

# **INVESTMENT REPORT 2024/25**

# **INNOVATION INTEGRATION AND SIMPLIFICATION IN EUROPE**



## Chapter 1 **Accelerating transformative investment**

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**Investment Report 2024/2025: Innovation, integration and simplification in Europe**

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**About the Economics Department**

The mission of the EIB Economics Department is to provide economic analyses and studies to support the Bank in its operations and in the definition of its positioning, strategy and policy. The department and its team of economists is headed by Debora Revoltella, director of economics.

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Published by the European Investment Bank.

Printed on FSC® Paper.

# Chapter 1

## Accelerating transformative investment



Download the complete report:  
<https://www.eib.org/en/publications/20240354-investment-report-2024>

Available as:

pdf: ISBN 978-92-861-5902-2 ISSN: 2599-8277

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## About the report

The annual EIB report on investment and investment finance is a product of the EIB Economics Department. The report provides a comprehensive overview of the developments and drivers of investment and investment finance in the European Union. It combines an analysis and understanding of key market trends and developments, with a thematic focus explored in greater depth. This year, the focus is Europe's ability to marshal the investment needed for the green transition and to support innovation. The report draws extensively on the results of the annual EIB Investment Survey (EIBIS) and the EIB Municipalities Survey, combining internal EIB analysis with contributions from leading experts in the field.

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## Acknowledgements

Ambra Boilini for research assistance.

## Chapter 1

# Accelerating transformative investment

**European policies have supported investment since the pandemic, but levels are now stagnating.** While the European economy emerged from the crises of the early 2020s without major scarring, growth has levelled off since mid-2023. Over the past year, the outlook has been shaped by a tentative normalisation of energy prices, the initial easing of monetary policy and persistent global uncertainty. Investment has been constrained by subdued demand and historically high financing costs, though public financing provided by the European Union, such as the [Recovery and Resilience Facility](#) (RRF), is helping to offset the effect. In 2024, public investment and intellectual property were the only kinds of investment that saw growth. At the same time, fiscal policy has shifted from strong support during the energy crisis to a slightly restrictive stance.

**Some cyclical drivers of investment are likely to become more supportive of a recovery, while global developments and uncertainty are a key risk.** Consumer demand should accelerate, and financial conditions should improve. Falling inflation is bolstering real income and, in turn, private consumption, even as household savings remain high. On the negative side, heightened uncertainty, the threat of new barriers to trade and reduced fiscal space at the national level are likely to weigh on investment activity.

**Addressing structural challenges is critical for the European Union's long-term economic growth.** Productivity needs to grow vigorously to improve living standards and meet the health and care requirements of an ageing population. To achieve this, Europe must better support research and development, remove barriers constraining the information, communication and technology (ICT) sector and accelerate the adoption of digital technologies – all while advancing the green transition. The labour supply must also be strengthened by increasing participation and enhancing skills. Facilitating the reallocation of capital and labour will be key, as the green transition requires a significant shift in resources to sustainable production. Encouragingly, the export patterns of EU countries indicate that Europe plays a leading role in exporting sustainable technologies, particularly for green energy.

**To address these challenges, Europe needs major investment, but such high levels of investment are not unprecedented and the European Union benefits from substantial savings from households and firms.** Similar investment expansions took place when the EU single market was created and the European Union was enlarged to bring in new members, and more recently when it adopted investment-focused policies like the RRF. By expanding markets, removing barriers, and facilitating substantial capital flows and access to finance, these events contributed to a large expansion in business opportunities, which also spurred a significant and sustained acceleration in investment. The key challenge for the European Union now lies in how to effectively support a new acceleration, channelling its hefty savings into the real investments needed to drive and capitalise on the green and digital transformation, while dealing with security issues. A better investment environment is a prerequisite to overcoming this challenge. Pursuing integration and simplification will spur business opportunities. Targeted public policies must be aligned to prioritise efficient public investment and facilitate private investment, while strengthening the financial system's capacity to fund innovation.

## Introduction

This chapter examines the macroeconomic investment environment, key challenges to economic growth, and Europe's substantial investment needs – along with strategies for financing them. It is spread over three sections. Three boxes provide more detail on the housing market, the risk of trade disruptions and estimated investment needs.

The first section explores recent developments in the macro-financial environment influencing investment in Europe, and also includes a box on recent developments in housing investment. It highlights that, from a cyclical standpoint, the outlook is improving and investment is expected to gradually recover over the course of 2025. However, structural concerns remain, and pose future risks.

The second section discusses how longer-term factors influencing economic growth can be addressed to improve the European Union's potential, particularly as the green transition advances. It advocates for policies aiming to raise productivity, expand the labour supply and enhance the allocation of capital and labour across the economy.

The third section focuses on the investment required to boost EU economic growth and drive a structural transformation that will lead to greater sustainability. It shows that sufficient resources are available within Europe to finance these investments and outlines how the structure of the financial system should be adjusted to channel these resources to where they can be used most effectively.

## From crisis to recovery: Investment benefits from cyclical tailwinds

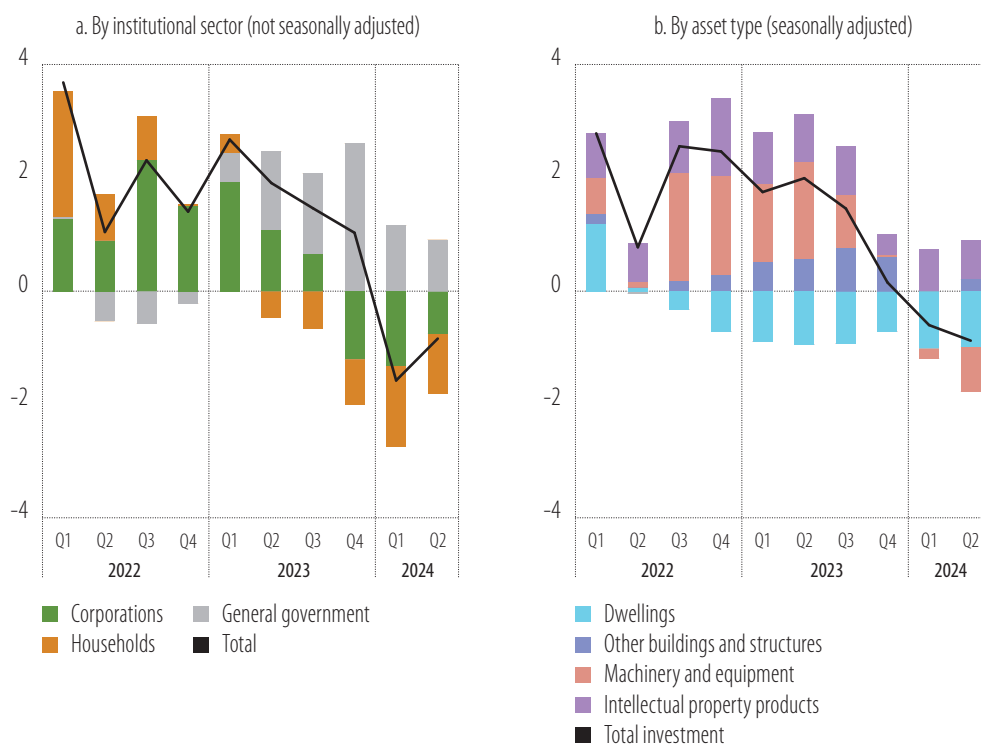
**This section provides an overview of investment and the macroeconomic factors driving its evolution.** It first looks back at 2023 and early 2024, the most recent period for which data were available at the time of writing, before discussing the outlook for investment in 2025. It argues that the cyclical environment for investment is likely to improve.

**Investment is expected to gradually recover from the lows of late 2023 and 2024 as an easing of monetary policy feeds through to financing costs and demand, although geopolitical uncertainty will continue to drag on performance.** So far, public investment has been driving overall investment growth, while private investment has contracted. Spending on machinery, equipment and dwellings has declined, whereas capital expenditure on intellectual property products has swelled. Looking ahead, supporting factors should strengthen the recovery in investment.

## Public investment offset some of the weakness in private investment

**A coordinated policy response has enabled the EU economy to emerge from the COVID-19 pandemic and energy price shock with no significant long-term scars.** Domestic demand should pick up as real incomes increase, but for now it remains subdued as persistent uncertainty causes households to stash away savings. External demand has grown but EU firms report that they are becoming less competitive, in part because of stubbornly high energy prices. Trade tensions and geopolitical risks add further uncertainty to export prospects. Central banks have started to ease monetary policy in line with falling inflation, but borrowing costs are still high and continue to affect investment decisions. Fiscal policy is transitioning to a slightly more restrictive stance, but this is happening only gradually.

**Figure 1**  
**Contributions to fixed investment growth in the European Union (% change from the same quarter the prior year)**



Source: Eurostat.

Note: All EU countries except Ireland. Households include non-profit institutions serving households.

Source: Eurostat.

Note: All EU countries except Ireland. Changes in biological resources and the calculated residual, which contribute less than 0.02 percentage points to the change in investment, have been excluded.

**EU investment has shown remarkable resilience in recent years, but it weakened in 2024.** From the onset of the energy crisis until late 2023, investment was bolstered by high corporate profits and the delayed response of corporate financing costs to rising interest rates. During this period, gross fixed capital formation not only recovered from the pandemic-induced slump, but also grew slightly faster than gross domestic product (GDP) in 2022 and 2023, while the investment-to-GDP ratio reached 22%, just above the long-term average. In 2024, overall investment in the European Union weakened, reflecting the broader economic soft landing. Gross fixed capital formation (excluding Ireland) contracted by 0.6% year-on-year in the first quarter, 1.2% in the second quarter and 2.5% in the third quarter.<sup>1</sup> In the first three quarters of 2024, overall EU investment was 1.4% below its level in the first three quarters of 2023.

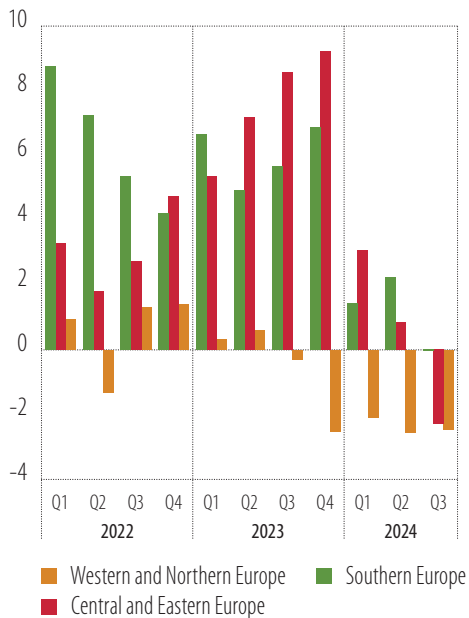
**The decline was largely driven by a drop in private-sector investment (Figure 1, left panel).** Household investment fell by an average of 1.2%, while non-financial corporations recorded an almost 1% decline during the first half of 2024. There were notable bright spots amid these challenges, however. Investment in intellectual property – including research and development – continued to expand, contributing 0.7 percentage points to annual investment growth (Figure 1, right panel). In part, this reflects the practice of including spending on salaries for R&D personnel in research and development.

<sup>1</sup> The changes including Ireland were -0.8%, -2.9% and -2.2% year-on-year, respectively. Ireland is excluded when discussing trends in investment and GDP contribution, as its figures tend to be highly volatile.

However, it may also be interpreted as a sign that firms continued to focus on innovation even when facing macroeconomic headwinds.

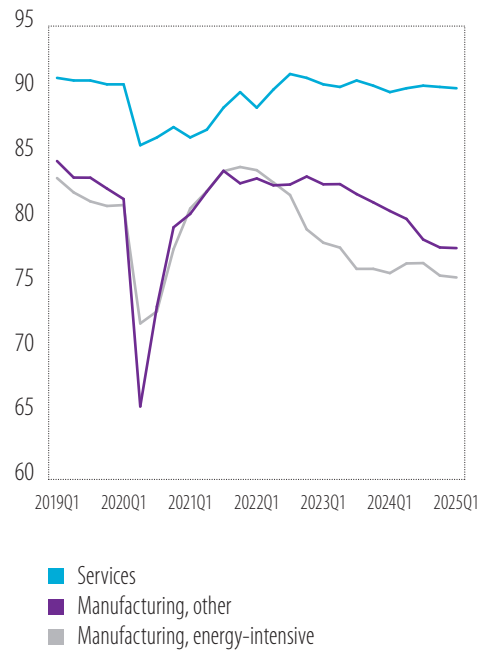
**Meanwhile, public investment surged, providing a significant counterbalance.** This stands in stark contrast to previous periods of weak economic growth, when public investment was often scaled back to create room for other public expenditure. Conversely, in 2023 the rise in government investment was accompanied by lower spending on non-investment subsidies and current transfers (see Chapter 2). The decreased spending was partly due to Europe's passing the peak of the energy crisis, which allowed governments to cut energy subsidies. Public investment was also lifted by coordinated EU-level policy initiatives, financing from the Recovery and Resilience Facility and the temporary suspension of EU fiscal rules. By the first half of 2024, government investment had risen by 10% compared to the same period in 2023.

**Figure 2**  
Investment in fixed assets (% change from the prior year), by country group



Source: EIB staff calculations based on Eurostat.  
Note: Western and Northern Europe exclude Ireland. The latest figures available are for the third quarter of 2024.

