024).

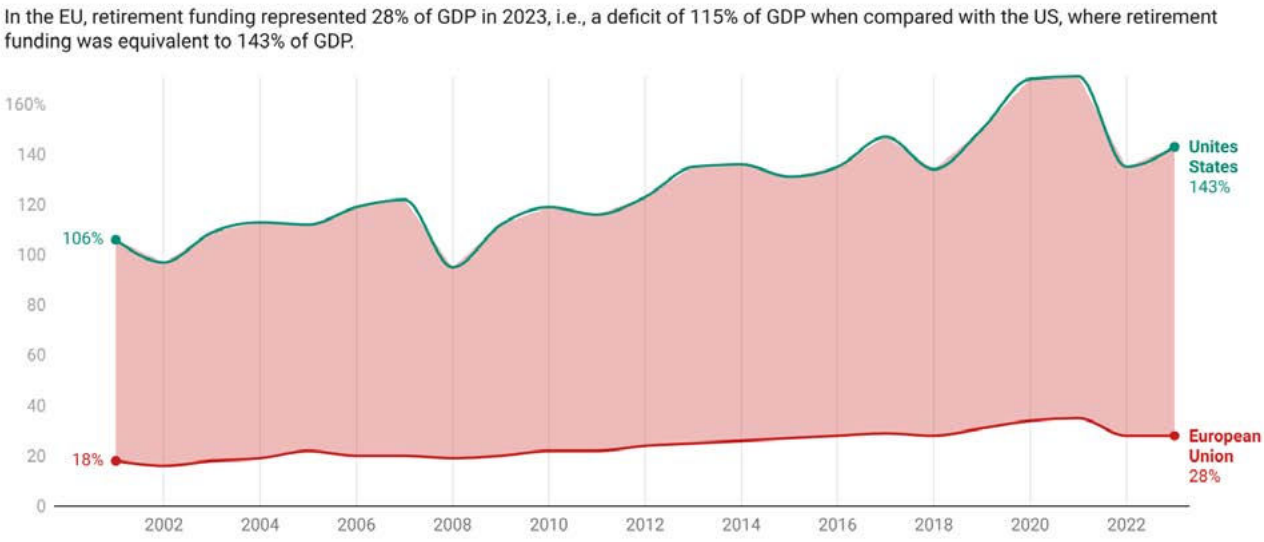

Figure 5. Europe lags in terms of retirement savings (% of GDP, 2001–2023).
Source: Institut économique Molinari calculations based on OECD (2024) with a weighted average of assets invested.

This funding gap represents a real handicap for the financing of European companies. Pension plans are long-term investors. They have the distinctive feature of managing their depositors' savings over long horizons, corresponding to capitalisation cycles of around 40 years during working life, followed by an annuity payout over 20 years on retirement. These savings are heavily allocated to equities, which offer an attractive risk–return profile over long horizons, and they often favour domestic markets, with an average of 56% of assets invested locally.

The relationship between the growth of retirement savings and market capitalisation is direct and robust (Figure 6), even though a significant share of retirement savings is also invested in fixed-income instruments or abroad.

The myth of insurance savings offsetting the shortfall in retirement savings

Some analysts believe that the lack of retirement savings could be compensated for by reallocating a portion of household assets, notably life insurance, which is particularly well developed in several European countries. The reality is far more complex, for reasons related to the weight of non-financial assets and the financial savings behaviour of households.

On the one hand, the data shows that the wealth of European households is primarily made up of non-financial assets. According to the latest edition of the Household Finance and Consumption Survey (European Central Bank, 2023), 80% of the wealth of eurozone households is made up of non-financial assets, including 65% real estate, 47% of which consists of primary residences (Table 2). As such, a significant proportion of the household savings rate is made up of property loan repayments

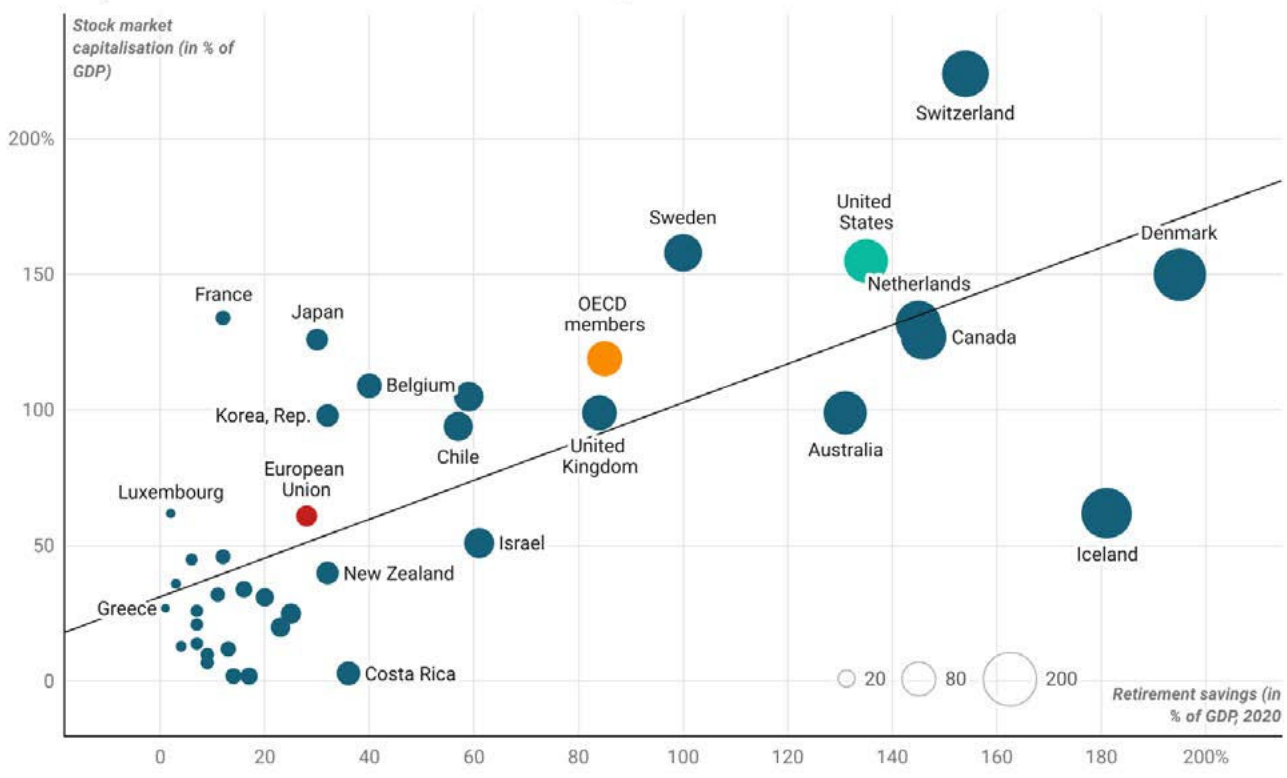

Figure 6. Growth in retirement savings and stock market capitalisation go hand in hand (% of GDP at the end of 2022).
Source: Institut économique Molinari calculations based on World Bank (2025), CEIC (2025), Federation of European Securities Exchanges (2025) and OECD (2024).
R2 = 0.52.

Most importantly, life insurance is no substitute for pension funds when it comes to financing the economy by investing in listed or unlisted equities. Indeed, insurers' investments are limited for reasons linked to the investment horizon, an aspect reinforced by prudential regulations.

(Babeau, 2016), and France is probably no exception. These repayments are a constraint on borrowers' savings and limit their scope for investment in financial assets, since the flow of savings is monopolised by loan repayments over a long period of the life cycle (Masson & Touzé, 2019).

On the other hand, a significant proportion of household financial assets are 'liquid'. Precautionary savings play a predominant role among financial assets. Current or savings accounts accounted for an average of 45% of financial assets in the eurozone, or 9% of total household assets in 2021. Contrary to popular belief, the high proportion of liquid savings is not unique to France (8%) but is comparable or even higher in a number of European countries, notably Germany (10%) and Belgium (11%).

Finally, life insurance, which is significantly developed in some countries, notably France, does not compensate for the weakness of retirement savings, for both quantitative and qualitative reasons.

Eurostat data on European countries shows that life insurance does not offset the weakness of pension funds. For instance, despite its significant weight, French life insurance (61% of GDP in euros at the end of 2023 for individual products) does not offset the shortfall in pension funds. Life insurance and retirement savings represent 73% of GDP in France, compared with 117% of GDP in the US, giving a French savings deficit of 44% of GDP or €1.25 trillion in 2023. This figure is underestimated, as the household account approach does not take into account all retirement savings.

OECD data on household wealth confirms that life insurance does not compensate for the underdevelopment of pension funds in Europe compared with the US (Figure 8). Life insurance and pension savings accounted for an average 57% of GDP in the EU in 2023, compared with 117% of GDP in the US according to household accounts, representing a European deficit of 60% of GDP or €10.4trillion euros.

Most importantly, life insurance is no substitute for pension funds when it comes to financing the economy by investing in listed or unlisted equities. Indeed, insurers' investments

	Eurozone	Germany	Belgium	Spain	France	Italy	Netherlands
Real assets	**80%**	**78%**	**77%**	**80%**	**80%**	**81%**	**80%**
Household's main residence	47%	44%	51%	41%	47%	45%	68%
Other real estate property	18%	19%	12%	27%	17%	17%	5%
Household's vehicles	3%	3%	2%	3%	3%	3%	3%
Valuables	1%	1%	1%	1%	4%	1%	0%
Value of self-employement businesses	10%	11%	11%	8%	9%	15%	3%
Financial assets	**20%**	**23%**	**23%**	**21%**	**20%**	**19%**	**21%**
Deposits	9%	10%	11%	8%	8%	8%	13%
Mutual funds, shares, bonds	5%	6%	9%	5%	3%	5%	4%
Voluntary pension/whole life insurance	4%	5%	3%	2%	8%	1%	2%
Other real estate property	2%	1%	1%	5%	1%	5%	1%

Table 2. Breakdown of household wealth (2021, in %).
Source: Institut économique Molinari calculations based on Household Finance and Consumption Survey, data excluding compulsory pension schemes and including only voluntary pension savings (European Central Bank, 2023).

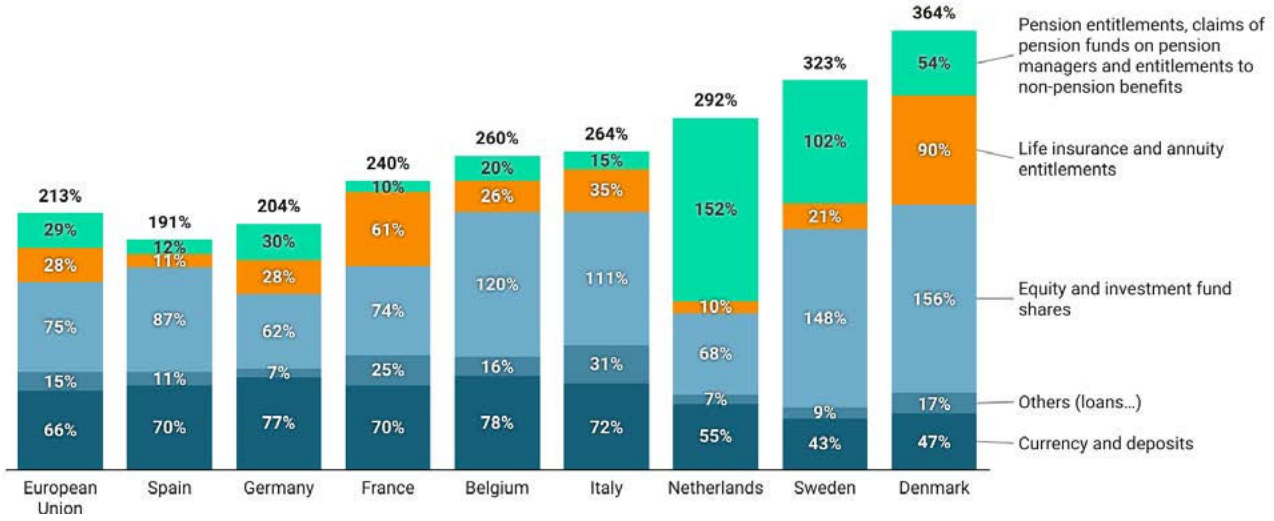

Figure 7. Household financial wealth (2023, as % of GDP).
Source: Marques and Philippe (2025), calculations based on Eurostat (2025).

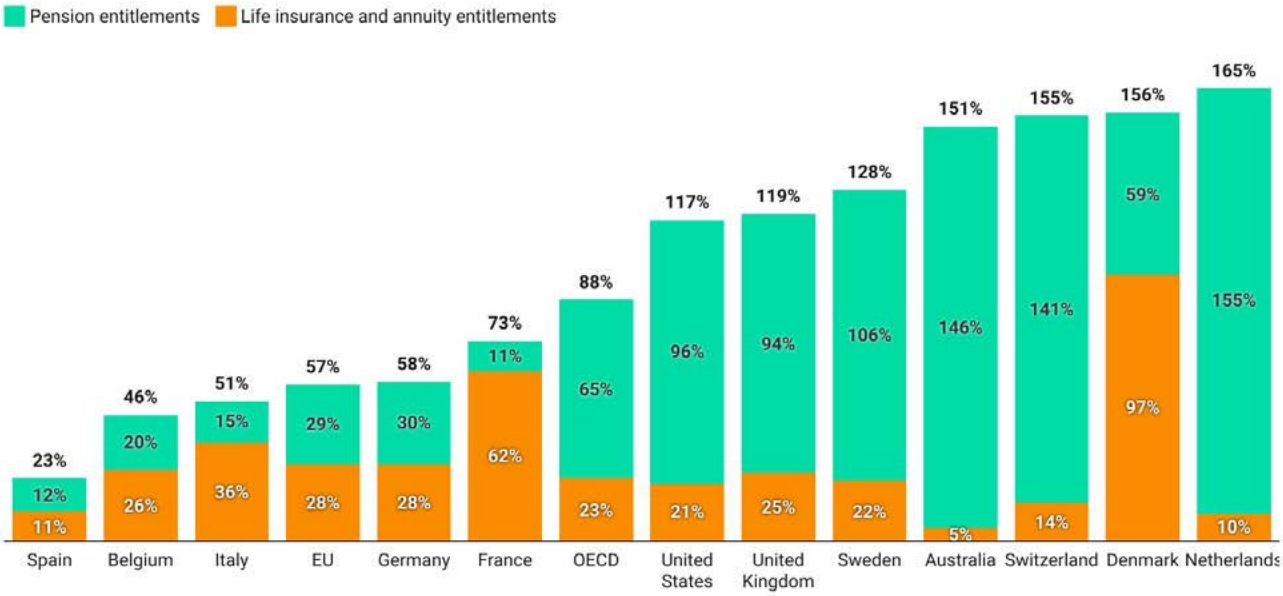

Figure 8. Pension and life insurance and annuity entitlements (2023, % of GDP).
Sources: Calculations by Institut économique Molinari based on households and non-profit institutions serving households (OECD, 2025a) and Eurostat (2025) for the EU average.

Debt and liquidity	Insurers	Pension fund	Insurance companies/pension funds ratio
Germany	56%	23%	2.4
Belgium	71%	14%	5.0
Spain	78%	47%	1.7
Italy	66%	59%	1.1
Netherlands	70%	42%	1.7
Sweden	30%	22%	1.4

Table 3. Insurers invest more short-term assets than pension funds do (2022 as % of assets under management).
Source: Institut économique Molinari calculations based on Af2i (Association française des investisseurs institutionnels, 2023), bonds, share of debt (bonds and loans), and liquid assets in the portfolios of insurers and pension funds.

are limited for reasons linked to the investment horizon, an aspect reinforced by prudential regulations.

The European insurers invest less in equities and physical assets (real estate, infrastructure, etc.) than do pension funds (Association française des investisseurs institutionnels, 2023). On average, insurers are twice as heavily invested in debt products (bonds, loans) or cash than pension fund managers are (Table 3). The main exceptions are in the northern countries, notably Sweden, where pension fund logic dominates (Abadie, 2019). In France, we find this defensive bias with only 8% of French life insurers' portfolios invested in equities in 2022, compared with 26% of pension or provident portfolios, that is, a ratio of one to three (Figure 7).

This bias against equity investments is linked to the characteristics of insurance contracts, some of which can be terminated at any time. This hazard forces insurers to opt for a shorter management time horizon than pension fund managers do. The latter are able to anticipate retirement and annuitisation dates with precision. They have visibility over very long time horizons and average investment horizons (maturity) of 20–30 years, which is not the case for insurers, who can face outflows at any time. As a result, life insurance does not place as much emphasis on long-term assets as pension funds do, even though, in practice, savers sometimes allow their capital to grow over a very long period.

This bias is reinforced by EU regulatory constraints, notably Solvency II. This directive aims to limit risks, with an approach that makes holding equities on insurers' balance sheets particularly costly. It does not take full account of the specificities of long-term savings, which in practice reduce the risks associated with holding equities, a less risky asset over the long term (Hamayon, 2013).

For the same maturity, it encourages insurers to divest from equities. In 2021, investments in listed and unlisted equities or in equity funds and/or private equity represented 7% of insurers' investments in the EU (De Groen & Oliinyk, 2022). According to some models, the Solvency II directive generated constraints, leading to a halving of insurers' equity allocation (Pénasse & Dezorme, 2021). This low investment in equities and long-term assets is penalising the financing of the economy, even if various adjustments have already been made (Leboucher, 2024).

Conclusions: Generalising pension funds is essential for the economy

For all these reasons, the notion that Europe already possesses a large stock of savings and simply needs to reallocate it is an illusion. Europe faces significant twin deficits – stemming from the underdevelopment of retirement savings and stock market capitalisations – amounting to €19,7 trillion and €19,3 trillion, respectively, in 2023.

While unifying markets and making financial and insurance regulations more flexible to encourage investment are desirable steps, they are insufficient to compensate for how far Europe has fallen behind in terms of long-term capital. Only the widespread introduction of pension funds in all European countries where they are currently absent will significantly improve economic financing, improve pension value for money, and help reduce public deficits.

France and the European Commission aim to reallocate existing savings, but this is insufficient to bridge the gap

between Europe and the US. A significant share of household wealth is held in property or very short-term investments. Even life insurance does not compensate for the absence of pension funds in Europe, as it remains accessible at any time and therefore cannot be invested in equities to the same extent as long-term retirement savings.

For Europe to catch up, the most effective solution would be the widespread adoption of pension funds – both in the private sector and to finance civil servant pensions in the public sector. Accordingly, the Compass for the EU would benefit from being supplemented by two measures: firstly, the creation of sovereign funds to provide for government employee pensions in countries where these are managed separately from private-sector schemes (Marques, 2025: 11–12); and secondly, an increase in the share of funded pensions in the private sector (Marques, 2023). These two measures would reduce the cost of providing public services and social protection, thereby improving price competitiveness while increasing the amount of capital available to support the economic fabric and finance long-term innovation.

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ARTICLE

The Time Is Now

Improving European Competitiveness

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Citation suggestion: Silvia Nadjivan & Lukas Sustala, SN & LS (2026). The Time Is Now: Improving European Competitiveness. *Future Europe*, 7(1), 80–90.

Abstract

This article argues that Europe is at a critical juncture: it is facing geopolitical threats from Russia and the US while experiencing a steep decline in its share of global GDP. It further argues that to regain competitiveness, Europe must act decisively across four main areas: finances, regulation, research and development, and security. To address these challenges, this article proposes a '360-degree competitiveness compact' that includes future-proofing the EU budget to fund public goods, drastically simplifying regulations to cut business costs, and creating a Savings and Investment Union to unlock trillions of euros in private capital for innovation.

Introduction

European security has been fundamentally threatened since Russia began its war of aggression against Ukraine in 2022. At the same time, multilateralism is at risk as Donald Trump carries out his policies during his second term as US president. Against the background of such a fundamental shift in international as well as trade relations, Europe needs new concepts and strategies to protect itself against not only Russia's imperialistic threats but also the Trump administration's damaging policies. Europe needs to position itself as a serious global economic player. With regard to various economic difficulties, such as inflation and stagnating economic growth, Europe urgently needs to strengthen its competitiveness.

To solve Europe's current wide-ranging problems, three key means of fostering sustainable growth in Europe have been identified: a) firstly, closing the innovation gap in comparison with the US and China; b) secondly, decreasing energy prices and implementing a common plan for decarbonisation

and competitiveness; and c) thirdly, increasing European security and reducing international dependencies (Draghi, 2024: 17). In this article we focus on four main fields where it is necessary to act in order to close the productivity gap with the US and China and guarantee European resilience: a) finances and the budget; b) the regulatory framework; c) research and development; and d) the security and defence sector.

Current challenges for European global competitiveness

Europe's economic position has been declining relative to the rest of the world. The European Union's share of global GDP has declined from roughly 30% in 1980 to under 15% by 2025. A further decline is also forecast by 2029. This diminishing relative economic weight is a concern to both policymakers and economists and underscores the need for policies to enhance the EU's competitiveness and growth potential.

Europe currently faces some of its greatest challenges since the Second World War. International law has been eroding since Russia has started an unprecedented war of aggression against Ukraine in 2022. New types of trade wars are evolving, threatening the central pillars of the World Trade Organization, since the start of Donald Trump's second term as US president in January 2025. Trade disputes are arising while the global economy is still massively intertwined. Trade volumes with the US rose significantly over the past decade, with the US running a significant trade deficit in goods with both China and the euro area.

As a result, new geostrategic and geoeconomic conditions make it necessary for Europe to rely much more on its own competitiveness, innovative strength, and security. However, in contrast to the US and China, Europe's economic growth has not kept up, with the euro area growing at only 1.3% per year over the past decade in real terms, a percentage point slower than the US and four percentage points slower than China. Market share for European companies has declined,

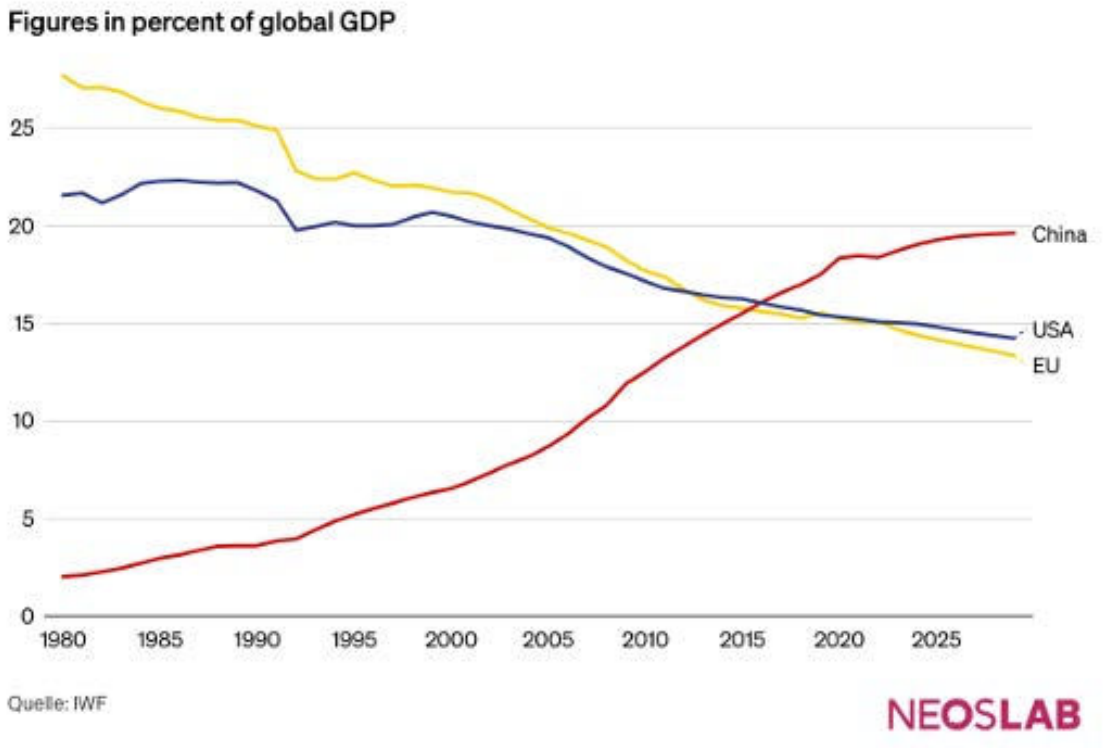

Figure 1. A worrying trend for Europe: Global GDP, 1980–2029.
Source: IMF (2025a).

whereas technological innovation and the digital revolution are occurring in the US, China, India, and elsewhere, but not in Europe. Moreover, demographic change will cause serious problems in the future as workforces shrink and the population ages. In his report 'The Future of European Competitiveness', Mario Draghi, former President of the European Central Bank and former Italian Prime Minister, analysed the worrying developments and identified 'three areas for action to reignite growth' (Draghi, 2024: 6 ff).

Fossil fuels are indispensable for the EU for the time being as industry, energy production, commerce, and private households are still reliant on gas. However, in 2024, all EU Member States agreed to completely phase out Russian gas by 2027 (APA/dpa, 2024). In May 2024, energy ministers at the EU level discussed the import of renewable hydrogen from North Africa (APA, 2024). The affordability of gas and, increasingly, renewable energy is essential for European competitiveness.

Based on the Draghi Report, the European Commission developed the Competitiveness Compass (2025) as a roadmap for innovative technologies, services, and clean products to be designed in and brought to the European market, aiming for Europe to become the first climate-neutral continent. The Competitiveness Compass addresses the fact that Europe is persistently lagging the US and China despite having all the assets it needs for productivity and economic growth, such as a well-qualified workforce and institutions for further up-skilling, capital, savings, the Single Market, and a unique social infrastructure.[35] The Draghi Report aims to close the innovation gap; to combine competitiveness and decarbonisation through the Clean Industrial Deal, further developing the previous Green Deal goals; and to reduce risky dependencies and increase European security with regard to energy and raw material supply through new Clean Trade and Investment Partnerships and Public Procurement rules (European Commission, 2025; European Council, 2025).

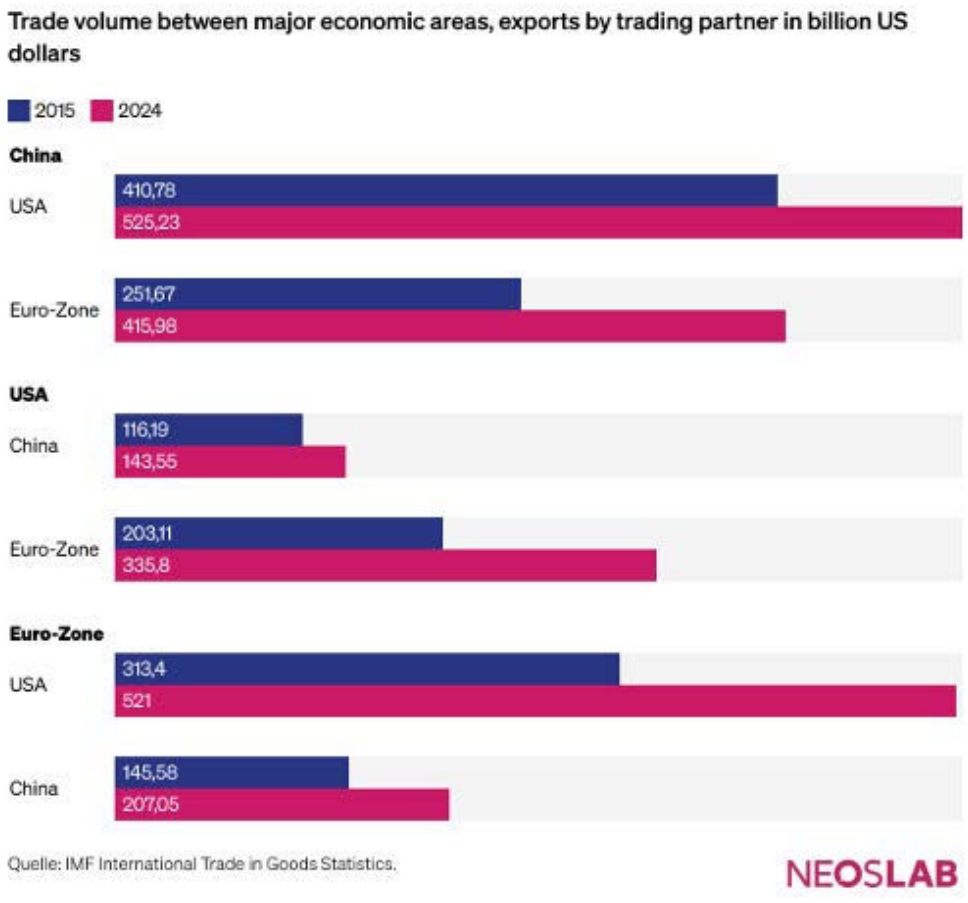

Figure 2. The US is still a net importer of goods from the euro area and Asia.
Source: IMF (2025b).

