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Course of Macroeconomics

European Competitiveness and Productivity:

Overview, analysis and feasibility of reforms proposed to revitalize the European economy

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Table of Contents:

Introduction

Few definitions of competitiveness exist, ranging from those tailored to the competitiveness of firms to those designed to capture the competitive nature of economies. While the concept of the former has been well established, the latter has proven to be more complex.

Notably, the concept of national competitiveness has been a popular debate over the last few decades, with economic opinions ranging from questioning its validity – "So when we say that a corporation is uncompetitive, we mean that its market position is unsustainable – that unless it improves its performance, it will cease to exist. Countries, on the other hand, do not go out of business. They may be happy or unhappy with their economic performance, but they have no well-defined bottom line. As a result, the concept of national competitiveness is elusive" (Paul Krugman, 1994), to the field of International Economics, where competitiveness is analyzed through trade theories such as Ricardian comparative advantage, Heckscher-Ohlin factor endowments, and new trade models that emphasize capital market efficiency, strategic trade policy, and innovation-driven growth.

The diversity of the measures of competitiveness used by researchers suggests that ideas about this complex concept vary greatly. The World Economic Forum describes economic competitiveness as "the set of institutions, policies and factors that determine the level of productivity of a country". The EUR-Lex describes a competitive economy as "an economy whose sustained rate of productivity is able to drive growth and, consequently, income and welfare."

The competitiveness and productivity of an economy are inherently linked, as a nation's ability to sustain global economic relevance depends on how effectively it utilizes resources to maximize output, drive innovation, and sustain economic growth. Higher productivity allows nations to lower production costs, maximize investment capacity, and strengthen the overall economic foundation of a country. Economic stagnation weakens national stability, limits opportunities for future generations, and deepens social inequality, ultimately diminishing the overall quality of life for citizens.

Since the mid-1990s, Europe has experienced a growing productivity gap relative to other major economies, such as the United States. While the US has benefited from deep capital markets, technological innovation, and a more favorable legal system, Europe has struggled with fostering innovation, fragmented markets and slower technological diffusion.

This growing slowdown has provoked extensive discussion among scholars, market specialists, and policymakers. In November 2024, Mario Draghi, an economist, former Italian Prime Minister and former President of the ECB[1], presented two reports titled "The future of European competitiveness", outlining what in his opinion, are the major problems and possible solutions.

This thesis aims to review the path of European productivity and the widening gap. The primary focus will be on evaluating and reviewing the current state of competitiveness and different proposed reforms – such as those of Mario Draghi. Furthermore, the thesis will evaluate the feasibility and risks of their implementation and offer other views on the reforms proposed. Some of the key areas of analysis will include the European Capital Markets, the role of funding from the public sector, and the innovation ecosystem.

The methodology of the analysis will combine historical analysis, policy comparisons, and quantitative data analysis, aiming to provide an overview of the productivity gap and potential solutions. The historical analysis will contextualize the economic trajectory of the EU, and compare it to the US, highlighting past policies that have shaped their competitive positions, and their impact on the economy. Policy comparison and quantitative data analysis will assess Europe's current position in key sectors, further discussing different strategies proposed to stimulate the economy and their feasibility.

[1] ECB - European Central Bank

Chapter 1: The State of European Competitiveness & Productivity

Historical Overview

Almost three decades post WWII: 1950 - 1975

The year 1945 marks the end of the deadliest military conflict in history, resulting in immense destruction, widespread human loss, and profound social and economic disruption across Europe, and indeed the world. With the continent physically devastated and politically fractured, Europe found itself quickly divided between the capitalist West and communist East. This ideological and geopolitical boundary, famously termed as the Iron Curtain, had a visible impact on the growth paths of the two counterparties.

Almost three decades following World War II, Western Europe - comprising countries such as West Germany, France, Italy, Belgium, the Netherlands, and Britain - underwent a period of unprecedented economic recovery and growth. This era, often referred to as the "Golden Age of Capitalism", was marked by rapid reconstruction, industrial expansion, a drastic rise in living standards, and technological and industrial modernization.

Several critical factors contributed to this unprecedented economic boom, starting with the Marshall Plan. Western Europe benefited significantly from what is officially known as the European Recovery Program (ERP) - a US-sponsored initiative enacted in 1948 to aid economic recovery of European countries after the war. The aid package offered $13.3 billion (or the equivalent of $160-170 billion in 2024) to almost all European countries, including those under Soviet occupation, but ultimately was accepted by 17 mostly Western-European countries (excluding Spain and Finland, and including Greece and Turkey). The plan was enacted over a 4-year period starting 1948 to help finance and restore industrial and agricultural production, establish financial stability, and expand and foster trade. It supported not only the reconstruction of the nations but also helped them eliminate shortages of materials and technologies, and restore consumption to acceptable levels.

Additionally, post-war reconstruction significantly involved technological and managerial transfers from the United States. Western European businesses quickly adopted American innovations in manufacturing, marketing, management, and productivity techniques – especially the mass-production methods pioneered by American industries (Fordist models). “Through the analysis of reports compiled by UK, France, Germany, and Italian participating firms, we can see that participating companies claimed between 5 and 10% yearly productivity increase thanks to the program” (Michela Giorcelli, 2023). This rapid technological diffusion boosted productivity, industrial efficiency, and competitive advantage.

The immense help from the United States was not the only factor that affected Western Europe, as state-led economic policies embraced Keynesian economic strategies, prioritizing public investment infrastructure development and social welfare policies. Public expenditure helped rebuild infrastructure - roads, railways, factories, and homes - creating jobs, stimulating demand, and enhancing productivity.

Strong state intervention facilitated economic planning and industrial policy, supporting strategic industries like steel, automotive, chemicals, and electronics, all of which became drivers of growth and employment. A prominent example is the European Coal and Steel Community (ECSC), established through the Treaty of Paris in 1951, which is said to mark the first major step towards European economic integration. The six founding countries – West Germany, France, Italy, Belgium, Luxembourg, and the Netherlands – aimed to foster economic cooperation, stability, and common markets. By pooling coal and steel production - the main resources needed for rebuilding economies and rearming militaries - the ECSC created mutual economic dependency and transparency, promoting political stability and trust among historical rival nations.

The Treaty of Paris also eliminated internal tariffs, trade barriers, and quotas on coal and steel, creating a common market for these essential commodities. The agreement fostered joint management and investment into coal mines, steel factories and infrastructure, greatly modernizing production methods, promoting industrial growth and boosting efficiency, while reducing costs.

Later common state efforts continued with the European Economic Community (EEC), established with the Treaty of Rome (1957), which expanded previously sector-specific

cooperation to broader economic horizons. The EEC aimed at creating a broader common market by establishing common economic policies, beyond coal and steel, through the elimination of most tariffs and restrictions.

The treaty also provided for a Common Agricultural Policy (CAP), signed in 1962, to address post-WWII challenges in agriculture through an increase in productivity, aiming for a fair standard of living for farmers and a stable food supply at reasonable prices for the members of the EEC. The Treaty of Rome also laid the grounds for investment and infrastructure improvements, establishing the European Investment Bank (EIB) in 1958 to support economic development and integration throughout the EEC members. By 1975, the bank had granted around 5 billion u.a.[2] (equivalent to $36,371,944,767 in 2024) primarily in support of regional development, transport infrastructure, and energy supplies improvement.

Country	Number	Amount (million u.a.)	% of total	% Member Countries
Ordinary operations				
Member Countries :				
Belgium	8	94.1	1.7	1.9
Denmark	13	44.0	0.8	0.9
Germany	69	654.3	11.5	13.3
France	97	1 092.7	19.3	22.2
Ireland	12	106.7	1.9	2.2
Italy	254	2 231.0	39.4	45.3
Luxembourg	3	9.0	0.2	0.2
Netherlands	7	74.8	1.3	1.5
United Kingdom	30	551.1	9.7	11.2
Non-member countries (2)	3	61.7	1.1	1.3
Total	**496**	**4 919.4**	**86.9**	**100.0**
including guarantees (3)	*9*	*110.0*	*2.0*	*2.2*

Table 1: Financing provided by EIB from 1958 to 1975, Breakdown by country[3]

Source: European Investment Bank – annual report 1975 (Table 5, page 70)

The common efforts of the EEC led to further economies of scale, higher production capacity, and higher living standards through job creation and economic development. To put it simply, Western Europe's post-war recovery was characterized by massive external

[2] "u.a." refers to the European unit of account used by the EIB in 1975, a precursor to the European Currency Unit (ECU) and later the euro. It was based on a basket of EEC member state currencies and served as a standard for financial operations within the Community.

[3] Between 1958 and 1975, the Member Countries of the EEC expanded from the original six founding members of the ECSC and EEC to nine, with the first enlargement in 1973 adding the United Kingdom, Ireland, and Denmark.

aid, market-oriented reforms, and steps toward deeper economic integration and common markets.