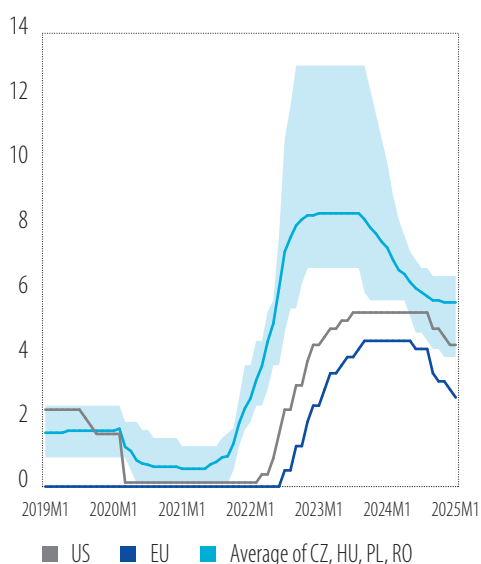
**Figure 3**  
EU firms' capacity utilisation (in %), by sector



Source: EIB staff calculations based on Eurostat and the European Commission's business survey.  
Note: NACE 17 (pulp and paper), 19 (coke, refined petroleum), 20 (chemicals), 23 (non-metallic minerals, such as cement), or 24 (basic metals) are defined as energy-intensive. Value-added shares are used to aggregate responses for each sector. Excludes NACE 10-15, 31 and 32 from non-energy intensive sectors because of data limitations. Nomenclature of Economic Activities (NACE) is the European statistical classification of economic activities. The latest figures available are for the first quarter of 2025.

**The bulk of the slowdown in aggregate investment occurred in the Western and Northern European Union.** Gross fixed capital investment in Western and Northern European countries first stalled and then declined (Figure 2). In contrast, investment remained positive over the year for Central, Eastern and Southeastern European countries in 2024.

**Figure 4**  
Central bank policy rates (in %)



Source: EIB staff calculations.

Note: The shaded area indicates the range of policy rates for four Central and Eastern European countries: Czechia, Hungary, Poland and Romania. The maximum rate is from Hungary during the 2022 tightening and corresponds to the base rate set by the country's central bank.

**Figure 5**  
Consumer price inflation and the level of energy prices (left axis: % change in consumer prices from the prior year; right axis: the energy component of consumer prices, January 2019=100)



Source: EIB staff calculations based on Eurostat.

Note: HICP stands for the harmonised index of consumer prices.

**Surveys suggest that investment was weaker in manufacturing than in services.** The utilisation of manufacturing capacity has declined much more than that of services (Figure 3).<sup>2</sup> Within manufacturing, the capacity utilisation of energy-intensive firms declined more steeply during the energy shock than that of non-energy-intensive firms. However, this difference has now disappeared, suggesting that the shock not only had a direct effect on energy-intensive investments, but also an indirect effect via higher financing costs and weaker overall private investment.

**Three macroeconomic factors are behind the investment weakness.** These factors include persistently high investment financing costs caused by tighter monetary policy, weak domestic and external demand due to the effect high energy prices had on real incomes, and high uncertainty stemming from geopolitical risks.

**Monetary policy has started to ease, but the effects of previous tightening have weighed on investment.** The European Central Bank (ECB) began lowering official interest rates in June 2024, gradually unwinding a rapid tightening cycle that had raised rates by 4.5 percentage points from July 2022 to September 2023. Other EU central banks, whose economies experienced even higher inflation than the euro area, eased policy earlier after having raised interest rates even faster (Figure 3).<sup>3</sup>

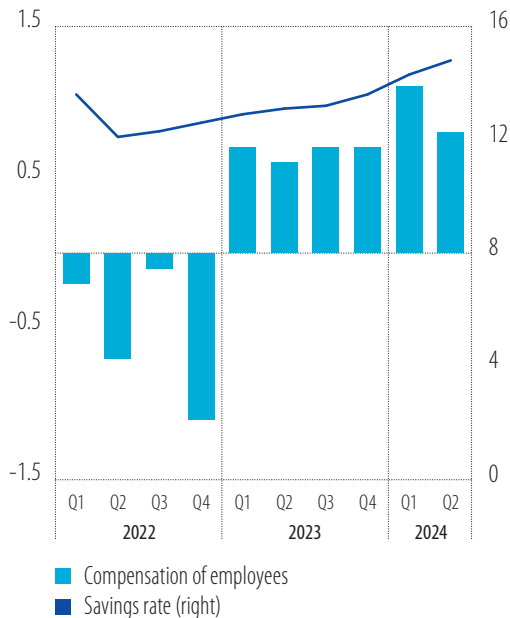
<sup>2</sup> Sector-level data for EU investment is only available until 2022.

<sup>3</sup> Annual consumer price inflation peaked in late 2022 at 10.6% in the euro area, 17.8% in Czechia, 26.2% in Hungary and 16.4% in Poland.

**Domestic demand did not follow the growth in real incomes.** The sharp increase in energy prices during 2022 transferred wealth from the European Union to energy-exporting countries and damaged household finances. For EU households, high inflation eroded the real value of their savings, most of which are held in bank deposits (see the last section of this chapter). In addition, the sluggish response of nominal wages to inflation weighed on households' real incomes despite public support. While inflation rose far above central bank targets (Figure 5), households initially supported their consumption by saving less of their incomes. When real incomes recovered, households raised their savings rate again (Figure 6). The sluggish economic recovery and political uncertainty have likely encouraged people to continue saving, which has caused private consumption to grow at a slower pace than real wages (1.1% during the first three quarters of 2024, compared with the same period in 2023).

**Figure 6**

**Real employee compensation (% change from the prior quarter) and the savings rate (% of disposable income)**

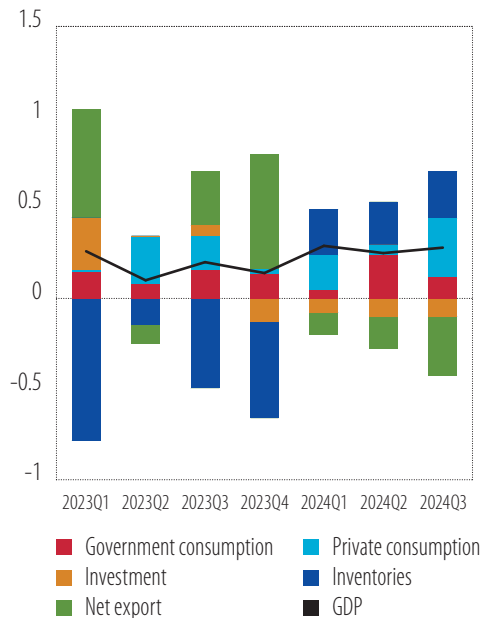


Source: EIB staff calculations based on Eurostat.

Note: Real employee compensation is adjusted according to the private consumption deflator.

**Figure 7**

**Contributions to EU GDP growth (% change from the prior quarter)**

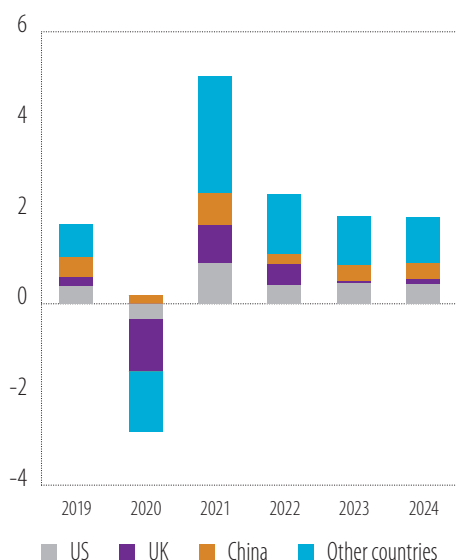


Source: Eurostat.

Note: All EU countries except Ireland.

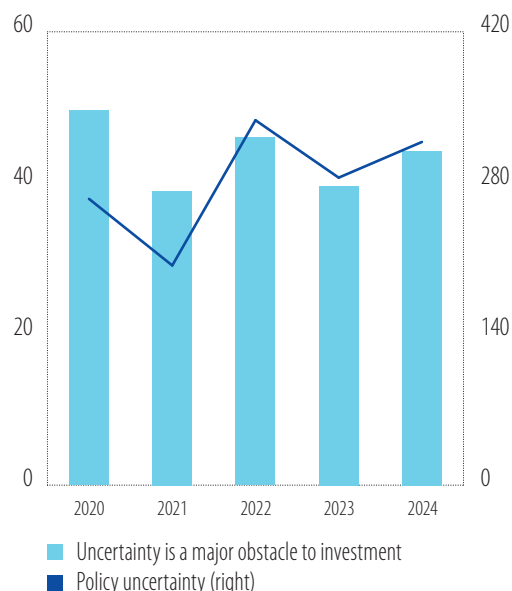
**Strong net exports supported EU growth in 2024, despite the declining competitiveness of EU firms and weaker imports.** The export share-weighted GDP of the European Union's trading partners, a measure of foreign demand, grew by approximately 2% during the year (Figure 8). Demand from China and the United States drove about one-third of this growth. EU firms were not able to capture this growth – EU exports (again, excluding Ireland) declined by 0.1% in the first three quarters of 2024, compared with the same period in 2023. Firms expressed concerns about their ability to compete (for example, in the [European Commission Business Survey](#)). Meanwhile, weak internal demand (particularly from investment) pushed imports below their level in the first three quarters of 2023 (-1.6%). In the end, EU GDP for the first three quarters of 2024 was supported mainly by government consumption, household consumption and net exports.

**Figure 8**  
Export demand for EU goods and services  
(% change from the prior year)



Source: EIB staff calculations based on Eurostat.

**Figure 9**  
Uncertainty as a major investment  
obstacle (left axis: % of firms; right axis:  
an index)



Source: EIBIS 2020-2024 and Baker et al. (2024).

**Uncertainty also appears to be weighing on investment.** Policy uncertainty, as measured by indices evaluating newspaper articles, rose steadily throughout 2023. By the end of 2024, it had reached levels comparable to mid-2022, when energy prices spiked following Russia's invasion of Ukraine (Figure 9). A growing share of firms reported uncertainty as a major obstacle to investment in 2024. Beyond the broader economic slowdown, concerns about the outlook for global trade and ambiguity surrounding governments' commitment to the green transition likely contributed to the rise in uncertainty.

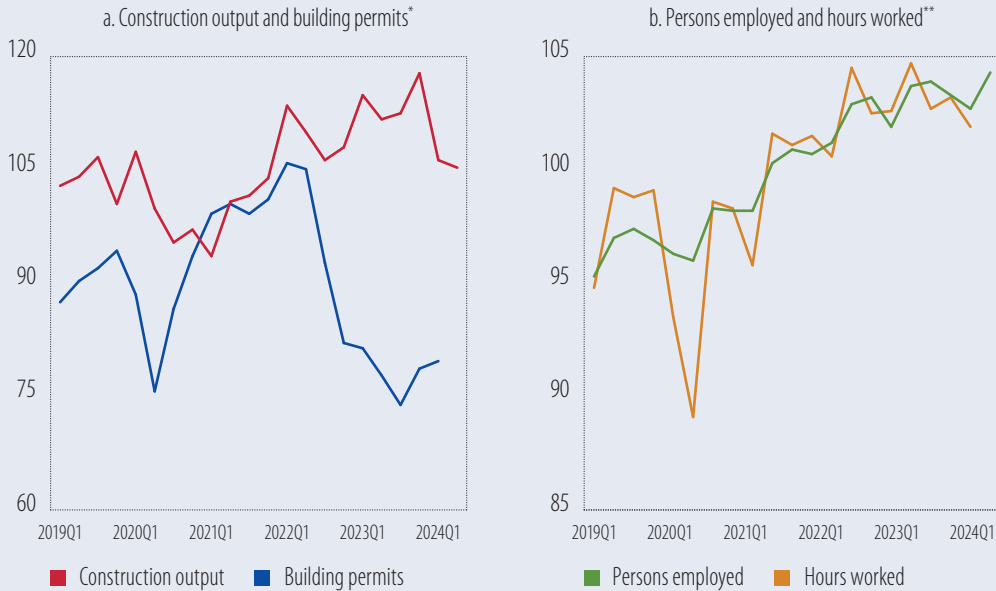
### Box A

#### The housing market shows resilience

The housing sector has resisted recent economic shocks. Building activity slowed briefly during the COVID-19 pandemic lockdowns in mid-2020 but stabilised in 2021 and expanded by more than 14% in 2022 and 2023 (Figure A.1, left panel). In the first half of 2024, activity eased by 7% year on year as financing conditions tightened. The demand for home improvements and secondary residences during the lockdowns led to a 40% surge in residential building permits issued from mid-2020 to early 2022 (Figure A.1, left panel). The building industry's ability to meet this demand was limited by disruptions to the supply of construction materials and construction worker shortages (Figure A.1, right panel). It took almost two years to clear this backlog. As a result, builders continued to grow from mid-2022 to mid-2023, when new orders dropped sharply.

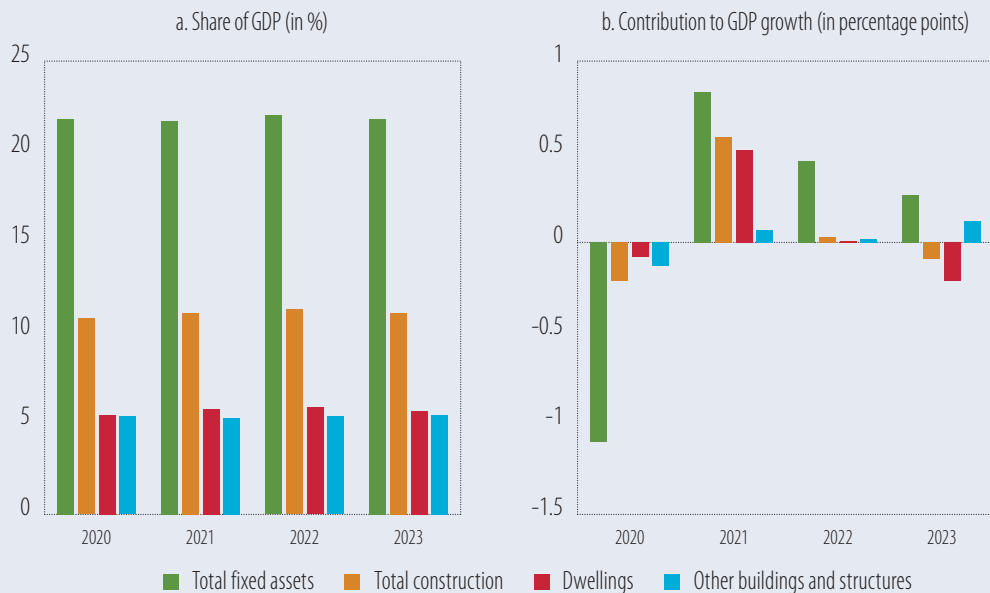
The building of new residences accounted for slightly more than half of construction's output, and one-quarter of gross fixed investment, in 2020-2023 (Figure A.2, left panel). Despite major macroeconomic shocks in this period, residential construction produced a stable 5.5% to 6% of GDP. In 2021, it contributed as much as half a percentage point of GDP growth in the European Union (Figure A.2, right panel). The importance of the sector was also visible in 2023, when the homebuilding slowdown subtracted about one-fifth of a percentage point from GDP growth.