In pursuit of these goals, 'five horizontal enablers for competitiveness' with several 'Omnibus Packages' have been developed: 1) simplifying EU business regulations and procedures for EU funds access; 2) facilitating access to the Single Market by lowering existing obstacles; 3) inventing new savings and investment products to ensure an efficient capital market; 4) fostering and enhancing skills, lifelong learning possibilities, and quality jobs throughout Europe; and 5) harmonising EU and national policies to facilitate cross-border projects and financial support through a new Competitiveness Fund (European Commission, 2025; European Council, 2025).

Four main fields in which to act

In the light of the Draghi Report and the EU Competitiveness Compass, we suggest and analyse further measures that could be implemented in the EU budget, regulations, innovation, and security and defence policies.

Future-proofing public finances

A future-oriented EU budget should be used for spending items that create genuine European added value (Felbermayr, 2024): cross-border infrastructure projects, research and innovation, the expansion of renewable energies, and the strengthening of the digital economy. These investments not only help keep Europe globally competitive but also ensure sustainable growth and future-proof jobs. However, currently the EU budget lacks the resources to be a strong pillar of

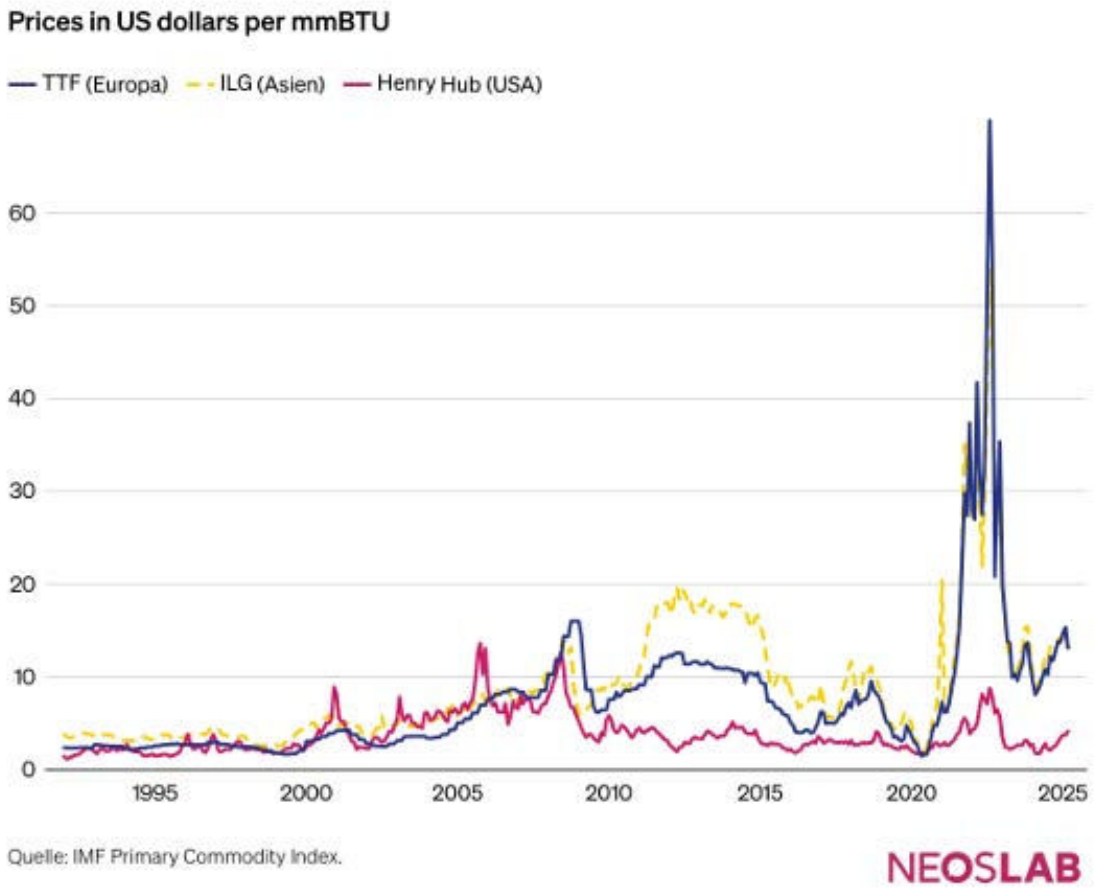

Figure 3. The price of gas in Europe is higher than in the US .
Source: IMF (2025c).

European development in these areas, as a vast portion of the budget is earmarked for the Common Agricultural Policy and traditional Cohesion funds.

To ensure that the EU budget is future-oriented, the EU could introduce a measure called Future Share that estimates public spending with regard to long-term effects. Long-term investments in education, research and development (R&D), and green technology and infrastructure all contribute to the Future Share. Committing to a method to calculate a Future Share and adhere to, for example, a minimum share of 25% within the Multiannual Financial Framework (MFF) could steer the EU's resources towards impactful, common goals.

By taking into account the Future Share approach, or '*Zukunftsquote*', government spending can be divided into productive and unproductive investments. While investments in the above-mentioned areas are to be understood as productive ones as they foster competitiveness, resilience, and economic growth, unproductive public spending includes untargeted subsidies and excessive administrative costs, as these only fulfil short-term aims and lack a long-term perspective. Through fiscal policy, distinctions can be made between productive and unproductive forms of public spending to reveal the effects on competitiveness, resilience, and sustainable economic growth (Sustala, 2024).

As the current EU budgetary structure is misaligned with the Union's strategic priorities, it continues to underinvest in areas that are critical for future growth and resilience. To address this, a Future Share target within the EU's fiscal framework could help ensure that a greater portion of the budget is directed towards long-term investments in human capital, innovation, climate action, and infrastructure. In short, modernising budget governance through performance-based criteria, expanding the EU's fiscal capacity beyond the traditional 1% of GNI, and strengthening the provision of European public goods are necessary pillars for a stronger Union. These pillars serve the aim to make the EU budget a more effective tool for driving sustainable competitiveness and addressing collective challenges (Sustala, 2024).

The International Monetary Fund (IMF) has also called upon the EU to make the MFF fit for purpose. Its economists argue in a working paper that the next seven-year EU budget (2028–2034) must grow by at least 50%, to about 1.7% of EU GNI. The policy aim should be to double the financial capacity for the financing of genuinely cross-border European public goods (EPGs). Priorities include energy security and the green transition, defence, and R&D, where joint provision internalises externalities, exploits economies of scale, and ultimately saves national treasuries money. An obvious example is effective external border management at the EU border. According to the IMF, more focus on forward-looking investment would also unlock sizeable productivity and resilience gains while supporting Single Market reforms.

Loosening EU regulations to reduce bureaucratic obstacles

As outlined by the EU Competitiveness Compass, the European Commission aims to simplify EU regulations and administrative conditions for businesses and companies in Europe. Currently political differences remain between the European Parliament and the Council on how to proceed. However, it is high time to end such overregulation, for instance in company reporting and supply chains, which leads to additional costs for businesses, companies, and start-ups and disadvantages them compared with non-European companies not bound by such strict rules, as Enrico Letta (2024) points out in 'Much More than a Market'. This step proves to be a *sine qua non* condition for catching up with China and the US in productivity and economic growth.

While the US increasingly focuses on innovation in technology policy, Europe has hitherto been focused on regulation, if not overregulation. At the same time, the US is partially aligning its regulatory framework with that of the EU to facilitate exports by US companies. However, it is questionable whether there will be any more regulatory convergence under the second Trump administration (Wallsten, 2024; Obst et al., 2024). To prevent potential overregulation from stifling innovation, European institutions should ensure an appropriate degree of freedom of action. Only in this way can Europe assert itself internationally, especially in competition with the US and China, instead of falling far behind. In the short term, Europe should position itself as an attractive R&D cooperation partner, especially for liberal democracies – the new partnership with South Korea within the Horizon Europe programme is a good example. Implementing the Competitiveness Compass would be an important first step to achieve this goal.

The Competitiveness Compass of the European Commission puts simplification on the same footing as finance, skills, and deep tech in Europe's productivity agenda. It aims for a headline target of cutting the aggregate administrative burden by 25% – and by 35% for small and medium-sized enterprises (SMEs) – by the end of the 2024–2029 mandate. Delivery hinges on three mutually reinforcing instruments:

1. Omnibus 'cut-red-tape' packages: the first omnibus (February 2025) streamlines sustainability reporting, merges overlapping due diligence obligations, and eliminates 47 obsolete provisions; the Commission estimates annual savings of €400 million once the measures are fully phased in. A second package, expected in Q4 2025, will rationalise product safety and eco-design rules, while a defence sector bundle is pencilled in for mid-2026.

2. Digital by default and the once-only principle: by 2027, every EU licensing, funding, or reporting interface must be accessible through a single Business-in-Europe Portal. Companies will input core data just once and consent to


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its reuse across authorities, cutting filing time by up to 30% according to the Commission's impact assessment.

3. A permanent implementation and simplification task force: every new proposal now undergoes a competitiveness check and an SME test; fragmented national gold-plating, – that is, overly complex or wide-ranging national regulation is tracked on a public scoreboard, with peer pressure and infringement procedures to follow for persistent offenders.

Yet political frictions remain. Several large Member States want carve-outs and are reluctant to sign off on 'simplification', fearing this could be associated with 'lowering standards', for instance in social policies. The European Parliament insists that any 'net reduction' in administrative burden must respect Green Deal objectives and fundamental rights safeguards. Bridging that gap requires an agreed methodology for measuring burdens.

A credible simplification drive is not mere housekeeping; it is Europe's insurance policy against falling behind the US and China. While Washington has long been doubling down on some of its more protectionist yet pro-innovation incentives – for example, the CHIPS Act and the IRA tax credits – US regulators have quietly moved closer to EU standards on data and competition (Wallsten, 2024). The second Trump administration is, however, about to reverse that convergence and weaponise tariffs against what it calls 'excessive Brussels red tape'. China, by contrast, applies light-touch rules to domestic champions and requires international corporations to establish partnerships with Chinese companies to gain effective access to their technologies and markets. Estimates vary, but experts see a significant structural cost wedge for European companies of 10–15 % versus their US peers (Letta, 2024).

Consistent fiscal policies and frameworks are needed to secure common European funding and priorities for trans-European projects, ensuring resilience in case of unforeseen developments and possible financial shocks.

Looking ahead, simplification should be elevated from a technical exercise to a principle of the Single Market. That means:

- adopting 'one substance, one assessment' across all product safety and sustainability legislation;
- giving businesses more rights to reply when national authorities add requirements beyond EU minima and thus impede the Single Market via 'gold-plating'; and
- incorporating a sunset-and-review clause in every new regulation, forcing legislators to investigate the consequences of new legislation and evaluate its effects in an evidence-based fashion.

Taken together, these steps would turn Europe's dense rulebook into a more predictable, proportionate, and innovation-friendly framework, release resources for R&D and growth rather than compliance, and restore the ability of companies to compete. However, overregulation in Europe is by no means an issue on the European level alone. Evidence of this is provided by the annual IMD World Competitiveness Compass (IMD, 2025), which ranks advanced economies worldwide on various indicators. One indicator concerns business legislation, broadly referring to regulatory barriers and burdens. The performance range of EU countries on this metric is surprisingly broad.

Whereas Denmark and Ireland rank among the top five global economies in this area, meaning they have the most business-friendly regulatory environment, several European economies are in the bottom third, including Slovakia, Bulgaria, Poland, and Croatia. This shows that even as European simplification is an important issue overall, the EU could also improve economic outcomes in Europe by creating incentives to follow best practices on the national level and limit the tendency of national or regional legislatures to create additional national administrative burdens. The first step could be by transparent reporting of national performances in

terms of simplification, which would also make transparent the necessary simplification advances on the national level in Europe.

Investing in European innovation and R&D

Investments in innovation and R&D are one of the most productive types of expenditures as they have a multiplier effect, attracting private funding and generating spillover benefits. This contributes to a sustainable energy system and the development of advanced technologies such as artificial intelligence and biotechnology, fostering productivity and competitiveness (Kwok, 2023). Therefore, consistent fiscal policies and frameworks are needed to secure common European funding and priorities for trans-European projects, ensuring resilience in case of unforeseen developments and possible financial shocks.

A step in the right direction has been the NextGenerationEU initiative (NGEU), which was launched as a post-recession recovery programme following the COVID-19 pandemic. The NGEU programme has mobilised €750 billion to foster sustainable recovery through green investments and supporting digital transformation by 2050 (Sustala, 2024). Green investments address renewable energy projects, energy efficiency, and climate protection, whereas digital transformation funds anticipate digital infrastructure and skills development to foster competitiveness and technological sovereignty. Despite this and other broad EU funding programmes such as Horizon Europe or the Innovation Fund for the green and digital transition, more funding or productive spending is needed in the future, certainly before 2050. Only such productive spending can enable Europe to adapt to global shifts and catch up with the big global players in the long run.

Therefore, the future MFF for 2028–2034 promises to contain appropriate measures, as the European Commission aims to address necessary reforms together with strategic priorities in the context of current geopolitical shifts. It plans to propose a combination of EU reforms and new investments in key areas such as social fairness, prosperity, competitiveness, security, and defence (Thöne, 2024). The next MFF should therefore help the EU position itself as a global player in terms of sustainability and innovation through cross-border projects and prioritised green and digital transition, financed by performance-based funding models and public–private partnerships where suitable, for instance by crowding private investment into funds. While reducing bureaucracy, it should also be expected to allow more flexibility on the EU level to respond to future challenges and crises, such as climate catastrophes and geopolitical tensions or even conflicts.

Forming a security and defence union

Current geopolitical crises and conflicts show that Europe must be prepared for possible future hostile attacks. Overall, the order of the day is to make Europe resilient against all currently unforeseeable shocks and adverse circumstances. This is also the central idea of Europe's strategic autonomy and of the 'Strategic Agenda 2024–2029', which was adopted in December 2023. In addition to liberal-democratic goals such as protecting civic rights, sustainable economic and climate policy, and European values, security and defence increasingly play an important role as well (Báchora, 2024: 14). Europe must therefore better position itself both internally and externally.

Given the current threat from Russia, the unpredictability of the US under Trump 2.0, and the fractious relationship with China, the Strategic Agenda aims, at best, to make Europe

Figure 4. Eurobarometer survey results: EU Member States should be more united.
Source: European Union (2025). EP Winter 2025 survey, https://europa.eu/eurobarometer/surveys/detail/3492.
https://europa.eu/eurobarometer/surveys/detail/3492.

less dependent on all those superpowers (Marques da Silva, 2024). The 'ReArm' Plan and the White Paper on Defence by the European Commission promise a broad approach as well as €800 billion in funding. Both have been developed at a time when awareness of the importance of a common European defence – even a defence union – is growing (Witney, 2024). As the latest Eurobarometer survey shows, a clear majority of the European population agrees on the need for much closer cooperation among EU Member States and more EU-level solutions to face current challenges.

In that sense, the European Sky Shield Initiative, launched by the German government in October 2022, represents a significant step towards joint air defence. So far, 21 states have joined, including neutral countries such as Austria and Switzerland, a decision confirmed in Brussels in May 2024 (Hauser, 2024: 46). Beyond such conventional threats, cyberattacks on critical infrastructure as part of hybrid warfare are also on the rise. In view of the increasing number of cyberattacks, Europe must focus on its own cybersecurity. Data protection, cybersecurity, and digital sovereignty, based on common European standards and regulations such as the Digital Services Act (DSA) and the Digital Markets Act (DMA), are more important than ever. One of the current priorities when dealing with the threat of cyberattacks and cybersecurity should be to strengthen European institutions overall. Ultimately, only a united Europe can act as a serious global player.

Final recommendations: A 360-degree competitiveness compact for Europe

The twin shocks of a fracturing global order and the end of the post-Cold War peace dividend have presented the EU with a strategic choice: evolve into a fully fledged geoeconomic actor or cede ground – in security, technology, and standards-setting – to the US and China. Building on the Draghi and Letta reports as well as the Commission's Competitiveness Compass, this article has focused on what is required for an ambitious yet necessary reform package centred on four mutually reinforcing pillars: 1) a future-oriented EU budget; 2) a lighter, more predictable regulatory environment; 3) an innovation and skills surge; and 4) a genuine security and defence union. The recommendations below bring these pillars together and point to a sequenced path for implementation.

Make the EU budget fit for purpose – and permanently finance it

For the 2028–2034 MFF, the Union should target an envelope that is fit for purpose. The EU budget should focus on funding cross-border EPGs: energy infrastructure (including hydrogen corridors and grid interconnectors), innovation and R&D, and common defence procurement. To avoid turning this ambition into a zero-sum fight with current projects, Member States could earmark upcoming new resources – such as the emissions-based border levy or the proposed tobacco tax.

Unlock private savings through a Savings and Investment Union

Households in the euro area still hold more than €10 trillion in low-yield deposits, roughly 70% of household savings – an untapped pool that could finance some of Europe's necessary investments. The 2025 Savings and Investment Union strategy should therefore be upgraded into binding legislation that 1) creates simple retail capital accounts that are portable across Member States; 2) completes the single rulebook; and 3) mandates that the expanded MFF should be accompanied by mobilising equity, guarantees, and public–private partnerships to crowd in private capital. This would transform the public budget from a grant dispenser into a market mover and scale the investible pipeline for pension funds, sovereign wealth funds, and retail investors alike.

Simpler, lighter, faster: Legislate less and implement better

Regulatory complexity is now as material a cost factor as labour or energy. The Commission's pledge to cut administrative burdens by 25% should become a clear ceiling. Every new Act ought to include a) a competitiveness test, b) a sunset-and-review clause, and c) a 'once-only' data collection guarantee. Where multiple pieces of legislation intersect, omnibus amendments should replace piecemeal tinkering. Finally, a digital Business in Europe Portal should introduced, allowing firms to file various types of documents through a single interface. If fully implemented, the combination of burden caps, sunset clauses, and digital portals could significantly reduce compliance costs over the next few years, freeing up capital that companies can instead channel into productivity-enhancing investment.

Double down on the innovation–skills nexus

Europe's demographics drag – its working-age population is projected to fall – cannot be offset without a two-pronged response: world-class research ecosystems and a talent magnet. A significant expansion of Horizon Europe programmes would anchor the continent's leadership in frontier sectors. In terms of alleviating labour shortages, especially of high-skilled labour, Blue Card admission thresholds could be aligned with the US H-1B visa programme in both salary and qualification requirements, while mutual recognition of degrees with key partner countries (Australia, India, Canada) could shorten onboarding times for graduates. Crucially, demographic openness must be matched by proactive integration to

avoid the social fragmentation that fuels political backlash against immigration.

Achieve energy sovereignty through diversified supply chains

Europe will close little of its productivity gap if electricity prices stay significantly above US and Chinese industrial prices.
The quickest lever is to decouple power prices from gas marginal costs by expanding sustainable production, investing in energy networks and infrastructure, and creating contracts-for-difference for renewables and allowing long-term fixed-price industrial power purchase agreements. A Clean Industrial Deal facility could crowd in private finance and deliver the critical mass needed to make Europe a price setter rather than a price taker in the global green hydrogen market.

Move from ad hoc defence cooperation to a security and defence union

Europe's 2024–2029 Strategic Agenda elevates security and defence – alongside traditional liberal-democratic priorities – to the core of the Union's quest for strategic autonomy. Faced with Russia's aggression, potential US unpredictability, and a strained relationship with China, the EU has no alternative than moving towards a fully fledged security and defence union. Only by uniting its capabilities, as in the form of the 'ReArm' Plan and Defence White Paper, the DSA and DMA as well as the European Sky Shield Initiative, can Europe act as a credible global player.

A clear majority of the European population agrees on the need for much closer cooperation among EU Member States and more EU-level solutions to face current challenges.

If enacted in full, the competitiveness compact could raise EU potential growth by ¾ to 1 percentage point over the next decade, close half of the current productivity gap with the US, and position Europe as the critical node in a wider coalition of liberal democracies. More importantly, it would shift the policy approach from a reactive to a preventive mode of governing and problem solving: Europe would fund its own security, power its green transformation, and create tech ecosystems where the best researchers and entrepreneurs choose to build instead of emigrating.

In sum, Europe's moment of truth has arrived. Fiscal space still exists, especially in Germany and northern Europe; private savings are abundant; and public support for strategic autonomy has never been higher. What is required now is not another round of vision documents, but concrete legislative timetables, binding budgets, and accountability for delivery. The reforms proposed here form a coherent, affordable, and urgently needed roadmap to ensure that, by the mid-2030s, the EU is not merely responding to external shocks but shaping the rules, standards, and technologies of the twenty-first century on its own terms.

Conclusion

None of the above will materialise without robust governance. It is important for the European Commission to track MFF execution, regulatory burden metrics, and capital market deepening against clear key performance indicators. An annual State of the Union competitiveness dashboard or report should make reform momentum visible to legislators, investors, and citizens alike. Although direct influence on national policies is limited in many policy areas, clear and transparent achievements or failures put political pressure on governments.

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ARTICLE

Draghi's Dilemma and the Ongoing Failure of Green Deals

Insights from Northvolt's Bankruptcy

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Citation suggestion: Christian Sandström, CS (2026). Draghi's Dilemma and the Ongoing Failure of Green Deals: Insights from Northvolt's Bankruptcy. *Future Europe*, 7(1), 91–101.

Abstract

This article offers a critical analysis of the potential fallacies of EU Green Deal industrial policies, using the case study of the massive bankruptcy of Swedish battery producer Northvolt. The article argues that extensive government support and political connections enabled the company to attract huge funding and expand rapidly despite lacking the necessary technical expertise and ability to compete with China. This fostered a culture of rent-seeking and moral hazard, where political skill was valued over the creation of a commercially viable product. In conclusion, it argues that instead of 'picking winners', this approach 'creates losers'; therefore, Europe should instead prioritise removing barriers such as overregulation and high taxes.

Introduction

The release by former Italian Prime Minister and ECB President Mario Draghi – sometimes referred to as 'Super Mario' – of his pessimistic report, 'The Future of European Competitiveness', in September 2024 caused quite a stir. Europe has set out on a bold journey towards sustainability, in part by merging industrial and environmental policies into comprehensive green deals (Mazzucato, 2021; 2022). The European Commission has introduced significant stimulus initiatives through various funding channels to help companies achieve a green transformation.

This article examines the internal dynamics of companies participating in the EU Green Deal, focusing on the bankruptcy of battery producer Northvolt. The case description and some of its interpretation is based upon a recently published book in Swedish by the author of this article (Sandström, 2025).

For several years, this Swedish company was the centrepiece of the EU's push for electrification and greater self-sufficiency. The article reveals how moral hazard and opportunistic behaviour contributed to a rapid, unsustainable expansion and subsequent collapse. Relatedly, the article argues that green deals tend to create firms which lack competitiveness. Northvolt's crash constitutes the largest bankruptcy in Sweden since the 1930s and serves as a warning for future industrial policy design.

Northvolt's mission was to manufacture the sustainable batteries, leveraging green electricity from northern Sweden, mainly from hydropower.

The article demonstrates how extensive government support can distort economic incentives and foster rent-seeking, lobbying, and regulatory capture (Holcombe, 2018; Sandström & Alm, 2022). Northvolt showcased significant financial and political acumen, securing both public and private backing. With skilled lobbyists and former ministers on board as shareholders, the company was able to unlock vast public funds throughout Europe, which in turn could be used to attract private money. In effect, competition for capital became a political process rather than following a commercial logic. In such circumstances, firms grow without necessarily displaying capabilities that make them competitive.

The following section summarises the findings of the Draghi Report and the conceptual framework for green deals and industrial policy. Subsequent sections delve into the Northvolt case in detail – from its founding and rapid growth to its abrupt bankruptcy – followed by a discussion of policy implications and concluding thoughts.

Draghi's report on Europe

The Draghi Report emphasised the urgent need for major investments across Europe and pointed out that the continent is currently lagging China and the US in terms of competitiveness (Draghi, 2024). For the European Union, the Green Deal and other green industrial policies have been promoted as ways to generate growth. When an established and senior figure such as Draghi says that Europe is facing economic problems, it is potentially an indirect criticism of current policies. At the very least, it is a reason to pay close attention.

Draghi's report is massive – more than 400 pages. It concludes that the EU must invest €800 billion to compete with the US and China in the long term. But beyond this – slightly oversimplified – message, much of the report has been forgotten. Statistics on Europe's competitiveness are not encouraging. Europe's share of the world economy has gradually decreased since the financial crisis of 2008–2009. The US recovered rapidly from 2010 onwards while Europe stagnated. After the financial crisis, the EU and the US had roughly the same GDP. Fifteen years later, the United States' GDP is 50% higher. Draghi's report shows that the main reason for Europe's setback is that productivity has developed more strongly in the US. As much as 72% of the GDP gap between the US and the EU is attributable to productivity, while only 28% is because Americans work more hours.

During the years 2008–2023, productivity growth in the EU averaged 0.5%. In the US, productivity grew by 1.5% per year during the same period. A one percentage point difference in yearly productivity improvement makes a big difference after a decade or so. Draghi delivered a diagnosis of Europe's economic condition, and a large part of that diagnosis – including the symptoms and underlying causes – deserves closer examination. Several harsh truths are mentioned in the report.

- Four of the world's 50 largest tech companies are European.
- The ratio between people of working age and retirees will shift from three-to-one to two-to-one by 2040.
- With such a decline in the working-age population, the current productivity growth of 0.7% per year will only be enough to maintain today's standard of living by 2050.

- Around 70% of major artificial intelligence (AI) breakthroughs since 2017 have come from the US.
- The largest European cloud service provider has a 2% market share within the EU.
- In quantum computing, five of the world's top ten companies are from the US and four are from China. None are from the EU.
- The US has five times more venture capital for seed funding than the EU.

None of these points themselves necessarily presents a problem. But when taken together, the outlines of a structural crisis become clear. All in all, the prospects for Europe look bleak. And according to Draghi's report, several indicators suggest that things will get worse if Europe does not pull itself together.

- An ageing population is shifting the balance between the working-age population and retirees.
- Growing geopolitical tensions are reducing opportunities for the export industry.
- In strategically important fields such as AI and digitalisation, the EU currently lacks competitiveness.

In sum, Draghi's report is an important attempt to revitalise Europe's economy by identifying some major weaknesses. Part of the solution has been described as large-scale government programmes, frequently referred to as missions or moonshots.

Missions and moonshots

During the period when the gap between Europe and the US has continued to grow, Europe has set out on an ambitious path towards sustainability, which has also been promoted to increase the continent's competitiveness. After the 2008 financial crisis, Western nations increasingly adopted large-scale industrial policies. Lessons regarding the challenges of successfully implementing interventionist innovation policies seem to have been largely forgotten (Lerner, 2009).

The COVID-19 pandemic further cemented this trend from 2020 and onwards as the European Commission introduced a temporary framework for state aid to allow unprecedented flexibility. Direct grants, loans, tax breaks, and guarantees were now allowed. Following the pandemic, and even more so after Russia's invasion of Ukraine in 2022, the EU further amended and extended the Temporary Crisis and Transition Framework (TCTF). This included increases in aid ceilings (i.e., magnitudes allowed for each company or sector) and broadened eligibility for compensation for high energy prices and subsidies for the green transition.

The framework, initially intended to end in 2020, has been extended several times and includes provisions active until at least the end of 2025. This renewed embrace of state-led capitalism, seen in expansive government programmes, deserves thorough analysis within a broader economic context (Henrekson, Sandström, & Stenkula, 2024; Wennberg & Sandström, 2022). Such policies have been successfully promoted under terms such as 'mission-oriented innovation policy' and 'the entrepreneurial state', advocated by economists such as Mariana Mazzucato and Dani Rodrik. Their frequent participation in high-profile events such as the World Economic Forum lends legitimacy to these expansive government efforts.