"The brutality of the Eastern Front in World War II was apocalyptic and brought unprecedented destruction. The most devastating campaigns in global military history were fought over the 'bloodlands' stretching between Berlin and Stalingrad (Snyder 2010). Thousands of towns and villages were removed from the face of the earth; tens of millions were made homeless. The human toll was incomparable to any other region of the world. Forty million Eastern Europeans died in the carnage" (Vanyó 2019).

"Across Central and Eastern Europe, the war left behind a distorted demographic structure with a crippling shortage of able-bodied young men, who had traditionally constituted the backbone of the industrial workforce. The economic performance of the eastern half of Europe after 1945 can only be evaluated in light of these inauspicious beginnings. While communism and the command economy played their part, they are not the whole story. The initial conditions of economic recovery in Eastern Europe were also far less favorable than in the West" (Vanyó 2019), further deepening the gap with Western Europe that existed even before the war.

Having said that, Eastern Europe also experienced notable industrial growth and modernization. Participation in the Marshall Plan was offered to almost all European countries, but most of the Eastern Bloc declined. As a result, the Molotov Plan was created in 1947 to provide economic aid and rebuild infrastructure across that part of the continent. Initially, Poland, Czechoslovakia, Hungary, Romania, Bulgaria, East Germany, and the Soviet Union itself received aid – mostly in the form of bilateral trade agreements, rather than an unconditional grant program. The primary industries aided by the plan were mostly connected with heavy industry and resource extraction, coal mining and energy production, industrial manufacturing, and agriculture, contrasting the broader emphasis on industrial productivity and consumer goods in Western Europe.

The Molotov Plan laid the ground for the Council for Mutual Economic Assistance (COMECON) – established two years later, which aimed at coordinating economic activities across the Eastern Bloc. It included the countries connected with the Molotov

Plan and Albania and the German Democratic Republic, who joined respectively in 1949 and 1950. The infrastructure and industrial investment in Eastern Europe during this time were almost entirely directed by the state under central planning, with priority on heavy industries like steel, coal, and machinery, often to the detriment of consumer goods.

By the beginning of the 1950s basic reconstruction of war damage was done, and the countries already followed a Soviet-style centrally planned development model. This meant rapid nationalization of industries, collective agriculture, and the launch of ambitious Five-Year Plans that, in the first decade, prioritized heavy industry and defense.

“This plan to transform the previously agrarian societies into industrial ones resulted in big output changes not long after. No political or social consideration can serve to diminish the enormously progressive significance of this fact. The accelerated and feverish pace of industrialization is clearly expressed in the indices of production. In Bulgaria, industrial production has tripled in comparison with the pre-war period. In Poland it has reached the index figure 268. In Hungary it has passed the index 200 and the plan anticipates that in 1954 production will be three times that of 1949. In Czechoslovakia production, has reached the index 180, as compared with the pre-war period, and in Rumania the index at 175 while production for 1955 is set at 250% higher than that of 1950” (Germain, 1952).

In the early 1950s six new steelworks were constructed, each designed for over million tons of steel output per year. In the same period massive projects targeting electric power and resource extraction were built, and the transmission grids spread to rural areas, with simultaneous expansion of the transportation and urban infrastructure. The state-led investments created formidable industrial infrastructure, but the imbalance of prioritizing industrial growth over other areas of the economy affected long-term productivity and living standards in the following decades.

Even if the market-oriented West and the centrally planned East had quite distinct economic systems, during this period, both regions saw significant increases in industrial output and productivity.

Table A1–d. **GDP Per Capita Growth Rates: European Countries, the Former USSR and Western Offshoots**

	1820–70	*1870–1913*	*1913–50*	*1950–73*	*1973–98*
Austria	0.85	1.45	0.18	4.94	2.10
Belgium	1.44	1.05	0.70	3.55	1.89
Denmark	0.91	1.57	1.56	3.08	1.86
Finland	0.76	1.44	1.91	4.25	2.03
France	0.85	1.45	1.12	4.05	1.61
Germany	1.09	1.63	0.17	5.02	1.60
Italy	0.59	1.26	0.85	4.95	2.07
Netherlands	0.83	0.90	1.07	3.45	1.76
Norway	0.52	1.30	2.13	3.19	3.02
Sweden	0.66	1.46	2.12	3.07	1.31
Switzerland	1.09	1.55	2.06	3.08	0.64
United Kingdom	1.26	1.01	0.92	2.44	1.79
12 West Europe	**1.00**	**1.33**	**0.83**	**3.93**	**1.75**
13 Small W.E. Countries	0.99	1.24	0.83	3.58	2.93
Greece	0.63	1.30	0.50	6.21	1.56
Ireland				3.04	3.97
Portugal	0.07	0.52	1.39	5.66	2.29
Spain	0.52	1.15	0.17	5.79	1.97
Total Western Europe	**0.95**	**1.32**	**0.76**	**4.08**	**1.78**
Albania				3.59	0.26
Bulgaria				5.19	–0.57
Czechoslovakia	0.63	1.38	1.40	3.08	(0.67)
a) Czech Republic					
b) Slovakia					
Hungary		1.18	0.45	3.60	0.59
Poland				3.45	0.91
Romania				4.80	–0.74
Former Yugoslavia			1.17	4.49	–0.11
Total East Europe	**0.63**	**1.31**	**0.89**	**3.79**	**0.37**

Table 2: GDP Per Capita Growth Rates,

Source: Angus Maddison, 2001. The World Economy, OECD (Table A1–d)

According to GDP per capita growth rate data for 1950-1973, both Western (4.08%) and Eastern (3.79%) Europe experienced similar rates of economic growth, reflecting parallel paths of rapid industrialization and extensive economic expansion. Countries such as Italy (4.95%) and Austria (4.94%) in the West, and Bulgaria (5.19%) and Yugoslavia (4.49%) in the East, exemplified this similar momentum.

Economic slowdown: 1975 – 1995

However, the early 1970s marked a turning point due to critical global economic disruptions, notably the oil crisis of 1973 and the energy crisis of 1979, which drastically increased energy prices and disrupted international economic stability. Western Europe faced significant economic challenges, including inflation and rising unemployment. Eastern Europe, although initially shielded by subsidized Soviet energy, faced systemic

inefficiencies which became increasingly evident and problematic. By the mid-1970s, the similar trajectories of growth that characterized the preceding decades began to diverge distinctly.

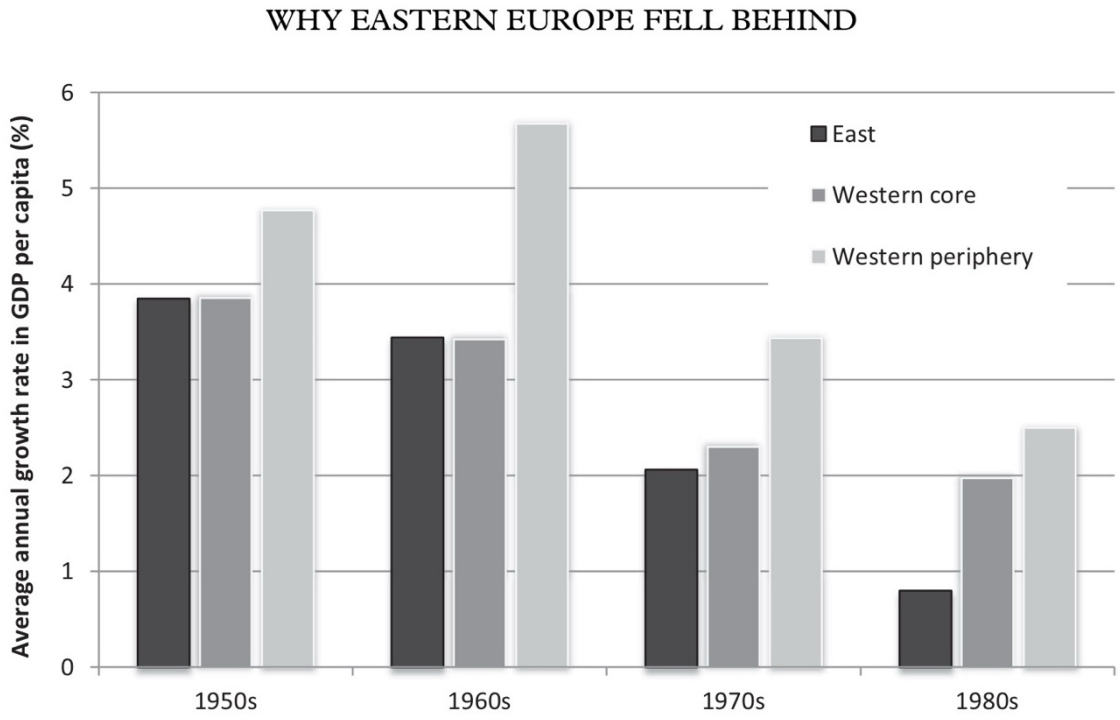

Figure 1: Economic Growth in Europe, 1950-89

Source: Tomás Vanyó, 2017. War and Socialism: why eastern Europe fell behind between 1950-1989, The Economic History Review (Figure 1)

"Economic growth in eastern Europe indeed slowed down sharply from the mid-1970s, and the relative underperformance of the region compared to western market economies became increasingly difficult to refute. Investment levels in centrally planned economies were comparatively low in the early postwar period, increased substantially relative to national income until the late 1970s, and plummeted in most countries during the 1980s. Econometric results confirm that during the postwar golden age, eastern Europe was falling behind mainly because of relatively low levels of investment and weak reconstruction dynamics. Inefficient investment allocation only became instrumental in the further deterioration of the socialist growth record as it hindered structural modernization" (Vanyò, 2017).