**Figure A.1**  
**Residential construction output and employment (2021=100), EU average, 2019-2024**



Source: Eurostat.  
Note: \*The construction index is for residential dwellings and building permits for new residential buildings. It is neither seasonally nor calendar adjusted. \*\*Total construction is neither seasonally nor calendar adjusted.

**Figure A.2**  
**Contribution of construction to EU economic growth, 2019-2024**



Source: Eurostat.

Public policies contributed strongly to housing demand and residential investment. Mortgage interest rates in the euro area averaged just 1.75% in nominal terms (less than 0.25% in real terms) from 2015 until mid-2022, and 3.5% (-2.1% in real terms) once the ECB started tightening monetary policy. Falling interest rates generally do not push up residential investment on their own, but when they come with

rising house prices, income growth and demographic factors (net immigration, smaller household size, etc.) the effect can be substantial (European Investment Bank (EIB), 2018). Regular fiscal support for housing, including social protection payments to households and public spending on housing and community amenities, has also increased since the pandemic after falling steadily following the global financial crisis, though it has yet to return to levels seen in the mid-1990s.

## Prospects for an immediate pick up in investment are mixed

**The cyclical outlook for investment is likely to gradually improve, but uncertainty remains a strong drag.** Two out of the three factors that weakened private investment in 2023 and early 2024 are likely to be more positive. Monetary policy has eased and domestic demand is expected to grow despite governments' more restrictive fiscal stance, as rising real incomes will eventually result in increased household spending. However, uncertainty (including concerns related to trade policy) has a particularly strong effect on firms' investment and may continue to weigh on growth in investment spending. At the global level, the United States' "America first" policy with its questioning of international norms and established alliances is creating a high degree of uncertainty, which is particularly acute in areas like the green transition or critical technologies. Further global polarisation, new trade barriers and value chain disruptions have the potential to undermine investment prospects in critical industries. Research by Kolev and Randall (2024) finds that non-financial firms saying uncertainty is a major obstacle have investment rates that are about 3 percentage points lower than firms that do not see uncertainty as an obstacle.

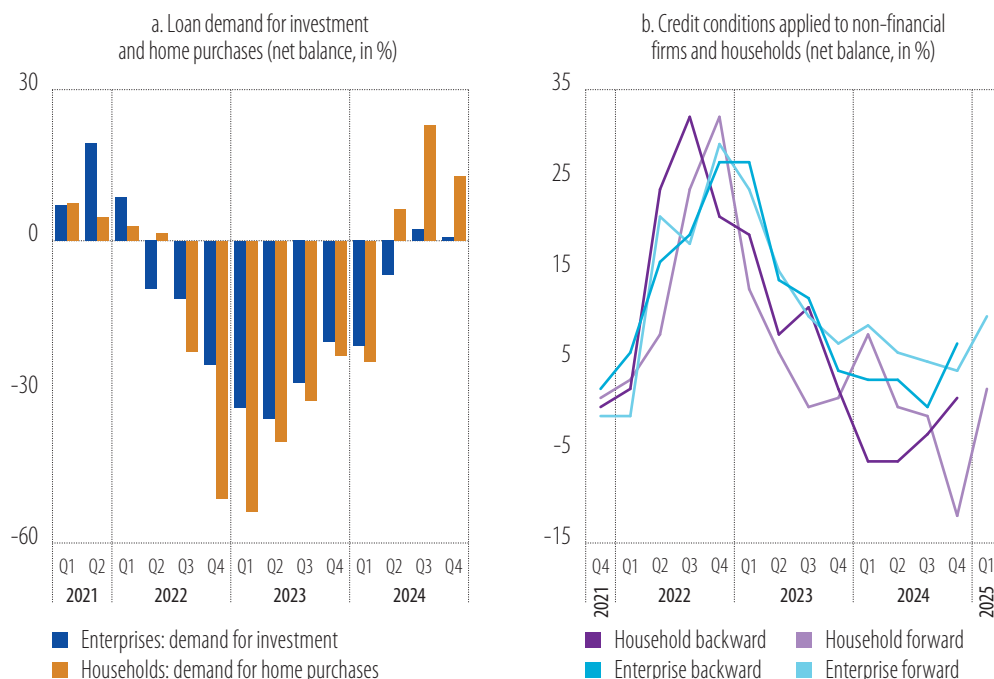
**Lower interest rates and a gradual easing of credit conditions are expected to provide more support for private investment.** Despite the easing of monetary policy, higher borrowing costs and lower availability of credit continue to constrain corporate debt. While financing costs for new corporate borrowing peaked in late 2023, the cost of outstanding loans reached their high only in mid-2024. At around 4%, these costs remain 2.5 percentage points higher than two years earlier, and they are declining only gradually. The delayed effects of higher borrowing costs are particularly pronounced for smaller, riskier firms and those operating in highly leveraged sectors (see Chapter 3). These factors continue to weigh on the investment decisions of more vulnerable segments of the private sector.

**Monetary easing is likely to influence residential investment before it affects non-financial corporate investment.** A slight majority of banks reported easing credit standards for household loans, both retrospectively and in their forward-looking assessments (Figure 10, left panel). This shift may bolster housing investment (Box A and Figure 10, right panel). In contrast, a larger share of banks still expect conditions for corporate loans to remain tight in the next quarter (Figure 10, left panel). Nonetheless, fewer banks are tightening credit conditions and, on balance, credit has started to ease in some euro area countries. Considering the typical lags in the impact of monetary policy on bank lending,<sup>4</sup> investment by non-financial firms is expected to bottom out and begin recovering in early 2025.<sup>4</sup>

**Conditions for private consumption are improving as households' real incomes continue to gradually recover from high energy prices and inflation.** Unemployment is unlikely to rise substantially. While labour shortages may have eased, structurally they remain significant (Organisation for Economic Co-operation and Development (OECD), 2024). Declining interest rates for consumer credit, pushed down by easing monetary policy, should buoy consumption further. With the European Commission's business survey indicating that a lack of demand is currently the most important factor limiting production, more dynamic consumer demand will help corporate investment.

4 The Bank Lending Survey credit standard time series tends to lead non-financial corporate investment by two to three quarters.

**Figure 10**  
The impact of credit conditions on demand



Source: ECB Bank Lending Survey.

Note: Units are net percentages, defined as the difference between the percentages of banks responding "increased" relative to the previous quarter, and the percentage of banks responding "decreased."

Source: ECB Bank Lending Survey.

Note: Units are net percentages, defined as the difference between the percentages of banks responding "tightened" and the percentages of banks responding "eased". Backward refers to the change from the previous quarter. Forward refers to the change expected over the subsequent quarter.

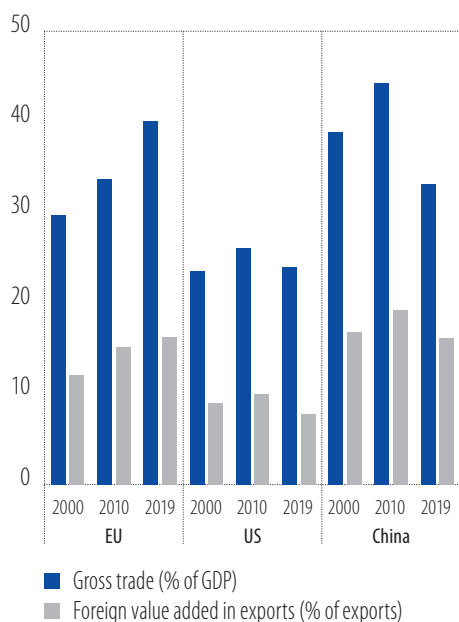
**While financing costs and domestic demand are likely to be more supportive, the outlook for external demand is less clear.** Export demand appears to be on the rise.<sup>5</sup> However, as highlighted above, manufacturing firms are increasingly uneasy about their ability to compete outside the European Union. Two factors seem to underlie firms' concerns. The first is the persistently higher energy costs paid by EU firms compared to their global competitors, which weighs particularly heavily on energy-intensive industries (see Chapter 4). The second is rising competition from China in traditional sectors (such as automotive) and emerging industries, as well as the impact of industrial policies outside the European Union. These concerns are compounded by geopolitical challenges.

**As an open economy, the European Union is particularly vulnerable to geopolitical challenges.** Fragmentation in global trade has a bigger effect on the European Union compared to the more closed US economy. Gross trade with countries outside the European Union (imports plus exports of goods with non-EU countries) accounted for nearly 30% of EU GDP in 2023, a level that has been relatively stable over the past decade. By comparison, China's gross trade with other countries has declined from over 40% in 2014 to 34%,<sup>6</sup> while the United States remains well below this level at around 18%. The United States and China are crucial trade partners for the European Union. The United States accounts for approximately 20% and China 10% of EU goods exported outside the union, while the United States makes up 12% and China 21% of goods imported.

<sup>5</sup> The International Monetary Fund's World Economic Outlook for October 2024 (International Monetary Fund (IMF), 2024b) suggests global trade will grow by 3.4% in 2025-2026, slightly exceeding world GDP growth.

<sup>6</sup> These figures are computed using the IMF Direction of Trade Database and are the average for 2021-2023.

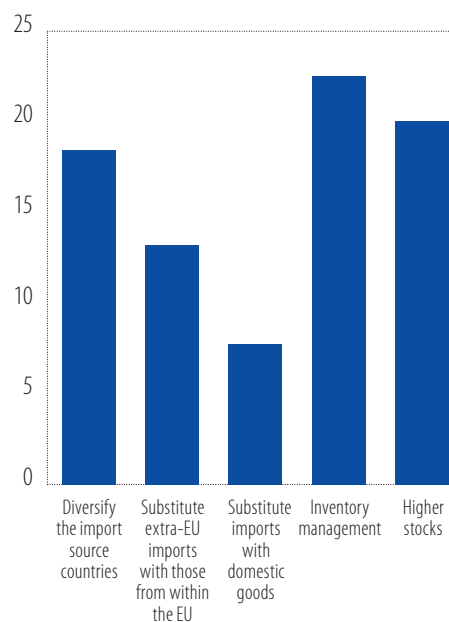
**Figure 11**  
Gross trade and integration in global value chains



Source: EIB staff calculations based on OECD data for trade in value added.

Note: Values for the European Union include services and exclude trade with other EU countries.

**Figure 12**  
Action taken in response to obstacles from trade (% of firms)



Source: EIBIS 2024.

## Box B

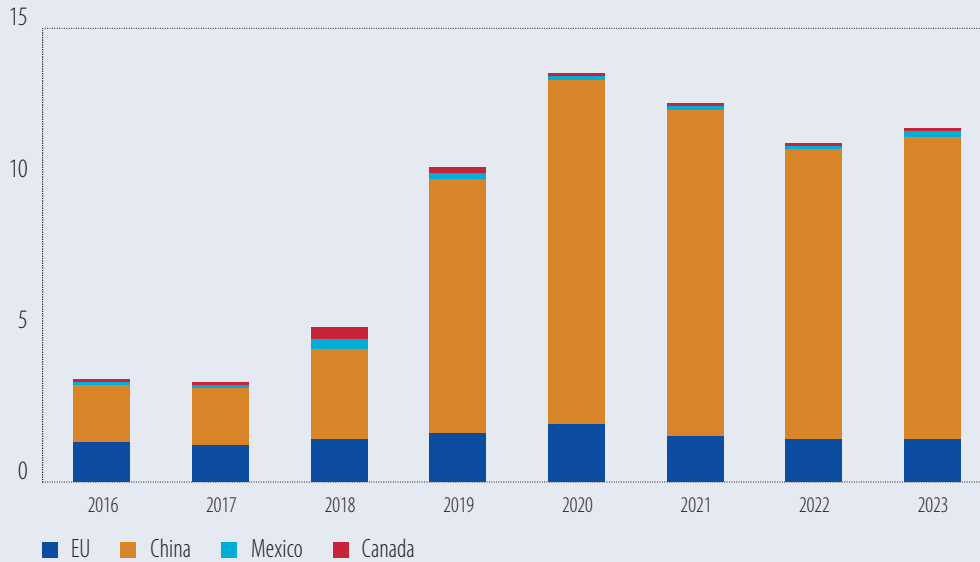
### Estimating the effects of US tariffs on EU countries and beyond

#### The US trade balance and escalating protectionism

Trade between the European Union and United States has grown steadily over the past decade, albeit with significant differences between EU countries and sectors. The United States was the top destination for EU exports in 2023, accounting for 19.7% of the total. Ireland, Germany, Italy, the Netherlands, Belgium, the Nordic countries and Slovakia are among the most exposed, with exports to the United States accounting for at least 3% of their domestic GDP. EU exports to the United States are concentrated on medical appliances and pharmaceutical products, mechanical products and parts, machinery and vehicles, and manufactured goods.

Tariffs on goods imported to the United States have risen since the first Trump administration. Tariffs increased in 2018 and 2019 when the Trump administration raised the effective tariff for goods imported from China significantly, replaced the [North American Free Trade Agreement](#) (NAFTA) with the [United States-Mexico-Canada Agreement](#) (USMCA), and imposed additional tariffs on steel and aluminium imports. Steel and aluminium tariffs affected EU exports, although there was only a modest increase in the effective tariff rates (Figure B.1). By and large, the Biden administration did not change the tariff framework it inherited from Trump.

**Figure B.1**  
US effective tariff rates on imports from selected countries (in %)



Source: US International Trade Commission (USITC) and EIB staff calculations.

Note: Effective tariffs are computed as the ratio of import duties collected based on applicable rates to CIF (cost, insurance and freight) import values.