These thinkers argue that, just as the Apollo programme spurred US economic growth, similar 'moonshot' projects should be launched in other fields, combining public and private resources to tackle issues such as homelessness or cancer. To explain why these initiatives fail, seven interrelated reasons have been identified.

- Missions cannot solve highly complex problems;
- Politicians and bureaucrats are subject to self-interest;
- Policymakers lack essential information for effective mission planning;
- Missions are susceptible to rent-seeking and special interest capture;
- Missions disrupt market competition;
- Government support can create harmful incentives and moral hazard;
- Opportunity costs are frequently ignored (Henrekson, Sandström, & Stenkula, 2024).

These seven aspects of industrial policy are described briefly below.

Missions cannot solve highly complex problems

Mission-driven policies assume that policymakers can define, analyse, and steer solutions to major societal challenges. However, 'wicked' problems – such as climate change or inequality – are inherently ambiguous, involve countless interdependencies, and have no clear definition or optimal solution. Attempts to tackle these complexities via centralised missions often lead to unintended consequences or partial solutions, as governments lack the flexibility and adaptive capacity of decentralised market processes to address such fundamentally uncertain challenges.

Politicians and bureaucrats are subject to self-interest

Muldoon and Yonai (2023) argue that government officials, like all individuals, are motivated by their own interests, such as career advancement, political gains, or preserving bureaucratic power. Mission-oriented programmes may become vehicles for garnering votes, awarding contracts to

Photo by Rafael Garcin on Unsplash

favoured groups, or expanding bureaucratic budgets – rather than serving the public good. This self-interested behaviour often distorts mission selection and resource allocation.

Policymakers lack essential information for effective mission planning

Designing and implementing successful missions requires not only technical expertise but also detailed, real-time knowledge of needs, preferences, technological options, and evolving market conditions. Henrekson, Sandström, and Stenkula (2024) emphasise that this dispersed and tacit information is not centrally accessible and that policymakers are inherently limited in their ability to plan and adjust missions effectively, often leading to misaligned targets and obsolete investments.

Missions are susceptible to rent-seeking and special interest capture

Mission-oriented initiatives create substantial funding opportunities and regulatory privileges. This attracts lobbyists and special interest groups who seek to secure subsidies, contracts, or protective regulations that serve their own benefit. Rent-seeking leads to inefficient allocation of resources, as public funds are redirected towards politically influential groups instead of the most productive or innovative actors.

Missions disrupt market competition

By design, missions channel public resources, policy privileges, and political attention to chosen sectors or firms. This distorts the competitive landscape, disadvantages non-selected actors, and suppresses the discovery process of decentralised markets. Such interventions can block new technologies and crowd out alternative entrepreneurial efforts, undermining dynamism and long-term innovation.

Government support can create harmful incentives and moral hazard

Heavy public support for targeted industries often shields firms from market discipline and risk, encouraging complacency and inefficient practices. Firms may adjust their strategies to maximise political support or subsidy receipt rather than focusing on productivity or innovation. These policies therefore breed dependency and 'moral hazard', where companies undertake risky or unproductive projects under the assumption that the government will absorb the losses (Sandström & Alm, 2022; Sandström, 2023).

Opportunity costs are frequently ignored

Mission-oriented industrial policy typically overlooks the value of alternative uses of resources. Funds and political attention allocated to missions represent investments forgone elsewhere – whether in other public services, infrastructure, or broader innovation support. As opportunity costs are rarely quantified or openly debated, mission policies can lead to inefficient resource allocation at society's expense. As will be shown, many of these factors help explain Northvolt's meteoric rise and equally swift downfall. While much attention has been paid to why industrial policies fail, less is known about the failure of green industrial policies – efforts to drive both industrial renewal and sustainability. The causes of failure may overlap but also differ in scale and nature.

Case description

This section offers a factual account of Northvolt's ascent and decline. The company was founded as SGF Energy in 2015 by Peter Carlsson and Paolo Cerutti. Upon announcing that the company would try to build Europe's largest battery factory, the name was changed to Northvolt. The other two co-founders were Harald Mix and Carl-Erik Lagercrantz. Carlsson and Cerutti, both Europeans, had worked at Tesla, while Mix and Lagercrantz brought experience from private equity and as founders and owners of Vargas Holding, an investment firm focused on 'green' ventures.

After a successful tenure at Ericsson and later in semiconductors, Peter Carlsson joined Tesla under Elon Musk from 2011 to 2015. The media quickly dubbed him 'the Tesla Swede', and his association with Tesla's green success gave him a strong reputation. Upon starting Northvolt, Carlsson admitted in interviews to being deeply exhausted from his Tesla years. Simultaneously, he was increasingly called 'Europe's battery messiah'.

Rapid expansion

Northvolt's mission was to manufacture the sustainable batteries, leveraging green electricity from northern Sweden, mainly from hydropower. The first major production facility was established in Skellefteå, a city with significant hydropower resources. Battery recycling was also a key focus. Northvolt was launched during a period of rising trade tensions between Europe and China. Since China dominated much of the battery supply chain, a key motivation for Northvolt was to boost Europe's strategic independence. In a speech for Business Europe in Brussels, Lagercrantz stated on 5 March 2020: 'You cannot rely on actors outside of Europe or China or South Korea predominantly' (YouTube 2020). After choosing to specialise in lithium batteries, Northvolt scaled up rapidly. The company had increased its payroll to 50 employees in two years two years later, representing 25 nationalities. By 2018, the workforce reached 100, then 340 in 2019, and

790 by 2020. Employee numbers nearly doubled each year, peaking at almost 6,000 in 2023 (see Figure 1).

This rapid growth brought significant challenges. Production was hampered by delays and quality issues, partly due to the fast pace and limited battery manufacturing expertise. Making batteries is by no means a trivial task as it requires considerable knowledge and experience. The chemical properties of batteries make the process volatile and dangerous in many ways. Another factor was Northvolt's reliance on Chinese suppliers for machinery. For several years, hundreds of Chinese guest workers operated the equipment in Skellefteå.

One interviewee remarked: 'The Chinese were in complete control and did whatever they wanted.' In some parts of the factory, up to 75% of the machines were Chinese-made. Maintenance staff were often surprised by the machinery's poor quality, sometimes suspecting sabotage. Some interviewees noted that the equipment from Wuxi Lead Equipment was over 30 years old. Swedish staff had to use Google Translate to operate the machines.

Positive media coverage

Despite all the internal challenges the firm encountered, Northvolt managed to maintain a positive image in the popular media. One reason for this was the almost cult-like coverage of the firm's CEO, Peter Carlsson. As a result of his experience at Tesla, Carlsson was perfectly positioned to build a battery factory in Sweden.

At least that was the story sold to the Swedish media. The star status acquired by working for the super-entrepreneur Musk and the green mega-success of Tesla cast a dazzling light around him. Those who have heard Carlsson speak also testify that he is an outstanding orator who is able to inspire and electrify an audience. He was increasingly referred to as 'battery Jesus' as he preached the gospel of green and sustainable batteries.

In reality, he was severely burned out after his years working at Tesla. He had developed a stress-related rheumatic disease, which was one of the main reasons he quit. Another person with insight into Carlsson's early career described him as the most skilled purchaser he had ever met. A good purchaser must possess the ability to build long-term partnerships

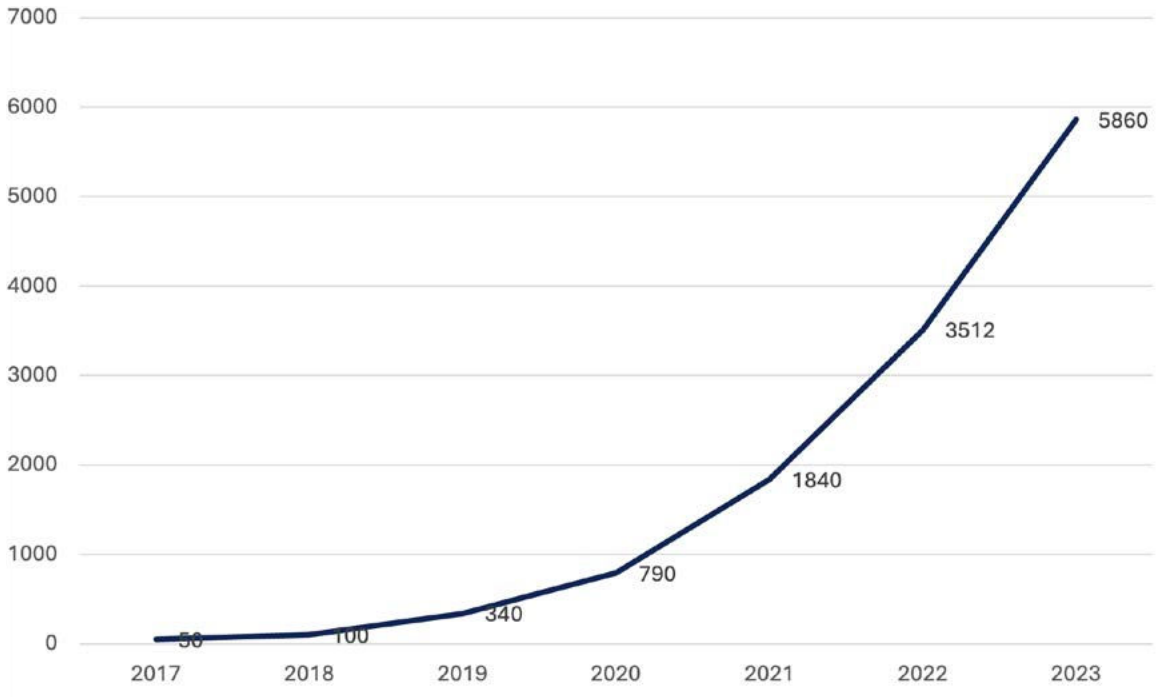

Figure 1. Number of employees at Northvolt, 2017–2023.
Source: Northvolt Annual Report 2023.

and ensure mutual benefit. Carlsson's legacy with Tesla clearly indicates that this was the case as he was increasingly in charge of supply chain management at the firm.

However, being a highly skilled purchaser for Musk at Tesla does not necessarily translate into having the skills to build a battery factory from scratch in northern Sweden. A business executive described Carlsson as 'incredibly bad at building companies and establishing functioning production'. Leif Östling, the former CEO of Scania, in a conversation with the author, said that he met Carlsson around 2019 and pointed out to him the challenges of building a sophisticated process industry – not least for manufacturing something as sophisticated and sensitive as batteries. According to Östling, Carlsson looked at him with a bewildered expression.

International expansion

Rather than resolving operational issues in Sweden, Northvolt pursued international growth. By 2020, it had a presence in Japan, Germany, Portugal, Poland, and Norway, with Canada added later. A closer look at Northvolt's expansion reveals that public funding played a major role in attracting the company to new regions. According to Northvolt's press releases, authorities in Quebec, Canada, offered up more than 30 billion Swedish kronor ($3.3 billion) to entice Northvolt to the province.

Ultimately, Northvolt could not compete with China due to insufficient expertise in battery technology and manufacturing.

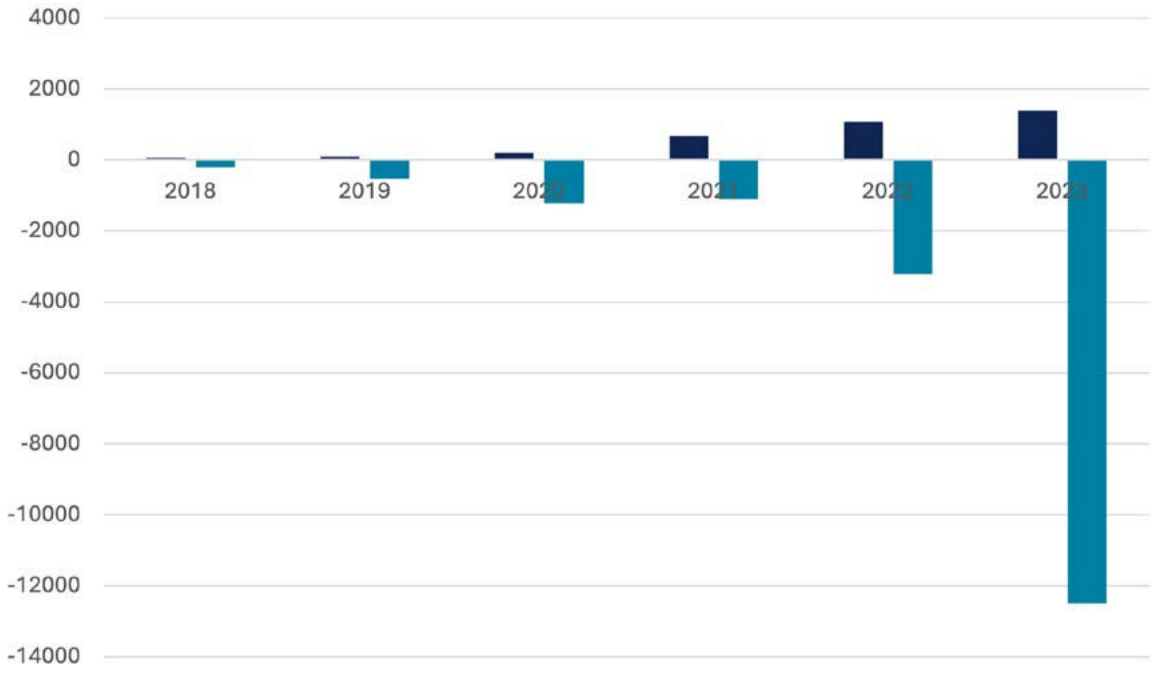

Figure 2. Turnover and operating profit for Northvolt, 2018–2023.
Source: Northvolt Annual Report 2023.

Company sources also reveal that in Germany, Northvolt was promised 9 billion SEK – 7 billion SEK in direct aid and 2 billion SEK in loan guarantees. The planned venture in Portugal did not materialise, but Northvolt would have joined a consortium sharing nearly €9 billion. For its Poland operations in Gdansk, Northvolt received 750 million SEK from the EU Innovation Fund.

Financial difficulties

In its 2023 annual report, released in 2024, Carlsson painted an optimistic picture in his letter to shareholders: 'Our position is stronger than ever, and we are leading in setting the benchmark for sustainability in the battery industry.' Board chairman Jim Hagemann Snabe wrote, 'Northvolt is poised to emerge as one of the most significant companies of our time'.

However, the financial data told a different story. Ongoing operational problems and international expansion led to mounting losses. In 2023, revenue stagnated, but losses ballooned to 12.5 billion SEK. A company burning through capital at this rate quickly faces insolvency. To survive, it must either secure new funding or become profitable. Northvolt never came close to making profitable batteries.

Why did the company fail to attract new investment in late 2024? A key reason was its heavy debt load. With such high debts, any new funding would go towards debt repayment. At this point, banks and lenders withdrew. With over 80 billion SEK in debt, few were willing to invest further. The only remaining path was to generate profits from its operating business. As can be seen in Figure 2, the opposite scenario developed with losses accelerating.

BMW cancelled a €2 billion battery cell contract with Northvolt in June 2024 due to production delays and quality issues, as Northvolt was roughly two years behind schedule and struggling with high defect rates in its Swedish factory. The cells were originally intended for BMW's current EV models, but persistent supply issues forced BMW to turn to other suppliers, such as Samsung SDI.

Chinese competition

Furthermore, Northvolt faced formidable Chinese rivals and was far from catching up. By 2020, China had established a dominant position in electric vehicles and batteries, controlling over 70% of global lithium-ion battery production and the entire supply chain.

China's share of global electric vehicle sales is projected to exceed 60% by 2025. In January, Chinese brands accounted for 76% of worldwide electric vehicle sales, according to the International Energy Agency (IEA). Of the top ten electric vehicle manufacturers by sales in 2024, eight were Chinese, including BYD, SAIC, and Geely-Volvo. The IEA states (2024) that China produced 75% of the world's lithium-ion batteries in 2023. CATL held a 38% global market share in 2024, with BYD at 17%. China also controlled nearly 90% of anode material production and over 75% of the refining of key resources such as lithium, nickel, and cobalt.

China's dominance was evident before Northvolt's expansion in 2020. A group of senior battery experts had warned Northvolt's leadership against competing with China in lithium batteries, citing China's control over resources, lack of environmental constraints, subsidies, and advanced manufacturing. Despite being aware of these risks, Northvolt's management chose to proceed.

Top scholars warned Northvolt

In view of China's dominance, it is, in retrospect, clear how impossible the task of taking up the fight was. Many experts warned Carlsson and Northvolt's management about this at an early stage. According to Sandström (2025), Northvolt's leadership received clear signals from the world's top researchers already in 2020 that investment in lithium batteries was doomed to fail. Several meetings were held in 2020 between the company's then management group and some of the world's foremost battery experts.

At this point, it was widely accepted that battery manufacturing is complicated and the sector faced fierce competition. Several of the world's leading battery technology researchers analysed the prospects for developing lithium battery manufacturing in Europe. A few weeks after one of these studies was completed, 12 professors unanimously advised Carlsson and Northvolt's management against investing in lithium batteries. In their presentation they stated: 'Given China's dominance and control over raw materials, access and processing of lithium, cheap labour, lack of environmental concerns, subsidies, advanced manufacturing equipment and expertise, our recommendation is not to invest in lithium batteries' (Affärsvärlden, 2025).

During these meetings, the availability of rare earth metals was also discussed. According to the professors, it was impossible for the Western world to extract these in a sustainable, ethical, and cost-effective way. China had made a strategic decision to win this race at any cost: 'Entire regions are poisoned – the water, the soil, and the air – because of the extraction of rare metals. Without concern for workers' health or the environment, and with government subsidies, China has taken control of global raw material supplies' (Affärsvärlden, 2025).

The researchers recommended that Carlsson invest in other battery technologies, such as sodium and other safe substances. When one of the presentations ended, Northvolt's management waited for Carlsson to ask a question or make

a comment, but he said nothing. A person with insight into these meetings shared their view: 'Carlsson and Northvolt's management were well informed about the risks and issues with lithium. That they nonetheless continued their chosen path means they are responsible for putting the company in an impossible situation' (Sandström, 2025, p. 66)

The implications of the researchers' recommendations are significant. Keep in mind that Northvolt had about 800 employees in 2020, when Carlsson and the management received clear advice not to invest in lithium. This advice was ignored, and the number of employees grew to almost 6,000, of whom hundreds also moved to Skellefteå.

Political connections

From the outset, Northvolt's founders worked to build strong political ties. In a 2020 speech, Lagercrantz said the company had established 'a very close collaboration with the EU Commission'. Among the shareholders, Anders Kempe, a prominent lobbyist, was both an investor and a provider of public affairs services. Former industry minister Anders Sundström also held shares in and advised the company. Another former minister, Thomas Östros, served as a vice president at the European Investment Bank (EIB). On 16 January 2024, the EIB announced that a loan totalling more than $1 billion had been granted to Northvolt and Östros stated: 'The EIB, with backing from the European Commission, has supported Northvolt from the very beginning – from financing the demonstration plant in Västerås in 2018 to the first phase of the gigafactory in Skellefteå. We recognized early on Northvolt's potential and importance for the energy transition that must take place' (EIB, 2024).

Ibrahim Baylan, also a former minister, was a registered lobbyist in Brussels for Northvolt's business group. These connections likely helped Northvolt secure substantial public funding. As early as 2017, the company reported partnerships with Sweden's Innovation Agency, Vinnova, and the Energy Agency. Other public funding included €1 billion from Sweden's national debt office. This loan was never activated as the government had put restrictions on the loans. If Northvolt never succeeded at making batteries, the funding agreement would not be activated.

Northvolt also enjoyed significant positive publicity. Ministers and EU officials praised the project, especially when new sites were announced. Carlsson appeared in international media alongside leaders such as Canada's Justin Trudeau and Germany's Olaf Scholz in 2024. In Sweden, Prime Minister Stefan Löfven lauded the company, saying on 19 October 2021, 'the entire world can now see that the future is in Skellefteå and that these batteries will have a great impact on the green transition'. EU Commissioner Maroš Šefčovič also publicly commended the company.

Analysis: The creation of a loser

This section examines the reasons behind Northvolt's failure and connects them to the broader context of green industrial policy. Several factors contributed to the company's downfall and are directly or indirectly related to the ones identified by Henrekson, Sandström, and Stenkula (2024).

Ultimately, Northvolt could not compete with China due to insufficient expertise in battery technology and manufacturing. Research in strategic management and innovation policy highlights that building capabilities takes time and effort (Alves, 2024). Attempting to scale globally with little prior experience proved overly ambitious. Interviewees confirmed that Carlsson lacked strong manufacturing knowledge and that his co-founders from Vargas had little background in advanced manufacturing. Skellefteå, Northvolt's main base, had no history of such large projects, no local university, and a limited skilled labour pool. Despite international recruitment, these efforts fell short.

Northvolt's ability to attract vast resources and grow to nearly 6,000 employees, despite lacking technical skills, was due to its political and financial strengths. The founders leveraged political connections to unlock large amounts of public funding in Sweden, the EU, and beyond. In this regard, the firm became a subsidy entrepreneur as it systematically extracted public resources (Gustafsson, Tingvall, & Halvarsson, 2020). Political and financial strengths could not make up for the absence of industrial capabilities. Chinese competitors had spent decades building expertise and securing resources. Even if Northvolt had succeeded in scaling production, it would have struggled to produce batteries cost-effectively.

This case study demonstrates how a company can continue to expand and accumulate losses despite lacking capabilities and facing tough competition. Northvolt's rapid international expansion, despite operational struggles in Sweden, was clearly incentivised by public funding from countries such as Germany and Canada. With battery production having been made a political priority in Sweden and Europe, there was strong public support for Northvolt. The media, policymakers, and academics failed to scrutinise the company until the first lay-offs in September 2024 signalled trouble.

Green deals and Northvolt's bankruptcy

Northvolt's bankruptcy highlights the risks of merging environmental and industrial policies into 'green deals'. The factors identified above collectively explain both the company's rapid growth and its dramatic collapse, illustrating some unintended consequences of green industrial policy.

<u>The moral hazard of green deals</u>
'Moonshot' policies are often defended with the claim

that public funding attracts private investment. Mazzucato argues that public money does not 'crowd out' private funds but instead mobilises them for socially beneficial goals. The Northvolt case supports this view: the company's rapid expansion would not have been possible without public funding, which in turn drew in large private investments. In this sense, a 'crowding in' effect occurred.

However, this also created a dilemma. Moral hazard arises when an entity takes excessive risks because others bear the downside. Public funding appears to have encouraged Northvolt to take on too much risk, with expansion plans disconnected from the technological and economic realities of Sweden and Europe. In the Northvolt case, government money fuelled international growth. As a result, private gains were possible, but losses were largely socialised. The Swedish business newspaper Dagens Industri estimated that Northvolt's total public funding amounted to 88 billion SEK (Dagens Industri, 2024). A tiny share of this figure comprised direct subsidies and a large part came from countries other than Sweden and in the form of credit guarantees or cheap loans. In total, more than 200 billion SEK went into this venture. However, states were not granted any of the upside in terms of ownership.

Public funding appears to have encouraged Northvolt to take on too much risk, with expansion plans disconnected from the technological and economic realities of Sweden and Europe.

Rent-seeking and political capitalism

Northvolt's story also shows how moral hazard can develop in a context where public funds are allocated based on political influence rather than entrepreneurial skill. Rent-seeking explains how the company accessed such large amounts of public money, skilfully pursuing research and development grants, 'green loans', and other funding. When resources are distributed politically, firms with better lobbying capabilities tend to secure the most funding. This was the case for Northvolt, which obtained large sums unmatched by technical expertise. The exact mechanisms of such political allocation of resources are usually difficult to uncover. But the case shows how Northvolt was strategic in its way to obtain political connections both in Sweden and in the EU. Similarly, some of Sweden's more renowned lobbyists owned shares in the business and enjoyed various roles as advisers to Northvolt.

Conclusion: 'Picking winners' vs 'creating losers'

Northvolt's collapse ranks among the largest bankruptcies in modern European history and serves as an example of how green deals can lead to speculative bubbles. Critics of industrial policy often argue that governments cannot 'pick winners', emphasising the unpredictable evolution of business and technology and the limits of administrative decision-making.

The Northvolt case and the logic of green deals suggest a different problem: rather than struggling to pick winners, green industrial policies may instead 'create losers'. In other words, these policies foster behaviours and capabilities that make firms uncompetitive. Several mechanisms contribute to this 'creating losers' problem. Firstly, public funding distorts incentives and leads to moral hazard. Secondly, companies become adept at securing political favours rather than developing competitive market offerings.

Revisiting Draghi's report a year later, its conclusions regarding the significant need for investments in Europe appear valid. Europe suffers from too little investment, and the continent is losing out in terms of competitiveness to the US and to China. The Northvolt bankruptcy provides a cautionary note regarding the risks and challenges related to implementing industrial policies to improve Europe's competitiveness. Large-scale public support may turn out to be counterproductive if those policies are not designed properly.

While Draghi's report correctly identifies major problems with Europe's current level of competitiveness, he also outlined a need for large-scale investment. The findings presented in this article suggest that the EU needs to think carefully about how these investments are to be

generated. It is worth emphasising that Europe has adopted more interventionist industrial policies since 2008. This trend has accelerated since the pandemic. Attempts to increase investment levels may result in more bankruptcies like that of Northvolt if they are not crafted skilfully.

In particular, the results here suggest that making large pools of government funds available for socially desirable objectives is inherently risky as these funds result in moral hazard and various levels of crony capitalism. A more viable strategy is to try to improve the conditions for setting up and growing businesses in Europe. Making it attractive for corporations to invest in Europe is probably a better way to address Draghi's' dilemma than creating large government programmes and state-driven investments.

Industrial policy therefore needs to be inverted. Less focus should be devoted to providing 'targeted support' for various political objectives such as combating climate change. It is more important to study and identify why firms do not grow in Europe. Overregulation might be an important reason for limited growth. High taxes and inflexible labour markets may also be critical growth barriers.

Theories on 'market failure' or 'funding gaps' may provide indications that policy intervention is needed. But often, market failure is in reality a government failure. There is a lack of seed financing for start-ups due to factors other than market failure. Identifying such barriers and addressing them by removing government obstacles would be a less risky way to increase EU competitiveness in the long run.

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ARTICLE

Smarter Rules, Stronger Markets

How the EU Can Streamline its Digital Agenda

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Citation suggestion: Diana Năsulea, DN (2026). ASmarter Rules, Stronger Markets: How the EU Can Streamline Its Digital Agenda. *Future Europe*, 7(1), 102–114.

Abstract

The European Union has positioned itself as the global leader in regulating digital space via the Digital Services Act, Digital Markets Act, and AI Act. Although the aim has been to improve consumer protection and ensure fair competition, these Acts collectively threaten to undermine the competitiveness of the EU globally. Based on the Draghi Report's call for a new growth agenda, this article proposes a shift towards a clear, competitiveness-based digital strategy founded on liberal principles, open markets, and balanced regulation. It proposes an 'Omnibus Digital Competitiveness Package' to simplify the EU's digital rulebook, to include a principles-based framework for digital regulation, competitiveness tests as a conditionality, lighter compliance procedures for SMEs, and improved institutional coordination. In sum, it is essential to ensure that digital rules promote rights and market equity while also encouraging innovation and entrepreneurship in order to decrease fragmentation, enhance legal certainty, and unleash a more vibrant digital economy.

Introduction

The European Union has positioned itself as a global pioneer in digital regulation, enacting landmark frameworks such as the Digital Services Act (DSA), Digital Markets Act (DMA), and a proposed Artificial Intelligence Act (AI Act). These initiatives reflect a rights-driven, consumer-protective ethos aiming to

make online spaces safer, avoid monopolistic practices by Big Tech 'gatekeepers', and set rules for emerging technologies. Such measures have earned the EU a reputation as a 'regulatory superpower' (Bradford, 2024).