Once this potential or extensive growth had been exhausted, they 'lacked the instruments' to improve the quality of products and services and failed to put in motion a process of transforming the structure of output, demand and trade. "Investment allocations in Eastern Europe, though substantial in absolute terms, were often poorly managed, misaligned with market needs, and heavily biased toward heavy industry at the expense of consumer goods and technological innovation" (Vanyó, 2017).

Additionally, the rigidity of central planning restricted economic adaptability, leading to chronic shortages, productivity stagnation, and declining competitiveness. The cumulative economic problems eventually contributed to political instability and the eventual collapse of communist regimes at the end of the 1980s, highlighting the intricate relationship between economic performance and political stability.

Referring to Table 2 we can see that both Eastern and Western Europe experienced a lower GDP per capita growth rate in the period starting 1973-1998, but both cumulatively as well as looked at separate cases, Eastern Europe's growth was significantly lower (0.37% compared to 1.78%), indicating the sharper economic slowdown experienced in the Eastern region.

Nevertheless, Western Europe faced substantial economic disruption, including severe inflationary pressures, escalating energy costs, and rising unemployment during this period. "A substantial literature has explored why Europe's labor market institutions have led to less work, in particular during the period 1973–1995. Europe's welfare state rapidly expanded in the 1970s, causing an increase in labor cost, a strong bias towards insiders in the labor market, and an increase in structural unemployment, in particular among youth and elderly workers" (Bart van Ark, et al. 2008). "Since the mid-1970s, productivity, and consequently GDP per capita, has steadily decelerated, averaging growth rates of 2.1% in the 1980s, 1.6% in the 1990s, 0.8% in the 2000s" (Bergeaud, 2024).

The last 30 years: A Widening Productivity Gap

As illustrated by Table 2, the economic slowdown continued. Slower labor productivity growth in Europe compared to the United States since 1995 reverses a long-term pattern of convergence. “In the period 1950–1973, European productivity growth was characterized by a traditional catch-up pattern based on the imitation and adaptation of foreign technology, coupled with strong investment and supporting institutions. However, the traditional postwar convergence process came to an end by the mid 1970s (Crafts and Toniolo, 1996; Eichengreen, 2007). Then, in the period from 1973 to 1995, productivity growth in both Europe and the United States began to slow. However, Europe’s productivity growth remained faster than in the United States. During this time, Europe experienced a strong decline in labor force participation and a fall in hours worked, which in turn triggered a substitution of capital for labor bringing capital–labor ratios in some major European economies to levels well above those of the United States by the mid 1990s. Finally, in the period since 1995, U.S. productivity growth accelerated, while the rate of productivity growth in Europe fell” (van Ark, et al., 2008).

“In the United States, average annual labor productivity growth accelerated from 1.2 percent during the period 1973–95 to 2.3 percent during 1995–2006. Comparing the same two time periods, annual labor productivity growth in the European Union declined from 2.4 to 1.5 percent. By 2004, GDP per hour worked in the EU was about 10 percentage points below the U.S. level. Europe’s capital intensity levels have come down significantly as well, from 97 percent of the U.S. level in 1995 to 90 percent in 2004” (van Ark, et al., 2008). A few other factors contributed to this divergence.

The expansion of Information and Communication Technology (ICT) radically altered the international distribution of productivity growth. The so-called ICT revolution refers to economic growth driven by innovations like electronic, telecommunication, and computers. “This period, from 1990 to the mid-2000s, saw a notable increase in productivity that has been directly linked to the integration and widespread adoption of computers and the internet in business processes and consumer behavior. The automation of manual tasks, enhanced data processing capabilities, and improved communication networks significantly contributed to efficiency gains across various sectors (Bergeaud, 2024)”, but the fast and effective adoption of the new technologies was much more

prominent in the US. “In Europe, the effect was even more muted, with TFP showing no significant wave of increase, a phenomenon extensively analyzed in the literature pointing towards European firms' lower investment in ICT” (Bergeaud, 2024).

The revolution affected market-services industries, wholesale and retail trade, financial intermediation and business services, where the diffusion of barcode scanning, enterprise resource–planning software and high-speed communications yielded a visible acceleration of multi-factor productivity (MFP) on the US side.

“The largest difference between the European Union and the United States is in the contribution of multifactor productivity growth. Whereas multifactor productivity growth in the United States accelerated almost a full percentage point from 0.5 percent from 1980–1995 to 1.4 percent from 1995–2004, the same measure declined from 0.9 to 0.3 percent between these two periods in the European Union. As a residual measure, multifactor productivity has multiple interpretations, but in some way, it does reflect the overall efficiency of the production process. Its reduced growth rate is therefore a major source of concern across Europe” (van Ark, et al., 2008).

Moreover, the massive investments made abroad deepened capital markets and stimulated the economy. This effect was further multiplied by the rapid pace of innovation in communication and information technologies.

Van Ark, et Al (2008) demonstrate that the post-1995 productivity gap was also due differences in market-service industries. “We focus on the contribution of three major groups of market services industries–namely distributive trade (including retail and wholesale trade, and transport services); financial and business services; and personal services (including hotels and restaurants, and personal, community, and social services)–to labour productivity growth in aggregate market services. In Europe, the distribution sector contributed 0.6 percentage points to average annual labor productivity growth in market services from 1995 to 2004, compared to 1.6 percentage points in the United States. In finance and business services, the gap was even bigger, at a 0.1 percentage point contribution in Europe relative to 1.2 percentage points in the United States. Drilling more deeply into the data, it turns out that for both sectors, multifactor productivity and not factor intensity was the key to the productivity growth differential between Europe and the United States”.

The post-1995 reversal of Europe's long-run productivity convergence with the United States stems from the US economy's superior ability to translate the ICT revolution into multifactor-productivity gains within market-service industries. The result has been a widening gap, not by shortages of tangible capital, but by slower technological adoption, weaker innovation complementarities and a pronounced shortfall a common market across Europe. The gap is still growing today.

"However, EU economic growth has been persistently slower than in the US over the past two decades. The EU-US gap in the level of GDP at 2015 prices has gradually widened from slightly more than 15% in 2002 to 30% in 2023, while on a purchasing power parity (PPP) basis a gap of 12% has emerged. The gap has widened less on per capita basis as the US has seen faster population growth, but it is still significant: in PPP terms, it has risen from 31% in 2002 to 34% today" (The future of European competitiveness – part A, 2024).

"In 1995, one hour of work in the euro area countries generated an average of 47.1 dollars of GDP2, closely matching the US level of labor productivity of 46.6 dollars. By 2019, the productivity gap between the two regions had widened to 18% in favor of the US, a divergence that further expanded beyond 20% in 2023" (Bergeaud, 2024).

"The main driver of these diverging developments has been productivity. Around 70% of the gap in per capita GDP with US at PPP is explained by lower productivity in the EU. Slower productivity growth has in turn been associated with slower income growth and weaker domestic demand in Europe: on a per capita basis, real disposable income has grown almost twice as much in the US as in the EU since 2000" (The future of European competitiveness – part A, 2024).

Recently, the economic shock triggered by the COVID-19 pandemic, intensified by geopolitical tensions and the fragility of critical-material supply chains, has sparked widespread concern among European policymakers, economists and political leaders on the future of the economy.

Because of the historic link between productivity, competitiveness, and living standards, this slowdown not only threatens the economic position of Europe, but also social welfare and the future of the continent. Moreover, "The European Union exists to ensure that

Europe’s fundamental values are always upheld: democracy, freedom, peace, equity and prosperity in a sustainable environment. If Europe cannot any longer deliver these values for its people, it will have lost its reason for being. So, this report is not only about competitiveness – it is about our future and the common commitment that we need to reclaim it” (Draghi, 2024). Acknowledging the central role of capital markets, investment and innovation in sustaining growth, this thesis explores these problems.

Chapter 2: European Integrated Capital Market

Why Capital Market Integration is Crucial for Competitiveness

A fully integrated capital market is crucial for enhancing the European Union's global competitiveness. Capital markets determine how efficiently capital is allocated across sectors, countries, and enterprises.

In the European Union, the persistent fragmentation of financial markets obstructs investment flows, raises the cost of capital, and hampers the growth of innovative and high-potential firms. At the beginning of December 2024, the EU Commissioner for Financial Services – Maria Luis Albuquerque – said that the European Union's financial industry faces burdens equivalent to a 110% tariff because of the fragmentation of the bloc's markets for financial services. Despite the EU's long commitment to economic integration, the substantial economic divergence from other major economies in recent years has prompted numerous scholars and policymakers to analyze the capital market structure. The EU's financial landscape is characterized by a patchwork of national regulations, supervisory practices, and market infrastructures. This fragmentation leads to increased compliance costs and operational challenges for businesses.