### Simulating the effects of higher tariffs

The impact of further tariff increases on the EU economy depends on their size, the countries and products concerned, and the degree of indirect effects arising from changes in trade patterns with non-EU countries. This box therefore considers a range of scenarios informed by statements made by the new US administration, and feeds them through a global macroeconomic model to capture direct and indirect effects. The box does not show the predicted impact of each of these scenarios on EU GDP, but rather presents the range of impact.

The calculations model scenarios where US tariffs on imports from the European Union rise to 10% or 20%, tariffs on Chinese goods increase to 60%, and tariffs on imports from Canada and Mexico climb to 25%. Each scenario is analysed via two approaches: “up-to” tariffs, where all tariffs are adjusted to reach the specified thresholds; and “top-up” tariffs, where the announced increases are added on top of existing tariff levels.

**Table B.1**  
Effective base rate of tariffs across sectors (in %)

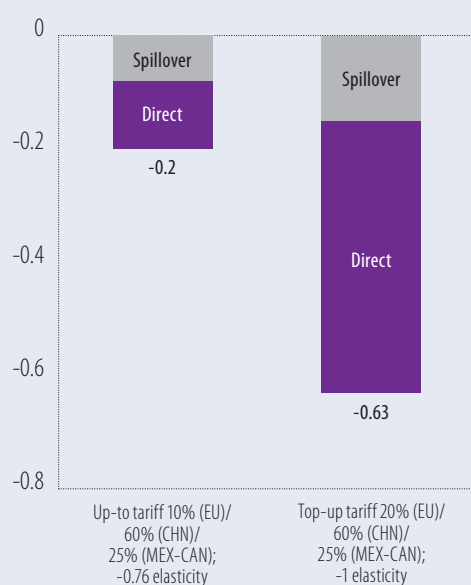
	Agricultural	Non-agricultural	Manufacturing	Energy
EU	4.2	0.4	1.3	0.1
China	18.2	9.4	10.2	0.5
Mexico	0.2	0.1	0.3	0.1
Canada	0.1	0	0.1	0.1

Source: USITC and EIB staff calculations.

A bottom-up approach is used to capture current tariff levels for the products concerned. The analysis uses effective tariff rates by country and sector (SITC level 1) calculated from United States

International Trade Commission (USITC) data, which combine CIF (cost, insurance and freight) import values with applicable duties based on the [Harmonized Tariff Schedule](#). These rates are weighted by the share of each sector's exports to the United States, and aggregated into four categories (agriculture, non-agriculture, manufacturing and energy) to align with the sectoral breakdown in the S&P Global Market Intelligence - Global Link Model used for the simulations. As an example, baseline effective tariffs range from 4.2% for agricultural products from the European Union to 18.2% from China, with much lower starting levels for goods from Canada and Mexico (Table B.1).

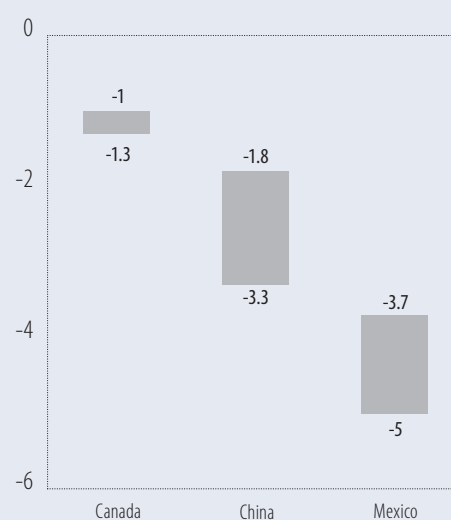
**Figure B.2**  
Response of EU output to US tariffs on imports from Europe, China, Mexico and Canada (in percentage points), by the end of 2026



Source: EIB staff calculations using the S&P Global Market Intelligence Global Link Model.

Note: The figure looks at the combined effect of US tariffs on imports from the European Union, China, Mexico and Canada. It depicts the range of response EU GDP considering the minimum and maximum impact models. They differ in their approach. "Up-to" tariffs are adjusted to reach the specified thresholds and "top-up" tariffs are added on top of existing tariffs. The EU tariff considered is 10% to 20% and the elasticity is -0.76 or -1.

**Figure B.3**  
Response of China, Mexico and Canada output to US tariffs (in percentage points), by the end of 2026



Source: EIB staff calculations using the S&P Global Market Intelligence Global Link Model.

Note: The figure shows the range of response of GDP outside of the European Union to tariffs of 60% on China and 25% on Mexico and Canada with elasticity of -0.76 and -1, giving the minimum and maximum impact.

Depending on the scenario considered, the simultaneous increase in tariffs on the European Union, China, Mexico and Canada results in a cumulative decline in EU real GDP of 0.2 to 0.63 percentage points relative to the baseline by the end of 2026. The deviation range reflects different calibration assumptions: The less severe "up-to" scenario assumes a 10% tariff on EU imports, while the more severe "top-up" scenario assumes that tariffs increase by 20%. Tariffs on Chinese imports remained fixed at 60% and those on imports from Mexico and Canada at 25% in both scenarios. The trade elasticity is assumed to be -0.76 in the main scenarios, while an alternative assumption of -1 is used as a robustness check.<sup>7</sup> The majority (60% to 75%) of the EU GDP decline is attributed to the direct

<sup>7</sup> On the choice of elasticities, see Boehm et al. (2023), Devarajan et al. (2023) and Jiang et al. (2022).

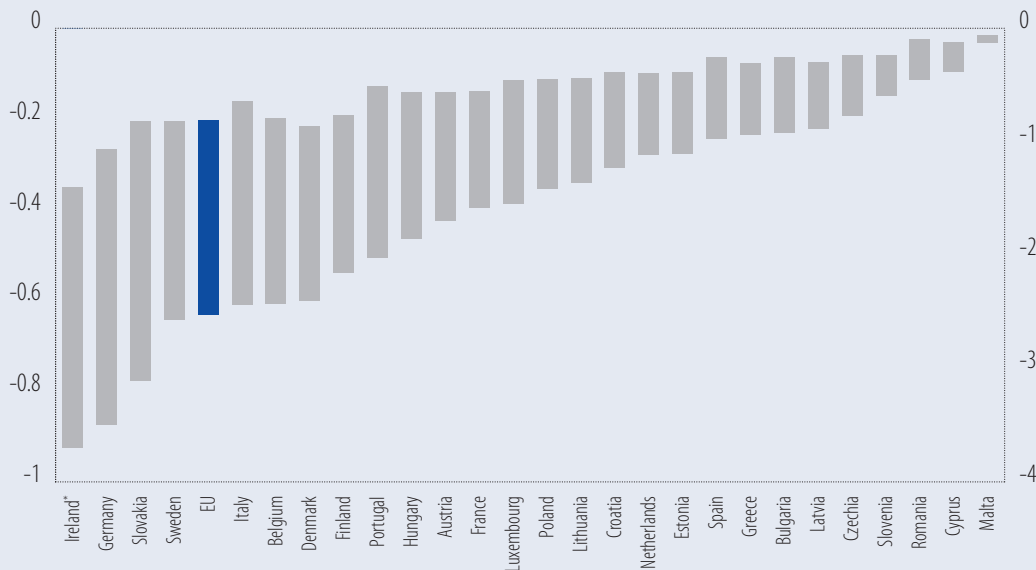
impact of tariffs on EU exports, while the spillover effect from the shock to non-EU trading partners accounts for the rest (Figure B.2).

The impact of US tariff increases on different EU members varies widely, reflecting how reliant they are on exports to the United States (Figure B.4). Ireland is the most affected, with its GDP projected to decline by 1.4 to 3.7 percentage points depending on the scenario. Larger economies such as Germany (GDP impact of -0.3 to -0.9 percentage points) and Italy (-0.2 to -0.6 percentage points) also experience adverse effects, highlighting the uneven distribution of risks from US tariff hikes.

The shock would also have a major impact on the economies of China, Canada and Mexico. Assuming a 60% tariff on imports from China and a 25% tariff on imports from Canada and Mexico, real GDP growth deviates from baseline projections by -1 to -1.3 percentage points for Canada, -1.8 to -3.3 percentage points for China, and -3.7 to -5 percentage points for Mexico, with Mexico experiencing the largest impact of the three (Figure B.3).

**Figure B.4**

**Response of different EU countries' output to US tariffs (in percentage points), by the end of 2026**



Source: EIB staff calculations using the S&P Global Market Intelligence Global Link Model.

Note: The figure shows the range of response of GDP for different EU members under the same scenarios of Figure 3A (see note).  
\*The results for Ireland are on the right-hand axis.

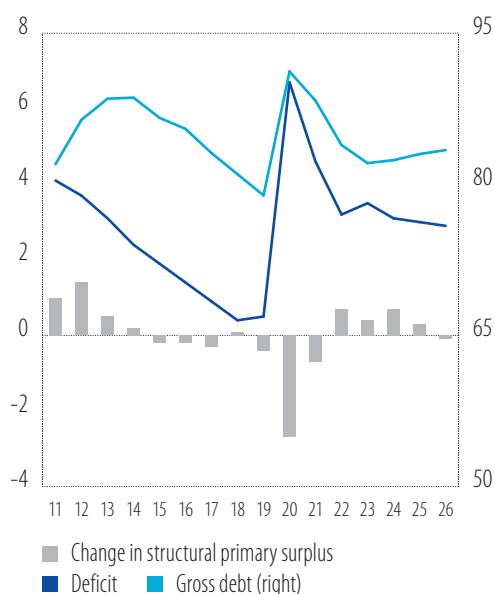
### Conclusion

The simulations illustrate that higher US tariffs would negatively affect EU economies. While a reallocation of global demand could provide some opportunities for EU exporters in sectors like textiles and machinery, this potential upside is likely outweighed by broader risks. US protectionist measures could undermine the European Union's economic performance through spillovers from a slowing Chinese economy (one of the largest EU trading partners) or an influx of cheaper goods as China redirects exports away from the United States. These factors would exacerbate the direct negative effects of tariffs, highlighting the complex and uneven risks confronting EU economies.

**The European Union's global value chains are also more integrated into the world economy.** The European Union has deepened its integration into global trade over time, and a significant achievement of its strategy has been the integration of its eastern EU members into global value chains. In contrast, the United States has retrenched and integration levels are equivalent to those seen in 2000, while China has pulled back from previous highs as its rapid growth led to greater domestic consumption of its production and development reduced reliance on imported technologies (Figure 11). By 2019, the European Union's gross trade relative to GDP exceeded China's, with both regions showing comparable shares of foreign value added in gross exports. By 2019, the United States was the final destination for 20% of the value added in EU gross exports, and China the final destination for 10%. EU exports also depend to a significant degree on imports of intermediate goods from other countries.

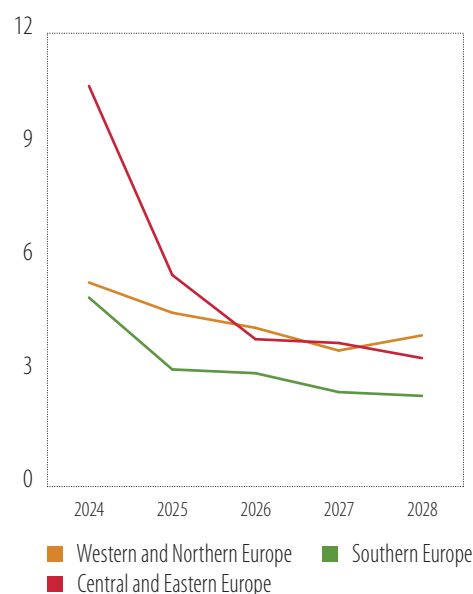
**In general, EU firms are not substituting imports with domestically produced goods and services.** In 2019, foreign value added constituted 16% of the European Union's gross exports. Instead of substituting imported goods and services with domestically produced alternatives, firms have opted, or are planning, to increase their resilience of their value chains by increasing stocks, improving inventory management and diversifying the countries from which they are importing (Figure 12). Having to substitute foreign-produced goods with domestic replacements where possible would presumably raise production costs far more than steps being taken to increase resilience.

**Figure 13**  
**Gross debt, deficit and change in the structural primary balance** (left axis: % change from the prior year; right axis: % GDP)



Source: European Commission's 2024 autumn forecast and the annual macro-economic database (AMECO) of the Directorate General for Economic and Financial Affairs.

**Figure 14**  
**Net primary expenditure** (% change from the prior year)



Source: EU members' structural fiscal plans.

**Lastly, fiscal policy is transitioning into a new phase after providing substantial support for economic growth during recent crises.** In the last few years, governments have employed fiscal measures to mitigate the economic and social impact of acute trade disruptions, leading to significant increases in public deficits and debt. As seen above, government (on the back of EU programmes) was the only sector that contributed positively to investment in 2024, and this will likely continue in 2025 and 2026. However, compliance with the new EU fiscal rules requires ambitious adjustments in several countries (see Chapter 2 for details), limiting their ability to support demand through fiscal policy.

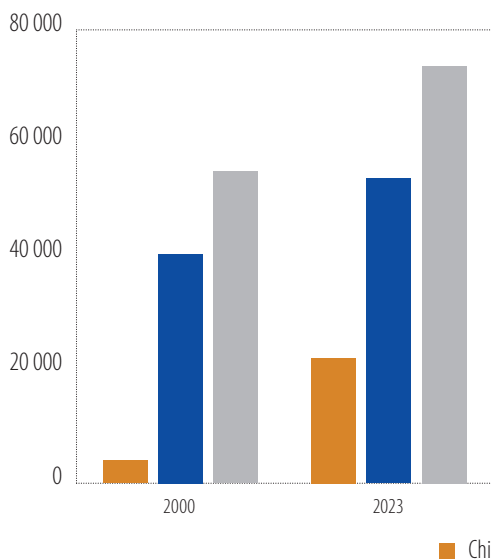
**On average across the European Union, fiscal policy is set to constrain economic growth slightly, although less than in 2024.** The impact is projected to be nearly neutral by 2026. According to the European Commission's [Autumn 2024 Forecast](#), the overall budget deficit is anticipated to decline slightly from 3.1% of GDP in 2024 to 2.9% in 2026 (Figure 13). However, this will not be enough to halt the increase in gross public sector debt relative to GDP that has resulted from lower nominal GDP growth. Fiscal impulse indicators suggest that fiscal policy will be moderately restrictive. Changes in the structural primary balance are expected to be moderately positive, and growth in net primary spending is set to decline (Figure 14). However, the relatively benign evolution at the EU level masks very divergent situations in different countries.