However, this ambitious rule-making also poses a crucial question: is Europe's rush to digitisation inadvertently weakening its capacity to innovate and compete in the world? In his 2024 competitiveness report, former Italian Prime Minister Mario Draghi warned that '[t]he EU's competitiveness will increasingly depend on the digitalisation of all sectors and on building strengths in advanced technologies, which will drive investment, job and wealth creation' (Draghi, 2024b). But the European digital economy – from small entrepreneurial start-ups to established technology companies – is frequently confronted with the chaotic spread of duplicative or overlapping regulations and burdensome compliance measures that can suppress innovation instead of nurturing it.

The EU must shift away from ad hoc, fragmented digital regulation and embrace a more principled, competitiveness-based approach to tech regulation. Such an approach, built on liberal principles of open markets, proportionate action, and individual empowerment, would ensure that protecting users and enabling fair markets does not stifle Europe's digital dynamism. The article starts by analysing the EU's current digital regulation and showing how good intentions in regulation can have unintended consequences for innovation and development. It proceeds to describe the ways in which the EU can make its digital strategy more effective through 1) decreasing regulatory fragmentation and the overall compliance burden; 2) enforcing greater coordination among institutions and among Member States; and 3) putting competitiveness and innovation at the centre of digital policy. Its foundation is a proposed 'Omnibus Digital Competitiveness Package' that would harmonise and future-proof EU technology regulation within a principles-based framework. Instead of demanding complete deregulation or a 'race to the bottom' in respect of rule-making, the goal is smarter regulation – laws that deliver public interest outcomes in a proportionate, innovation-supportive manner. By calling for wiser regulation in favour of resilient markets, the EU can maintain vital rights and balance in markets while unleashing entrepreneurship and innovation. In doing so, the 'Brussels effect' (Bradford, 2024) of EU rule export can be transformed from a pattern of overregulation into an international standard worth emulating. The stakes are high: Europe's ability to remain a centre of digital innovation – and close its growing gap with the US and China – hinges on achieving the right balance (Guinea & Sharma, 2025).

Europe's ambitious digital rulebook and its unintended consequences

In the last decade, the EU has implemented an unprecedented set of digital laws. The DSA (Official Journal of the European Union, 2022), adopted in 2022, establishes overall standards for online platforms to regulate illegal content, reduce the danger to society, and enhance transparency. The DMA, in force as of 2023 (European Commission, 2022), places a vast array of ex ante 'dos and don'ts' on a few very large online platforms that have been considered gatekeepers, with the aim of encouraging competition and equality in digital markets (Năsulea & Năsulea, 2025). Simultaneously, the draft AI Act (Official Journal of the European Union, 2024) seeks to be the first horizontal regulation on AI globally, adopting a risk-based approach to establish conditions on (or prohibit entirely) certain AI systems. In isolation, each of these legislations is tackling valid concerns of the public – ranging from consumer protection and privacy to fair competition and ethical use of technology. Together, they demonstrate the EU's commitment to shaping the digital future by imposing high levels of regulation.

Massive compliance costs and complicated obligations will most likely weigh most heavily on small businesses and start-ups, although the latter may not be the immediate object of regulation.

But while they have their merits, these broad brushstroke rules also have staggering compliance

expenses and place limitations on European companies engaging in the digital economy. EU legislators have now passed close to 100 technology-oriented legislative acts with thousands of pages of provisions and restrictions (Guinea & Sharma, 2025). While each particular rule might impose a fair burden, collectively they constitute a daunting thicket of duties while also negatively impacting the continent's competitiveness. For example, the lobby group Computers and Communications Industry Association (CCIA) Europe, whose members include Alphabet, Meta, and Apple, recently urged the EU to halt the implementation of the AI Act, claiming that it risks jeopardising the continent's AI aspirations (Reuters, 2025).

Crucially, massive compliance costs and complicated obligations will most likely weigh most heavily on small businesses and start-ups, although the latter may not be the immediate object of regulation. Established Big Tech companies can simply dispatch battalions of engineers and lawyers to secure compliance – usually paying regulatory fines as an additional business cost. Conversely, a youthful small or medium-sized enterprise (SME) or start-up may struggle to comprehend complex new data processing regulation, content moderation, or algorithmic transparency rules. This has an innovation-squelching effect: investors become more risk-averse towards European technology companies, and entrepreneurs become more risk-averse in launching new services, lest they inadvertently trigger one of the many new legal landmines. As noted by CCIA (2024), 'Europe is drowning in a patchwork of new digital rules that hamper its competitiveness'. The report concludes that the regulatory burden on the tech sector in Europe is now 'truly excessive and self-defeating, hurting the economy' (CCIA, 2024).

Multiple analyses highlight the way in which well-intentioned legislation can cause harm by discouraging innovation and competition. Stagnaro and Năsulea (2025) explain that while EU digital regulation 'aims to protect users and promote competition', it imposes cumbersome tasks which can hinder economic vibrancy. In a few instances, firms have even been discouraged from experimenting with new technologies or exploring new business models due to fear of contravening unknown rules. For example, the General Data Protection Regulation (GDPR) enhanced user data protection but considerably increased the cost of data-driven innovation. There is empirical evidence that since the introduction of the GDPR, some European companies have had to erase or forgo valuable data assets – EU companies kept 26% less data on average than their US counterparts two years after the GDPR – and reduce computing facilities by approximately 15% (Demirer et al., 2024). This reduction in data consumption has had ripple effects: new app adoption rates in Europe fell by half, and the business landscape became even more skewed in favour of major incumbents (who had the resources to adapt and comply) at the expense of start-ups. In short, an overly restrictive data policy can assist in discrediting the very 'digital endowments' (such as data and skills) that companies require in order to succeed in the digital economy.

The early deployment of the DMA is similarly providing cautionary tales. The DMA aims to encourage competition by stopping Big Tech gatekeepers from employing their ecosystems in an anti-competitive manner. But its sweeping prohibitions – such as strict prohibitions on merging user data across services and favouring one's own products on app stores – can paradoxically strangle valuable integrations and innovative features. Indeed, some US technology companies have suspended or slowed their rollout of new services and products to Europe because they were unsure how the DMA would be implemented (Năsulea & Năsulea, 2025). Consumers in Europe therefore risk experiencing innovation later than elsewhere (or never), leading to the EU providing a 'second-class digital experience' (Năsulea & Năsulea, 2025). Besides, when vague, broad-based rules are unclear about how to conduct business, firms will err on the side of caution and only enact humble compliance policies rather than more visionary innovations. This leads to the development of a culture of regulatory uncertainty in which firms refuse to take risks, enter new markets, or introduce new technologies out of fear that the rules will change or that their actions will not be compliant (Năsulea & Năsulea, 2025). This hesitancy is especially damaging for smaller European firms and start-ups: if expanding into the EU market means navigating a constantly evolving set of regulatory requirements, often differing in scope and enforcement between Member States, many of these potential innovators will simply opt out or shift their efforts to more predictable environments. In the long run, this regulatory fragmentation undermines Europe's strategic goal of fostering homegrown tech champions and building a truly integrated digital Single Market.

To conclude, more regulation is not necessarily better regulation. While the EU's assertive digital rulebook tackles legitimate concerns, its overall effect can be one of regulatory overload (Schneider, 2024). Europe's information and communications technology sector already contributes less to the EU economy in comparison with the US tech industry, and technology diffusion has been said to be slower in Europe than it is in the US (Guinea & Sharma, 2025). And if Europe's policy response to tech underperformance is mainly to impose more rules, it might be addressing the symptoms rather than the disease – or worse still, a cure with side effects of its own. The following sections look at two of the most significant aspects of this challenge – fragmentation and institutional coordination – before moving on to how wiser, leaner regulation might enable the compatibility of Europe's twin goals: digital leadership and high standards.

Fragmentation and overlap: The costs of a patchwork approach

One of the most problematic aspects of the current EU digital strategy is regulatory fragmentation. Ironically, as Brussels is implementing ever more pan-European regulations for harmonising the digital market, we encounter fragmentation in different laws, in national jurisdictions, and in regulatory authorities. This not only multiplies compliance complexity, as outlined above, but also hinders the uniformity and efficiency of the rules themselves. Addressing this problem is key to a more streamlined digital regulatory agenda.

Fragmentation across laws

EU digital regulation has been historically authored in silos, each focusing on a distinct topic, for example, content liability (DSA), platform competition (DMA), data protection (GDPR), AI (AI Act), data governance and sharing (Data Governance Act, Data Act), or cybersecurity (NIS Directive, Cyber Resilience Act). Specialisation is beneficial, but it has led to overlapping or conflicting requirements for companies. To take just one example, a platform using AI to detect and remove harmful content may be required under the DSA to act swiftly to eliminate illegal material, while the GDPR demands strict safeguards for personal data processed in that process, and the AI Act mandates transparency in algorithmic decisions. These legislations were not written as components of one set of laws, so they may not necessarily mesh. Definitions and nomenclature (e.g., what constitutes 'harmful content' or 'high-risk AI') will vary between statutes, and compliance processes will typically be stand-alone. Such non-interoperability of regulation raises transaction costs. A firm cannot impose 'compliance once' and meet all regulatory requirements; it will need to have several concurrent compliance programmes. The lack of a comprehensive, principles-driven system means that companies must approach each new law as a new compliance project, constructing what has been referred to as a cottage industry of compliance rather than actual innovation. Merging and streamlining these needs, where feasible, would eliminate duplication and uncertainty. As this article will recommend, an Omnibus Digital Act creating a single master framework would merge these parallel tracks into a more integrated whole.

Fragmentation across borders

Despite EU-level laws which, in principle, are the same everywhere, enforcement and implementation often vary between Member States, leading to a de facto patchwork. Under the GDPR, for instance, national Data Protection Authorities (DPAs) (EDPB, n.d.) are responsible for enforcement, leading to divergent interpretations and differing priorities. Some DPAs – such as Spain's – have taken a more proactive and stringent approach, while others are under-resourced or less assertive, creating an uneven playing field. This inconsistency has long been a concern among digital operators and commentators (Stagnaro & Năsulea, 2025). The European Data Protection Board (EDPB) was supposed to encourage a harmonised application of the GDPR, but operational discrepancies persist (Granmar, 2021). In the same way, the DSA appoints national Digital Services Coordinators (European Commission, n.d.) alongside the European Commission's oversight for very large platforms, while the DMA is implemented centrally by the Commission but does not prevent Member States from applying national competition tools in parallel.

Despite the DMA's theoretical aim of establishing an EU-wide harmonised regulation of the digital platform, its enactment has not eliminated fragmentation. Most Member States, including Belgium, France, Germany, Hungary, and Italy, had enacted their own digital competition regimes prior to the adoption of the DMA. Instead of reserving enforcement in a single European regime, the DMA has established yet another layer (Kiss, 2023) of regulatory complexity by requiring gatekeepers to navigate both EU-level rules and pre-existing national laws. In particular, Germany has made its abuse-of-dominance rules more effective by revising its competition law (Martinez, 2022), while France introduced a series of sector-specific regulations targeting abuse of economic dependence – rules that can apply to firms outside traditional dominance thresholds. Such overlaps increase the risk of dual-track enforcement: companies may be subject to parallel investigations at both EU and national levels for the same conduct, raising legal uncertainty and potential ne bis in idem (double jeopardy) concerns. As Buttaboni, Colangelo, and Floridi (2025) put it, although the DMA aims to unify digital platform regulation, the result may be an even more fragmented landscape as redundant regulatory actions multiply. Without stronger coordination mechanisms, the European Commission's voice on digital policy risks being diluted by 27 competing national interpretations.

Fragmentation of oversight and expertise

A related issue is the dispersion of regulatory oversight among many bodies. European regulation of the digital space is overseen by a mosaic of regulators – data protection regulators, competition regulators, consumer protection bodies, audiovisual media regulators, telecom regulators (for some online communications), as well as recently established ones such as the AI Office and the European Board of Digital Services (proposed by the DSA). Each one has its own mission, culture, and level of expertise. This can result in siloed decision-making, where a single regulator is only thinking about its own mandate without thinking about the broader implications for Europe's digital competitiveness. It can also result in turf wars or gaps. Take, for instance, an issue involving both competition and privacy (e.g., digital ads dominated by a few players). Who takes the lead? The new response can be through

simultaneous action by a competition authority (either under the DMA or under competition law) and a data protection authority (under the GDPR) – a redundant procedure for the regulator as well as for the regulated party. Other issues might fall through the cracks if no single authority has clear jurisdiction. Inadequate institutional coordination not only burdens businesses with duplicate audits and penalties but could lead to conflicting findings or ambiguous regulation.

Any attempt to render the digital agenda more rational must address this fragmentation head-on by harmonising and rationalising rules, creating mutual mechanisms between EU and national institutions, and even possibly consolidating control functions for the digital economy (Freshfields, 2025). The next section discusses how greater coordination and governance can help reach that goal, paving the way for our subsequent proposals on more integrated regulation.

In a digital landscape shaped by the rapid interplay of economics, technology, and society, reflexive, piecemeal governance cannot keep pace with innovation.

Towards better coordination and governance in digital regulation

If Europe's digital competitiveness rests on a delicate balance, two key threats undermine it: regulatory fragmentation and the lack of institutional coordination. Fragmentation occurs when divergent national laws and enforcement practices dilute the EU's efforts at harmonisation, while the lack of institutional coordination refers to misalignment both among EU institutions themselves and between the EU and its Member States. In a digital landscape shaped by the rapid interplay of economics, technology, and society, reflexive, piecemeal governance cannot keep pace with innovation. In order not to stifle growth, the EU must build a more coherent and responsive regulatory framework – one that ensures both horizontal coordination (between EU institutions and agencies) and vertical coordination (between the EU and Member State governments).

Breaking down silos in Brussels

Within the EU institutional set-up, digital policy matters span Commissioners' and Directorates-Generals' (DGs) portfolios – ranging from DG CONNECT (communications networks, content, and digital economy) and DG COMP (competition), to DG JUST (justice, data protection) and others such as DG GROW (internal market) or DG FISMA (financial services and capital markets union) (Jaursch, 2024). Over the past two years, significant digital documents have at times been dealt with in parallel by various Commission offices (for example, the DMA by competition authorities, the DSA by digital single market authorities, the Data Act by internal market authorities, etc.), frequently based on conflicting guiding principles. A more holistic approach would ensure that competitiveness and innovation interests are always considered by all digital-related proposals, irrespective of the lead DG (Draghi, 2024b). One proposal is to create an inter-service 'digital competitiveness taskforce' in the Commission to screen and coordinate key digital regulation projects. This would reflect how the Regulatory Scrutiny Board reviews impact assessments but with the express remit to ask whether new regulations would further Europe's agenda for innovation and competitiveness. The recent creation of a Commissioner for Competition and Digital (a dual role) has helped bridge perspectives, but more can be done to institutionalise collaboration. As Draghi's (2024a; 2024b) report recommends, the Commission should develop a single methodology for assessing impacts on competitiveness across all its departments and apply it systematically in impact assessments for new proposals. This would ensure that, for example, a new AI transparency requirement is vetted not just for ethics, but also for its economic effect on start-ups.

Strengthening EU–national coordination

Since the enforcement of online regulations is usually national, there must be increased coordination across government levels. Drawing inspiration from the financial sector (where the EU established coordinated supervisory methods for banks), the digital space might benefit from an EU

Digital Coordination Council where national regulators and EU policymakers regularly meet to reconcile interpretative discrepancies and exchange best practices. For example, under the DSA, there could be national Digital Services Coordinators who convene under the Commission umbrella to enact a single requirement of what is 'illegal content' or 'systemic risk' across platforms, to prevent divergence. Equally, while the DMA is top-down, there may be official avenues for national competition authorities to contribute to gatekeeper investigations (avoiding the current situation of simultaneous national legislations). The goal should be 'consistency in enforcement' (Șerban, 2024), that is, a simple expectation that is placed on companies across the Single Market. If an unacceptable practice (such as app store self-preferencing) is identified, that finding – and any necessary remedy – should be the same whether a company operates in France or Poland. Greater use of regulations (directly applicable EU legislation) rather than directives has already helped, yet pre-emptive coordination is needed so as not to contribute to gold-plating or varying national interpretations. Strengthening bodies such as the EDPB (for data protection) or creating new coordination institutions for platform regulation can help.

Policy coordination at the political level

Along with regulators and agencies, coordination at the political decision-making level also needs to be more robust. The European Parliament and Council are frequently called upon to fine-tune Commission proposals to introduce more complexity or cover up simplicity (since several committees and Member State ministries are involved). Having clear innovation and competitiveness guidelines supported at the top level (e.g., by the European Council or as part of an inter-institutional agreement) would help structure this process. Since February 2025, the European Commission's legislative reforms have pledged more rigorous scrutiny of the effects on SMEs and competitiveness of proposed legislation, including changes introduced by the European Parliament and the Council during the legislative process (European Commission, 2025a). In fact, the Competitiveness Council (comprising Member State ministers) could take a more active role in vetting digital proposals coming from other Council formations, to ensure they align with the EU's growth agenda. In January 2025, the Commission initiated a 'Competitiveness Compass' (European Commission, 2025b) to track competitiveness development, a very welcome initiative. Setting digital metrics (e.g., success in scaling up as a start-up, spending on tech research and development) within the compass and correlating them with tests of regulatory fit would create a feedback loop: whenever a regulation is shown to to have a detrimental effect on key measures, it should trigger a review or rewrite.

Improved institutional coordination is not bureaucratic refinement – it is a key component of smarter digital regulation. It helps prevent contradictory rules, reduces redundant enforcement, and ensures that protecting users and markets goes hand in hand with fostering innovation. With heightened coordination in place, the EU will be much better placed to deliver the sort of comprehensive reform package the following section suggests: one which aligns principles and practice across the board throughout the digital regulatory landscape, with a focus on improving the EU's competitiveness.

A competitiveness-focused agenda: Proposals for smarter digital regulation

How can the EU redesign its digital regulatory approach to better balance innovation with oversight? This article proposes a single set of reforms, referred to as the 'Omnibus Digital Competitiveness Package', to streamline EU digital regulations and anchor them in competitiveness principles. It would be analogous, in intent, to recent high-level proposals such as Enrico Letta's (GIDE, 2024) proposal for a European Code of Business Law to clarify the Single Market's legal framework. Just as Letta's report points out that Europe's patchwork of business rules limits growth and that a single code is needed to 'directly address the current patchwork of national rules' (GIDE, 2024), so too could the digital world reap significant benefits from simplification. The suggested omnibus bundle would not abolish the hard-won protections of the DSA, DMA, GDPR, and so forth but would consolidate and harmonise them, using common guiding principles and mechanisms to future-proof the entire digital legislative spectrum. Some of the highlights of this competition-led framework are presented below.

A single, principles-based framework for all digital laws

At the core of the omnibus package would be a unifying Digital Regulation Framework Act that creates essential principles – such as proportionality, subsidiarity, technological neutrality, and innovation friendliness – according to which any existing or future digital regulation would be designed. This would function in pretty much the same manner as a 'Digital Constitution'. It would be based on liberal values: regulators would step in only to the extent necessary to meet legitimate objectives (proportionality), leave space for Member States to act where necessary (subsidiarity), refrain from specifying or tilting towards particular technologies or business models (tech neutrality), and specifically take account of effects on innovation and competition. For instance, a condition may require that, where more than one path to a policy objective exists, the least restrictive path to innovation or entry to a market is taken. This is in line with the methodology promoted by Năsulea and Năsulea (2025): '[R]egulators must avoid creating artificial barriers to entry, for example through

excessive administrative and compliance costs.' The principle should be as versatile as possible, particularly in unstable markets. By adopting such a principle, the EU would bind itself to smarter rules by design. A real-life example of this is the United Kingdom's approach to AI regulation. Rather than immediately adopting detailed and burdensome legislation like the EU, the UK issued a pro-innovation AI White Paper that outlines high-level principles to be applied by existing regulators (Drake et al., 2023). The UK deliberately chose not to introduce new AI-specific legislation or create a new regulatory body but instead opted for guiding principles to be enforced through its existing institutional framework (KPMG, n.d.). While the UK model may not be directly replicable in the EU context, it demonstrates the advantages of flexible, principle-led governance. An EU digital framework could similarly promote a culture of openness to innovation by ensuring that regulatory definitions – such as those for illicit content or high-risk AI – are precise and narrowly tailored, so as not to discourage legitimate activity or innovation through legal uncertainty.

A 'digital competitiveness test' for new and existing rules

In line with Draghi's recommendations, every new EU digital regulatory proposal should undergo a rigorous competitiveness impact assessment before adoption (Draghi, 2024a). This ex ante competitiveness test would quantify expected cumulative costs for businesses (especially start-ups and SMEs) and weigh them against the anticipated benefits for consumers or society. Crucially, it would require regulators to consider alternatives or mitigating measures if the proposal risks unduly burdening innovation. A structured process – developed after industry and independent expert consultation – would ensure consistency in this exercise. For instance, if an impact assessment says a draft AI Act requirement will cost start-ups X millions and push back AI deployment by Y years, lawmakers would have to justify why it is still worth it or fine-tune the proposal (e.g., introducing phased obligations or exempting small companies). It must also consider how EU proposals compare with those in other leading markets: if no other major economy imposes a similar regulatory demand, is the EU certain it wants to be the exception – and what would that mean for competitiveness? As a policy brief noted, Europe's regulatory framework 'should be measured against world leaders' with a view to having a superior business environment to that of rivals, not an inferior one (Guinea & Sharma, 2025). Apart from ex ante screening, there must be an ex post regime of monitoring – that is, a sunset or review period for significant regulations – to check, three to five years later, whether the regulations are having an effect or if they cause too much collateral harm to innovation. Any such adverse consequences (e.g., dramatically lower market entry, product delay, or excessive compliance burden) should initiate regulatory retrenchment or correction. In practice, this could mean establishing regular competitiveness tests of the whole digital acquis, perhaps under the direction of an unbiased panel. The Draghi Report suggests something along these lines: using 'committees of industrial operators' to assist the Commission in evaluating draft act impacts and delaying or revising initiatives which are most challenging from an innovation perspective or have disproportionate effects on SMEs. Such a mechanism would bring real-time business insights into the legislative process, acting as an early warning system against overregulation.

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Simplified compliance for start-ups and SMEs

One of the keys to smarter regulation is to acknowledge that one size will not fit all. As part of the omnibus package, there need to be provisions to facilitate compliance by smaller firms so that Europe's entrepreneurs are not choked by regulation aimed at restraining the tech giants. Based on existing frameworks, for example, SME exceptions or phase-ins, we recommend the following provisions.

- A one-stop-shop EU digital regulatory help centre, where start-ups can access information on all EU digital rules applicable to them in a single location: this help desk (perhaps run by the Commission or an EU agency) would function across regulatory spaces to respond to questions such as 'If I roll out a new social media app, which EU rule do I need to comply with on day one?' Currently, a small business may need to work, for example, with the DSA, GDPR, platform-to-business (P2B) Regulation, and others independently – or employ costly lawyers to do so. An integrated help desk would reduce barriers to knowledge and facilitate newcomers through requirements without inadvertently alienating them.

- Harmonised duties and one reporting window: wherever possible, duplicate regulatory duties should be harmonised and amalgamated. For example, if two pieces of legislation both require an annual transparency report on online services, there needs to be a provision for producing a single, bundled report that meets all requirements. The EU could create a central e-reporting portal for digital services, where companies upload compliance documents (risk assessments, algorithmic transparency reports, etc.) once, fulfilling obligations across multiple Acts. Draghi's report urges the use of AI-powered software and a single, multilingual interface (Draghi, 2024b) to lower compliance and reporting costs for SMEs. Standardised templates, de minimis reporting requirements, and 'report once, use many' registries would greatly reduce the paperwork burden for small participants.

- Proportionate regulation and sandboxing: regulators must impose graduated regulation on start-up companies, prioritising advice and warning rather than penalties for initial or trivial infringements, and introduce 'regulatory

sandbox' frameworks that allow start-ups to test innovations under flexible and supportive supervision. The EU's draft AI Act already includes sandboxing; this ethos can be extended to scale so that new digital business models have space to experiment in Europe and are not confronted with the entire risk of regulation at once.

Policymakers need to balance lost opportunities for innovation against likely benefits to society before restricting technologies such as AI or facial recognition.

More broadly, the goal is to make Europe an open environment where tech businesses can start and grow – not a compliance minefield. Where a rule is discovered to be most burdensome for SMEs with minimal additional value (e.g., certain expensive audit rules), the omnibus solution must authorise the Commission to suspend or amend such rules for small participants – something analogous to what financial regulators do with 'proportionality thresholds' for small banks. By establishing an environment in which innovators thrive in Europe instead of fleeing from it (Fintech Intel, 2025), the EU will be better positioned to take advantage of its pool of talent and research. As highlighted in the report 'Strengthening EU Digital Competitiveness', Europe launches more start-ups than the US, yet they often fail to scale due to limited access to capital and a fragmented regulatory framework (CCIA, 2024). While capital market reform lies beyond the scope of this article, regulatory streamlining does not: a clear and predictable rulebook makes it more likely that investors will back European tech ventures.

Mandatory innovation impact assessments and global benchmarking

Each significant digital regulation should have an innovation impact assessment in place to consider how it will influence technological innovation, business models, and European competitiveness globally. Policymakers need to balance lost opportunities for innovation against likely benefits to society before restricting technologies such as AI or facial recognition (Csernatoni, 2025). Most importantly, the EU needs to benchmark its proposals against those of other world stakeholders. If the EU enforces tighter rules than those in the US or China, this inadvertently helps foreign competitors who face fewer restrictions. An additional concern is that overregulation – for example, data usage limits under the DMA – would harm EU- and US-based platforms while Chinese tech firms – operating in a large, protected domestic market with fewer constraints – can continue to gather data at scale, improve their systems, and expand internationally with a competitive edge (O'Brien & Kitamura, 2024). Innovation impact assessments would help identify these trade-offs – for example, delayed deployment of AI tools or the risk of brain drain to more innovation-friendly regions. If a proposed rule places a heavier burden on European firms than similar rules elsewhere, the EU must either justify that burden clearly or mitigate it through international coordination or targeted support for EU-based companies. This is not about abandoning European values but about pursuing them wisely – without shutting out innovators. To that end, the Omnibus Digital Package should formalise global regulatory benchmarking so that Europe leads not through overregulation but through high standards others are inspired to follow.

Improved coordination and consistent enforcement mechanisms

To complement changes in material, the omnibus package would also have to contain changes in governance to enhance coordination and enforcement. A suggested Digital Single Market Board – comprising national authorities and Commission staff – would be given the authority to overcome differences in enforcement, coordinate joint investigations, and allocate a lead authority in cross-border cases, building on the one-stop-shop concept of the GDPR. The package must also define the balance of powers between EU and Member State powers by reasserting that EU law harmonises the space in an all-encompassing manner in fields such as the DMA. This would discourage Member States from creating similar laws that distort the Single Market. National regulators who seek to tackle platform issues must be incentivised to do so within the EU context, not outside it. To that end, the omnibus act might incorporate pre-emption rules and accelerated infringement

proceedings and would give Member States a more proactive role in concerted enforcement. Increased coherence would send a firm message to businesses that digital norms will be enforced similarly throughout the EU. Such legal certainty is crucial for mass innovation and low compliance costs.

Learning from other models: Balancing rules and innovation globally

While developing a more competition-focused digital strategy, the EU can also learn from the way other administrations balance regulation and innovation. While Europe's values and political environment are unique, observing other models is useful to understand what works in digital governance. A comparative approach would demonstrate that overregulation or even premature regulation is risky, while less strict, targeted steps at times can achieve what is needed with fewer adverse side effects. It would also emphasise that the final aim of the EU should not be to advertise a maximalist regulatory framework in its own interest, but rather to establish a smart benchmark which others would want to follow because it would instil confidence as well as foster growth.

Japan's targeted platform regulation

In 2024, Japan passed the Special Digital Platform Competition Act, legislation prompted by similar concerns to those behind the EU's DMA – namely, the dominance of app stores and mobile operating systems by a few powerful players. However, Japan's law differs markedly from the DMA in both scope and method. While the DMA imposes dozens of obligations on a wide category of gatekeepers offering core platform services – including app stores, search engines, browsers, operating systems, social networks, and others – Japan's legislation is focused on a narrow set of harmful practices by just two firms, Apple and Google, specifically related to their app store and payment operations (Martinez & Lee, 2024). It prohibits forms of self-preferencing, such as requiring developers to use the platform's own in-app payment system, and compels these platforms to allow alternative payment options for users. In practice, this gives consumers in Japan greater choice and potentially lower prices, as developers can bypass platform commissions and offer more flexible services.