According to the Council of the European Union (2024), open, well-functioning, and integrated capital markets are essential for the EU to further develop its single market and attract investments. Such a market would promote growth and innovation, create jobs, and enhance competitiveness.

Amid the Eurozone crisis in 2014, Jean-Claude Juncker, then-Commission President, set forth the objective of establishing a unified capital market across the entire European Union. The rationale behind this initiative was to reduce the EU's overreliance on debt-based corporate financing and to address the insufficient integration of European capital markets, which had left the EU, particularly the Eurozone, vulnerable to future financial crises.

After nearly a decade of policy attention and legislative efforts, the European Union's capital markets remain highly fragmented, posing a structural obstacle to economic

dynamism and long-term competitiveness. Fragmentation manifests in multiple dimensions - legal, regulatory, institutional, and infrastructural. National divergences in insolvency regimes, tax policies, securities laws, and supervisory practices create a patchwork system that hampers the cross-border flow of capital. This misalignment results in higher transaction costs and financial risk, legal uncertainty, and operational complexity for firms and investors operating in more than one member state.

The U.S. as a model for a unified financial system

Financial markets, or public markets, are platforms where securities and other financial instruments are bought and sold. Well-functioning financial markets are fundamental to long-term economic growth and financial stability. “They provide a platform to raise and allocate capital efficiently, manage risks, determine asset prices, and inform investor decisions” (OECD, 2025). Economic growth in a modern economy hinges on an efficient financial sector that pools domestic savings and mobilizes foreign capital for productive investments. Absent an effective set of financial institutions, productive projects will remain unexploited. “Inefficient financial institutions will have the effect of taxing productive investment and thus reducing scope for increasing the stock of equipment needed to compete globally” (Bekaert, et Al., 1995).

“The EU’s robust and well-regulated banking sector provides a large part of the financing needs for European businesses. It is mainly banks and insurance companies that offer saving and investment possibilities to citizens” (European Council, 2025). This bank-centric model makes the EU more vulnerable during financial crises, restricts the availability of risk capital, and limits firms’ capacity to scale and innovate.

European market structure is complex, especially compared with the US. The European market structure is characterized by 35 listing exchanges, 41 trading exchanges, and 18 central clearing houses, in contrast, the US structure has 3 listing exchanges, 16 trading exchanges, and 1 central clearing house (Asgari, Smith & Douglas, 2024). The absence of a single rulebook further diminishes the attractiveness of EU markets relative to other global financial centers. While US firms can operate under a unified federal securities regime, European companies must navigate 27 different legal systems.

"In fact, at the moment, the regulatory structure of EU public markets is a multi-layered framework that comprises:

- EU-wide legislation, which sits at the top and it features key directives and regulations such as the Listing Directive, Transparency Directive, Prospectus Regulation, Market Abuse Regulation and Shareholder Rights Directive II.
- Following, there are national laws specific to each EU member state which cover aspects like company law, taxation, sometimes, stricter rules for particular market segments within that country;
- Lastly, there are the rules set by individual exchanges. Companies looking to list on a specific exchange must comply with these rules, which may include additional requirements beyond those legislated.

The regulatory regime is thus complex and combines EU regulations with national provisions and individual exchanges' rules (Oxera Consulting, 2020). The regulatory aspect contributes to having smaller fragmented markets" (Bongiorno, 2024).

Some scholars argue that fragmentation has some benefits for public capital markets, not only for traders through lower expenses but also for the market quality itself. The existence of multiple prices across exchanges could allow for better price information and so greater allocation efficiency.

The ideas behind the benefits of fragmentation for market quality lay in the theory that increased competition among trading venues should drive down costs, incentivize more optimized service offerings, and improve execution quality. "The recent sharp increase in market fragmentation in developed countries has encouraged a new wave of empirical studies whose results appear to be consistent with the predictions of our model. Foucault and Menkveld (2008), O'Hara and Ye (2011), and Degryse, De Jong, and van Kervel (2015), among others, found that an increase in trading fragmentation is associated with lower costs and faster execution speeds in a given asset class" (Pagnotta & Philippon, 2018).

In some cases, however, there is fragmentation without benefits from competition, which leads to additional costs. The presumed advantages of diverse price selection across

different exchanges bring cross-venue arbitrage opportunities for HFT algorithms or traders with superior speed, which in turn increases the risk for ordinary investors. “According to the estimates, the benefits of increased competition are outweighed by the costs of multi-venue arbitrage” (Baldauf & Mollner, 2021). Fragmentation in addition could potentially harm market depth (Chen & Duffi, 2021), leading to less liquidity, greater price volatility, and unstable financial markets overall.

This creates an obstacle as there is a strong correlation between the size of a stock market and its depth, IPO activity, and liquidity (Wright & Hamre, 2021). Historically, the number of IPOs in the European Union was very similar to those in the U.S., suggesting a thriving market on both sides of the Atlantic. However, this parity has shifted, with the EU's number of IPOs now less than half of those in the U.S. Furthermore, “in terms of market capitalization relative to GDP, the U.S. stock market now more than doubles that of the EU” (Final report of the Technical Expert Stakeholder Group on SMEs, 2021, as cited in Bongiorno, 2024).

For European firms, this may indicate limited access to capital, which could hinder their capacity for growth and innovation. For investors, weaker return prospects in European public markets may prompt a shift of capital toward more vibrant ecosystems such as those in the U.S. with broader implications for regional productivity and the economy.

Private markets refer to parts of the financial system where investments are not publicly traded, but instead, transactions occur outside the public eye. They involve entities and investors that interact directly with each other without the intermediation of public exchanges, allowing for more confidentiality and flexibility in the terms of the investment. Private markets include different segments such as venture capital, private equity, and hedge funds, which all play unique roles in providing capital, liquidity, and support to different types of investments. Private markets are particularly adept at providing the appropriate type of financing at each business stage. “For example, start-ups may rely heavily on venture capital, which is equipped to handle the high risk and potentially high returns, whereas more mature businesses might leverage private debt to fund expansions or streamline operations” (Berger & Udell, 1998, as cited in Bongiorno, 2024).

Each segment of the private markets serves a distinct function, together they enhance the strength of the financial system by supplying capital, ensuring liquidity, and supporting a broad spectrum of investments. Venture capital (VC) firms invest in new and growing businesses, typically in innovative and high-tech sectors. Often startups lack access to capital markets or other forms of financing due to size, riskiness, and assets, but VC firms are equipped to handle the higher risk. Furthermore, VCs provide management expertise and operational support to the companies they finance to further ensure their growth and success.

Private equity (PE) is a larger category of investments in which firms raise capital to acquire and manage companies, to eventually selling them for profit. These investments usually involve substantial capital commitments over multiple years. PE firms generally exercise significant control over the management of the companies they invest in, fostering business growth before they exit the investment by sales or IPOs.

Other segments include hedge funds and private debt. As traditional banks have reduced their lending considering increased regulations, alternative financing has become more important for the development of businesses and productivity.

Private markets have the important role of nurturing innovation and entrepreneurship in niche, high-tech, or risky sectors. Their structures allow them to diversify risk, which in turn helps them undertake investments that otherwise would struggle to acquire funding. Private markets not only support new companies but also allow existing companies to overcome barriers to innovate by supporting R&D, which is often capital-intensive and requires a lot of time. Moreover, by supplying this vital funding and strategic support, they foster job creation and overall economic development.

“The size of the venture and risk capital market in Europe is multiple times smaller than in the US. This is a problem, since numerous studies have pointed to the important positive effects on innovation and growth from increased venture capital (VC) financing through the proliferation of non-rivalrous ideas (Greenwood et al., 2022; Akcigit et al., 2022; Jones, 2005). Figure 3 demonstrates that annual VC investments have been much more sizeable in the US than in the EU in each year of the past decade, up to a magnitude of 10 to 1. For the years between 2013 and 2023, this accumulates to the considerable

sum of EUR 924 billion in VC investment in the US compared to a mere EUR 130 billion in Europe – more than seven-fold more" (Pekanov, 2024). The U.S. private equity market is notably larger and more mature, characterized by its substantial volume of mega-deals and an aggressive fundraising environment. This market's robustness is partly underpinned by a regulatory framework that supports large-scale leverage and buyout activities, conducive to high-risk, high-reward investments (Seretakis, 2012, as cited in Bongiorno, 2024). Further structural differences are highlighted by the underdevelopment of private equity in continental Europe, attributed to less favorable legal and fiscal environments, a risk-averse culture, and comparatively underdeveloped financial markets (Black & Gilson, 1999)[4].