## Tackling structural impediments to raise long-term growth

**GDP per capita adjusted for purchasing power has increased by about one-third over the past two decades.** It has been driven by Europe's integration into global value chains, increased labour market participation and moderate productivity gains (Figure 15). Economic expansion has been particularly pronounced in the eastern regions of the European Union, whereas Southern Europe has recovered from the sovereign debt crisis only more recently. However, the EU and US economies lost some of their global weight as the Chinese economy expanded rapidly. In 2000, China accounted for less than 5% of the world economy, while Europe made up 21%. By 2023, China and the European Union accounted for equal shares of world GDP – just under 20% each (Figure 16).

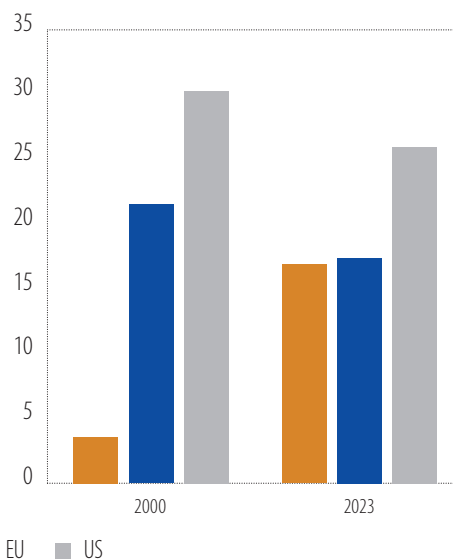
**The growth of GDP per capita has gone hand in hand with substantial improvements in EU well-being.** Economic growth and increased consumption have translated into better material living standards. Various of quality-of-life measures have moved forward at the same time, including health, environmental sustainability and employment. In recent decades, healthy life expectancy, social inclusion, enrolment in post-secondary education and job security have all increased (see Chapter 4).

**Figure 15**  
Gross national income per capita  
(2021 USD, PPP)



Source: EIB staff calculations based on World Bank data.  
Note: PPP stands for purchasing power parity.

**Figure 16**  
Share of world GDP (in %)



Source: EIB staff calculations based on World Bank data.  
Note: GDP is measured in US dollars to illustrate the global weight of each economy.

**Higher investments in areas like information and communication technologies and stronger job creation combined to raise GDP per capita more in the United States than in the European Union (Figure 17).** The drivers of growth vary substantially from sector to sector. In manufacturing, productivity gains in ten EU economies for which this data is available were on a par with those in the United States, offsetting a decline in hours worked. Construction stands out as a sector with particularly poor productivity growth in these countries and in the United States. In the past few years, ICT service providers in the United States likely increased their already large investments, as these firms are spending heavily on the infrastructure required for artificial intelligence.

**This section examines how GDP growth can be revitalised during the green transition by pushing up productivity, increasing employment and enabling the efficient reallocation of people and capital.** It reviews the drivers of GDP growth over the past two decades and argues that the European Union is in a good position to capitalise on opportunities created by the green transition. The focus is on GDP growth rather than GDP per capita, given the need to generate resources for the health and care needs of an ageing population (Lagarde, 2024b).

**Strong policy commitments and regulations are critical to the green transition.** Stringent climate regulation drives transformation across all sectors, rewarding early movers and pressuring high-emission industries to adapt. In contrast, weaker regulations risk slowing the pace of change. The [European Green Deal](#), with its carbon pricing, incentives and regulatory framework, supports green innovation and resource shifts to sustainable industries, driving potential productivity gains (European Central Bank (ECB), 2024).<sup>8</sup>

## Reversing the productivity slowdown

**The European Union's productivity has slowed over the past two decades (Figure 18).** The 2008-2009 financial crisis marked a turning point. Potential reasons for the slowdown include declining business dynamism and an increasing misallocation of resources following the crisis (IMF, 2024a). These factors are caused to some extent by tighter financial conditions, a shift towards services, particularly those with lower productivity growth, and imperfect measurement of the inputs and outputs of production (Lopez-Garcia and Szörfi, 2021).

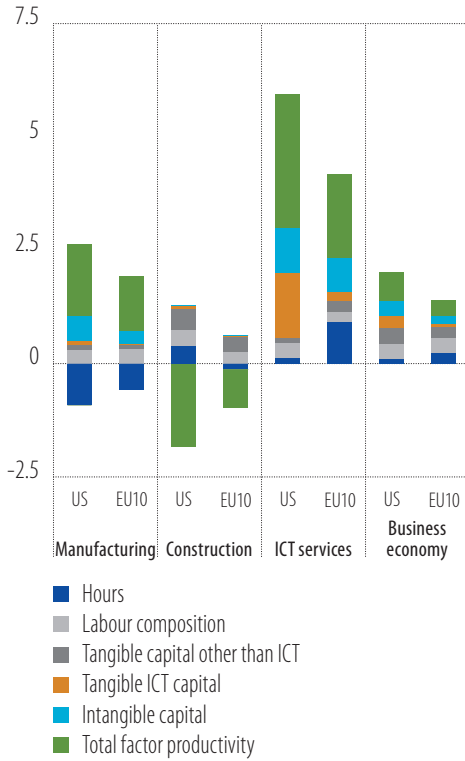
**Productivity is likely to slow further during the first stage of the green transition.** Transitioning to green production processes can involve significant upfront costs and temporary disruptions, and tighter environmental regulations can hurt productivity growth in the short term. The redirection of investment and research efforts away from fossil fuel-based activities could lead to a slowdown in potential growth. For example, the transition away from fossil fuels is likely to temporarily slow productivity by around 0.25% each year in France, as less investment is available to expand production capacity or increase efficiency in other sectors (Pisani-Ferry and Mahfouz, 2023).

**The European Union can accelerate productivity growth by investing more in intangible capital.** Higher investments in intangible capital are one reason the US economy outperformed in the past two decades. EU spending on R&D has risen substantially in the 20 years, from 1.7% of GDP in 2000 to 2.1% in 2022. However, spending rose even faster in the United States, increasing from 2.6% to 3.6% of GDP (see Chapter 5 for details) over the same period. Patent applications were also somewhat higher in the United States.

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8 Pisani-Ferry and Tagliapietra (2024) propose a plan to ensure that sufficient resources are allocated to the green transition.

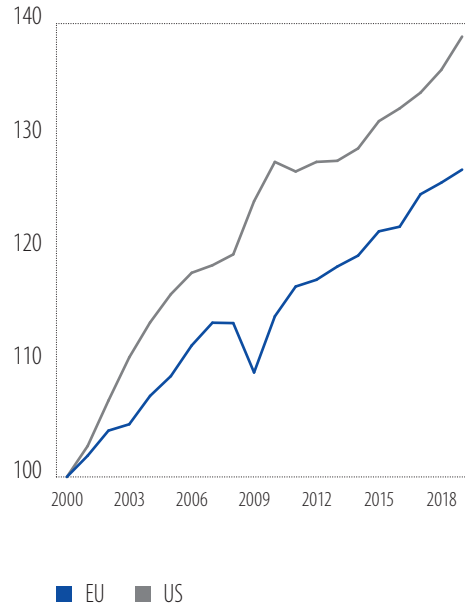
**Figure 17**  
Annual growth in value added (in %),  
by sector 2000-2019



Source: EU Klems.

Note: EU10 denotes the 10 EU economies for which data is available (AT, BE, CZ, DE, DK, ES, FI, FR, IT, NL). The decomposition for the total economy is very similar to that of the private business sector, with a somewhat larger contribution of hours worked and smaller contributions of investment in ICT and intangible capital.

**Figure 18**  
Labour productivity in the private  
business sector (an index, 2000=100)



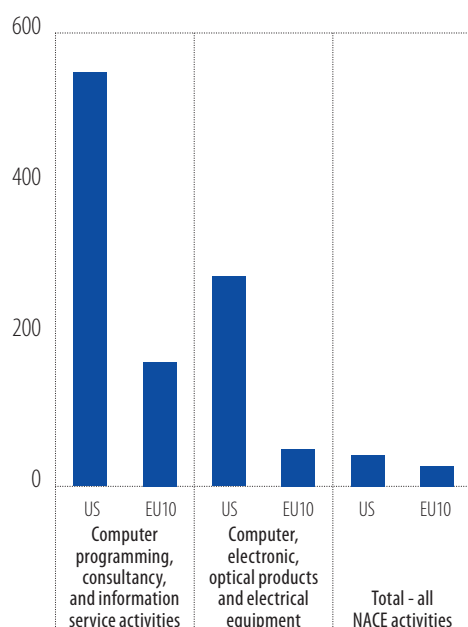
Source: EIB based on EU Klems.

Note: Value added relative to hours worked. Value added in private business is just over two-thirds of the total economy. For the total economy, the productivity gap between the United States and the European Union has grown somewhat less (by a total of 5.5% instead of 8.5% from 2000).

Similarly, the European Union could push up productivity by removing barriers to ICT growth and promoting the adoption of ICT technologies (Draghi, 2024). Growth in the ICT sector and ICT adoption drive productivity (see Vu et al. (2020) for a recent literature review). The rapid expansion of its ICT sector and the faster adoption of ICT across all industries explains some of the higher productivity growth in the United States. Interestingly, Europe initially had an advantage in the production of ICT services, with computer programming and consultancy accounting for 1.3% of the EU business economy in 2000, compared with only 1% in the United States. However, over the past two decades, the value added by ICT services in the United States has grown more than fivefold, while in the European Union it is only 1.5 times its former size. By 2018, ICT services made up 5.4% of the US business economy but just 3.8% of the European Union's (Figure 19). Growth in ICT manufacturing has been slower in the European Union, with much of the production shifting to China.

**EU firms have been slower to adopt digital technologies than their US peers.** EU firms have invested heavily in ICT, particularly in accommodation and food, construction, finance and trade. That said, the increase in ICT capital intensity was generally far higher in the United States and comparable to the European Union only in manufacturing (Figure 20). In finance and professional services, US firms not only increased their capital by much more than their EU peers, but also saw higher labour productivity growth (Draghi, 2024).

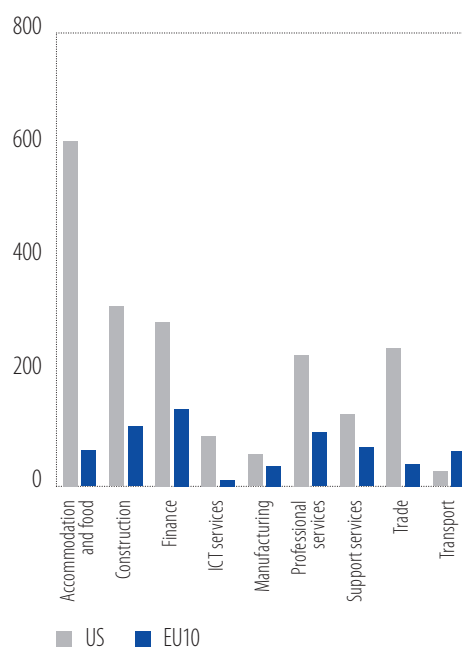
**Figure 19**  
Cumulative real growth of the ICT sector  
(in %), 2000-2019



Source: EIB staff calculations based on EU Klems, an industry level growth and productivity research project.

Note: EU10 denotes the sum of ten EU economies for which data was available.

**Figure 20**  
Cumulative growth in real ICT capital  
(in %), 2000-2019



Source: EIB staff calculations based on EU Klems.

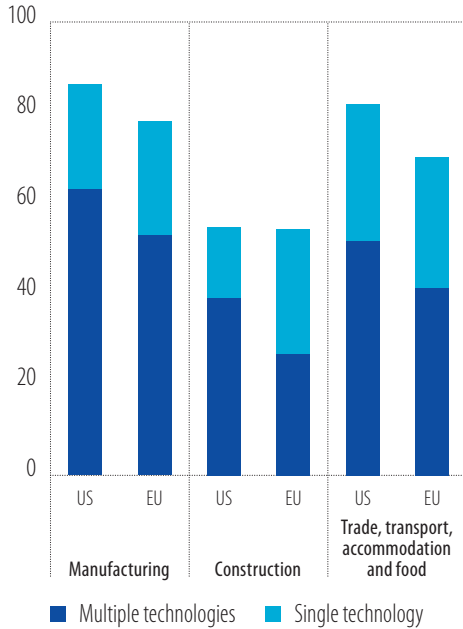
Note: Excludes accommodation and food for Denmark.

**Lower digital adoption goes hand in hand with lower innovation and productivity.** EU firms in construction, trade, transport, accommodation and food have also adopted fewer advanced digital technologies than those in manufacturing, and are less innovative than firms in the corresponding sectors in the United States (Figure 21 and Figure 22).<sup>9</sup> These are also sectors with below-average productivity. In 2023, 25% of EU employees worked in trade, transport and accommodation but produced only 17% of EU value added. Similarly, 7.5% of EU employees worked in construction, but produced only 5.1% of EU value added.

**ICT advances also play a critical role in driving sustainable growth.** Digital technologies enable better energy efficiency, resource optimisation and decarbonisation across all sectors. For example, the internet of things facilitates the use of smart grids and buildings, while artificial intelligence optimises energy use in manufacturing. Similarly, ICT systems underlie advances in renewable energy, from wind turbine design to predictive maintenance powered by machine learning. Without a robust ICT sector, the European Union risks falling behind in implementing the innovations necessary for its ambitious climate goals. Consequently, a competitive ICT ecosystem is not merely an enabler of digital growth, but rather an essential pillar of the green transition.