Crucially, Japan adopted a dialogue-based enforcement mechanism: instead of immediate top-down obligations, regulators work directly with platforms to implement compliance. This approach not only reduces burdens on SMEs but also avoids unintended side effects, such as security risks from sudden policy shifts. For example, one concern with overly aggressive regulation is the forced introduction of app sideloading – installing apps from outside official app stores – which can increase exposure to malware or insecure software. Japan's collaborative method allowed regulators to push for change without compromising user safety or overburdening smaller businesses.

By mid-2025, this lighter-touch approach had already produced tangible outcomes: Apple and Google revised their policies to comply with the new rules, allowing greater payment flexibility for developers (Sharwood, 2024). While the market effects were still emerging – as competition takes time to respond – Japan's focused and cooperative strategy (Walle, 2024) stands in contrast to the EU's broader and more rigid regulatory model.

Japan's approach may be more effective precisely because it targets specific problems and actors without imposing complex, one-size-fits-all rules. It fosters competition, avoids overregulation, and preserves room for innovation – all while achieving several of the DMA's objectives through a less burdensome and more adaptable legal framework. In this light, the EU may consider fine-tuning the DMA by concentrating enforcement on genuinely core platform services (e.g., dominant app stores or ad platforms) and introducing a cooperative compliance regime for engaging with firms before imposing obligations.

Ultimately, the insight is that narrowly tailored rules – focused on clear market failures – can be more enforceable, effective, and innovation-friendly than broad frameworks that risk overreach. Europe, of course, has a larger internal market and a greater ambition to shape global standards. But in evaluating the DMA's success, the EU could benefit from asking whether a more targeted, proportionate approach, similar to Japan's, might deliver similar outcomes with fewer unintended consequences and less regulatory drag.

The United States' market-driven yet litigious path

In contrast to the EU, the US has thus far refrained from ex ante digital regulation such as the DMA or DSA in favour of leaving implementation up to antitrust enforcement and sectoral legislation. Privacy is still patchwork at the state level, while platform liability remains controlled by Section 230 of the Communications Decency Act (US Department of Justice, n.d.). The US strategy has been characterised as 'wait and litigate if necessary' – with the Department of Justice and state attorneys general spearheading active antitrust enforcement against Google (search and ad tech) and Meta (prior acquisitions). This method lowers up-front compliance costs, so start-ups can expand without DMA-type weights. It does not pre-select winners and losers, intervening only when clear harm to competition is demonstrated. However, litigation is slow, and major cases often take years to resolve – giving dominant firms ample time to consolidate their market position in the meantime. Legislative attempts to update competition law, including the American Innovation and Choice Online Act, have been blocked in Congress. Technically, the US has

a more laissez-faire or 'techno-libertarian' approach, which 'reduces security threats and costs to SMEs but is weak at counteracting entrenched gatekeeper power'. US critics argue that in the absence of regulations such as the DMA, Big Tech is largely unregulated. The US model, in contrast to the EU's, highlights the strengths of speed-driven, market-led enforcement – but it also reveals the risks of under-regulation, where harms may go unchecked for too long. Some scholars credit this permissive regulatory culture in part for US tech superiority (Johnson, 2025). The EU will not copy a US-style across-the-board strategy, especially in the light of its social priorities such as privacy and fairness, but there is a sensible middle ground to be pursued – perhaps through the merging of focused ex ante rules with improved antitrust measures. EU initiatives such as the DMA have provoked transatlantic tensions, as some US policymakers have framed them as 'anti-American', provoking fears of trade retaliation (Năsulea & Năsulea, 2025; Winterton, 2025). A win–win approach should be the focus of a competitiveness-driven strategy that encourages innovation and equity across the world. Otherwise, excessive regulation would look protectionist, closing off the EU instead of extending its impact globally.

The UK's experience is a lesson in flexibility and experimentation.

The UK's 'pro-innovation' regulatory philosophy

Since Brexit, the UK has positioned itself as a more agile regulator of digital markets than the EU. A key example is the Digital Markets, Competition and Consumers Bill (UK Parliament, 2024), which will establish a dedicated Digital Markets Unit (DMU) to oversee large digital firms – similar in intent to the EU's DMA, but structurally different in approach. In contrast to the DMA's fixed and uniform obligations applied to all designated gatekeepers, the UK model is designed to be less prescriptive and more tailored. The DMU will impose firm-specific conduct requirements on companies granted Strategic Market Status, allowing regulators to target the most harmful behaviours of each firm individually. This adaptive framework enables the UK to respond more flexibly over time, potentially focusing enforcement more precisely than the EU's one-size-fits-all rulebook.

The UK also emphasises procedural fairness and consultation in its digital regulatory approach. The DMU is required to consult stakeholders when developing codes of conduct and has the flexibility to amend them, fostering ongoing dialogue with industry. In the area of online content regulation, the UK's Online Safety Bill took a notably different path from the EU's DSA. While both aim to address harmful online content, the UK originally proposed rules for so-called legal but harmful content – content that is not illegal but is still considered damaging to individuals or society (such as cyberbullying, the promotion of eating disorders, or suicide ideation material). In practice, this meant that platforms could be required to take steps to limit exposure to such content, especially for children, even though the content itself did not break any laws. However, due to significant backlash over free speech concerns, the UK government softened this provision, making the obligation voluntary rather than mandatory for adult users. This shows the UK's preference for a more flexible and responsive model, as opposed to the EU's more uniform, rules-based approach under the DSA. The UK's experience is a lesson in flexibility and experimentation. Smaller than the EU, yet still eager to entice tech investment, the UK seeks to make clear that it will be 'firm but flexible' – ruling lightly where practicable and describing itself as more agile than rival countries in acting fast to respond to innovation by changing its rules. The EU can use outcomes in the UK (and elsewhere) as natural experiments: if the UK's DMU can police Big Tech with fewer generalised commitments, it might trigger reforms to the DMA when it is next updated in a couple of years' time. And if the UK's light-touch approach to AI yields a thriving AI industry without apocalyptic tragedies, that should pressure the EU to advance the rollout of its AI Act. At the same time, the EU should beware of a light-touch stance failing to avert harms (i.e., where prudent regulation is required).

Other innovation-friendly practices

Globally, several nations have encouraged innovation testbeds and regulatory sandboxes in fintech, health tech, and so forth to allow businesses to test new services under the regulatory oversight of authorities with interim exemptions. The EU can adopt more widespread deployment of sandboxes (the AI Act encourages them, and fintech sandboxes have been introduced) in more areas, thus making it a mainstream regulatory practice. This would show that Europe is experiment-friendly and not enforcement-centric only. Moreover, countries such as Singapore are likely to be among the front-runners in ease of doing digital business due to streamlined rules and open government promotion. The EU could study how other countries, some with high standards (e.g., Singapore), become innovation hubs. It is often the result of regulatory transparency, speed, and cooperation with businesses. Europe's response can often be slow and lumbering; accelerating adaptation would help.

In view of these global strategies, it is clear that Europe must have balanced ambitions. It is commendable to be a digital rule-setter in the sense that rules keep markets and consumers secure. However, rules can become too burdensome, and in this Europe is a cautionary tale rather than a trendsetter.

The so-called Brussels effect – that is, the EU exporting its standards globally – appears to be losing traction as several countries are actively choosing alternative paths. This suggest that the EU model is not compelling, at least for now. To lead by example, the EU might need to implement regulation that achieves outcomes for society without suffocating innovation. If it can succeed in this, then the Brussels effect is set to be an innovative force.

Conclusions

The European Union is at a turning point in digital policy. The path it is on presently involves a nascent system of new rules that, for all their good intentions, threaten to smother innovation and leave Europe lagging its more flexible competitors. The alternative path requires strategic rebalancing: simplifying and trimming the EU's digital rulebook to make it not only a regulator, but also a world leader in digital innovation.

This article contends that more intelligent regulations can power more robust markets. A competitiveness-oriented approach – firmly rooted in liberal principles, innovative impact assessment, reduced complexity for start-ups and SMEs, and institutional coordination for more effective institutions – can render Europe's digital governance future-proof. These reforms, proposed as an Omnibus Digital Competitiveness Package, directly respond to the Draghi Report's call to action.

To thrive, Europe needs to understand that liberal values and digital sovereignty rely upon technological and economic strength. A new European model of digitalisation – which is conceived not to export rules for their own sake, but to drive expansion and attract innovators – can rescale the Brussels effect into an internationally respected benchmark. The potential pay-off is clear: a dynamic Europe where AI start-ups thrive, consumers are protected, and regulations are adapted to fit the context. With a shift of political will and regulatory mindset, the EU can lead the way – delivering a digital world that is principle-led, proportionate, and prosperity-driven.

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ARTICLE

EU Climate Policy and Competitiveness

How the EU Can Strengthen Competitiveness by Reforming Climate Policies

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Citation suggestion: Otto Brøns-Petersen & Line Andersen, OBP & LA (2026). EU Climate Policy and Competitiveness: How the EU Can Strengthen Competitiveness by Reforming Climate Policies. *Future Europe*, 7(1), 115–127.

Abstract

EU climate policies should be pursued as cost-efficiently as possible. Costly measures make the green transition less likely to succeed in the long run and unnecessarily reduce EU competitiveness. Even while observing the subsidiarity principle, the global externality of climate change leaves ample room for policy action at the EU level. In fact, the EU possesses by far the most efficient instrument for climate policy: the EU Emissions Trading System (ETS). This article identifies key reform opportunities for the ETS and other EU climate-related policies. It argues that by streamlining the ETS and removing redundant regulatory measures, the EU can minimise the economic costs of the green transition, improve the efficiency and market orientation of EU climate policy, and strengthen productivity.

Introduction: Cost-efficient climate policy

The Draghi Report identifies decarbonisation as one of three areas of action necessary to reignite growth in the European Union (Draghi, 2024a, 2024b). In this article we outline how climate policies in the EU

can be reformed to strengthen the Union's competitiveness. However, the primary objective of climate policies should not be to achieve competitiveness. Rather, the primary objective should be to address the market failure associated with greenhouse gas (GHG) emissions.

Effective climate policies will increase the cost of GHG emissions, thereby increasing the cost of energy use. This will redirect energy production from fossil fuels to renewables. If renewable energy were cheaper than fossil energy, the green transition would be achieved without political interference. This is not the case, which implies that the green transition necessarily comes at a cost. The direct cost to businesses and households might be reduced, of course, by subsidising green energy, but only at an even higher cost of taxation necessary to finance subsidies.

That does not mean that competitiveness is irrelevant in the context of climate policies. Cost-efficient measures ensure that the green transition is realised as inexpensively as possible. More expensive measures increase costs and weaken EU competitiveness even further. GHG emissions are a negative externality because the actions of one emitter affect the world negatively as a whole. Economic theory suggests that externalities are most efficiently addressed through pricing. Ideally, the price of GHG emissions would reflect the global marginal damage caused. This would be the most cost-efficient path to reduce emissions, as it would maximise global welfare. This is a well-established result in economic theory (Mankiw, 2009; Nordhaus, 2013; Tirole, 2017). A uniform price ensures that the cheapest reductions are implemented. The reason for this is described in Box 1.

Although there is broad consensus that GHG emissions should be priced uniformly across sectors, countries, and uses, there is less agreement on the level at which the price of CO_2 equivalents (CO_2e) should be set. Estimating the price corresponding to the global marginal damage, also known as the social cost of carbon (SCC), requires comprehensive information about, and projections of, the scope of climate damages and mitigation costs. Consequently, estimations of the SCC are naturally subject to considerable uncertainty. However, estimates indicate that the SCC is in the range of €60–€150 per tonne of CO_2e (Barrage & Nordhaus, 2024).

This article does not seek to determine the optimal level of SCC, but rather to illustrate how the EU can most cost-efficiently achieve its stated climate targets. It is obvious that climate change is a global issue. According to the Tiebout mechanism, political issues should be addressed by the level of government best equipped to handle them in the most decentralised manner possible (Tiebout, 1956). In the absence of a uniform global tax on GHG emissions, the next best alternative for the EU is to impose a uniform price across Member States. It follows from the fundamental insight from economic theory that the most cost-effective way to achieve any given target is to set a uniform price consistent with reaching that target.

One way to price GHG emissions is through a Pigouvian tax, which is a tax on market activities that generate negative externalities (Pigou, 1920).

An alternative to taxes is a cap-and-trade scheme. In such a scheme, there is a cap on GHG emissions, which is set by the authorities. Often this cap decreases over time. To emit GHG within the scheme, companies must surrender allowances. These allowances can be traded on a market. As the supply is usually fixed by the cap each year, the price depends on the demand for allowances. One benefit of a cap-and-trade scheme is that it prices all emissions uniformly, which ensures cost-efficient emission reductions. As the emissions cap is fixed rather than the price being fixed, it is more difficult to align the CO_2e price with the global marginal damage cost. Through a CO_2e tax the rate can be set exactly equal to the global marginal damage cost. In a cap-and-trade scheme the supply of allowances is fixed, which means that the price depends on the demand. In such a scheme it is thus very difficult to reach a specific price, while at the same time reductions are fixed by the number of allowances issued.

However, given that international agreements within the Paris Accord framework fix the emissions by each participant, based on unilateral commitments, it makes sense for the EU to fix emissions rather than the price (the first best solution still being an international agreement on a price equal to damage costs rather than on geographical emissions). Thus, a cap-and-trade scheme is a cost-efficient instrument in the given international environment.

There is, nevertheless, scope for reforming EU climate policy substantially to minimise the cost of achieving climate targets. In such a policy, a cap-and-trade-scheme would play a vital role, while regulations such as bans, standards, reporting requirements, and state aid would be abolished, since they do not in themselves contribute cost-efficiently to the achievement of the EU's climate targets and furthermore imply inefficient double regulation of emissions already addressed with superior instruments.

While energy and climate policy issues are linked, the present article does not discuss the Draghi Report's suggestions for the energy markets, as these are covered in Stagnaro (2025) and Stagnaro's contribution to this volume. The structure of the article is as follows: first, it describes how an efficient cap-and-trade scheme works and why various overlapping regulations do not promote the green transition; then, it explains how a cost-efficient climate policy could be designed in the EU. Finally, it presents a brief overview of the proposed reform.

BOX 1

Marginal abatement cost curve

re B.1.depicts the marginal abatement cost (MAC) curve. The horizontal axis is the amount of abatement, and the vertical axis is the price in euros per tonne of CO_2 equivalents (CO_2e) of marginal abatement. The curve thus represents the abatement cost per tonne of CO_2e.

The marginal cost of reducing GHG emissions is increasing. This reflects the fact that the initial emissions reductions are relatively inexpensive, for example due to increased energy efficiency, but the cost increases as the cheapest reductions are exhausted. Further reductions may necessitate more expensive savings and technologies, such as carbon capture and storage (CCS).

Introducing a price on GHG emissions, for example through a carbon tax, implies that reductions up to the level q are realised. For any abatement level to the left of q, the marginal cost of abatement is below the carbon tax. Therefore, it is cheaper to reduce emissions than to pay the carbon tax. The emitter will therefore reduce the emissions. However, for any level to the right of q, the marginal cost exceeds the carbon tax, meaning that paying the tax is cheaper than further abatement.

For this reason, setting a uniform price on GHG emissions will ensure that the cheapest reductions are implemented and that the cost of reducing emissions does not exceed the cost of the carbon tax.

Furthermore, a uniform tax minimises the information needed by regulating authorities. If they had to regulate reductions directly, they would have to identify specific costs of potentially all reduction possibilities to maintain cost-efficiency.

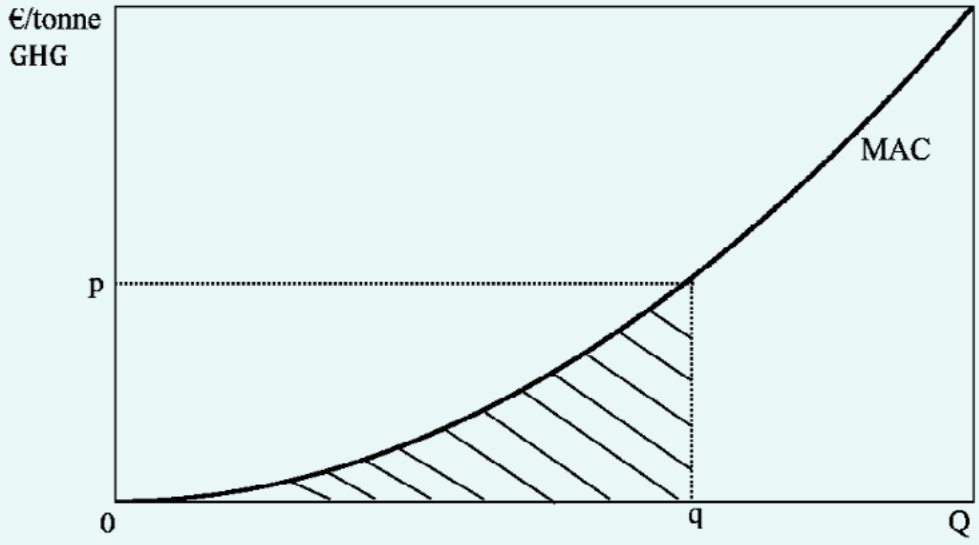

Figure B.1. The MAC curve

The EU is a vital player in solving the climate issue

European cooperation, coupled with the EU's access to cost-efficient measures such as a cap-and-trade scheme, establishes it as a key player in climate policy. This is reflected in the EU's participation in the Paris Agreement on behalf of its Member States and in the set of ambitious climate targets set by the EU in 2021. One ambition is to reduce EU emissions by at least 55% by 2030, relative to 1990 levels.[36] The EU is on course to meet this target, as GHG emissions are projected to decrease by 54% by 2030 based on existing policies and measures, as well as on those planned but yet to be introduced (European Commission, 2025). In the longer term the EU aims to achieve climate neutrality – that is, net zero – by 2050. Several provisions have been introduced to meet these targets.

In principle, ESR commitments can be traded between countries, which would tend to make abatement costs more even, but so far, such a market has not been established.

The foundation of EU climate policy

In 2005,[37] the EU introduced the world's first international Emissions Trading System (ETS), which today covers GHG emissions from the electricity and heat generation, energy-intensive industry, aviation within the European Economic Area (EEA), and maritime transport sectors.[38] In 2023, a new emissions trading system, the ETS2, separate from the EU ETS, was created. The ETS2 covers CO_2 emissions from fuel combustion in buildings and road transport, as well as additional sectors, which are mainly small industries not covered by the existing EU ETS.[39] The ETS2 is planned to be fully operational from 2027. This implies that almost 80% of the EU's net emissions will be covered by an ETS (Klimarådet, 2025).

Emissions from several sectors will not be covered by an ETS prior to 2027. To ensure GHG reductions in Member States, the EU initially adopted the Effort Sharing Regulation (ESR) in 2018.[40] The ESR set national reduction

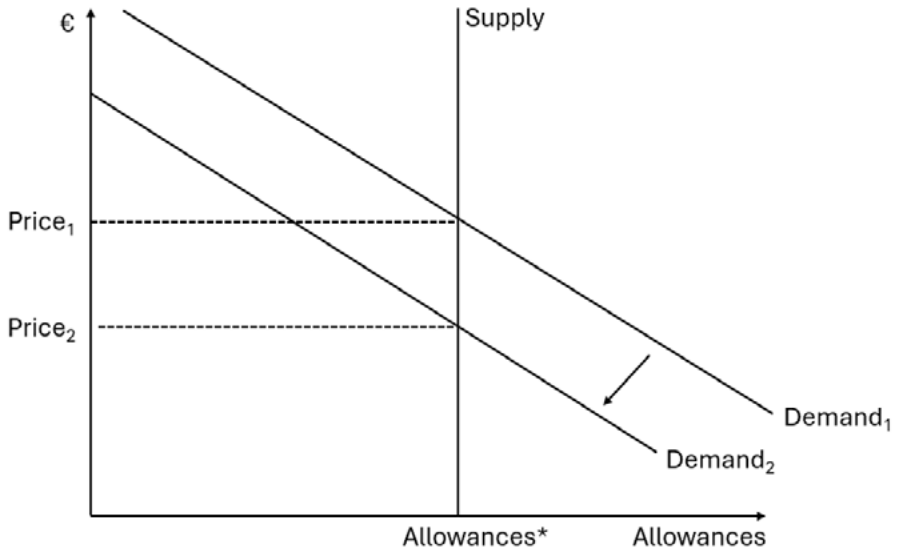

Figure 1. The ETS framework
Note: This figure is purely illustrative. There is an exception to this mechanism, because of market stability reserve.
Source: Authors' illustration.

targets for GHG emissions by 2030 in the following sectors: domestic transport (excluding aviation), buildings, agriculture, small industry, and waste. In addition to the ETS and ESR, the EU has also introduced the Land Use, Land-Use Change and Forestry Regulation (LULUCF). The land use sector covers the management of cropland, grassland, wetlands, forests, and settlements, as well as changes in land use including land afforestation, deforestation, and the draining of peatlands. The land use sector thus offers both carbon sequestration and emission reduction opportunities. The LULUCF sets, among other things, net carbon removal targets for the land use sector. Member States must ensure that their national plans are aligned with these targets.[41]

Thus, the ETS, the ESR, and the LULUCF cover virtually all EU GHG emissions. From 2027, when the ETS2 becomes operational, to 2030, the target year for the ESR, there will be substantial overlap in the emissions covered by the two regulations. Almost all emissions covered by the ESR, except those from animal and plant production in agriculture, will be covered by the ETS2. This constitutes inefficient double regulation. Companies with activities covered by the ETS2 must pay for allowances to emit GHG, while the same emissions are regulated nationally, for example through a carbon tax. In this case, the company would pay both for allowances and a carbon tax for the same GHG emissions, but this would not actually influence total EU emissions. Figure 1 explains why this is the case.

Furthermore, the ESR is not in itself efficient, since it implies uneven abatement cost across countries and between the ETS and non-ETS sectors. In principle, ESR commitments can be traded between countries, which would tend to make abatement costs more even, but so far, such a market has not been established. In addition to the ETS, ETS2, ESR, and LULUCF, there is a significant amount of command and control climate regulation. However, more regulation does not necessarily imply greater reductions in global GHG emissions. Figure 1 illustrates the framework of an ETS and explains why this is the case.

In the ETS, one allowance permits a company to emit one tonne of GHG. The EU determines the cap on emissions, that is, the supply of allowances. As Figure 1 shows, since the supply is fixed, the demand determines the price of emissions within the ETS.

This implies that a shift in demand, for example from Demand1 to Demand2, does not affect total GHG emissions within the ETS. The shift only affects the price of allowances. Although this may seem trivial in Figure 1, it is a crucial property of a cap-and-trade scheme. Total emissions are fixed by the cap, while the price of emissions is uniform across covered sectors and countries at any given time. The system is therefore well suited to reach certain climate targets at a given time.

Figure 1 shows a fully efficient ETS with a 100% internal carbon leakage rate. This is also described as the 'waterbed effect'. For example, government intervention that reduces emissions in one sector covered by the ETS will not affect total ETS emissions as the reduced emissions 'pop up' in another sector. Several examples of this waterbed effect are described below. However, this does not entirely hold true, as the carbon leakage rate can be greater than or less than 100% in the EU ETS. Why this does not change the conclusions in the following is described in the later sections.

Bans, emissions standards, sustainable reporting, and sector-specific targets do not contribute to the net-zero target

The cap implies that regulations outside the scope of the ETS, which cover sectors within the ETS, are limited in terms of the total GHG emissions they can affect. One example of such regulation is the ban on new internal combustion engines (ICEs) by 2035.[42] As described above, the ETS2 will cover CO_2 emissions from fuel combustion in road transport. The purpose of the ICE ban is to reduce GHG emissions from road transport. This will likely reduce demand for fuels for road transport, and thus the demand for allowances in the ETS2. As Figure 1 illustrates, the implication of the ban is that the allowance price in the ETS2 decreases, while total GHG emissions in the ETS2 remain unaffected. In other words, a ban on ICEs is not likely to reduce total EU GHG emissions.

In addition to the ban on ICEs, current climate regulations in the EU are extensive. While this article does not intend to list all regulations, the following highlights several that do not promote cost-efficient climate policy. On the path to the ban on ICEs in 2035, CO_2 emissions standards have been set for new cars, vans, and heavy-duty vehicles.[43] These target levels are decreasing up to 2035. The intention of the regulation is to reduce emissions from the road transport sector. While this intention seems to be in accordance with the EU's overarching climate target, this does not result in fewer GHG emissions from the EU.

The reason for this is the same as described above. CO_2 emissions target levels for road transport will reduce demand for allowances in the ETS2, which covers fuel for road transport. This reduction in demand from this one sector will not affect the emissions cap. However, it will now be cheaper to emit GHG in the remaining sectors covered by the ETS2. In the new equilibrium, the total emissions remain unchanged from the CO_2 emissions target levels. If the target levels accelerate the green transition of the transport fleet, the regulation will be costly; otherwise, the transition would occur organically through the ETS2. Command and control measures are thus an inefficient form of climate policy.

Photo by Guillaume Perigois on Unsplash

The EU uses many tools to reach its climate targets. The Corporate Sustainability Reporting Directive (CSRD) requires large companies to publish reports on the social and environmental risks they face and the impact of their activities on the environment.[44] Despite simplification efforts,[45] the CSRD is far from an efficient tool for the EU to reach its climate targets. First and foremost, the CSRD does not affect the cap in the ETS. This means that total emissions remain unaffected by reporting requirements for businesses. While the potential for climate action through the CSRD seems very limited, the reporting requirements are extremely costly for businesses and impair competitiveness. One argument in favour of the CSRD is that it provides consumers with knowledge on sustainability. Consumers may prefer companies that report on sustainability. However, the fact that regulation was deemed necessary to induce reporting implies that the market is not willing to pay the actual price for this information. Therefore, the CSRD does not qualify as a cost-efficient measure for the EU to reach its climate goals.

Excess regulations are costlier in terms of cost per tonne of GHG emissions reduction, and at the same time they have virtually no effect on total emissions from the EU.

Another tool in the EU's climate policy toolbox is environmental targets. One such target is that renewable energy (RE) should account for at least 42.5%, and ideally 45%, of total energy use by 2030.[46] Although a larger share of RE is necessary to reach the net-zero climate target in 2050, it is obvious that a binding RE target is irrelevant. The EU ETS will increase the cost of fossil fuels, making RE more attractive. This will encourage a substitution between RE and fossil fuels to meet the 2050 goal. However, if the RE target accelerates the expansion of RE faster than the EU ETS, the excess expansion will displace fossil energy in some sectors covered by the ETS, thus decreasing demand for allowances.

The decreased demand for allowances will drive the price down, leaving room for more and cheaper emissions in other sectors covered by the ETS. As can be seen from Figure 1, this reduced demand will not affect total emissions from the EU, as the cap remains unchanged. The acceleration will therefore drive the price of allowances down, resulting in an unchanged number of allowances being sold. At the same time, a binding RE target will result in higher abatement costs on this margin compared with other margins, compromising cost-efficiency. Every GHG emission reduction comes with a price – the abatement cost. The reductions resulting from a binding RE target will thus be more expensive than reductions implemented due to the ETS. From the figure in Box 1, it would correspond to emissions reductions to the right of q. In a fully efficient ETS, meaning an ETS with a 100% leakage rate, various climate policies have a limited effect on the actual emissions from the EU. This is due to the above-described waterbed effect. Excess regulations are costlier in terms of cost per tonne of GHG emissions reduction, and at the same time they have virtually no effect on total emissions from the EU.

State aid is an inefficient means of reaching climate targets

In addition to regulations, the EU provides significant green state aid. In 2020 the EU provided state aid equivalent to almost 1% of its GDP,[47] half of which was green state aid (Brøns-Petersen & Andersen, 2023). The Draghi Report suggests relaxing state aid rules even further (Draghi, 2024a; 2024b). Achieving the same climate target through subsidies is more expensive than taxes or allowances in an ETS. Box 2 explains why that is the case.