Dimension of capital markets	EU	US
Equity market size	68%	170%
Bank assets to GDP	300%	85%
Households participating in the stock market	Around 20%	More than 50%
Non-financial corporations funding through financial securities	30%	More than 66%
Assets held in private pension funds and insurance companies	EUR 10.7 trillion	EUR 38.1 trillion
Venture capital market – total funds raised 2013 - 2023	EUR 130 billion	EUR 924 billion
Number of listing exchanges	34	3

Figure 2: Dimension of capital markets: Comparison EU vs. US

Source: Atanas Pekanov, WIFO, Monetary Dialog Papers, September 2024.

[4] as cited in Bongiorno, 2024

Draghi's Proposal: A Single Integrated Capital Market

To address these structural inefficiencies and to close the productivity gap with some more financially integrated economies – like the US, the European Union launched the CMU initiative in 2015. However, market fragmentation remains a persistent challenge. In addition to the growing economic gap, sociopolitical pressures in recent years have sparked debate among economists and policymakers on the future of the European economy.

In September 2024, Mario Draghi – former ECB President, made an address before the European Parliament on The Future of European Competitiveness. In his speech, he outlined the main ideas of a two-part report on a growth strategy for Europe. "The report contains a bottom-up analysis by Commission staff of the investment needs to carry out these objectives. And they reach the conclusion that EUR 750-800 billion in additional investment will be required each year. Analysis by the European Central Bank arrives at similar figures. However, it is a massive volume of investment. And we calculate that, to marshal investment on this scale, the share of investment in GDP would have to rise to levels not seen in Europe since the 1960s and 70s. The effort would be more than double that of Marshall Plan. So, we must ask the question of how we will finance it" (Draghi, 2024).

The report presents recommendations on CMU and the financial services systems of the EU. They will not only be important parts of financing the investments needed to restore the economy but are of importance to guarantee long term competitiveness and productivity.

The first key objective is to reduce fragmentation of the capital market by harmonizing financial regulations. To achieve this the report proposes an introduction of a European Securities and Exchange Commission. The already existing European Securities and Market Authority (ESMA)[5] should transition from a body that coordinates national

[5] European Securities and Market Authority - Established as part of the EU's post-crisis supervisory reforms (Regulation (EU) No 1095/2010).

regulations into a single common regulator for all EU markets. For this to be successful and for ESMA to be in a role like the US SEC, it should be granted the power of exclusive supervision of large multinational issuers, big regulated markets with different trading platforms, and the Central Counterparty Clearing House (CCP). Furthermore, to guarantee its success and isolate it from pursuing the national interest of single members, its governance and decision-making process should be modified to follow similar lines to the ones of the European Central Bank.

Another important aspect of reducing regulatory fragmentation will be its effect on the CMU. Harmonizing insolvency laws is essential to eliminate the fragmentation caused by different creditor hierarchies, and the EU must keep removing tax barriers that stop cross-border investment. These steps would pave the way for greater centralization of clearing and settlement, consequently deepening the CMU. Ultimately, the European Union should aim for a single clearing house and securities depository covering all transactions. The report also calls for better allocation of household savings into productive investments via long-term saving products (pensions). Policymakers should make it easier for ordinary people to invest by making "second pillar" pension plans – privately funded retirement accounts. As seen by some EU Member States, they can be successfully implemented and will increase the flow of funds into the capital market.

Moreover, the report calls for changes in the excessively restrictive regulations of the banking sector. Currently, it is challenging to bundle loans into securities and sell them to investors. For the EU to have a strong and competitive banking sector prudential regulations need to be revisited and restructured. This adjustment should also be supported by the creation of a dedicated securitization platform, which initially would need help from the public sector.

Feasibility & Challenges of Implementation

Bigger European economies are known for protecting their "national champions" in many fields, and the financial sector is not different. The proposal to merge core market infrastructures into a single pan-European has already seen some political resistance.

Luxembourg's finance minister Gilles Roth said "We need to maintain a decentralized European supervisory system, including the investment fund sector – a system which leverages national expertise and avoids unnecessary bureaucracy" at the ALFI[6] Global Asset Management Conference. "We'll do whatever it takes to defend this approach" he continued. "His remarks underline Luxembourg's resistance to efforts led by France to give more supervisory powers to a centralized EU body for financial markets, which some member states see as a path toward a more integrated European capital market" (Kabir Agarwal, 2025).

"Austria, Bulgaria, Cyprus, the Czech Republic, Ireland, Croatia, the Baltic countries, Malta, Romania and Slovenia also joined the rebellion and argued that central supervision would create additional cost for their national financial industry, giving larger markets a competitive advantage" (Tamma, Foy & Hancock, 2024). Centralizing supervision is "not in the best interests of all member states and certainly not in the best interests of smaller member states" – Irish Prime Minister Simon Harris in 2024.

Okan Pekin, Head of Securities Services within Citi Services, said "People want to have their cake and eat it. They want interoperability, they want union, they want integration – but also, nobody wants to give up anything from their national sovereignty agendas" in 2024.

Furthermore, "Europe's diverse economies, ranging from advanced financial centers like Frankfurt and Paris to smaller, less developed markets in Eastern Europe, mean that a one-size-fits-all approach to capital market development is unlikely to succeed" (Apostolos Thomadakis, 2024).

Tax rules are used by national bodies to shape their economy. To attempt to impose a single code will also meet resistance. Currently, the trading corporation income tax in France is 25%, most Balkan countries have a flat tax of 10%, while Ireland's is 12.5% (PWC, 2024).

While for some countries taxes are a way to finance the public budget, in others they are a tool to attract foreign investment or support welfare. "Yet in several Eastern European countries implementing the flat tax has led to a decrease in income inequality after tax

[6] Association of the Luxembourg Fund Industry

(the so-called Gini coefficient). This effect largely depends on expanding the tax base and increasing work incentives (Miklos 2014). In such reforms the income poor have also obtained sizeable welfare gains (Conesa and Krueger 2005)" (Djankov, 2022).

"We as a small country, we don't have many competitive advantages, but having a very competitive tax system is what we have, so please don't take it away from us" – Estonian Prime Minister Kaja Kallas.

Given the fiscal needs of larger states and the role of the public sector in financing and supporting the proposed initiatives by Mario Draghi, will lower-tax states higher their tax rates, even at the cost of crowding out investments and deterring the overall welfare of the population. Furthermore, the EU does not only have many different tax frameworks, but they are at different stages – "Some are very advanced, supporting electronic submission and reclaims, whilst others are very slow and manual" said Ben Pott (2024), international head of public policy and government affairs at BNY[7].

Another point to consider is the culture of Europeans and their financial decision-making. Some argue that in specific areas – like equity and pension systems, US-style of investing in riskier assets might not increase, even with the proposed reforms. "To some extent, European regulations are designed to slow growth and increase certainty. European culture is just more risk-averse than America's. There is a reason stock ownership is lower, and welfare states are bigger in Europe" (Allison Schrager, 2025).

"Cultural attitudes toward risk, investment and corporate governance vary significantly between the US and the EU. The US has a culture that celebrates risk-taking. Investors in the US are more willing to invest in start-ups and accept the inherent risks associated with such ventures, which fuels the dynamism of its capital markets. In the EU, by contrast, there is a more cautious approach to risk, both among investors and regulators. European investors tend to prefer safer, long-term investments, while regulatory frameworks often emphasise stability and protection over innovation. Pushing for a US-style market may result in policies that are misaligned with European investors' risk appetite and investment behaviors. Instead, Europe should build on its strengths, such as its highly

[7] The Bank of New York Mellon Corporation

skilled workforce and strong tradition of corporate governance, to develop financial markets that cater to its unique characteristics" (Apostolos Thomadakis, 2024).

Chapter 3: Common Borrowing and Investment in the EU

The Role of Public Investment in Competitiveness

During his speech, Mario Draghi also addressed the role of the public sector in the success of the European growth strategy. “But even with mobilizing private finance, public support will still be required”. He continued that “the EU should move towards regular issuance of common safe assets to enable joint investment projects among member states and to help integrate capital markets” (Draghi, 2024).

The topic of common borrowing is not new to Europe. ‘The European Commission is empowered by the EU Treaties to borrow from the international capital markets on behalf of the European Union. It is a well-established name in debt securities markets, with a strong track record of successful bond issuances over the past 40 years. All EU-Bond issuances executed by the European Commission are denominated exclusively in euro” (European Commission, 2024).

“EU borrowing is executed using multiple instruments, including EU-Bonds, EU-Bills, and NextGenerationEU Green Bonds. Since 2020, the EC, on behalf of the EU, began issuing EU debt on a large scale to fund temporary programmes via grants and loans. The start of the pandemic represented an inflection point in supranational borrowing. With the European instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE) of up to €100 billion, and notably with the NextGenerationEU (NGEU) and its core component, the Recovery and Resilience Facility (RRF) of up to €723.8 billion, the EU has reached another milestone. These programmes were launched in addition to the long-term EU budget for 2021-2027 (€1,211 billion), which is funded via national contributions” (Rodríguez-Vives, 2023).