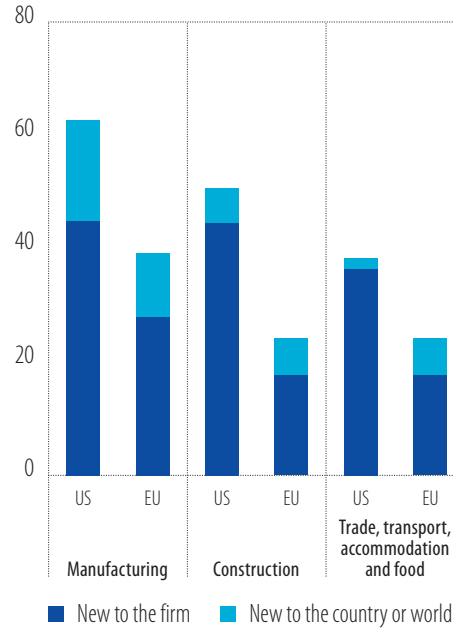
<sup>9</sup> Another reason for the apparently low productivity in construction is that the sector is very narrowly defined and includes only on-site construction activities associated with physical assembly of buildings, which tend to be relatively low skilled and labour intensive. Off-site activities such as manufacturing of prefabricated components and modules, leasing of building equipment, provision of high value-added civil engineering, architectural and construction related services, etc., are classified elsewhere.

**Figure 21**  
Use of advanced digital technologies  
(% of firms)



Source: EIBIS 2024.

**Figure 22**  
Innovation activities (% of firms)



Source: EIBIS 2024.

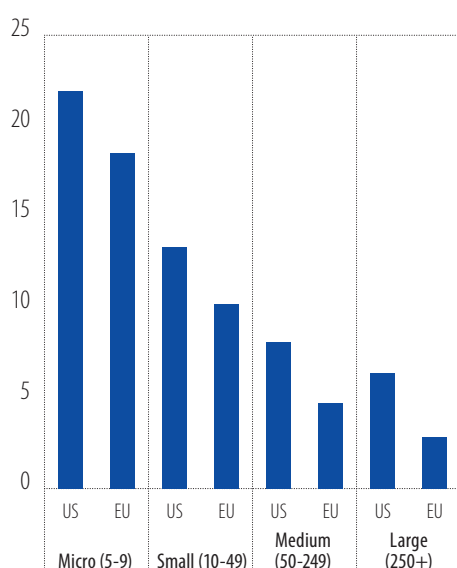
**The EU economy has thus far relied heavily on American ICT services and hardware from the United States and China, raising concerns about technological sovereignty and economic resilience.** Major EU industries from automotive to finance depend on cloud services, software solutions and data analytics provided by leading US firms. At the same time, much of the ICT hardware that powers digital infrastructure (including semiconductors and telecommunications equipment) is imported from Chinese and US manufacturers. This dependence exposes the European Union to supply chain disruptions and geopolitical risks, undermining its capacity to independently drive key transitions.

**The information and communications technologies in the European Union could grow faster if they managed to overcome the first-mover advantage enjoyed by incumbents, a shortage of risk capital and skills, and insufficient investment in digital infrastructure.** The production of ICT goods and services typically enjoys large economies of scale, giving incumbents an advantage. Startups need patient risk capital to grow sufficiently large to be able to compete, but this type of risk capital is in short supply in the European Union (see below). ICT services need strong ICT infrastructure, including in mobile and fixed-line broadband and cloud computing. According to the EIB Investment Survey (EIBIS), 18% of ICT firms in the European Union cite insufficient digital infrastructure as a major investment obstacle (compared to 13% on average for other sectors), while in the United States, only 13% of ICT firms (10% on average) report this issue. (The third section of this chapter estimates the investment needed to improve EU digital infrastructure.) As in other sectors, skills shortages are high in the ICT sector – over half of firms interviewed in the EIBIS describe skills shortages as a major obstacle to their investment, and about 3% of available jobs remain vacant.

**Lowering regulatory barriers could boost productivity growth by fostering innovation and enabling companies to leverage economies of scale more effectively.** The Digital Services Act, which entered into force in November 2022, has lowered some of the regulatory barriers for ICT services. That said, firms in all sectors currently dedicate a significant portion of their workforce to meeting mandatory or voluntary regulatory requirements. This burden is especially pronounced for smaller firms in the

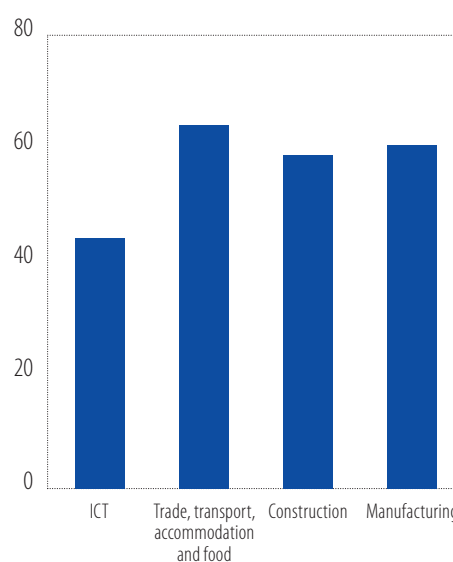
European Union and the United States (Figure 23). Simplifying compliance processes could help reduce costs, allowing businesses to concentrate more on their core activities. Part of the compliance burden stems from differing regulatory standards in different export markets. In 2024, 60% of EU exporting firms reported that their primary product or service must meet distinct requirements for each EU market, with manufacturing and ICT firms particularly affected (Figure 24). This seems too high given that a unified rulebook should be in place. Different requirements place a particularly large burden on EU firms compared to their US counterparts. Whereas US firms can resort to a large domestic market, EU firms need to export to other countries, including those within the single market, to achieve economies of scale.

**Figure 23**  
More than 10% of staff is dedicated to dealing with regulatory requirements (% of firms), by size



Source: EIBIS 2024.

**Figure 24**  
The main product has to comply with different regulatory requirements across the European Union (% of firms), by sector



Source: EIBIS 2024.

Note: The share concerns trade between EU members to capture barriers within the single market.

## The supply of labour continues to rise despite an ageing population

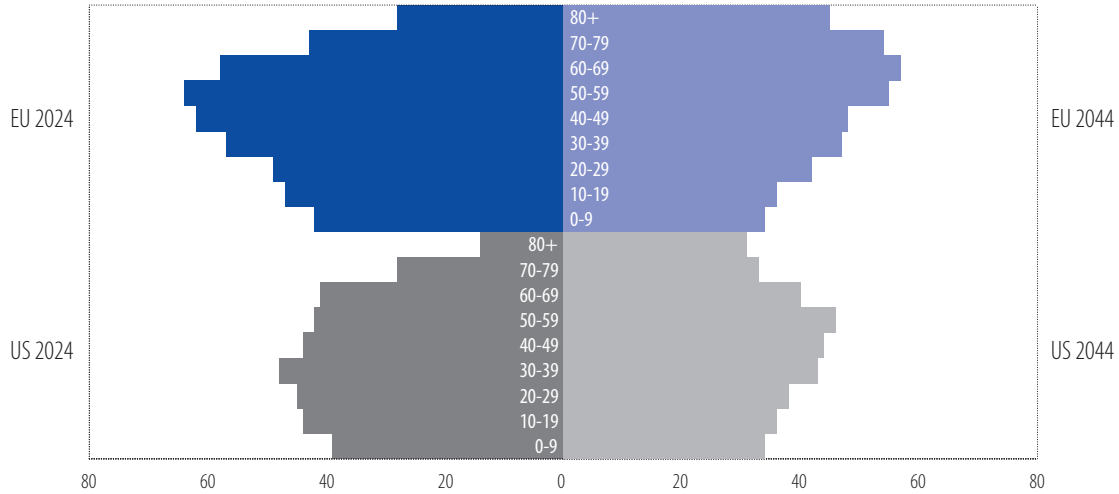
**The labour supply has contributed little to GDP growth over the past decade.** This is unlikely to change. Populations are ageing, such that fewer people are available to work over the next three to four decades. This picture is roughly the same in the European Union and the United States (Figure 25).

**Even if fertility remains low, the labour supply does not need to fall by the same extent as the working-age population.** Low birth rates can be balanced by raising average hours worked, the pension age or labour participation. Immigration can also replenish the skill pool. And even if employment declines, GDP can still rise if labour productivity increases. This can be achieved by improving skills or facilitating people's ability to move towards more productive employment.

**Most of these factors have already been at work in the European Union over the past decade.** The population of EU nationals aged 20–64 decreased by 15 million from 2010 to 2023. However, labour market participation increased, particularly among women (8 million additional employees aged 20–64) and

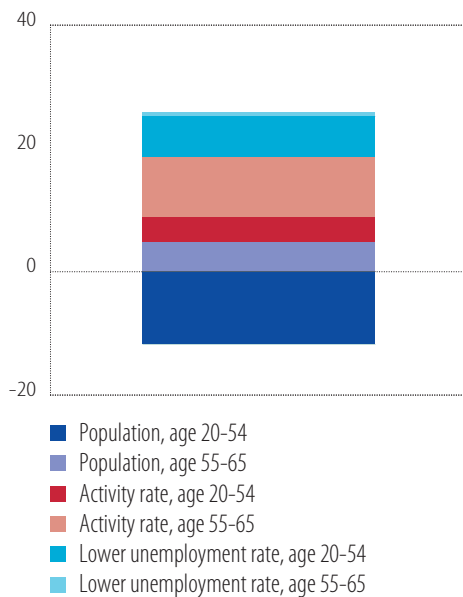
55- to 64-year-olds (close to 10 million, see Figure 26). Immigration from outside the European Union added just over 13 million (Figure 27, right panel). On balance, total EU employment of 20- to 64-year-olds therefore increased by 15.5 million, not only offsetting but actually overcompensating for the decline in EU population.

**Figure 25**  
Population distribution across age groups (millions of people, UN population forecasts)



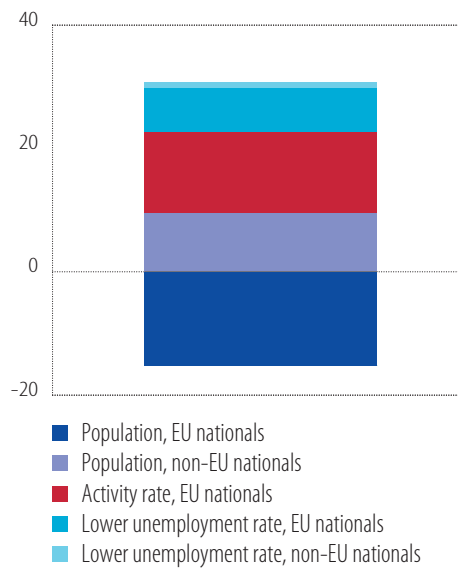
Source: EIB staff calculations based on UN Population forecasts, 2024 edition.  
Note: Values for 2044 are UN forecasts assuming zero immigration.

**Figure 26**  
Contributions to the change in EU employment (millions of people, 2010-2023), by age group



Source: EIB staff calculations based on Eurostat labour force survey data.

**Figure 27**  
Contributions to the change in EU employment (millions of people, 2010-2023), by nationality

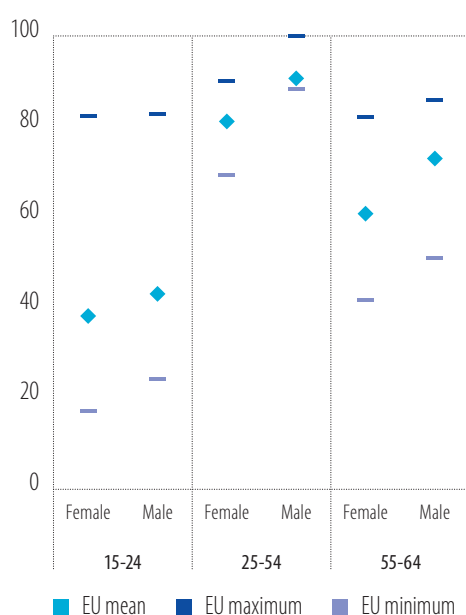


Source: EIB staff calculations based on Eurostat labour force survey data.  
Note: Activity and employment rates of non-EU nationals have been omitted because they hardly changed.

Over time, the average educational background of workers also improved. Improvements in the composition of labour contributed 0.4 percentage points to EU GDP growth each year from 2010 to 2019 (Figure 17, above). There appears to be further scope for improving overall skills and making better use of immigrants' skills. Educational achievements as measured by standardised tests of 15-year-olds under the OECD's Programme for International Student Assessment (PISA) differ widely between and within EU countries, suggesting room for EU countries to learn from each other.

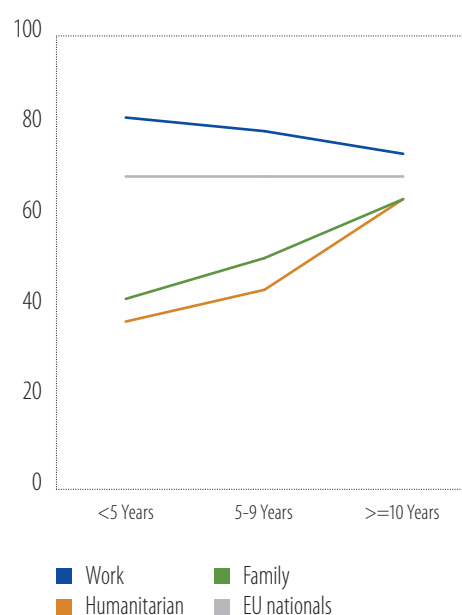
Looking ahead, there appears to be scope for offsetting the decline in the working-age population by raising participation rates further (see Chapter 4). Participation rates vary substantially within the European Union (Figure 28). For example, if countries whose participation rate lies below the EU average raised their participation rate to the EU average, the labour force would increase more than 3%. Moreover, employment levels could be further increased by accelerating the integration of immigrants into the labour market. As of 2021, it was taking about ten years for the employment rates of immigrants from outside the European Union who immigrated for family or humanitarian reasons to reach the same level as EU citizens (Figure 29).