Previous studies have tried to estimate the difference in cost to obtain a given climate target through taxes or subsidies. One study has found that it is twice as expensive to use subsidies rather than taxes (Brøns-Petersen, 2020). Another study has found that it is two to four times as expensive to reach a specific climate target with a subsidy strategy compared with a uniform tax on GHG emissions (De Økonomiske Råds formandskab, 2020).

The ETS deviates from an efficient cap-and-trade scheme

However, the ETS and the ETS2 are not fully efficient, meaning that the carbon leakage rate within the system is not always 100%. This implies that the above regulations may have a global climate impact. As described previously, a fully efficient ETS can be understood as a waterbed. Pushing down on one corner of a waterbed causes the water to bulge up elsewhere. Likewise, policies aimed at reducing emissions within one sector covered by an ETS will be offset by increased emissions in another sector covered by the ETS. The extent of this offset depends on the carbon leakage rate.

The carbon leakage rate can deviate from 100% in the EU ETS owing to the Market Stability Reserve (MSR).[48] The aim of the MSR is to rebalance the EU ETS when there is either a large or a small surplus of allowances in circulation. The MSR was agreed on in 2015 following the build-up of a large surplus of allowances. This surplus accumulated due to the

BOX 2

State aid is inefficient

Figure B.2 depicts the energy market, consisting of price-dependent demand and supply of fossil and renewable energy (RE), respectively. The horizontal axis is quantity of energy, while the vertical axis is price of energy. Demand reflects the value added by additional energy consumption. The supply of fossil energy is assumed to remain at a constant price. Given the world market price of most fossil fuels and the relatively constant cost of adding new fossil-based powerplants, this seems to be an innocent assumption. However, this assumption is not essential; the linearity simply makes interpretation easier. In contrast, the supply of RE involves increasing marginal costs. This may reflect that the best wind sites can produce RE at lower prices than fossil energy. As RE use increases, less suitable wind sites and technologies must be used, and backup costs increase. In the model, RE can be broadly understood as encompassing all RE and energy-saving initiatives.

The energy demand in the model initially corresponds to E_0 and an RE supply of V_0. The fossil energy supply corresponds to $E_0 - V_0$.

In panel A, a tax is introduced on CO2e (or a corresponding price on emissions allowances). The tax shifts the fossil energy cost curve upwards. In the above example, the CO2e tax is set at a level that completely displaces fossil energy, as the energy demand, E_1, equals the RE supply, V_1. However, full displacement is not essential to see that subsidies are more costly than taxes. The welfare cost of the CO2e tax is approximated by the area ABC, which consists of two smaller triangles (ABD and BCD). The first triangle, ABD, approximates the additional cost of expanding RE supply at a marginal cost that exceeds the fossil fuel price. It is more costly to meet the demand with RE than with fossil fuel without the tax. The tax thus increases the cost of energy. The second triangle, BCD, corresponds to the lost welfare surplus associated with reducing demand from E_0 to E_1. The tax increases the cost of energy, which reduces energy demand. This can be seen from the fact that the willingness to pay for energy exceeds the fossil fuel price (excluding the tax). A reduction in demand is desirable, as the purpose of the tax is to reflect the true social cost of fossil fuel use. If consumers are not willing to pay the energy price (including the tax) of energy, then it is beneficial for society that this energy is not consumed, as the benefits would not exceed the social costs. The decrease in energy consumption can be the result of reduced usage or increased energy efficiency.

In panel B, a subsidy is introduced instead of a CO_2e tax. This shifts the RE supply curve outwards. The subsidy is large enough to displace fossil energy, as $E_0 = E_1 = V_1$. The marginal cost of energy to consumers remains unchanged. This contrasts with panel A, where the marginal cost of energy to consumers increases due to the tax. In panel

2008 economic crisis, which lowered demand for allowances, as well as a higher-than-anticipated influx of international credits exchanged for allowances and used for compliance in the EU ETS up to 2020.

A large surplus of allowances drives the price of allowances down, and vice versa. If there is a large surplus of allowances in the market, the MSR cancels a few allowances. Conversely, if the total number of allowances falls below a certain threshold, the MSR releases more. The MSR thus seeks to minimise price volatility. However, the MSR introduces uncertainty to the ETS, as emissions reductions within the scheme can have an ambiguous impact on global emissions.

If a Member State pursues climate policies that lower demand for allowances, this increases the allowance surplus in the EU ETS, which can lead to more allowances being cancelled by the MSR. This implies that the carbon leakage rate is less than 100% and that an actual emission reduction happens as a result of the policy. The waterbed is punctured, so to speak. Conversely, the carbon leakage rate can theoretically be above 100%. For example, if a Member State cancels allowances to pursue more ambitious climate impact, it can reduce the surplus of allowances below the threshold that triggers the MSR to release more allowances. Such a policy can thus result in a net increase in emissions from the EU. In other words, it would be like trying to remove some water from the waterbed but ending up filling it with more.

The MSR thus creates uncertainty about the actual climate effect of various endeavours. This means that the emissions reduction cost is uncertain, counteracting the cost-efficiency of the ETS. However, that the leakage rate can be below 100% does not constitute an argument in favour of the above-described regulations. The ETS remains the most suitable climate policy instrument in the EU. Instead, the MSR should

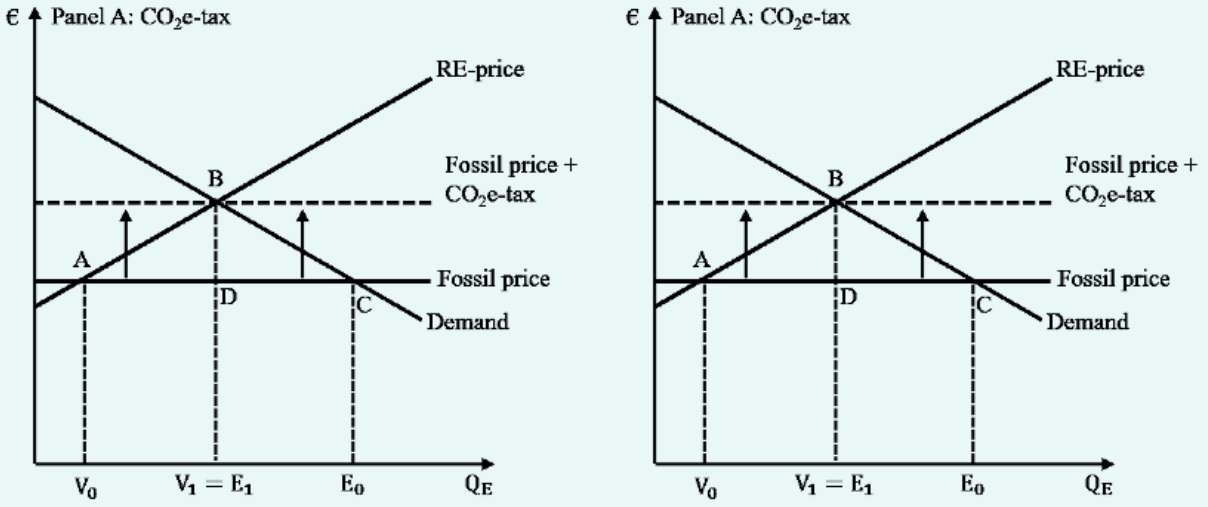

Figure B.2. Tax vs subsidy

B the welfare cost can be approximated by the triangle ADC. This cost is the actual additional cost of producing the extra RE to keep energy consumption unchanged.

Comparing panel A and panel B, the welfare cost of a subsidy (ADC) is larger than that of a CO2e tax (ABC). Given the linear assumptions of demand and supply in the simple energy model, the rule of thumb is that the welfare cost is twice as high with subsidies than with a CO2e tax. This is because reducing total energy demand from E_0 to E_1 in panel A is cheaper than replacing fossil energy with RE. This holds true even if the drop in energy demand is due to a reduction in exports resulting from reduced competitiveness.

From panel A it can also be seen that the CO2e tax acts as an indirect subsidy to RE, as the price on RE increases from point A to point B due to the tax.

be scrapped for a more cost-efficient ETS. If the EU or the Member States want to pursue more ambitious climate goals beyond what the ETS is able to accomplish, more regulations are not the solution. More ambitious climate targets can only be achieved by cancelling allowances. The MSR can counteract this effect, which also argues in favour of abolishing the MSR.

Some estimates suggest that the surplus of allowances will decrease to the extent that the carbon leakage rate will be close to 100% from the beginning of the 2030s (Beck, Kruse-Andersen, & Stewart, 2023; Silbye & Sørensen, 2023). This will remove some of the uncertainty and enable the ETS to operate more efficiently. A price stability mechanism is incorporated into the ETS2.[49] If the price of allowances exceeds €45 (2020 prices), it will trigger the release of a given number of allowances from the MSR. This is intended to address excessive price increases. Similarly, if the price of allowances increases too rapidly, additional allowances may be released from the reserve.

The price stability mechanism acts as a soft price ceiling. This implies that the price of emissions can be interpreted as a tax, since the price rather than the quantity of allowances is somewhat fixed. A more reliable way of meeting quantitative targets would be to have an ETS without price controls. However, price controls can provide insurance against uncertainty, and a price cap may be necessary to ensure the political feasibility of the scheme. If the price stability mechanism is activated, the climate targets should be adjusted accordingly. Otherwise, the missing reductions would need to be found outside the ETS2, for example in the EU ETS or from the land use sector. Extra reductions in these sectors are likely to be more costly than what could be realised through the ETS2, which is why failing to adjust the climate targets increases the cost of the green transition.

The Carbon Border Adjustment Mechanism is questionable

The EU introduced the Carbon Border Adjustment Mechanism (CBAM) in 2023.[50] The CBAM aims to reduce global carbon leakage associated with EU climate policies. In practice, the CBAM imposes carbon taxes on imports from countries with less stringent climate regulations. The following goods and selected precursors are covered by the CBAM: cement, iron and steel, aluminium, fertilisers, electricity, and hydrogen.

As climate change is a global issue, reducing global emissions seems a reasonable goal. To ensure proper incentives to mitigate climate change, each actor should bear the cost of their actions (or inactions). Theoretically, the CBAM is an appropriate tool to incentivise countries lacking climate policies to implement them, as otherwise they are taxed by the EU. However, the implication of the CBAM is that the EU is seeking to reduce GHG emissions from other countries. This contradicts the Paris Agreement, under which each participant is responsible for territorial GHG reductions. There is good reason for this, as GHG content is most reliably measured and regulated at the source.

The EU should make its climate action dependent on other countries' participation, so that countries only benefit if they also bear the associated costs.

While the CBAM in theory is a tool for putting pressure on the rest of the world to implement climate policies, this does not mean that it is effective, given that it is associated with significant uncertainty. The mechanism will incur administrative costs, and its global climate impact is doubtful. Because it is not possible to regulate the source directly, there is great uncertainty associated with the GHG intensity of goods and thus the tax that should be paid.

Furthermore, within the EU the CBAM will compromise the cost-effectiveness of the ETS system by in effect introducing uneven CO_2e pricing, since the CBAM will act as a subsidy to producers protected by the CBAM. There is also a risk that the CBAM will effectively act as a protectionist trade tariff, restricting competition and distorting markets, which could also provoke protectionist countermeasures from the rest of the world and contribute to the ongoing vicious protectionist cycle. Climate policies should not be used for trade policy purposes – restricting trade harms productivity, and thus competitiveness. Therefore, competitiveness is not a convincing argument in favour of the CBAM.

A different approach should be adopted to ensure global cooperation. A tit-for-tat strategy could incentivise global participation. Currently, the EU is pursuing ambitious climate targets, regardless of whether the rest of the world is doing the same. This incentivises other countries to 'free ride' on the EU's mitigation initiatives. While everyone benefits from these, only the EU bears the cost. Although the EU's policies are insufficient to address the global climate challenge, this does not change the fact that the incentives are flawed.

Therefore, the EU should promote incentives that ensure a better balance between benefits and costs. This is where the tit-for-tat strategy could be useful. The EU should make its climate action dependent on other countries' participation, so that countries only benefit if they also bear the associated costs. At first glance, this strategy may seem risky, given the severity of climate change. However, this should be balanced against the fact that EU emissions account for just 6% of global emissions.[51] Therefore, the EU cannot realistically limit temperature increases alone and must depend on other countries to reduce emissions too. However, for such a strategy to become part of global cooperation, an update of the Paris Agreement will be required.

The EU's potential to implement cost-efficient climate policies

There are two criteria for a cost-efficient regulation of GHG emissions. Firstly, as it is a global problem, it requires global support. Secondly, GHG emissions should be priced uniformly according to their marginal global impact. The Paris Agreement seeks to address the absence of global coordination for a uniform global CO_2e price.

The EU is thus, from the Member States' point of view, best equipped to participate in the Paris Agreement and regulate emissions.

However, the Paris Agreement has temperature targets rather than a target to price global emissions according to their global impact. At the same time, the EU does not have the competence to impose a uniform tax on GHG emissions. Nevertheless, the EU has access to another cost-efficient instrument, which is the ETS. The ETS caps GHG emissions, making it a suitable instrument for achieving the specific temperature targets defined in the Paris Agreement. In addition, allowances are tradable. Market-based pricing of GHG emissions ensures that the cheapest reductions are implemented, providing a cost-efficient path to achieve a given climate target.

The ETS gives the EU the potential to promote a cost-efficient path towards reaching the net-zero climate target by 2050. However, the EU has introduced several additional regulations alongside the ETS to facilitate the green transition. These regulations hinder a cost-efficient green transition and thus reduce competitiveness. To realise the potential for a cost-efficient path to net zero, EU climate policies need to be reformed. Ideally, a single ETS would cover all GHG emissions from all sectors. This would ensure a uniform price on emissions across Member States, sectors, and uses. This should be the overarching target of EU climate policy. Special considerations for the land use sector will be discussed later.

As described in Box 1, an important aspect of cost-efficient climate policy in the EU is uniform pricing of all GHG emissions. However, this is not the case for the ETSs, as evidenced by the current and planned extension with the ETS2. Having two different ETSs implies different prices for emissions within the two systems. For example, the expected price of allowances in 2030 is projected to be approximately €80 in the ETS and approximately €30 in the ETS2 (Energistyrelsen, 2024). Different prices mean that cheaper reductions are available but are not being implemented. This is explained in Box 3.

Having two different ETSs with different prices therefore is not cost-efficient, and the ETSs should be unified under a single system. A unified ETS is estimated to reduce overall welfare costs by 25% (Herby, 2023). From 2027 the ESR and ETS2 will be overlapping. This means that Member States are required to deliver emissions reductions in the sectors covered by the ESR, while these are also included in the ETS2. As described in the previous section, in a fully efficient ETS, additional targets, such as the ESR, will not affect the number of allowances, and therefore total EU emissions. The targets under the ESR should therefore be abolished when the ETS2 comes into effect.

To ensure symmetric incentives to reduce GHG emissions and to permanently remove emissions from the atmosphere, negative emissions – that is, carbon capture – should also be integrated in a single ETS. In practice, new allowances should be granted for documenting permanent carbon removal in the ETS, which can then be sold on the market. This creates an incentive to reduce the amount of GHG in the atmosphere, just as the price of GHG does. This would ensure that the cheapest emissions reductions are implemented. Negative emissions will be necessary if the EU is to reach its net-zero climate goals and emissions are still being generated, for example, from the land use sector. Therefore, it is promising that the Commission is proposing an amendment to the Climate Law to include permanent removals in the ETS.[52] Meanwhile, climate regulations other than ETSs should be reconsidered. As described earlier, regulations such as bans on ICEs, emissions standards, renewable energy targets, sustainability reporting, and green state aid have virtually no influence on total EU emissions when a fully efficient ETS is in place. This implies that such regulations are far from cost-efficient, as they work against a marked-based green transition. Inefficient regulations counteract competitiveness by increasing costs for businesses and consumers. This means that resources are redirected towards compliance rather than towards growth-enhancing activities. Therefore, the ideal EU climate policy would not include any of the above regulations or similar ones.

The land use sector is more challenging to integrate in an ETS

Ideally, GHG emissions and sequestration from the land use sector would also be part of a single ETS. However, there is inherent uncertainty in calculating emissions from natural processes, such as how much CO_2 forests absorb in a single year, or emissions from livestock. Practical challenges associated with inventories of emissions and sequestration removals can thus create uncertainties that favour keeping the land use sector separate from the ETS. In the long term, however, the sector should be included in an ETS to the extent possible. The Commission is currently discussing how to incorporate emissions from agriculture in an ETS (Directorate-General for Climate Action et al., 2023). Its practical implementation can be inspired by Denmark, which has adopted the world's first CO_2e tax on agricultural emissions (Ministry of Foreign Affairs of Denmark, n.d.).

Conclusion: EU climate policy needs to be reformed to boost competitiveness

The Draghi Report recommends decarbonisation as an area of action to reignite growth in the EU (Draghi, 2024a; 2024b). However, decarbonisation itself will incur costs for businesses and consumers. Nevertheless, reforming climate policies has significant potential to minimise costs and reduce the negative

BOX 3

Numerical example of non-uniform prices

Figure B.3is an amended version of the one in Box 1. This version shows two different MAC curves representing two groups of abatement options. The horizontal axis shows the amount of abatement, and the vertical axis shows the carbon price. The objective in both panels is to abate 100 tonnes of CO_2e across the two groups (Q = 100).

In panel A, there is a uniform carbon price across the two groups. Based on the slopes of the MAC curves, abating a total of 100 tonnes across the two groups is achieved at a cost of approximately €34 per tonne of CO_2e. This implies that approximately 41 and 59 tonnes are abated from MAC_1 and MAC_2, respectively. The abatement cost in MAC_1 is A + B, and the abatement cost in MAC_2 is B + C. The total abatement cost in panel A is therefore A + 2B + C, which corresponds to a total cost of €1,144 in this hypothetical scenario. The marginal cost of abatement is equal for both groups in panel A, implying that the most expensive abatement for both MAC_1 and MAC_2 is €34.

In panel B, there are different CO_2 prices for the two groups. In this scenario, 30 tonnes of CO_2e are abated from MAC_1 and 70 tonnes of CO_2e from MAC_2, totalling 100 tonnes of CO_2e. This implies respective prices of €18 and €49 per tonne CO_2e. The abatement cost from MAC_1 is the sum of A and B, while the abatement cost from MAC_2 is the sum of B and C. However, the total cost in panel B is €1,323 in this hypothetical scenario, which is almost 16% greater than under a uniform carbon price. The most expensive abatement from MAC_2 is €49 – considerably higher than in panel A.

The reason it is more expensive with a non-uniform carbon price than with a uniform one is that it would be possible to replace costly emissions with cheaper ones. This can be seen from the figure below. In panel B it is seen that to abate 100 tonnes CO_2e, it would be possible to increase abatement under MAC_1 and reduce abatement correspondingly from MAC_2. The total abatement cost

impact of climate policy on competitiveness. The EU already has the most cost-efficient climate policy instrument: the ETS. The cost-efficiency of EU climate policy is undermined not by a lack of instruments, but by an accumulation of overlapping targets, subsidies, and command and control rules that fragment the price signal and raise compliance costs.

To improve the EU's competitiveness, climate policy requires comprehensive reform. The first step should be to merge the existing ETS and the forthcoming ETS2 to ensure a uniform price on all covered emissions. Verified negative emissions should also be incorporated into the EU ETS. In the longer term, the land use sector should be incorporated into an ETS wherever possible. At the same time, substantial double regulation will occur when the ETS2 comes into effect in 2027, as all sectors covered by the ETS2 will also be covered by the ESR. Requiring reductions in Member States in sectors covered by an ETS will inevitably increase the cost of reductions, with a very questionable climate effect. Therefore, the targets under the ESR should be abolished.

Similarly, bans, technological standards, reporting requirements, and state aid should be phased out. None of these measures reduce total emissions when a binding cap in an ETS is in place, and they all inflate abatement costs. Finally, to reduce policy uncertainty around the cap itself, the MSR should be abolished. Theoretically, the CBAM is a relevant instrument for distributing reduction costs. In practice, however, it risks functioning as a protectionist tariff that invites retaliatory measures. Trade restrictions do not promote competitiveness. Furthermore, the climate impact of CBAM is questionable, which makes the rationale for the mechanism highly uncertain. Competitiveness is a critical issue that the current EU climate policy does not address. To boost productivity and growth, a comprehensive reform of the EU's climate policy is needed – and possible: all it takes is a single ETS.

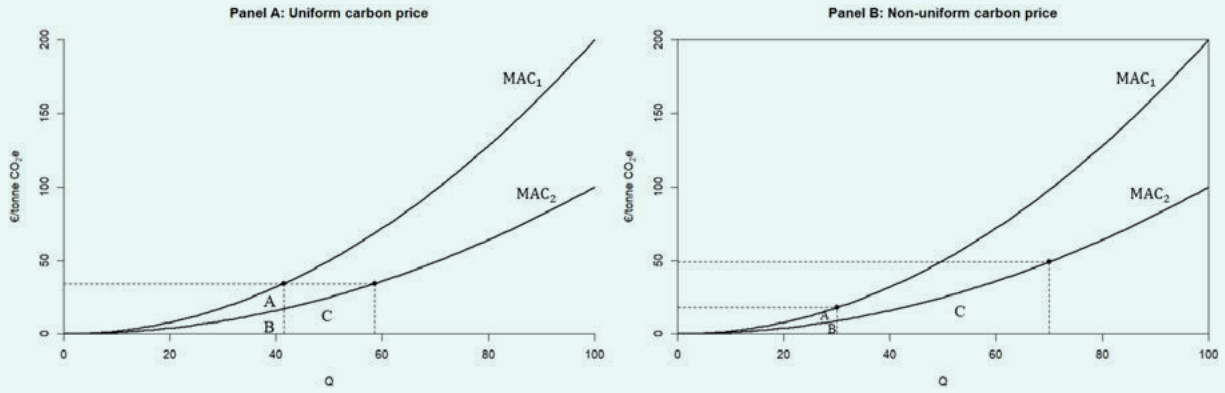

Figure B.3. Total costs under uniform and non-uniform carbon pricing

would therefore decrease. This is possible until the carbon price is equal across sectors, as shown in panel A, which is the cost-minimising price.

Therefore, the same level of reduction could be achieved more cheaply by setting a uniform price on emissions across both ETSs.

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ARTICLE

Europe's Energy Markets

If It Ain't Broke, Don't Fix It

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Citation suggestion: Carlo Stagnaro, CS (2026). Europe's Energy Markets: If It Ain't Broke, Don't Fix It. *Future Europe*, 7(1), 128–140.

Abstract

The Draghi Report offers a critical assessment of Europe's energy markets, with particular focus on electricity and natural gas: price dynamics are primarily the result of poorly designed climate policies and structural inefficiencies in energy market regulation and design. This article focuses on Draghi's observations on energy markets and argues that, while the report makes a compelling case for removing the root causes of high energy prices, rightly emphasising the relevance of high energy prices for the competitiveness of European firms, its discussion of the root causes thereof is not always backed by the available evidence, and some of the proposed solutions are unlikely to result in lower prices. A more coherent policy framework that focuses on setting clear environmental goals, while allowing market mechanisms to determine the optimal technological pathways, would better balance sustainability with economic efficiency and long-term competitiveness.

Introduction

The Draghi Report (DR) identifies high energy prices as one main component of the European Union's lagging competitiveness:

> *Even though energy prices have fallen considerably from their peaks, EU companies still face electricity prices that are 2–3 times those in the US. Natural gas prices paid are 4–5 times higher. This price gap is primarily driven by Europe's lack of natural resources, but also by fundamental issues with our common energy market. Market rules prevent industries and households from capturing the full benefits of clean energy in their bills. High taxes and rents captured by financial traders raise energy costs for our economy.* (Draghi, 2024a: 6)

While speaking of energy at large, the DR focuses on natural gas and electricity, largely ignoring oil despite its accounting for 37.8% of the EU's gross inland consumption of energy in 2023.[53] The DR also

overlooks coal, which accounts for 9.7% of the EU's gross inland consumption of energy and 11.7% of the EU's total electricity generation. The DR's particular focus may be because oil products are traded in global markets, with no significant price differences among the various regions and industries (except for differences in the tax burden); while natural gas prices are a driver of electricity prices, and both severely affect the competitiveness of energy-intensive, trade-exposed (EITE) businesses, a central concern in the DR.

The DR proposes two broad sets of interventions to address the problem of high energy prices: policies that are aimed at reducing the cost of the energy system (i.e., natural gas and electricity) and policies that are aimed at reducing the share of these costs borne by energy-intensive industries (Zachmann, 2024). In identifying the underlying causes of high energy prices, the DR finds three main drivers:

1. the impact of ill-designed climate policies, which result in unnecessarily high costs and/or fail to transfer the benefits of decarbonisation to end-users;

2. misconduct or abuses in the electricity and natural gas markets;

3. faults in the foundational design of these markets.

The proposed policy solutions are consistent with the above diagnosis. At a very high level:

> *Draghi's main cost-reduction policy is to substantially strengthen the EU single market. In this respect, he makes quite bold proposals, including a move from decentralized to central operation of cross-border electricity flows and Europeanisation of the regulatory oversight of electricity sectors, for example by putting in place a single EU energy trading rulebook.* (Zachmann, 2024)

However, some of the proposed solutions do not simply remove the existing barriers from the internal market, for example by promoting more intense cross-border trades of energy; they entail greater and more systematic EU intervention in market functioning and, in some instances, even a radical reform of the underlying rules.

This article does not address Draghi's proposal on how to update climate policies: Andersen and Brøns-Petersen address this issue elsewhere in this volume. Rather, this article focuses on the report's proposals concerning the functioning of natural gas and electricity markets. It takes as a given not only Europe's climate targets of cutting greenhouse gases emissions by 55% below 1990 levels by 2030 and reaching net zero by 2050, but also the targets concerning the renewable share of final energy consumption (which is set to grow

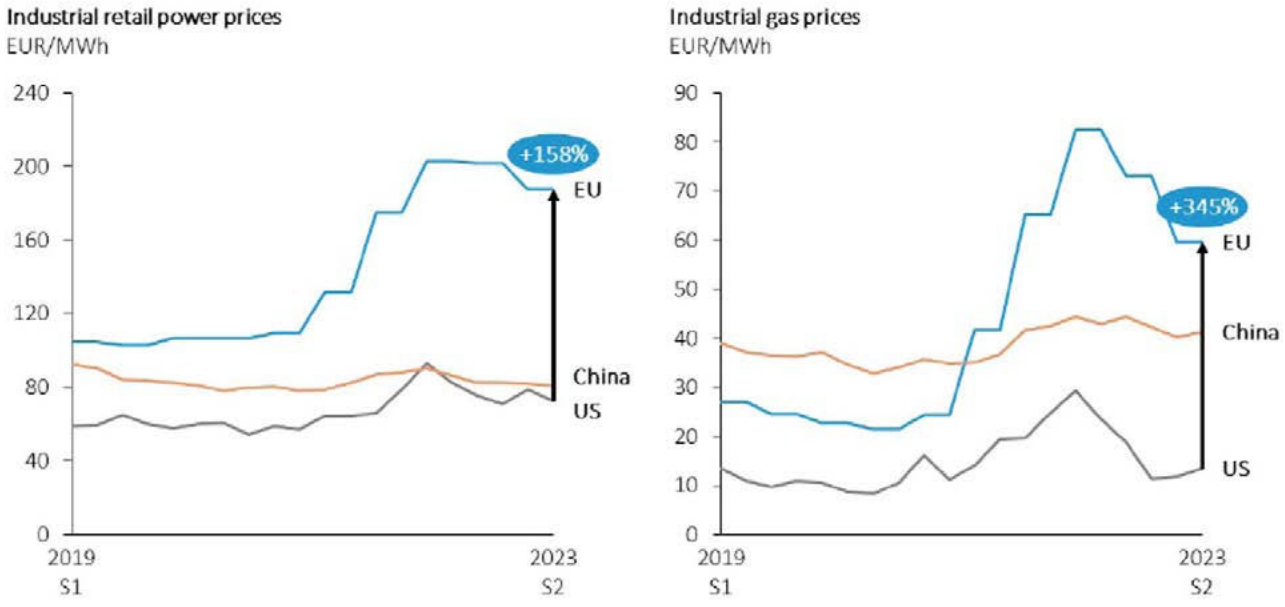

Figure 1. Gas and power price gap for industry.
Source: Draghi (2024b).

from 23% in 2022 to at least 42.5% in 2030)[54] and energy efficiency (the EU final energy consumption should decline by at least 11.7% by 2030, compared with 2020 projections for 2030, corresponding to a primary energy consumption target of 992.5 million tonnes of oil equivalent (Mtoe) and a final energy consumption target of 763 Mtoe by 2030).[55] The former is particularly relevant because power generation is the industry where renewable technologies can be deployed most cost-effectively, in contrast to other sectors where low-carbon substitutes are not readily available or affordable. The latter target is also relevant, albeit indirectly, because electrification is a major instrument to achieve greater overall energy efficiency and lower emissions (Sioshansi, 2025).