The implications of this were that for the first time, the EC provided joint fiscal effort on a meaningful scale. It made the EC a major issuer of government borrowing. This common debt provided a substantial amount of burden sharing between countries and laid more solid ground for future common fiscal actions. “The use of a common safe asset has

a well-established precedent with the funding of the NGEU" (The Future of European Competitiveness – Part A, 2024).

Draghi's Proposal: Common Borrowing & Reforms

In Europe's growth plan, issuing common EU bonds is meant to supply the single "safe asset" needed to unite national financial centers into a true capital-markets union. The common safe asset ideally would lower risk premiums and borrowing costs for firms, households, and governments. The same joint borrowing would finance large EU-wide investments that boost output and anchor macro-economic credibility, while channeling resources toward critical infrastructure, defense, and breakthrough research that underpin the Union's strategic autonomy.

Public borrowing at the EU level thus emerges as a vital complement to the Capital Markets Union, forming a needed pillar that can mobilize large-scale, mission-driven resources swiftly and at low cost. Draghi argues that without a permanent mechanism for common issuance, the Union risks underfunding the investments necessary to sustain long-term competitiveness and strategic autonomy (Draghi, 2024).

The report proposes regular and sizable issuance of EU bonds. The long-term goal is a more liquid EU bond market. Following the NGEU template, the financial asset needs to be mission and project specific. "Issuing such assets on a more systematic basis would require a stronger set of fiscal rules which ensure that an increase in common debt is matched by a more sustainable path of national debt". If political and institutional conditions are met, this financing of joint investment will increase competitiveness and security. Over time common issuance would produce a deeper and more liquid market in EU bonds, which will ultimately support the integration of Europe's capital market.

The report argues that a move from one-off crisis borrowing to routine Eurobond issuance can succeed only if there are safeguards in place. First, higher common debt must be matched by "a stronger set of fiscal rules" at national level, so that Member-State debt ratios continue a downward path even as the EU balance sheet expands, thereby preserving creditor confidence. Second, every bond series is to be strictly project-specific,

making the link between borrowing, use, and objective, transparent. Third, it is stressed that large-scale issuance will require institutional upgrades and, ultimately, treaty-level changes to codify decision-making, repayment arrangements, and oversight. Together, these measures are designed to ensure that expanded common borrowing remains both economically sustainable and politically acceptable.

Feasibility & Risks

Issuing public debt at the EU level has significant political and macroeconomic implications, presenting both opportunities and risks that need careful consideration.

A primary economic consequence of joint EU debt issuance is the redistribution of financial risk among member states – which leads to lower interest rates for some countries. Countries with stronger fiscal positions, such as Germany or the Netherlands, implicitly assume responsibility for the debt sustainability of countries with higher debt-to-GDP ratios. This redistribution can strain political cohesion and affect public perception, possibly fueling populist political movements and resistance to further European integration. While for many states such borrowing – by the Commission on their behalf – would indicate lower rates, for others it will not. Germany and the Netherlands borrow at a rate significantly lower than the EU, which could further fuel their resistance.

As there is precedent for joint borrowing – the NGEU – there is also precedent for the resistance, as more frugal nations expressed their concern on the effect of the green bonds on their national budgets when such borrowing was initially proposed and issued. Furthermore, the same fiscally conservative nations argue that starting 2028 the funds raised through the NGEU need to be repaid. The repayment will amount to around €30 billion annually – about one-fifth of the Union's ordinary budget – to service the principal on NextGenerationEU liabilities (Moller-Nielsen, 2025).

This debt mutualization introduces profound economic dynamics, risk sharing, and implications not only for separate economies, but also for the individual citizens across member states as well. As said, one of the most prominent advantages of EU-level debt issuance is the potential reduction in borrowing costs for some economies through credit

enhancement provided by stronger member states, which would foster convergence and economic stability across the Union.

A critical issue is the potential creation of risk due to increased financial interconnectedness among EU member states. Joint debt issuance closely links the fiscal health of economically heterogeneous countries, increasing the likelihood that a fiscal crisis in one member state might rapidly spread across the Union. Furthermore, it inherently involves systemic risk associated with the EU countries that are not part of the eurozone and do not have a fixed exchange rate with it. This could trigger simultaneous bank failures if depreciation of the domestic currencies prevents borrowers from servicing the loans. Moreover, current predecessors of significant common borrowing were highly project based and fixed in term, limiting risk-sharing. A higher number of project-based common borrowing and a continuous issuance might increase risk-sharing.

Countries benefiting from reduced borrowing costs might have weaker incentives to maintain disciplined fiscal policies, potentially leading to excessive debt accumulation and undesirable effects on the capital markets. “We also found evidence that after years of neglecting high debt to GDP ratios, investors became increasingly worried about the high debt to GDP ratios in the Eurozone and reacted by raising the spreads. No such worries developed in stand-alone countries despite the fact that debt to GDP ratios were equally high and increasing in these countries. This result can also be said to validate the fragility hypothesis, i.e. the markets appear to be less tolerant towards large public debt accumulations in the Eurozone than towards equally large public debt accumulations in the stand-alone countries” (Grauwe, Ji. 2013). The implications of higher debt could not only have adverse effects on the EU bond market – making it less liquid and more shallow but could harm overall market quality. The EU safe asset is said to give market liquidity to the public markets in Europe, and as discussed in the previous chapter another initiative is their deeper integration.

If investors lose confidence in liquidity-providing bonds, this can trigger severe market disruptions, potentially leading to a full market crash. A liquidity shock could cause buyers to vanish, price discovery to fail and investors seeking liquidity may start fire selling of other assets, further spreading illiquidity through the market. The reduced

incentive to hold financial assets, instead of other, more liquid assets – like money – could potentially lead to a systematic liquidity trap.

Without an immediate response from the Central Bank, this loss of confidence in the financial market would impose substantial limitations on the lending mechanism of the banking system. In this self-reinforcing cycle, traditional monetary policy would lose its power, forcing liquidity to be injected into the market through unconventional monetary policy or through aggregate demand policies.

Furthermore, the issuance of joint debt could impact sovereign bond markets, as the "safe assets" would likely become benchmark securities in the eyes of investors, due to their perceived safety and liquidity advantages. While this development could deepen financial integration and stability within the EU, it also risks crowding out national sovereign debt markets, reducing liquidity, and increasing borrowing costs for national governments not directly benefiting from joint borrowing initiatives. The predecessors of common borrowing had limited issuance, which could be the reason for the limited impact on sovereign bond markets.

On a citizen level, increased EU public debt could eventually translate into higher tax burdens or reduced public spending if debt levels become unsustainable and fiscal consolidation measures are enforced to ensure repayment. Such measures typically involve austerity policies, which historically have been linked to increased unemployment, social unrest, and reduced economic growth, particularly affecting vulnerable segments of the population.

"So, the compliance with the intertemporal budget constraint implies that either public spending must decrease with a rising public debt ratio or the tax revenue must increase. Looking at real world economies one realizes that it is not a rise in the tax revenue but a decline in public spending which generates primary surpluses. As to the component of public spending which has been reduced mostly, it can be seen that in many countries public investment has been decreased. Public investment is likely to be the variable that can be reduced most easily. Thus, the decline of public investment as a result of a rising public debt may be explained, a fact which can also be observed empirically (Gong, Greiner and Semmler, 2001, or Heinemann, 2002). Thus, in the long-run high debt ratios

may have negative repercussions for the growth rates of economies" (Sr., Greiner & Koeller, 2007).

In sum, while EU-level debt issuance holds the promise of deeper financial integration, lower borrowing costs for weaker members, and a truly pan-European safe asset, it also carries significant political and macroeconomic trade-offs. By increasing systemic risk and risk sharing, stronger states underwrite the creditworthiness of more indebted peers – fueling domestic backlash and moral hazard pressures. Investors' flight into the "super safe" common bond can drain liquidity from national markets, steepen spreads on standalone issuers, and distort secured-funding channels. A sovereign shock in one country threatens to spread through banks' balance sheets and shake confidence across the Union, risking a self-reinforcing liquidity trap in which conventional monetary policy loses its power. Policymakers must thus calibrate any permanent common-bond program with rigorous governance safeguards, clear collateral rules, and credible backstops to harness its convergence benefits without unleashing destabilizing side effects.

Chapter 4: A Single European Identity for Startups & Innovation

Challenges for Startups in the EU

"Entrepreneurship is a driving force behind economic growth, innovation, and prosperity. Entrepreneurs sow ideas and grow them into profitable companies that boost local economies, provide employment, and add to GDP and tax receipts. Startups influence sectors and drive economic growth by acting as dynamic catalysts for innovation and technological improvement. Due to their disruptive nature, start-ups lead to increased competition, a phenomenon that greatly benefits consumers. Increased competition stimulates innovation, leading to better goods, services and costs. The competitive pressure of start-ups drives market development and creates an ecosystem that is constantly improving" (Rong, 2025).

However, within the European Union, these enterprises encounter a range of challenges that hinder their ability to grow, operate across borders and compete on a global scale.