**Figure 28**  
Participation rates (% of population),  
by age and gender



Source: EIB staff calculations based on Eurostat labour force survey data.

**Figure 29**  
Employment rate of immigrants to  
the European union (in %), by reason  
for migration and duration of stay



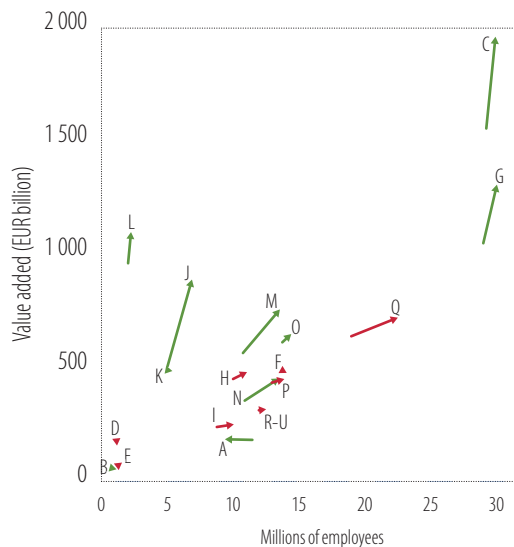
Source: EIB staff calculations based on Eurostat and OECD (2023), *Indicators of Immigrant Integration*. The employment rates for immigrants from outside the European Union are simple averages across women and men.

## Improving labour and capital allocation

The green transition entails structural transformations of the economy, inducing substantial reallocations of capital and labour to greener activities, with a potential impact on productivity. Investments in the development and manufacturing of clean technologies and the economy-wide shift to sustainable production processes are at the heart of these transformations. They require major movements of capital and workers between sectors, between firms within the same sector and within individual firms. In the past, environmental policies have been combined with other policies (such as trade, education, employment and fiscal policies) to mitigate the effects of environmental policies on companies and workers (OECD, 2021).

Employment has grown at different speeds in different sectors over the past decade, showing that Europe can manage the big shifts needed for the green transition. From 2010 to 2022, most new jobs were created in health and social services, a sector with increased demand due to the ageing population (Figure 30). Employment also grew in high-productivity sectors like ICT services, manufacturing and trade.

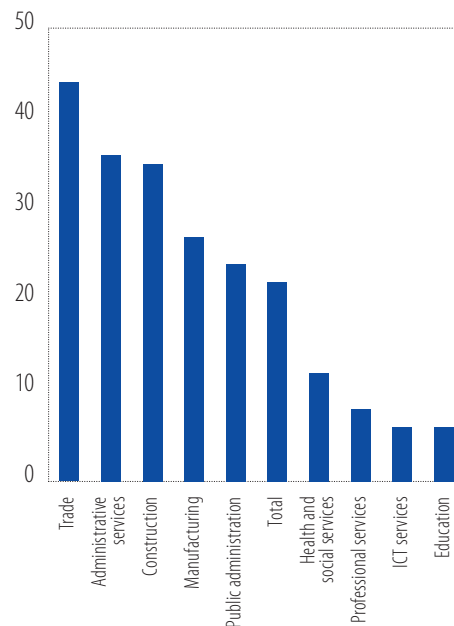
**Figure 30**  
Reallocation of EU employment, by sector  
2010-2020



Source: EIB staff calculations based on Eurostat national accounts data.

Note: The arrows show the change in employment in each sector and the change in value added. The green arrows illustrate that these changes were accompanied by an increase in labour productivity, and the red arrows indicate a decline. The sectors are labeled by their NACE codes: A (agriculture), B (mining), C (manufacturing), D (energy), E (water and waste), F (construction), G (trade), H (transport), I (hospitality), J (ICT), K (finance), L (real estate), M (professional services), N (admin services), O (public sector), P (education), Q (health and social work), R-U (arts, other services).

**Figure 31**  
Perceived over-qualification for current job (% of employees), by sector



Source: Eurostat.

Note: Over-qualification rates are self-reported by employees.

**That said, there is still room to better match workers with jobs.** Many EU employees report feeling overqualified for their roles, particularly in sectors like trade (44%), accommodation and food services (68%), and administrative and support services (46%) (Figure 29). Together, these sectors employ nearly one-quarter of the EU workforce but contribute relatively little to labour productivity growth. In contrast, the ICT sector, which drives substantial productivity growth, reports much lower levels of perceived overqualification. Reducing this mismatch could improve productivity and make work more fulfilling for employees.

**Several barriers reduce job mobility. While aimed at protecting employees, labour market regulations also have side effects.** For example, by increasing the risk and cost of hiring and firing workers, they limit the reallocation of workers to different sectors and firms. Moreover, the insufficient provision of care for dependents, the scarcity of rental accommodation and high transaction costs in residential real estate raise the cost of geographic mobility and the capacity to benefit from job opportunities in other regions. (The third section of this chapter reports estimates of investment needs in these areas.) Investment gaps are compounded by cultural and regulatory differences between

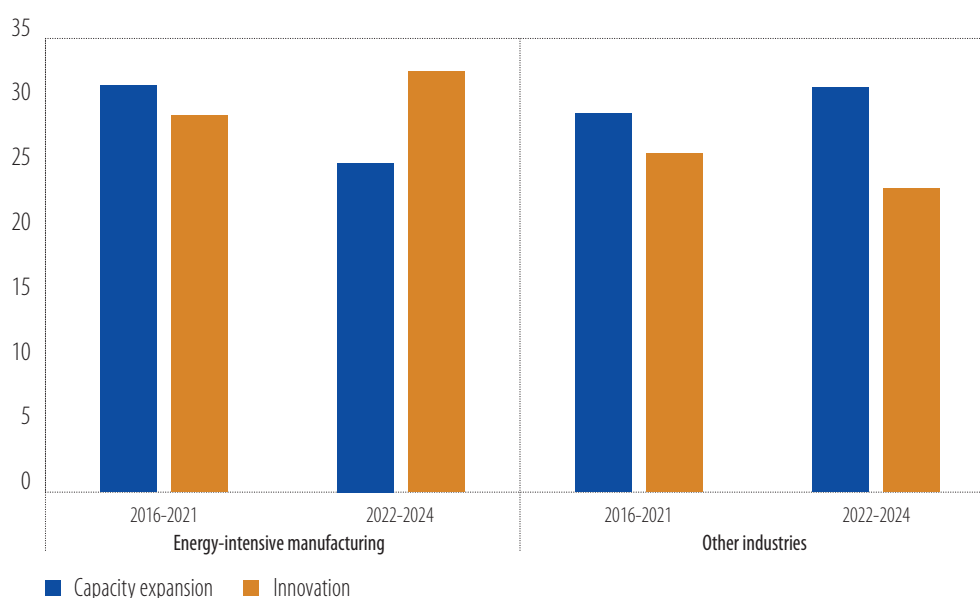
EU members. Different languages and national rules concerning taxation, social security and pensions inhibit cross-border labour mobility. These barriers limit the share of employees switching jobs in the European Union. Only 10% of EU workers changed jobs in 2019, half the share of the United States (Causa et al., 2021).

**A flexible labour market – supported by retraining programmes, labour mobility incentives and social safety nets – is essential for workers to transition from declining to growing sectors.** When economies face large structural changes such as the green and digital transitions, it is important for employees to be able to move to new jobs without substantial friction to prevent long-lasting unemployment. Digitalisation alters the skills needed and tasks performed by workers (OECD, 2019). However, the rise of green industries, including renewable energy production, electric vehicle manufacturing and energy-efficient construction, also creates new job opportunities. Without a flexible labour market and support for learning new skills, labour misallocation could result in prolonged unemployment and skill mismatches, undermining economic growth and social cohesion.

**Like labour, capital must redeploy swiftly between sectors to facilitate the green transition.** Assets such as coal plants, oil reserves and infrastructure designed for high-emission production processes are expected to lose their economic value as climate policies tighten and market preferences shift to sustainable alternatives. To offset the loss in value added, capital needs to flow to low-carbon infrastructure, renewable energy projects and innovative green technologies within existing firms or new entrants. Surveys are already suggesting that energy-intensive firms have deprioritised capacity expansion following the energy price shock and are instead prioritising innovation (Figure 32).

**Figure 32**

**Investment priority over the next three years (% of firms), by energy intensity**



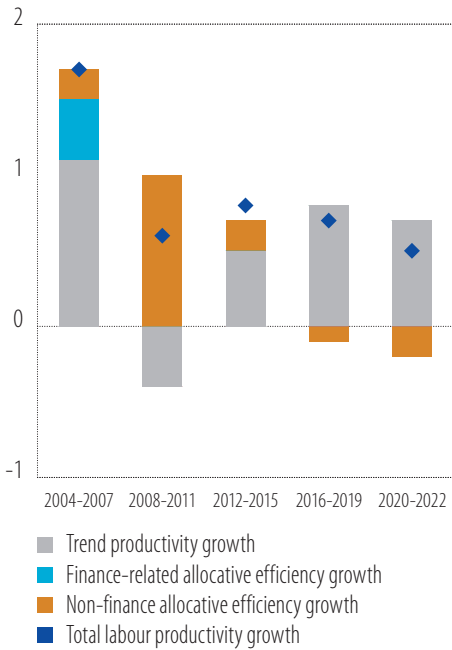
Source: EIBIS 2024.

Note: Energy-intensive sectors include basic metals, non-metallic minerals, chemicals, refining and paper. Other industries are services and non-energy intensive manufacturing.

**Capital reallocation works better when there is enough finance.** From 2004 to 2007, aggregate labour productivity grew by an average of 1.7% per year in EU manufacturing (Figure 33). About one-third of this growth (0.6 percentage points) can be attributed to improvements in the allocation of capital, allowing more productive firms to grow faster than less productive ones. Maurin and Wolski (2024) use financial leverage as a proxy for the availability of external finance. Higher financial leverage, which suggests a greater availability of external finance, was the key factor supporting the reallocation

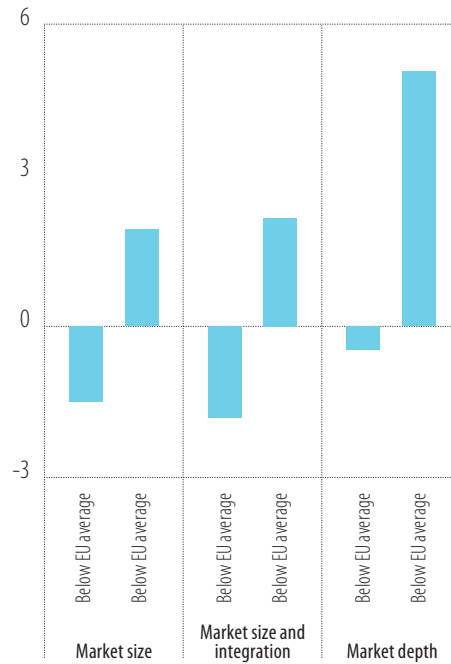
of capital, and was responsible for an average of around 0.4 percentage points of productivity growth per year over the 2004-2007 period (Figure 33, finance-related allocative efficiency component). Labour productivity has grown more slowly since then and financial leverage has contributed next to nothing to its growth. Maurin and Wolski (2024) suggest that capital allocation was hampered by debt left over from the global financial crisis and credit constraints afterwards.

**Figure 33**  
**Drivers of labour productivity in EU manufacturing (% of annual growth)**



*Source:* Bureau Van Dijk's Orbis database.  
*Note:* The chart represents the decomposition of the productivity growth trend and a measure of the efficiency of the allocation of capital, following Olley and Pakes (1996). The contribution of firm-level financial leverage to the allocative efficiency growth follows Maurin and Wolski (2024). The estimation is based on a sample of EU manufacturing firms in NACE 4-digit sectors with at least 30 firms throughout the period, in Belgium, Croatia, Czechia, Denmark, Finland, Hungary, Italy, Netherlands, Portugal, Slovenia, Spain and Sweden.

**Figure 34**  
**Contribution of the availability of finance to total allocative efficiency (in %)**



*Source:* EIB staff calculations based on the Orbis database, Bloomberg, CapitalIQ, Eurostat, the IMF, the European Commission's Directorate-General for Financial Stability, Financial Services and Capital Markets Union (DG-FISMA) and data from the Association for Financial Markets in Europe (AFME).  
*Note:* The share of allocative efficiency attributed to financial leverage follows Maurin and Wolski (2024) for different financial market indicators.<sup>10</sup> All the indicators are standardised with mean 0 and standard deviation of 1, with low (high) categories describing negative (positive) values.

**Finance contributes more to the reallocation of capital in countries with more developed financial markets.** From 2016 to 2022, countries with more developed equity and debt markets (characterised by their size, integration and depth) saw a positive impact from external finance on the covariance between firm-level productivity and market size, significantly enhancing the efficiency of resource allocation (Figure 34). Developed equity markets provide better access to co-financing and risk sharing capital for firms, which can be further leveraged to direct resources to more productive uses. Conversely, in less developed markets, financial leverage has had a negative effect, with too many resources being tied up in less productive firms.<sup>11</sup>

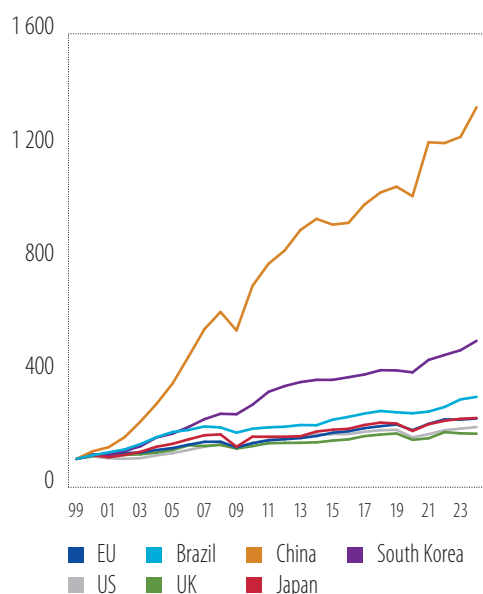
<sup>10</sup> Market size and integration includes total market capitalisation (log scale) and composite indicator of integration with the rest of the world. Market depth includes (i) public market financing (market capitalisation relative to GDP) and capital raised through IPOs relative to GDP; (ii) pre-IPO risk capital (venture capital investment relative to GDP) and (iii) pool of investors including households' holding of listed equities, bonds and investment fund shares, institutional investors (pension funds and insurance firms) relative to GDP. Data are only available for 2016-2022.