The article is structured as follows. The next section summarises the main points regarding the DR's diagnosis of the underlying causes of high energy prices and the proposed solutions thereof. The third and fourth sections deal, respectively, with natural gas and electricity markets. In both these sections, Draghi's assertions concerning the market's malfunctioning and the suggested reforms will be addressed. Natural gas markets come logically before electricity markets because, under the existing price formation mechanism (the so-called system marginal price), the price of natural gas has a significant influence on the price of electricity. The final section summarises and concludes.

Draghi's analysis

The DR starts from the observation that European consumers, particularly energy-intensive industries, have historically paid higher prices for natural gas and power than their foreign competitors, with the gap widening during the energy crisis of 2021–2023 (Figure 1). Moreover, price differences between Member States are large and have grown during the same time span, creating a competitiveness issue both between the EU and its trading partners and within the EU: 'The spread between the highest and the lowest energy [electricity] prices in EU Member States doubled in 2022 and rose again by 15% in 2023' (Draghi, 2024b: 5). Gas prices have also become more volatile during the crisis, resulting in increased volatility of power prices, too.

High and volatile prices have an especially strong impact on the EU as it is a net importer of natural gas (as well as oil); therefore, this constitutes a 'major drag on resources in the EU' that 'could be better used by the EU to invest in infrastructures, innovation, education, and other areas' (Draghi, 2024b: 7). This latter point will not be explored in detail in this article. However, it is important to note that imports do not inherently impoverish a country or reduce its GDP. When a country imports goods or services, it typically does so because those products can be produced more efficiently, at lower cost, or with higher quality abroad than domestically. By importing such goods, the country can allocate its resources more effectively, focusing on industries where it holds a comparative advantage. Therefore, it is not at all clear that the EU becomes poorer by relying on imported energy, especially if domestic alternatives are significantly more expensive (Krugman, 1998; Wolla, 2018; Shepard & Pratson, 2022).

The DR identifies eight root causes of high energy prices: 1) the EU's dependency on gas imports and exposure to spot markets; 2) marginal gas and coal power prices, impacting electricity prices; 3) underdeveloped long-term contract solutions (such as power purchase agreements markets), hindering benefits from increased rollout of renewable energy sources (RES); 4) higher carbon costs than other regions in the world; 5) higher volatility and non-transparent financial markets for energy; 6) a possible increase in physical network bottlenecks during the energy transition; 7) a lengthy and uncertain permitting process for new power supply and grids; and 8) higher and non-homogeneous taxation and subsidies.

This article focuses on 'root causes' 1–3. The remaining ones generally reflect either non-controversial opinions, quasi-truisms, or both. For example, physical bottlenecks in power networks do contribute to price differentials between Member States almost by definition; it is also self-evident that removing bottlenecks would allow for more efficient use of existing or planned assets. It is not obvious, though, to what extent the optimal degree of infrastructural development would pay off: the removal of physical bottlenecks is subject to the law of diminishing returns, so there may well be a point after which the benefits of larger interconnections become lower than the costs. This is, however, an empirical issue, and that is precisely the reason why new infrastructural projects are usually subject to cost–benefit analyses (Cretì & Fontini, 2019). The hidden costs of red tape are well studied in the literature, both in general (Libman, 2022) and in the energy sector (Ruge, 2022; Daniele et al., 2023). Finally, energy taxation and subsidisation in the EU are widely heterogeneous, contributing both to the failure to reflect the costs of consumption or production negative externalities and to huge disparities between Member States (Booth & Stagnaro, 2022). High carbon prices (root cause 4) are not necessarily a bug in the system: they may be a feature therein, depending on the emissions reduction target. Whether or not current carbon prices are consistent with the stated targets goes beyond the goals of this article; the broader role of carbon pricing in the context of the energy transition in dealt with in the article by Andersen and Brøns-Petersen. Finally, root cause 5 is mainly about extending the same conduct and prudential rules that cover financial intermediaries (whether or not they participate in energy markets) to other market participants in such markets that, as of today, have no such obligation. Discussing these aspects goes well beyond the scope of this article; a few considerations, though, will be made concerning

PROBLEM	PROPOSED SOLUTION
Gas	
Excessive dependency on gas imports	Joint procurement
Excessive dependency on spot markets	Sign more long-term contracts
Excessive volatility and lack of transparency in gas financial markets	Introduce new regulation of gas trading hubs
Electricity	
Natural gas sets electricity prices for too many hours	Introduce cheaper and more diversified infra-marginal generators
Excessive dependency on spot prices	Promote long-term contracts both between private subjects (Power Purchase Agreements) and with public counterparts (Contracts for Differences)

Table 1. Root causes of high energy prices and solutions proposed in the Draghi Report

the role of derivatives markets and trading hubs in ensuring energy security and a smooth price discovery process.

The DR's analysis of high energy prices concludes that markets do not work. Specifically, regarding the gas market, Draghi argues that competing importers will inevitably pay higher prices than a unified monopsony:

> *As net importers of gas, Japan and Korea share similarities with the EU, yet notable differences exist. In Korea, the state-owned Korea Gas Corporation (KOGAS) retains a de facto monopoly, importing approximately 90% of the country's LNG [liquefied natural gas], helping in principle to bargain on imports and to minimise costs generated along the value chain. In Japan, the state-owned Japan Organization for Metals and Energy Security (JOGMEC) invests in the upstream production of fossil fuels and minerals worldwide. JOGMEC provides equity capital and liability insurance to Japanese companies for upstream projects and LNG-receiving terminals, ensuring in principle secure access to energy at prices nearer production cost.* (Draghi 2024b: 8)

In addition, European importers are excessively dependent on spot markets; moreover, long-term contracts are often indexed to spot markets, thereby increasing their direct and indirect impacts on prices. Finally, the DR claims that 'there is significant concentration at position and trading venue level and that concentration increased in 2024' (Draghi, 2024b: 12); that is, a small number of traders hold a large share of the total positions in the market (concentration at position level) and most of the trading takes place on a small number of exchanges or platforms (concentration at trading venue level). According to the DR, this may have further inflated gas prices.

With regard to electricity markets, the DR argues that the system marginal price – used to set equilibrium prices in the day-ahead markets (see below) – unduly amplifies the impact of high gas prices on electricity prices. Under this pricing mechanism, the electricity price at any given moment is determined by the marginal cost of generation, that is, the variable cost incurred by the marginal generator to meet demand. According to the DR, 'natural gas was the price-setter 63% of the time in 2022, despite being only 20% share in the electricity mix' (Draghi, 2024b: 9). The lack of cheaper infra-marginal sources and more diversified generation explains the high price of electricity (Draghi, 2024b: 10). Similar to gas markets, the DR indicates that the electricity market is overly dependent on spot prices.

The DR suggests several reforms that are intended to result in structurally lowering energy prices. Both the alleged causes and the proposed solutions are summarised in Table 1. Draghi seems convinced that, in both electricity and natural gas markets, deep changes should be implemented (even though the proposed solutions are somewhat less ambitious than the root causes would imply): on the one hand, he suggests that gas markets are inherently uncompetitive, so competition between suppliers and importers should be replaced by joint procurement by the EU, by more strictly regulating the markets, or by nudging market agents to shift towards more long-term contracts (or a combination thereof); on the other hand, he seems to believe that implementing the energy transition will result in lower power prices, but for these benefits to be transferred downstream governments need

to step in by promoting (again) more long-term contracts between energy originators and off-takers (especially large, energy-intensive firms) or between originators and some public counterparts.

The following sections discuss both the underlying analysis and the proposed solutions.

The gas markets

In 2021–2023, the price of natural gas reached unprecedented levels, peaking above €300/megawatt hour (MWh) in August 2022, in comparison with a long-term historical average in the range of €15–€25/MWh. Prices have normalised somewhat since 2023, settling in the range of €30–€50/MWh (much lower than the peaks but still significantly higher than the pre-crisis norm) (Molnar & Zeniewski, 2025; Fulwood, 2024). The DR argues that 1) internal competition among gas importers drives gas prices above acceptable levels, 2) gas trading hubs (most importantly the Title Transfer Facility, TTF) may be either manipulated or scarcely representative of the underlying fundamentals, and 3) gas exchanges are too exposed to spot prices. Hence, the proposed solutions hinge on reinforcing joint procurement of gas, moving away from spot purchases or from spot-linked contracts, and more strictly regulating trading hubs to prevent opportunistic behaviours.

In contrast to products such as the COVID-19 vaccines, which were successfully negotiated and procured by the European Commission on behalf of the Member States, natural gas is traded by professional market participants, including producers, importers, (large) consumers, and financial intermediaries. The demand for natural gas is highly uncertain, unlike vaccine demand, which was directly set by the European Commission and national governments in control of their healthcare systems. Gas demand depends on several factors: overall economic performance (a stronger economy typically increases consumption); the relative price of alternative energy sources; investment in capital assets such as renewables or energy-efficient appliances (which reduce gas usage); and climate variability, typically measured by heating degree days (HDDs), with colder winters increasing demand. To manage these complexities, traders have developed sophisticated risk management strategies. Over time, they have shifted from long-term contracts to spot market purchases. Among the remaining long-term contracts, pricing has evolved from being indexed to a basket of non-gas commodities (such as various types of crude oil and petroleum products) to being tied directly to gas hub prices. Historically, in the absence of spot markets, European importers signed long-term contracts with foreign producers, such as those in North Africa or Russia, at fixed starting prices, which were later adjusted based on indices linked to other energy products. As a result, gas prices were influenced by unrelated market dynamics rather than supply–demand fundamentals. While this pricing model still exists in some contracts (particularly with North African suppliers), the development of gas exchanges such as the TTF enabled long-term contracts to be indexed to market-based gas prices, aligning them more closely with actual market conditions.

The European Commission has long promoted this shift as a means of fostering competition in the domestic gas market. The DR itself acknowledges that, by shifting the indexation of long-term contracts away from oil and other products towards natural gas spot prices, Europeans have reaped significant benefits. According to the International Energy Agency (IEA), as the DR observed, 'the European Union saved USD 70 billion over a decade because its imports were gradually priced away from oil and towards TTF' (Draghi, 2024b: 27). The savings occurred because natural gas prices – both in spot markets and in spot-indexed long-term contracts – began to reflect actual gas supply and demand conditions. This decoupled gas prices from oil and petroleum product prices, which were influenced by scarcity specific to those separate markets. As the IEA explains, '[o]ver the past decade, the EU built up significant capacity to import gas via pipelines or as LNG. The shift towards spot market pricing allowed the EU to benefit from low prices for LNG imports during periods of ample supply' (Zeniewski, 2021). Nonetheless, prices in the US – as reflected by the main gas trading hub, Henry Hub – have remained consistently lower than in the EU and other regions. This reflects both the abundance of North American gas production and the region's limited capacity for exports.

During the energy crisis, the gap between Europe's TTF and the United States' Henry Hub widened, so that:

> *[e]ven accounting for the costs of transporting LNG to Europe, the price was still around half the price of European gas. This shows that the cost premium linked to spot indexation is around half of production and transport cost pricing. This margin accrues mostly to large energy companies and commodity traders [that] manage the transport of gas from the US to Europe.* (Draghi, 2024b: 27)

Hence, the DR suggests that, 'to reduce the EU's exposure to the volatile spot market and leverage potential downward pressures on prices, it would be beneficial to promote the signing of long-term contracts by European companies which incorporate pricing formulas reflecting less spot indexation' and 'support joint purchasing via procurement' (Draghi, 2024b: 27).

These proposals rely on two main assumptions: on the one hand, the alleged failure of the TTF and other gas hubs to reflect the 'true costs' of gas supply; and on the other hand, the alleged failure of competing gas importers to secure 'fair' prices from producing entities. To address the first problem, the DR recommends better regulating the TTF and

pricing gas away from the TTF; it is the same logic underlying some of the emergency measures that were introduced in 2022, most notably a gas price cap that would be triggered if specific circumstances and price levels were in effect for a prolonged period. To address the second problem, it recommends reforming the existing aggregation platform, called AggregateEU.

Despite the assertions in the DR, the available evidence does not seem to suggest that the TTF mispriced gas. For example, several papers have found that TTF sweep price variations reflected new information as it became available in a rapidly changing and uncertain environment (Goodel et al., 2023; Bortolotti, De Giorgio, & Paltrinieri, 2022). Precautionary regulations that have imposed a 90% minimum storage level by the beginning of the heating season since 2022 have contributed to pushing prices up, potentially introducing perverse incentives to over-rely on stored gas rather than on fresh imports (De Giorgio, 2023). In this context, the price cap had little (if any) effect (Goodell et al., 2024), whereas the TTF emerged as a mature and liquid benchmark.

> *The benchmark Dutch TTF is far and away the leading European traded gas hub, used by many more market participants than any other hub; has a very high traded products score, with far greater total traded volumes than all the other hubs put together; has the highest Tradability Index score[;] and finally, by far the greatest churn rate. TTF total traded volumes represent 82.9 per cent of total European traded gas volumes, and its churn rate [i.e. the ratio of the total volume of gas traded at the TTF hub to the volume of physical gas actually consumed, a common measure of market liquidity] calculated against the much greater physical consumption figure of the countries including and bordering the Netherlands, has risen considerably for the second year running and is now 45.9 times, easily becoming for the first time a 'very liquid' benchmark hub. The TTF churn against all Europe's gas consumption is a very impressive 20.3 times. TTF is being used to price spot LNG cargoes and has become an investment asset class in its own right.* (Heather, 2025: iv)

In other words, the TTF serves as a representative benchmark that accurately reflects the real supply and demand conditions for gas in the EU. It is the most liquid gas trading hub in Europe and ranks among the most liquid worldwide, to the extent that it has become a global reference point. Based on the available evidence, it is difficult to argue that the TTF misprices gas or is subject to manipulation. While such issues cannot be entirely ruled out, there is no prima facie case to justify pricing gas independently of the TTF. Any allegations of market misbehaviour should be substantiated. Notably, the DR provides neither proof nor even a suggestion that the TTF mispriced gas, whether during typical years or throughout the recent energy crisis.

At the same time, the joint procurement platform launched by the EU did not quite work as expected. The AggregateEU platform was started in 2022 based on the belief that, by aggregating EU demand, it would be possible to buy gas from foreign producers at cheaper prices. The European Commission describes AggregateEU as follows: 'AggregateEU pools gas demand from EU and Energy Community companies and matches this demand with competitive supply offers. Following the matching of demand with supply, companies can voluntarily conclude purchasing contracts with gas suppliers, either individually or jointly.'[56] According to the Solidarity Regulation that established the platform, Member States must ensure that entities participating in the platform account for at least 15% of Member States' gas storage filling targets. Participation, hence, is mandatory: once all the bids have been submitted, the platform matches supply and demand and moves on to the later stage, where the parties are supposed to negotiate the supply contracts. Despite initial scepticism (Barnes, 2023), the platform has been kept in operation. However, its performance has been less than satisfying: according to the European Court of Auditors,

> *[t]he volumes requested are equivalent to 50% of EU gas storage capacity, much higher than the compulsory 15% of EU gas storage required by law. This suggest[s] that AggregateEU has generated genuine interest among gas entities. However, we could not determine AggregateEU's added value in relation to gas trading platforms, nor the market failure that AggregateEU addresses[,] as the divergence in prices across EU gas markets caused by the crisis was already substantially reduced at the time of AggregateEU's launch.* (ECA, 2024: 36–37)

Even less enthusiastic is the evaluation performed by two consultancies, Frontier Economics and Freshfields Bruckhaus Deringer (2024), on behalf of the European Commission. According to the Commission's consultants, '[o]ur main finding is that AggregateEU may have contributed to establishing new commercial relationships, though the extent to which matches with new suppliers resulted in the conclusion of gas supply contracts is unclear' (Frontier Economics & Freshfields Bruckhaus Deringer, 2024: 7).

Furthermore, based on a survey of stakeholders, the report suggests that 'AggregateEU may have initially resulted in matches being made with new counterparties on occasion; Except in rare instances, matches were not suitable (e.g. due to missing contractual requirements); and with further tendering rounds, further new matches have typically not been generated' (Frontier Economics & Freshfields Bruckhaus Deringer, 2024: 62). It follows that '[i]t is likely that, faced with high and volatile energy prices, many customers will have expended greater resources on energy trading regardless of whether AggregateEU was introduced. This may have contributed to counterparty discovery, even under a counterfactual in which AggregateEU would not have

been in place' (Frontier Economics & Freshfields Bruckhaus Deringer, 2024: 63).

Simply put, the platform collects supply and demand bids and matches them with each other. However, this matching does not automatically result in a contract being signed; instead, it marks the beginning of a negotiation process. In most cases, these negotiations do not conclude successfully for various reasons. Even when contracts are eventually signed, these agreements would likely have been reached regardless of the platform's involvement.

The reason for this is that most of the services provided by the platform are also available from commercial suppliers of both gas and market intelligence: 'there is some risk that public provision could crowd out private offerings. Therefore, policymakers need to balance this risk against their desire to support a quick market development of the products in question' (Frontier Economics & Freshfields Bruckhaus Deringer, 2024: 83). Despite the cautious wording, it is clear that the platform has fallen short of delivering the expected benefits; consistently, Frontier Economics and Freshfields Bruckhaus Deringer (2024) has been very cautious in recommending that the experiment is not extended to other commodities that might in principle have been subject to forms of demand aggregation, such as hydrogen, biomethane, captured methane or CO2, and strategic raw materials. The report does not consider the proposal to establish a public counterpart in charge of gas procurement, as suggested by the DR. However, the experience with AggregateEU should sound a note of caution regarding further steps: so far, the platform has not delivered the benefits expected by its proponents, while it has demonstrated at least some of the risks that its opponents had foreseen. In commenting on the DR's proposals on gas, the Council of European Energy Regulators emphasised that 'the proposal to reinforce joint procurement could become redundant if the industry indeed shifts more towards long-term sourcing strategies' (CEER, 2024: 1).

There is some evidence that gas markets reacted promptly to the changes in market conditions and have now normalised.

The very point behind the analysis in the DR is that it assumes that gas markets have not worked – because they mispriced natural gas or increased price levels and volatility – but, with the benefit of hindsight, there is no evidence thereof. There is some evidence that gas markets reacted promptly to the changes in market conditions and have now normalised, as has been shown above.

Electricity markets

The DR acknowledges that high natural gas prices are a major driver of high electricity prices. The retail price that consumers (including large industrial consumers, small businesses, and residential customers) pay comprises four main components: 1) the wholesale cost of energy; 2) network and metering costs; 3) other levies, most notably green levies; and 4) taxes. The share of each of these components varies across the Member States (depending on both structural and policy issues) and over time. The DR focuses in particular on component 1 and, to a lesser extent, 2 and 3. It devotes comparatively less attention to component 4, aside from stating that taxes and other levies should be reduced. As Figure 2 shows, on average, energy and supply accounted for 54% of the power bill in 2023, followed by network costs (24%); environmental, renewable, and capacity levies (8%); and VAT (14%) (ACER & CEER, 2024). However, in 2023, some transitional measures introduced in 2021–2022 to mitigate the energy crisis and shield consumers were still in place. As a result, the breakdown may have changed in 2024 and 2025, with a lower share of wholesale prices and a greater share of environmental, renewable, and capacity levies.

The DR focuses on wholesale power prices, that is, the cost that energy suppliers pay to purchase electricity on the open market before adding their own costs and profit margin to sell it to consumers. Wholesale power prices emerge primarily from competitive markets, with prices determined by supply and demand dynamics in day-ahead and intra-day markets, regulated and coordinated at the EU level.

Day-ahead markets (DAMs) are the primary venue for setting electricity prices. Market participants submit bids to buy or sell electricity for each hourly (or sub-hourly) time slot of the following day. The market algorithm ranks supply offers in ascending order of price (forming the 'merit order curve') and matches them to expected demand. While demand-side bidding exists, it is often less price-sensitive and actively traded than supply. As the delivery time approaches, intra-day markets allow participants to adjust their positions. Finally, the system operator (i.e., the grid operator) maintains real-time balance between supply and demand in the balancing markets, ensuring the physical stability of the power grid (Cretì & Fontini, 2019).

The single most important determinant of wholesale power prices is the outcome of DAMs (Day Ahead Markets). In this market, once the equilibrium is reached and the equilibrium price is discovered, all accepted bids receive the price of the most expensive accepted offer, that is, the 'marginal unit' or the 'system marginal cost', as shown in Figure 3. This is not a surprising result: 'a general result in economics is that to maximise the net surplus from consumption, price should be equal to the marginal cost of production and the marginal surplus from consumption'. Therefore, 'Under reasonable conditions, there exists a unique equilibrium price such that supply is exactly equal to demand, that is, the quantity produced is exactly equal to the quantity consumed. At this price, the marginal surplus is equal to the price, which is also equal to the marginal cost. The marginal net surplus is equal to zero: the equilibrium leads to the optimum' (Joskow & Léautier, 2021: 41, 43).

Typically, the marginal unit is a gas-fired power plant or another form of flexible generation. As a result, electricity prices – given the current composition of Europe's power generation fleet – are heavily influenced by natural gas prices. In addition, power generators that emit carbon (for example, by burning natural gas or coal) are required to purchase carbon allowances equivalent to their emissions, as mandated by the EU Emissions Trading System. Consequently, carbon prices also contribute to the overall cost of electricity, particularly its wholesale price.

The DR suggests three channels to reduce power prices:

1. Decouple the remuneration of RES and nuclear from fossil-fuel generation though long-term contracts (Draghi, 2024b: 35–36);

2. Increase the share of low (marginal) cost renewable

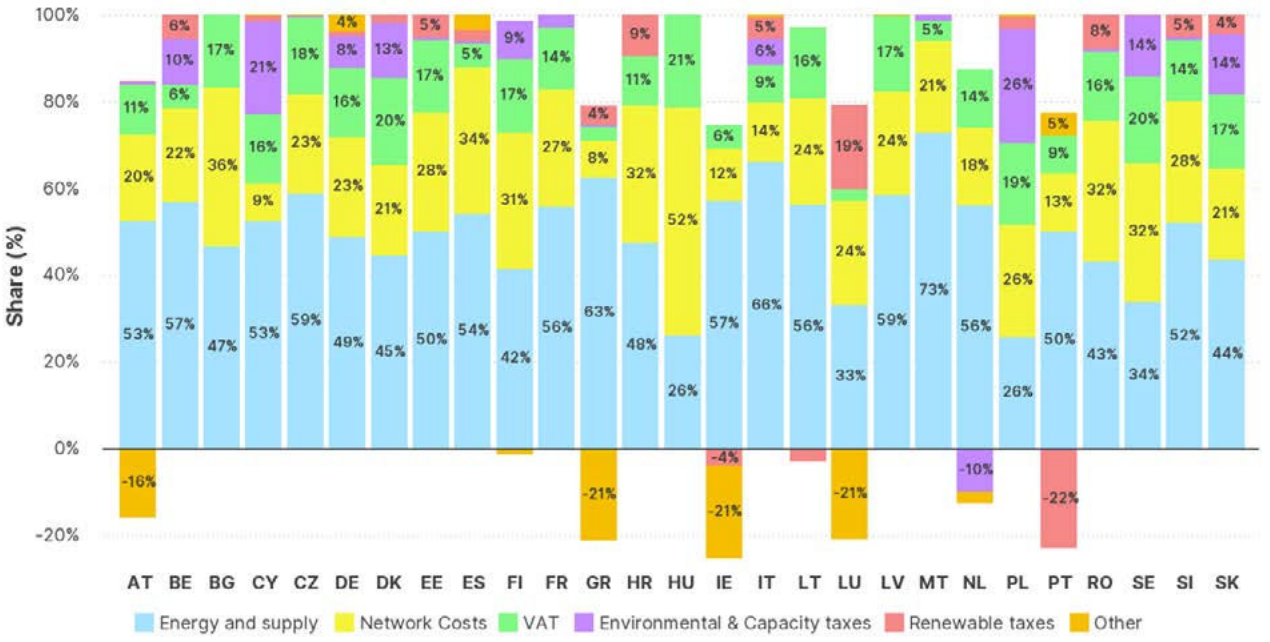

Figure 2. Breakdown of the final electricity bill for households in 2023 (%).
Source: ACER and CEER (2024). Note: Negative components indicate that governments have introduced subsidies funded by general taxation to reduce energy prices. Consequently, these subsidies are classified as negative charges. These measures are generally temporary, so most or all of them have likely been phased out in 2024 or later.

generators (Draghi, 2024b: 36–37);

3. Lower and level the energy taxation playing field and the strategic use of taxation measures to reduce the cost of energy (Draghi, 2024b: 38).

Draghi (2024a: 44) goes so far as to call for the complete decoupling of electricity and gas prices. While some elaborated proposals to achieve these results have been published in the literature (Fabra, 2022; Frangioni & Lacalandra, 2024), these have been generally evaluated as either too complex to implement, self-defeating, or both (Schlecht et al., 2022; Zachmann et al., 2023). A review paper on the subject found that

> *[i]n all the papers supporting the split market idea [i.e. decoupling of electricity and gas prices], there is the presumption that government or an electricity market regulator will be able to implement the considerable additional institutional requirements that are needed to make the split market work – these include preventing arbitrage and trade across the diverging supply contracts, maintaining the required entry and prevention of entry conditions, assuring the flow of symmetric information to consumers and producers, integrating the generation contracts with the transmission and distribution system, and monitoring the performance and success of the proposed changes. None of the proposals analyze the regulatory issues involved and none of the proposals recognizes or quantifies any regulatory costs of implementation, which are likely to be considerable.* (Weyman-Jones, 2023)

A thorough analysis by the EU's Agency for the Cooperation of Energy Regulators (ACER) found no evidence of structural faults in the electricity market design (ACER, 2022). According to CEER (2024: 3), 'the broad consensus [is] that marginal pricing is the most efficient method for auction-based markets like day-ahead and intraday trading'.

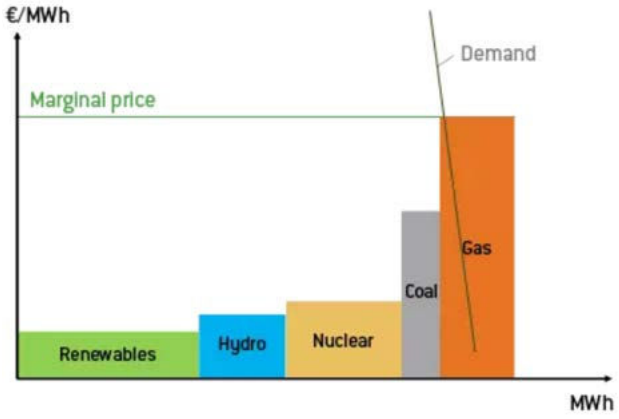

Figure 3. The merit order curve.

The DR does not propose a comprehensive reform of the system marginal price as a solution to high electricity prices. Instead, it advocates for a broader use of long-term contracts between energy consumers and renewable energy producers. These contracts can involve either public or private counterparties. When the state is involved, they are typically structured as contracts for difference (CfDs) – mechanisms where the government guarantees a fixed price for electricity and pays or receives the difference if the market price deviates. When the counterparty is a private entity, the agreements are known as power purchase agreements (PPAs) – long-term contracts where a buyer agrees to purchase electricity from a producer at a predetermined price, providing revenue certainty for renewable projects.