One of the obstacles that startups face in the European Union is regulatory fragmentation. As said before the EU is composed of 27 member states, each with its own legal frameworks, administrative procedures, and tax regimes. This creates a complex regulatory environment that start-ups must navigate, thereby complicating cross-border operations and significantly increasing compliance and administrative costs. Furthermore, regulations are also restrictive and stop innovation and startups from scaling up. *"*The problem is not that Europe lacks ideas or ambition. We have many talented researchers and entrepreneurs filing patents. But innovation is blocked at the next stage: we are failing to translate innovation into commercialization, and innovative companies that want to scale up in Europe are hindered at every stage by inconsistent and restrictive regulations" (Draghi, 2024).

Startups have special funding needs – they are risky investments, that require substantial funding over a long period of time. As mentioned previously, before private markets have the special structure that helps them support startups financially and provide expertise needed for their success. Chapter 2 discussed the differences between private markets in Europe contrasted by the deeper market of the US.

Other types of funding available for startups in Europe is through funding programs. An example is Horizon Europe "EU's key funding programme for research and innovation" (European Council, 2024). But "only 5% of the EU's direct innovation funding since 2007 - around €12 billion out of €225 billion - has gone to startups. Despite Horizon Europe's stated mission to support disruptive research and innovation, the programme lacks both adequate funding and a well-structured framework to fulfil this purpose" (Assonime, 2025).

Another main source of financing for startups is the EIB. "While the European Investment Bank Group plays a crucial role in supporting the early development and growth of startups and innovative companies with high growth potential, its current strategies, which rely mainly on guarantees provided by national development banks, may not fully meet the needs of startups. These guarantees often require startups to secure additional private matching funds, a process that can be particularly challenging in markets with limited access to capital" (Assonime, 2025).

The total funding available is still relatively modest in comparison to other big economies. Moreover, by dispersing it across a multitude of initiatives, its impact becomes too diluted to drive meaningful change. These funding sources are not only vital during a startup's early stages but also support late stage financing rounds, ensuring startups' survival and enhancing their contributions to innovation, economic growth, and productivity.

Draghi's proposal: Financing and The Innovative European Company

In the strategy outlined to revitalize the European Economy by Mario Draghi start-ups and innovation are essential not only to support economic growth but for Europe to stay competitive in key sectors like defense, artificial intelligence and green technology. He identifies several pillars which need to be reformed among which are financing and streamlined regulatory ecosystem aimed at reducing barriers and fostering startups and breakthrough innovation.

For funding first, the report proposes to stimulate the engagement and number of business angels and private or public seed capital investors. "So-called business 'angels' – wealthy individuals investing in start-ups on their own account – have become

increasingly important as a source of equity finance at the early stages of company formation. The proliferation of angel investors not only enables existing entrepreneurs to thrive, but also helps attract new entrepreneurial talent, initiating a self-sustaining cycle of innovation" (The Future of European Competitiveness – Part B, 2024).

To encourage this, capital gains taxes on the sale of shares could be deferred when those gains are reinvested in innovative, early-stage enterprises. Deferring capital-gains tax on reinvested proceeds would directly incentivize entrepreneurial investment across the EU.

To expand the pool of equity and debt finance accessible to Europe's start-ups the Union should revise the Solvency II so that insurance undertakings can hold a larger share of venture and growth-equity assets without punitive capital charges. A revision should be conducted on the investment guidelines for pan-European pension plans, whose allocations to private companies lag those of other big economies. Redirecting even a small fraction of these long-term portfolios would inject billions into high-growth firms.

Furthermore, the report calls for an increase in the capital base of the European Investment Fund, which is part of the EIB. A larger, better-coordinated EIF could anchor bigger public–private venture funds, streamline co-investment schemes and reduce the current fragmentation of EU VC programmes.

The EIB should gain authority to make direct equity investments in Europe's strategic technology priorities. The revised mandate should also let the EIB supply contingent capital to National Promotional Banks, so the two can co-invest when larger or riskier innovation projects warrant joint participation.

The attractiveness of European stock exchanges for both initial public offerings and post-listing development can be enhanced by streamlining the regulatory framework, bringing it into closer alignment with the more flexible regimes of leading non-EU markets, and applying it consistently across the Union. A unified set of prospectus, governance and disclosure requirements would, in effect, create a genuinely pan-European, multi-venue marketplace, lowering compliance costs and deepening liquidity for issuers.

The responsibility for drafting, implementing and supervising this simplified rulebook should rest with the European Securities and Markets Authority. A centralized oversight would replace the patchwork of national standards and thereby strengthen Europe's capital-formation ecosystem. European listing rules should permit dual class[8] share structures, allowing founders to retain control post-IPO and thereby making domestic exchanges more attractive for early capital raising.

The report also suggests reforming Horizon Europe. The programme should consolidate its dispersed initiatives and align them closely with the European Commission. Funding should be increased and redirected toward high-risk, disruptive research rather than technologically mature mid-sized firms to avoid the so-called "middle-technology trap"[9] and foster transformational breakthroughs. Governance should be entrusted to project managers and experts with proven experience at the innovation frontier, and an outcome-based organizational model should be adopted to enhance efficiency.

The report also addresses the fragmentation of the legal system. "Innovative start-ups should be given the opportunity to adopt a new EU-wide legal statute called the 'Innovative European Company' (IEC)" (The Future of European Competitiveness – Part B, 2024). Such status should give companies access to harmonized legislation regarding corporate law, insolvency procedures, taxation and laws. Companies that adopt such status could operate in all member states through subsidiaries through a single digital identity.

Additionally, "Innovative European Companies should also get access to the simplified procedures for IPOs of high-tech companies" (The Future of European Competitiveness – Part B, 2024). The Commission should complement the Innovative European Company (IEC) statute with a multilingual "one-stop shop" that supplies start-ups with member-state business requirements not addressed by the new law. The IEC itself could be

[8] "Dual class share structures" involve issuing two types of shares–typically one type with enhanced voting rights, retained by company founders or executives, and another with limited or no voting power, sold to public investors.

[9] The "middle-technology trap" refers to a scenario where firms or economies become stuck producing moderately advanced technologies without progressing to high-value innovations. It implies difficulty in transitioning from mid-level technology to cutting-edge innovations, limiting competitiveness and economic growth.

launched through enhanced co-operation or an intergovernmental pact among participating countries.

Eligibility to gain such status would hinge on innovation criteria - such as devoting at least 10 percent of operating costs to R&D, employing highly qualified staff, and holding intellectual property. “The new statute would be accessible for at least 180,000 innovative SMEs (including start-ups) and innovative mid-caps (including small mid-caps) in the EU, based on estimations by the European Commission’s Joint Research Center” (The Future of European Competitiveness – Part B, 2024).

Early-stage start-ups face fragmented, hard-to-navigate support schemes spread across EU-level and national programmes. The EU should coordinate these instruments, align the EIC, EIF and InvestEU, and create a single digital platform – powered by AI – that maps each start-up’s needs and directs it to the most suitable funding and advisory services, thereby ensuring a level playing field across member states.

In summary, these policy recommendations collectively aim to create a conducive financial and regulatory environment that supports innovation-driven startups, thereby strengthening Europe’s economic resilience, productivity, and global competitive positioning.

Case Study: Estonia’s e-Residency and digital business model

Estonia’s e-Residency programme offers a real-world experiment in the power of a unified digital business identity, and its economic consequences offer significant insights for the proposed “Innovative European Company” (IEC) statute.

Launched in 2014, e-Residency enables non-Estonians to obtain a secure digital ID, incorporate and manage an Estonian company entirely online, and access a suite of e-government services. Time-to-incorporation for e-Resident firms often falls below the average of other European countries where it can take from days up to weeks. Furthermore, the country has a very favorable tax regime. Estonia's corporate income tax

system only taxes distributed earnings, allowing companies to reinvest their profits tax-free. You can pay yourself fees instead of dividends, and effectively pay no business tax, you just pay the applicable local income taxes where you live. This not only fosters an environment in which entrepreneurs can establish companies, but also supports their further nourishment and incentivizes for more R&D.

In 2023, the direct economic impact of the program reached €67.4 million, including tax revenue, state fees, and contributions from government partners. E-residents also contribute indirectly to the Estonian economy by using local business services and supporting the growth of Estonian companies listed on the e-Residency marketplace.

The Estonian case demonstrates that a centrally managed digital registry that yields meaningful administrative efficiencies, economic growth, and significant revenue streams. Using Estonia's successful initiative as an example and implementing similar measures – like the Innovative European Company – suggests potential economic gain at an EU-wide level. Achieving this at such a scale will demand a mandatory recognition of IEC status by financial institutions, strong amendments to national legislations and coordinated upgrades to e-government back-ends.

For the initiative to be successful throughout Europe, some members will need to go through drastic technological changes. If these political and technical prerequisites are met, an EU-wide "Innovative European Company" statute could transform Europe's start-up ecosystem much like Estonia's e-Residency has redefined its national economy.

Chapter 5: Sector-Specific Regulations

Digital Economy & AI Regulations: Comparison Between the EU and the US

The European Union and the United States have taken different paths in AI regulation, each with distinct implications for innovation, privacy, and economic competitiveness.