The underlying rationale is that, by signing these contracts, the low cost of renewable energy can be passed on to final consumers (in the case of PPAs) or to the state (in the case of CfDs) while also providing stable revenues for green investors – thereby facilitating the financing of new renewable energy projects. Offering indirect support for PPAs – for example, through public guarantees that mitigate counterparty risk – can be a sound policy measure, as long as it promotes private investment in new renewable capacity and ensures that the energy produced is consumed (typically by large industrial users), effectively displacing fossil-fuel use for the same end (Stagnaro et al., 2025).

CfDs, however, present a different case. While they can be effective in minimising the public cost of supporting renewable energy deployment, they may also introduce market distortions, particularly when the volume of subsidised energy becomes substantial, as is already the case. In 2020, an average of 22.7% of total electricity produced in Europe received some form of renewable energy support, and that share has likely increased since (CEER, 2023; see Figure 4).

If CfDs become the prevailing source of financing for renewable energies – by shifting price risks from investors to the government – then the dispatch and investment decisions of generation assets may be affected. For example, since a CfD sets the price at which energy is sold, investors may be incentivised to maximise production. However, this does not necessarily mean that social welfare is maximised. Suppose excess renewable production drives prices down close to zero, or even below. In that case, the support system effectively transfers valuable resources to producers who do not create social value (otherwise energy prices would remain positive and well above zero). This is essentially equivalent to a direct subsidy. Several proposals have been made to reduce the potential distortions caused by CfDs (Zachmann & Heussaff, 2023; Schlecht, Maurer, & Hirth, 2024). Even if some issues are addressed, as the volume of CfD-supported energy grows, these contracts may still contribute to increasing system costs and ultimately lead to higher, rather than lower, prices for end consumers.

Renewable energies contribute to reducing wholesale power prices, but they may impose additional costs to the system – such as managing variability and financing investments in grids and storage infrastructure (as the DR recognises; see also ECA, 2025). Whether the net effect is positive or negative is an empirical question, not a theoretical one, and the answer may vary depending on the characteristics of individual Member States. Therefore, simply increasing the share of renewable electricity does not guarantee a fall in retail prices. Moreover, support policies that incentivise renewable growth, without considering the specific context of new installations, may add incentive costs on top of variability-induced system costs. This explains why, despite declining costs of renewable technologies, the overall cost of direct and indirect support policies has risen. Consistent with the DR's recommendations, policymakers should consider shifting the cost of green levies and similar measures from electricity bills to general taxation (Lo Schiavo & Stagnaro, 2025). However, increasing these costs – whether funded through general taxation or electricity tariffs – is unlikely to reduce energy prices or boost the competitiveness of European industry. Instead, energy and climate policies should be designed to minimise the costs of the energy transition while advancing other key political goals, such as energy security. Achieving this requires opening markets and removing internal barriers that hinder the proper functioning of the EU's internal gas and electricity markets. High energy prices in the EU are more plausibly the result of government and policy failures, rather than inherent market failures.

Conclusion

The DR correctly identifies high energy costs as a major source of competitiveness disadvantage for European firms. According to the report, these high prices stem from multiple causes that should be addressed through a broad set of reforms. Some proposals are uncontroversial, such as streamlining licensing procedures and reducing energy taxes (even though these are easier said than done). Others are less straightforward.

Notably, much of the DR's analysis appears to rely on an unproven assumption: that natural gas and electricity markets

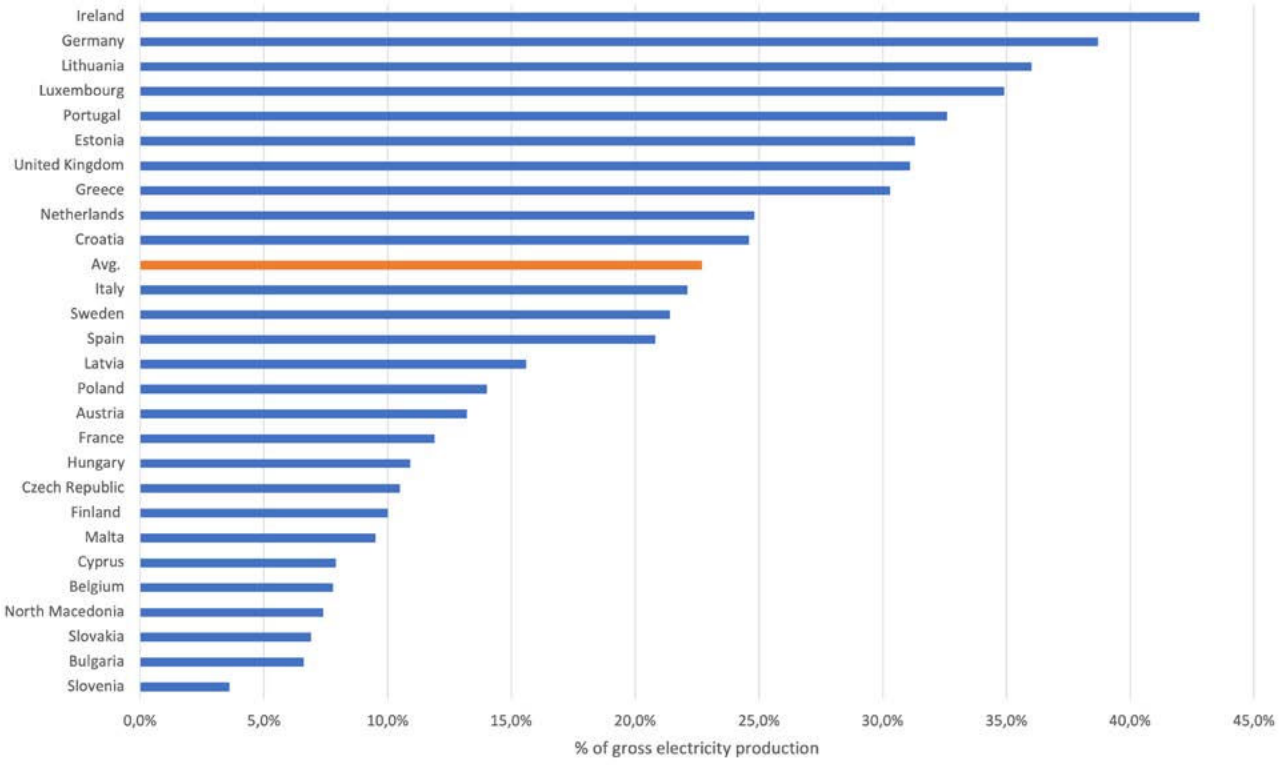

Figure 4. Share of total electricity receiving renewable energy support in 2020 (%).
Source: Elaboration on data from CEER (2023).

are structurally flawed. To address perceived issues in gas markets, the DR recommends measures such as joint EU-level procurement, a shift from spot purchases to long-term contracting, and tighter regulation of major trading hubs, especially the TTF. Regarding electricity markets, the report calls for reforms to price-setting mechanisms and endorses tools such as PPAs and CfDs to achieve a 'decoupling' of renewable energy prices from natural gas. It also assumes that increasing the share of renewables will automatically lower prices.

This article has critically assessed both Draghi's diagnosis and the proposed solutions. The diagnosis lacks empirical grounding – indeed, available evidence shows that natural gas and electricity markets have responded to changes in the fundamentals largely as the economic theory would predict. Moreover, some of the proposed solutions risk being ineffective or even counterproductive. This is especially true where government intervention introduces unnecessary costs, as may be the case with joint gas procurement or the over-subsidisation of renewable energy via CfDs.

One possible explanation for the DR's failure to accurately diagnose the causes of high energy prices lies in its strong anchoring to the exceptional circumstances of the 2022 energy crisis. Several claims remain unsubstantiated: for example, there is little evidence that natural gas and electricity markets malfunctioned in 2022. Rather, unprecedented prices during that period prompted a series of emergency measures (ACER, 2023), which were arguably justified by temporary conditions – most notably, the uncertainty surrounding Europe's ability to meet its gas demand amid fears of physical scarcity. Today, those conditions have changed significantly. The EU is less dependent on gas (with total consumption dropping from over 400 billion cubic metres (bcm) in 2021 to about 330 bcm in 2023), supply sources are more diversified (Russian imports fell from 150.2 bcm in 2021 to 51.7 bcm in 2024), and liquefied natural gas imports reached over 100 bcm in 2024, nearly 45% of which came from the US.[57] Meanwhile, renewable sources are playing a growing role, accounting for 24.5% of total energy consumption in 2023.

To be sure, Europe's electricity and gas markets are not free of problems. Policy contradictions, such as import duties on foreign-made solar panels that raise the cost of photovoltaics, can undermine clean energy goals. Excessive subsidies, particularly legacy incentives for early-stage renewables, may still inflate electricity prices. And anti-competitive behaviour by market participants remains a concern that national competition authorities must address.

Policymakers should consider shifting the cost of green levies and similar measures from electricity bills to general taxation .

However, these issues do not originate from the core market mechanisms themselves, such as gas trading hubs or the system marginal price in electricity markets. On the contrary, the evidence suggests that excessive policy intervention explains much of Europe's high energy costs.

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ENDNOTES

Section 1

1 The EU-27 vs EA productivity gap is a good proxy for the Central and Eastern Europe (CEE) convergence effect because only small economies joined the euro area after its inception (Slovenia 2007, Slovakia 2009, Estonia 2011, Latvia 2014, Lithuania 2015, Croatia 2023), while more populous CEE member states (Poland, Romania, Hungary, and Czechia) decided not to join.

2 Long-term strengthening of the US dollar after 2008 may be one element of the explanation.

3 For example, with a GDP share of 10%, the annualised contribution to the accumulation of the productivity gap would be around 0.04%, that is, less than one-tenth of the total.

4 This finding aligns with those of other studies. Gervais (2025) quotes a McKinsey 2023 study that showed average annual labour productivity growth rates in ICT of 3.5% in the US and 1.7% in Europe. The corresponding growth rates in this study, when taking 2011 as a starting point, are 3.64% in the US and 1.94% in the EA, which is very close. Here, the ICT labour productivity index is constructed with annual employment shares as weights for four sub-sector activities: (i) wired and wireless telecommunication carriers; (ii) software publishers; (iii) cable and other subscription programming; (iv) radio and television broadcasting; and (v) newspaper, periodicals, books, and directory publishers.

5 71% applies to both periods together.

6 Non-market goods are characterised by zero or insignificant prices that are not significant enough to affect supply or demand.

7 The New Industrial Deal for Europe is based on ten critical sectors: energy is the first, followed by critical raw materials and the IT/AI block of digitalisation and new advanced technologies, which comprise broadband networks, computing and AI, and semiconductors. This is followed by energy-intensive industries (EII, e.g., metals, chemicals, and non-metallic minerals) and clean technologies, whose primary goal is to facilitate EII's further decarbonisation. Five other critical industries are the automotive industry, pharmaceuticals, defence, space, and transportation, including logistics.

8 The first significant initiative of the new EC was the Stop-the-Clock Directive, which alleviated the ESG (environmental, social, and governance) reporting burden for smaller enterprises and simplified it for larger ones. Draghi's call for raising the EU gross investment-to-GDP ratio to 26–27% (2024: 21%), which was last seen about half a century ago, led the EC to adopt the Strategy on a Savings and Investment Union (SIU), aiming to mobilise private savings to finance investment through perfected financial markets.

9 In 2002–2003, the average gross fixed capital formation-to-GDP ratio bottomed out at 22% in the US and the EA, followed by a 23.0% peak in 2006 in the US and 24.2% peak in the EA in 2007. During the Great Recession, investment bottomed out at 18.3% in the US in 2010, reached the next maximum of 21.6% in 2020, and remained slightly below that level thereafter. In the EA, the investment ratio bottomed out at 19.7% in 2013, reached the next maximum of 22.5% in 2019, and after a mild decline to 22.1% in 2020, it reached 23.0% and 24.1% in 2021 and 2022, respectively. See IMF (2025: 6) on the faster growth of real investment in the US.

10 The ratio is around 88% in the EA, and it remains to be seen how this difference between the US and the EA will play out in the coming years in terms of its impact on fiscal policies and labour productivity.

11 Andersson, Jarvis, and Soudan (2025) focused on the short period between late 2021 and late 2024, attributing weaker tangible investment in the EU to weaker demand and an energy price shock associated with policy uncertainty stemming from Russia's invasion of Ukraine. There is a larger gap in investment in intellectual property, which is typically explained by weaker Big Tech companies, a lack of digital innovations, and cumbersome regulations. In addition, overly lax fiscal and monetary expansion may obscure the natural rate of unemployment and increase the probability of monetary policy errors reflected in an overly large variability of inflation and interest rates that may create social costs in terms of lost output.

12 The US standard deviation is higher than the EA's even before normalisation by the mean.

13 The EU's Flexicurity programme (European Commission, 2007) can be refreshed, as most documents relate to 2007, and substantially expanded with a particular focus on the design of counter-cyclical common measures.

14 The Stability and Growth Pact was reformed in 2024, with additional relaxation in 2025, allowing for 1.5% of GDP in additional defence spending from 2025 to 2028.

15 Belenzon and Cioaca (2022) explained the importance of the public procurement effect in the development of the IT sector in the US.

16 See, for example, the World Bank Group Bureaucracy Lab (World Bank Group, n.d.).

17 Malta is not mentioned because it underwent a rapid real convergence period, which distorts its productivity growth upwards (at 2.0% annualised).

18 See for example the ambitious 13-volume draft proposal for a European company law code, put forward by the French law association Henri Capitant in 2017 (https://www.henricapitant.org/actions/draft-european-business-code/).

19 Major works by Mazzucato include The Entrepreneurial State (2011) and Mission Economy (2021).

20 See, for example, Questioning the Entrepreneurial State (2022) by the economists Karl Wennberg and Christian Sandström, a well-argued response to Mariana Mazzucato's statist and interventionist manifesto.

21 Creative destruction was understood by Schumpeter as the organic and dynamic process of innovation in manufacturing, in which new technologies replace old ones, leading to increased productivity.

22 Krawiec (2000) argues, on the insider trading laws case, that such regulations reflect a commitment to fairness more than an empirically supported improvement in market outcomes.

23 According to Herby (2024), the volume of EU legislation increased 729% during the 1994–2024 period and 101% during the 2010–2024 period (since the Maastricht and Lisbon treaties accordingly).

24 The data is provided by Single Market Barriers Tracker dashboard, using Your Europe, SME feedback survey, SOLVIT and Your Europe Advice (YEA) data, during the period 2022 and 2024 (October).

25 Although there is a debate on the quality and coverage of telecoms networks in the EU and the US (see Duso et al., 2024), their 5G coverage of households at the end of 2024 was similar, as EU countries averaged 94.3%, China 95%, the US 97%, and Japan 99% (European Commission, 2025).

26 ARPU in Europe declined by 5.9% in 2023 compared with 2022 in real terms, while mobile ARPU in the US, South Korea, and Japan significantly exceeded Europe's, by +182%, +76%, and +53%, respectively (Wood & Sherrington, 2025).

27 Platforms, fearing liability or sanction, choose censorship over freedom when decisions stem from politically influenced regulators. What is considered illegal or inappropriate in one country, such as anti-abortion content, may lead to the removal of lawful speech in other countries.

28 Since decisions will affect other EU countries, it is possible that content that is legal in one country but illegal in another will be flagged. For example, a post about a woman talking about abortion in Greece (where abortion is legal) will be marked as inappropriate by a moderator in Poland (where abortion is illegal except in cases of maternal health risk or rape) and as a result the post will be taken down. There is also the possibility that a flagger motivated by ideological inclinations and acting in bad faith will try to silence opposing content (posts that are pro LGBTQ+ or right wing, for example). An independent flagger may not cause a lot of damage, but imagine a national authority being organised and heavily guided by the ruling party of a country that systematically attacks content of a specific kind to push its agenda.

29 https://eur-lex.europa.eu.

30 https://academic.oup.com..

31 In line with most analyses (as seen above), Meyers (2024) identifies two major structural obstacles that hinder innovation in the EU: bank-based financing and Single Market fragmentation. Firstly, European firms are disproportionately dependent on bank-based financing, which tends to favour projects with short-term return horizons. This discourages smaller firms from investing in long-term technological upgrades, unlike their US counterparts, who have greater access to equity markets. Secondly, the EU suffers from an incomplete and fragmented Single Market,

limiting firms' ability to scale rapidly across borders. As a result, many promising European companies are constrained in their growth and fail to reach the continental or global scale often achieved by their US competitors.

32 The amount for the energy transition is potentially an underestimate. The additional financing required to achieve carbon neutrality in Europe is estimated at between €410 billion and €620 billion (Villeroy de Galhau, 2024).

33 'In March 2002 the Barcelona European Council analyzed the Lisbon Strategy and its implementation, and set the target to increase the average research investment level from 1.9% of GDP today to 3% of GDP by 2010, of which 2/3 should be funded by the private sector' (European Commission, 2002).

34 According to Thomas Piketty (http://piketty.pse.ens.fr/files/ideology/pdf/F10.10.pdf), the period 1914–1950, covering the First and Second World Wars, was associated with inflation rates of 13% and 17% per annum in France and Germany, leading to a depreciation of pension capitalisations in both countries. This factor was not found in the US and Great Britain, where inflation rates were close to 3% over the period.

35 Well-built welfare states in the European Union require significant tax burdens that might contribute to competitiveness issues, however.

36 https://consilium.europa.eu/en/policies/fit-for-55/.

37 https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/development-eu-ets-2005-2020_en.

38 https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/scope-eu-ets_en.

39 https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/ets2-buildings-road-transport-and-additional-sectors_en.

40 https://climate.ec.europa.eu/eu-action/effort-sharing-member-states-emission-targets/effort-sharing-2021-2030-targets-and-flexibilities_en.

41 https://climate.ec.europa.eu/eu-action/land-use-sector_en#what-is-the-land-use-land-use-change-and-forestry-regulation-lulucf.

42 https://climate.ec.europa.eu/eu-action/transport-decarbonisation/road-transport/light-duty-vehicles_en.

43 https://climate.ec.europa.eu/eu-action/transport-decarbonisation/road-transport_en.

44 https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

45 https://finance.ec.europa.eu/publications/commission-simplifies-rules-sustainability-and-eu-investments-delivering-over-eu6-billion_en.

46 https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-targets_en.

47 Excluding state aid for COVID-19.

48 https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/market-stability-reserve_en.

49 https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/ets2-buildings-road-transport-and-additional-sectors_en.

50 https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en.

51 https://edgar.jrc.ec.europa.eu/report_2024.

52 https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1687.

53 Unless otherwise specified, data concerning the EU's energy balance is from the EU energy statistical pocketbook and country datasheets, available at https://energy.ec.europa.eu/data-and-analysis/eu-energy-statistical-pocketbook-and-country-datasheets_en (last update 25 April 2025, accessed on 1 July 2025).

54 https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-targets_en

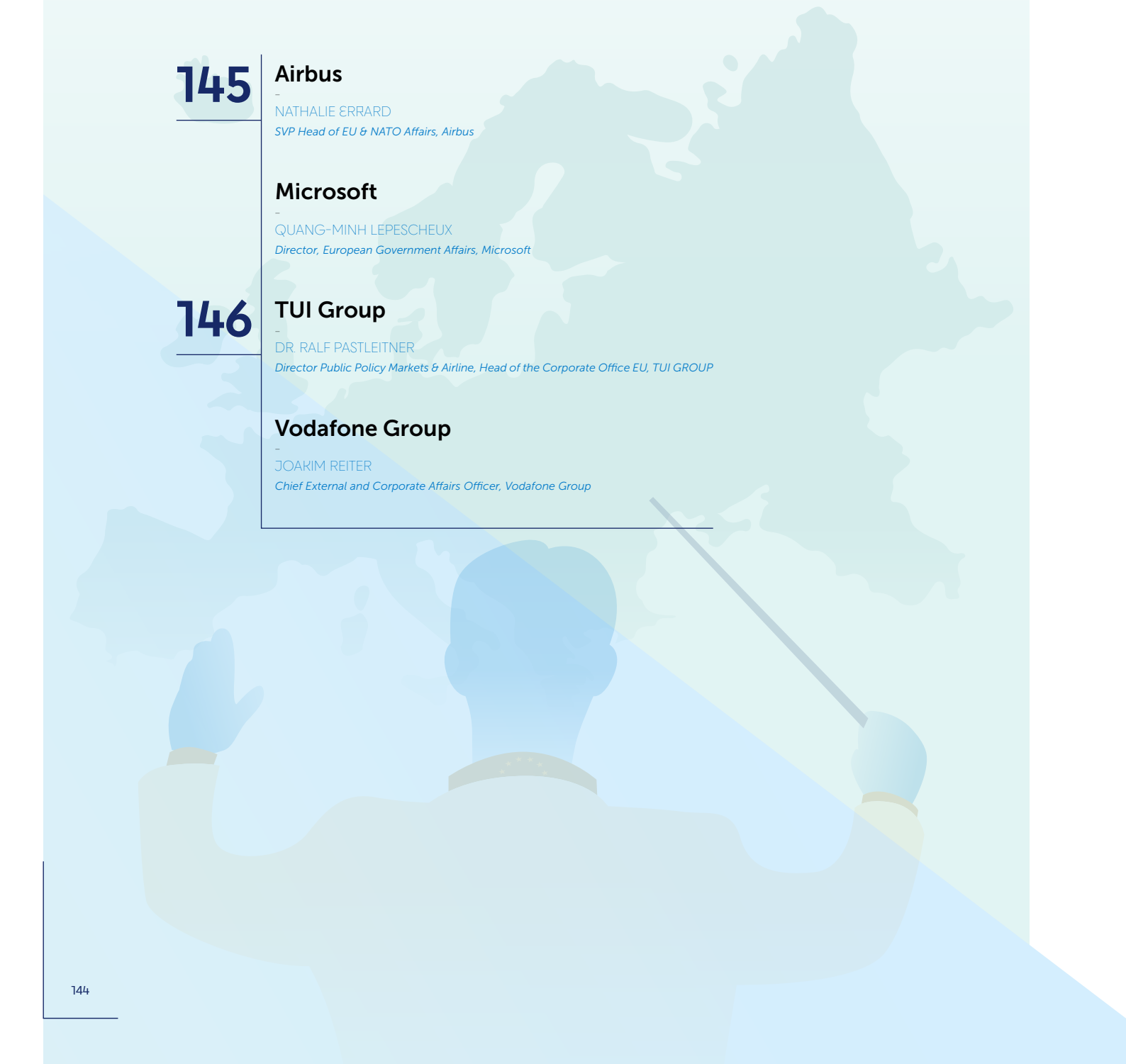
55 https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-targets_en

56 https://energy.ec.europa.eu/topics/energy-security/eu-energy-platform/aggregateeu_en

57 https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Natural_gas_supply_statistics

SECTION 2

Insights from the Industry



AIRBUS

Nathalie Errard

SVP Head of EU & NATO Affairs, Airbus

We are very concerned about the lack of speed and ambition to implement the recommendations of the Draghi's report in aerospace and defence, even if there seems to be a growing recognition that aeronautics, space, and defence are EU strategic sectors which contribute to the EU strategic autonomy. The EU sovereignty and priority for strategic sectors are still not protected in the different regulations, even if we saw some progress on the SAFE defence instrument. The MFF proposal of the Commission will not allow to fund the € 40 billion needed for space programmes and the € 150 billion which had been quoted as necessary to allow meaningful innovation, both in EU defence technologies and common procurement for European defence equipment which is necessary to create enough leverage and scale. 'More' Europe would also be of utmost importance in the standardisation of weapons systems and dynamic, needs-based procurement. There is still no EU strategy for aeronautics and we don't know how much money aeronautics will get on research to decarbonise itself, but the overall proposed budget for clean transition and industrial decarbonisation across all sectors for the next MFF (€ 67,4 billion) is similar to the annual amount needed just to decarbonise aviation (€ 61 billion). Specifically, the Investment in SAF, absolutely critical to decarbonise aviation, has not started yet. There is no reference either to major digital transnational investment. On simplification, progress has been made but sometimes big corporations are overlooked, as if big groups did not belong to Europe nor were necessary to feed European SMEs.

MICROSOFT

Quang-Minh Lepescheux

Director, European Government Affairs, Microsoft

The impact of artificial intelligence (AI) on economic competitiveness will shape opportunities for everyone – from individuals to companies, communities, and countries – and Europe stands at a pivotal moment. The continent is stepping up its investments in AI, reflecting a growing ambition to strengthen its digital capabilities. Yet it still lags behind global leaders in terms of technological competitiveness. Closing this gap requires accelerating the spread of AI across the entire economy, not just within the tech sector, but across all industries – from manufacturing and energy to healthcare, mobility, and the creative economy – and public services. AI transformation is no longer a frontier issue; it is a core engine of productivity and resilience. However, Europe's AI adoption remains slow and fragmented. Unlocking its full potential depends on enabling widespread diffusion. Clear, predictable regulation is essential: businesses need innovation-friendly frameworks that safeguard fundamental rights without stifling progress. Europe must also remain open to the world. Building partnerships and attracting talent, capital, and ideas – while shaping global standards in line with European values – is key. Skills must also be at the heart of it. Meeting the EU's 2030 Digital Decade targets demands a massive upskilling effort, especially in AI literacy. Without this, the promise of the AI economy will remain just out of reach.

TUI GROUP

Dr. Ralf Pastleitner

Director Public Policy Markets & Airline, Head of the Corporate Office EU, TUI GROUP

As part of the vital debate on European competitiveness, TUI underscores the remarkable strength and untapped potential of the travel and tourism sector. Tourism is one of Europe's most significant economic engines - supporting 26 million jobs (12% of total EU employment) and contributing more than 10% to EU GDP (WTTC forecast for 2025). While projections point to continued growth, this potential can only be fully realised with the right enabling policies. Political frameworks must prioritise sustainable connectivity. Strong financial incentives are needed to accelerate the production of sustainable aviation and maritime fuels in the EU, while also rewarding operators; improved transport infrastructure is essential - a single, efficient EU airspace and EU-wide access to shore-side electricity for ships; moreover, carbon pricing policies should be aligned internationally to prevent emissions leakage and avoid displacing tourism to non-EU destinations. Equally important is the development of a skilled and mobile workforce. EU initiatives to enhance labour mobility, harmonise job qualification standards, and offer targeted training must be strengthened. Seasonal staffing gaps should be addressed pragmatically – through collaboration with employers and openness to non-EU seasonal workers where necessary. Finally, the continued attractiveness of European package holidays depends on a level playing field. Regulatory consistency across operators is crucial, and unnecessary administrative or financial burdens must be avoided. The EU should actively support package holidays, which offer unmatched consumer protection and promote sustainable, well-managed tourism that benefits local communities. With the right policy framework, Europe can reinforce its leadership in sustainable travel, unlock billions in economic value, and generate millions of inclusive, green jobs.

VODAFONE GROUP

Joakim Reiter

Chief External and Corporate Affairs Officer, Vodafone Group

Europe's competitiveness, security and digital inclusion increasingly depend on high-quality connectivity. Advanced digital connectivity networks are essential for AI adoption, modern public services and SME digitalisation. Without them, Europe cannot strengthen its industrial base, attract capital for innovation, or defend itself against hybrid threats.

But current regulation is holding back investment in our sector, resulting in uneven coverage for citizens, slower technology adoption for businesses and reduced ability to operate at scale to compete globally.

The European Commission has recognised that market fragmentation and under-investment in connectivity markets constrain innovation, scale and resilience in Europe. The Digital Networks Act (DNA) should be Europe's opportunity to lead again.

We are encouraged that the EU is finally taking some steps to deliver a Single Market for telecoms and we welcome the clear direction on spectrum licensing and copper switch-off.

Yet the DNA proposals do not set up Europe to compete in the global digital ecosystem as set out by Draghi and Letta. They fall short of creating the right conditions for European competitiveness, innovation and growth, especially in areas like simplification or a level playing field across the digital ecosystem.

Long-term resilience for Europe's critical infrastructure depends on delivering a pro-investment and pro-innovation framework for European operators. Unless the remaining red tape and regulatory imbalances are addressed, Europe will lose ground in everything from AI, cloud and the industrial internet.

Political leaders must now build on the DNA proposal with a more ambitious reform package that secures Europe's digital future and supports democratic stability in the digital age.

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978-2-39067-054-4 9782390670544

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