The EU's regulatory framework is built on two key pillars – the General Data Protection Regulation (GDPR) and the Artificial Intelligence Act (AI Act).
The GDPR, effective since 2018, implements strong protections for the processing and transfer of personal data. It grants EU citizens substantial control over their data and imposes obligations on both domestic and non-EU companies handling such data (European Commission, 2024). Its scope applies to any organization that processes the personal data of EU citizens, regardless of its location.
The AI Act, adopted in 2024, introduces a risk-based classification of AI systems – which ranges from minimal to high-risk – and mandates strict requirements for higher-risk systems. These include mandatory conformity assessments, transparency measures, high-quality datasets, and human oversight. Non-compliance can lead to fines of up to €35 million or up to 7% of the company's annual global turnover (European Commission, 2024).

In contrast, the United States follows a decentralised, sectoral approach – showcasing a type of fragmentation favourable to economic growth. There is no single federal law governing AI, instead, the US relies on a patchwork of state laws, including some data privacy laws similar to the GDPR, sector-specific regulations and executive orders – "Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence". Agencies like the Federal Trade Commission (FTC), the Food and Drug Administration (FDA), and the Department of Defence develop guidelines specific to their respective areas of responsibility. Executive actions, such as the October 2023 Executive Order on Safe, Secure, and Trustworthy AI, call for the development of technical standards and safety testing, but enforcement remains decentralized (Larsen & Küspert, 2024).

Unlike the EU, the US places greater emphasis on voluntary compliance, innovation incentives, and public-private collaboration rather than pre-emptive regulatory controls. The absence of a comprehensive federal AI regulations means lower compliance costs and fewer legal challenges for U.S. companies, which can translate into more active product development and market responsiveness.

These differing approaches have significant economic consequences. The EU's regulatory clarity and ethical standards foster consumer trust and cross-border cooperation, especially within the Digital Single Market. However, the compliance burden, especially on startups and SMEs, may limit agility and deter risk-taking in AI development. The strict provisions, especially on general-purpose AI models, might inadvertently reduce access for some companies, distorting competition and favouring large established companies that can bear compliance costs. Additionally, the cost of aligning AI systems with GDPR and AI Act requirements can delay time-to-market and create uncertainty for global tech firms operating in Europe. Financial services and other sectors significantly dependent on AI for credit assessments, risk evaluation, biometric identification, and critical infrastructure are particularly affected, as many of their AI systems fall under the high-risk category, requiring stringent compliance (Meier & Spichiger, 2024). On the other hand, the US model allows faster deployment of AI technologies, giving American firms a competitive advantage in global markets, especially in high-growth sectors like generative AI, cloud services, and autonomous systems. But this innovation-driven model also carries risks, such as lack of oversight, that can lead to algorithmic bias, privacy breaches, and uneven accountability, potentially undermining public trust and international regulatory alignment (Larsen & Küspert, 2024).

In conclusion, the EU and the US represent two contrasting paradigms of AI governance. The EU prioritises ethical safeguards, data protection, and systemic risk mitigation through comprehensive regulation, while the US focuses on innovation, flexibility, and sector-specific oversight. While the EU's approach supports a responsible and trustworthy digital ecosystem, it may slow economic scaling. The US model accelerates innovation but may face long-term risks to societal trust and regulatory coherence. The EU may have

set a norm in AI ethics and safety standards, but that might be a setback, making ground for foreign AI innovation or domestic companies scaling abroad. As AI reshapes the global economy, the challenge ahead lies in balancing innovation with responsibility and possibly converging toward shared standards that uphold both growth and rights.

Conclusion

Productivity and competitiveness are deeply interconnected. The economy's ability to maintain global economic relevance hinges on how efficiently it uses its resources to generate and sustain growth. In turn, economic growth creates an environment that promotes social welfare by generating employment, providing opportunities for personal advancement, and enhancing overall security for the nation. A competitive, productive, and growing economy generates a positive reinforcing loop, inspiring further innovation, boosting efficiency, and driving additional growth.

Historically, such growth has been due to large investments, the integration of markets – which opened trade and allowed for mutual support, and the adoption of technological innovations. In the early years after WWII, common state efforts were easier due to the limited number of countries participating in joint efforts. Today, however, the European Union comprises 27 sovereign member states, which introduces considerable complexity.

The EU faces structural challenges – such as fragmentation, cultural and linguistic barriers, and different national interests. Unlike the EU, other large economies are constructed as single nation-states. When a particular region, like Silicon Valley in the United States, has a competitive advantage in a sector like technology, that advantage benefits the whole country, making it a national interest. In contrast, European Member States not only want the EU to succeed as an economy, but also inherently want their nation to succeed and for their "national heroes" to prosper, to govern sovereignty, cultural pride and identity. This personal motive is a barrier to full integration. Even initiatives that economically appear mutually beneficial, such as the Schengen Area, which facilitates cross-border trade and mobility, or the CAP, which secures food supply and reasonable income for farmers, encounter political resistance at times due to national interests.

National judicial systems, financial regulations, and corporate governance frameworks differ significantly, making cross-border investment and joint borrowing complicated. For example, Estonia and Ireland have deliberately low corporate tax rates to attract foreign investment, thereby strengthening their domestic economies. On the other hand, some economies like France, that relied on public debt to finance and foster economic growth and welfare, now aim to reduce public expenditure and raise taxes.

Harmonizing taxes, an inevitable consequence of full integration, would undermine the competitive advantage of some countries, or take away control over fiscal policies for others. Europe is built by diverse economic models, each with different competitive advantages and risk profiles. This difference in turn creates a barrier for joint borrowing and investment. Unforeseen economic shocks in one country can destabilize the whole Union, if safeguards for mutual bond issuance and risk sharing are not correctly established.

While some of the recommendations to revitalize the European economy require strong regulation for both safety and success, for others, overregulation is what hinders growth and prosperity. Startups throughout Europe face not only funding problems, but also structural and legal barriers that hinder their ability to incorporate, scale up, and operate across borders. Startups are crucial for innovation and promote economic growth and social welfare. The concept of an "Innovative European Company," a legal entity that would harmonize registration, facilitate cross-border operations, and streamline compliance, could lower entry barriers for innovative companies and support their long-term success. By providing an alternative for innovation-producing firms – one that coexists alongside national structures – this entity could surpass political resistance and preserve member states' legal autonomy, and so competitive advantage, for other businesses. Empirical evidence further suggests that providing tax incentives, such as allowing firms to deduct reinvested profits into R&D, promotes expenditures and fosters innovation. This incentive not only benefits innovation-driven firms but creates a spillover effect that advances overall social welfare.

Promoting entrepreneurship and technological innovation throughout Europe would help the economy in several ways. As productivity rises, firms would become more competitive on the global stage, and consumers would gain access to novel or more affordable goods and services. A vibrant ecosystem of high-growth companies could also encourage households to shift away from a bank-centric savings model, changing cultural perspectives, and shifting funding toward broader participation in capital markets. Unlike the United States – where equity and venture capital investment are deeply embedded in household financial behavior, and where people themselves are more active in the public markets – European households traditionally rely on banks, the welfare state (for pension plans) or invest their savings into real estate. Over time, however, a flourishing

entrepreneurial environment could alter this culture, increasing household involvement in capital markets, and further promoting the scaling up of startups.

It is also urgent to adapt swiftly to artificial intelligence and foster not only its use, but the innovation surrounding it. Europe cannot afford to lag behind in a technology that has transformative potential comparable to the ICT revolution. Rapid AI adoption promises to enhance productivity across established industries and foster the emergence of new enterprises. Through automation, data analysis, and machine learning, AI can streamline processes, reduce costs, and catalyze innovation. This cumulative causation – where technological adoption stimulates further innovation in different sectors – would promote economic growth, higher household living standards, and push further investment activities, reinforcing Europe's long-term competitiveness and productivity.

Twenty years ago, Van Ark and colleagues argued that deeper capital market integration is essential for Europe's competitiveness. This analysis remains valid today, while facilitating investment is critical by integrating capital markets, it must be accompanied by efforts to shift households' and firms' mindsets. Regulatory reforms, educational initiatives, and public-private partnerships could encourage European citizens to embrace investment and risk-taking. Ultimately, bridging the gap between policy and practice requires a dual approach – simplifying the regulatory landscape for cross-border investment and fostering a mindset transformation that pushes individuals to engage more with capital markets. Only by addressing both – structural and behavioral obstacles – can Europe realize its full competitive potential in the twenty-first century.

For Europe to maintain its economic standing and to further thrive, urgent action is required. Boosting productivity, encouraging innovation, and fostering growth will directly enhance the well-being of European households and communities. To ensure that these benefits reach individual economies, businesses, and citizens, regulatory frameworks and policy initiatives must be thoughtfully designed and implemented, removing regulatory hurdles in some sectors, while strongly safeguarding others. As Mario Draghi noted, "This is not about deregulation: it is about ensuring the right balance between caution and innovation".

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