<sup>11</sup> See Gorodnichenko et al. (2020) for evidence on the importance of the business, institutional and policy environment for the dispersion of capital productivity.

## Seizing growth opportunities from the green transition: Evidence from trade

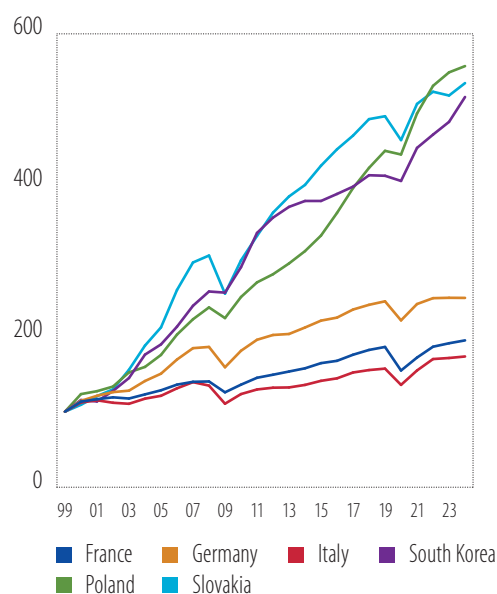
Changes in the structure of EU exports highlight the slow but steady reallocation of resources as the green transition progresses, with significant variation from country to country. Exports of green goods are rising rapidly, reflecting growing global demand for these products.<sup>12</sup> Since green goods are typically exported by high-income countries, their increasing share in the EU export basket is a promising indicator of potential long-term economic growth. Historically, countries that have successfully adjusted their export specialisations have experienced faster growth. However, the stability of export specialisations in much of the European Union suggests that structural adjustments are happening slowly. A more concerted effort is needed to enhance the reallocation of resources in the EU economy and its structural transformation so that Europe can fully capitalise on the opportunities offered by the green transition.

**Figure 35**  
Export of goods and services  
(volume, 1999=100)



Source: *The IMF's World Economic Outlook database, October 2024.*

**Figure 36**  
Export of goods and services  
(volume, 1999=100)



Source: *The IMF's World Economic Outlook database, October 2024.*

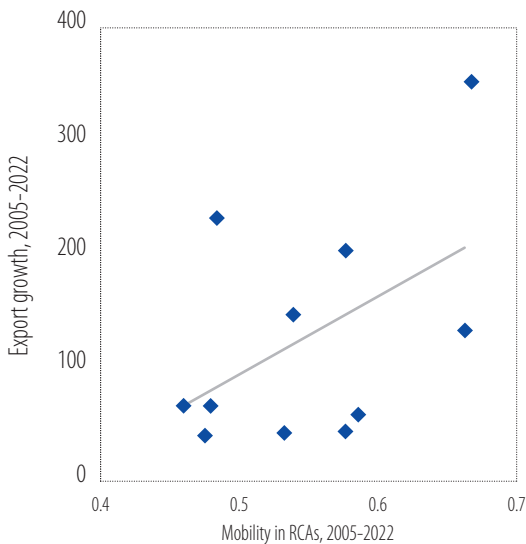
Following a string of crises, the EU trade balance seems to have returned to normal levels. Europe recorded a trade surplus of EUR 110 billion in the first eight months of 2024, a performance close to that of 2018 or 2019, prior to the COVID-19 crisis. As the trade balance shows the difference between exports and imports, a trade surplus may reflect a combination of strong exports and weak imports. When assessing the competitive strength of an economy, it is useful to focus exclusively on exports. EU export performance over the last 20 years has been satisfactory: above that of some major partners, but below that of others (Figure 35 and Figure 36). From 1999 to 2023, export volumes of goods and services increased by 257% in the European Union, slightly above Japan (241%) and well above the United States (206%) and United Kingdom (190%). The performance was well below that of China and South Korea, where exports rose by 1 236% for China and 483% for South Korea. Progress in the different EU members has been very uneven, with the old players in global trade reaching at best the EU average (Germany

<sup>12</sup> Examples include "Photosensitive semiconductor devices" (HS 854140) used as components of solar panels and "Assembled flooring panels" (HS 441872) that enhance the energy efficiency of buildings.

and the Netherlands both sit at around 250% growth) or growing much more slowly (France 194%; Italy 173%), while Eastern European countries have matched or exceeded the South Korean figure.

**EU export specialisation has remained relatively stable since 2000.** The specialisation of country  $i$  in sector  $j$  is computed as the ratio of the share of its exports in world exports for the specified sector, over the share of the total country  $i$  exports in world total exports. This value is known in the literature on international trade as revealed comparative advantages (RCA). A stable structure of the revealed comparative advantage (for all sectors) indicates a stable country specialisation. In some cases of quickly evolving demand, this stability can reflect hurdles to shifting production and exports to faster growing products. Figure 36 suggests a positive relationship between export growth and a change in specialisation patterns for a selected group of countries from 2005 to 2022, and Figure 37 shows the high degree of persistence in the revealed comparative advantage of the European Union's traditional exporters, suggesting that changes in the production structure over the same period were slow.

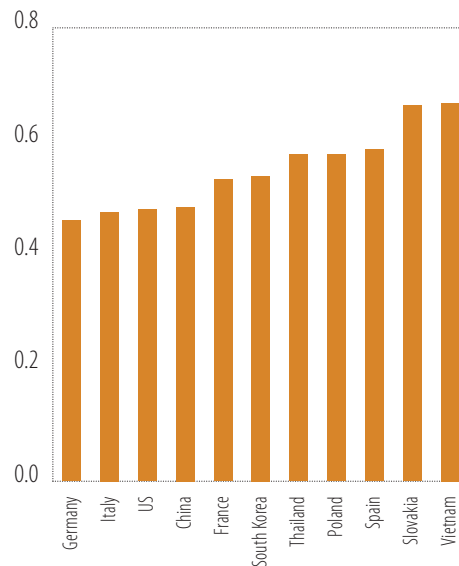
**Figure 37**  
Change in specialisation (mobility) and export growth (2005-2022)



Source: EIB staff calculations based on Comtrade data.

Note: The mobility index is the Shorrocks index of mobility on transition matrices of revealed comparative advantages, calculated for a ten-year period, rolling.

**Figure 38**  
Mobility index in trade specialisation for selected countries (EUR billion)



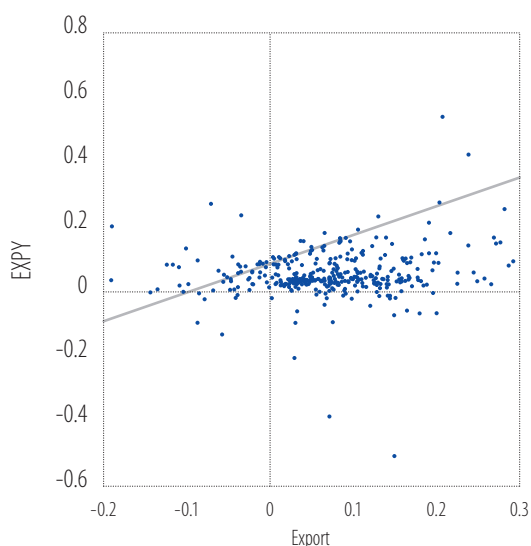
Source: EIB staff calculations based on Comtrade data.

**Exporting more complex products produced by technologically advanced countries is key to supporting economic growth.** An analysis of the trade impact on economic growth can be enriched by taking the income level of the countries with similar export specialisations into account. This rationale, explained by Hausmann et al. (2007), is based on the idea that countries exporting products typically exported by countries with higher per capita income are more likely to outperform their peers, eventually catching up to the higher income level. For example, if a country exports sheet piling of iron and steel – a product whose producers have higher average per capita income – its exports and possibly GDP are likely to grow more quickly. For this analysis, two indices are built from data on exports. The first (PRODY) is an index that accounts for product sophistication. It shows an average of per capita GDP, weighted by the revealed comparative advantage of each country in a specific product.<sup>13</sup> The second index (EXPY) combines the trade specialisation of each country with this product sophistication index.

<sup>13</sup> The first product in the weighted average of per capita income of the exporters is sheet piling of iron and steel, which has many applications in sophisticated construction projects. The second product is tire cord fabric of high tenacity nylon yarn. The third product in the 2022 ranking is sulfonamides, which are synthetic bacteriostatic antibiotics.

It shows an average of the PRODY index for the specified country, weighted by the export share of that product in the country's total exports.

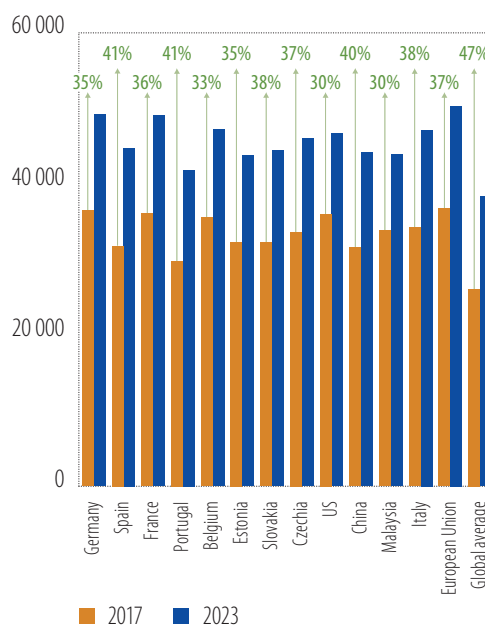
**Figure 39**  
Export growth and EXPY growth, 2017-2023



Source: EIB staff calculations based on Comtrade data.

Note: The computations of the underlying indicators are based on Comtrade data at a very detailed level (involving more than 5 000 products).

**Figure 40**  
EXPY growth for selected countries



Source: EIB staff calculations based on Comtrade data.

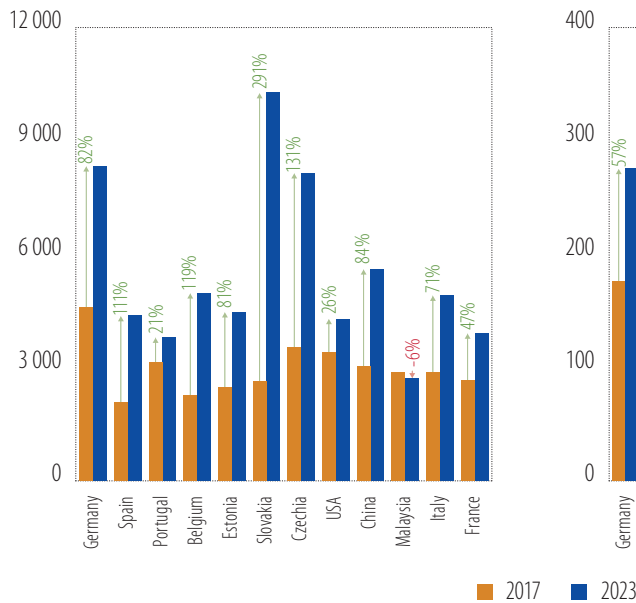
**Specialising in specific goods traded by higher per capita income countries leads to stronger export growth.** Figure 39 shows EXPY growth and export growth from 2017 to 2023, again highlighting a clear positive correlation between the two concepts. Figure 40 shows the evolution of EXPY for selected countries (including the global average and EU members). The evolution is reassuring: The EXPY for the whole European Union (without considering intra-EU trade) increased by 37% over the period. While this is less than the global average (47%), it is close to the estimated rise for China (40%), and higher than the estimated rise for the United States (30%). If such a positive evolution of the EXPY index is taken to promise future growth, the composition of EU exports should guarantee a strong dynamic going forward.

**Focusing on climate change-related products could guarantee export growth, and ensure gains in market share.** With these indices at hand, focusing on products related to the climate transition can be useful because they will become more intensely traded internationally.<sup>14</sup> Following the lead of the International Monetary Fund's [Climate Change Indicators Dashboard](#),<sup>15</sup> the calculations below use two classifications of goods related to climate change, one dealing with low-carbon technologies and the other reflecting environmental goods. There are 224 different products in the two (partially overlapping) categories, all taken from the over 5 000 products included in the Harmonised System's six-digit categories used in the analysis above. The evolution of the EXPY indices for a selected group of countries producing these goods suggests that some EU members are doing particularly well (Figure 40).

<sup>14</sup> Another potential driver of future international trade is artificial intelligence and its applications. However, identifying specific goods linked to related production remains challenging at this stage. The impact of artificial intelligence is currently more pronounced in the services sector than in the goods sector.

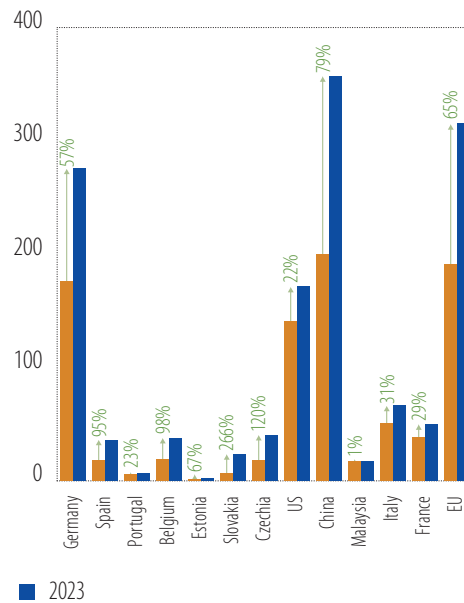
<sup>15</sup> IMF Data: Trade in environmental goods and Trade in low-carbon technology products.

**Figure 41**  
EXPY growth for low-carbon and environmental goods (an index)



Source: EIB staff calculations based on Comtrade data, examining 224 products classified as low-carbon or environmental goods.

**Figure 42**  
Export growth for low-carbon and environmental goods (EUR billion)



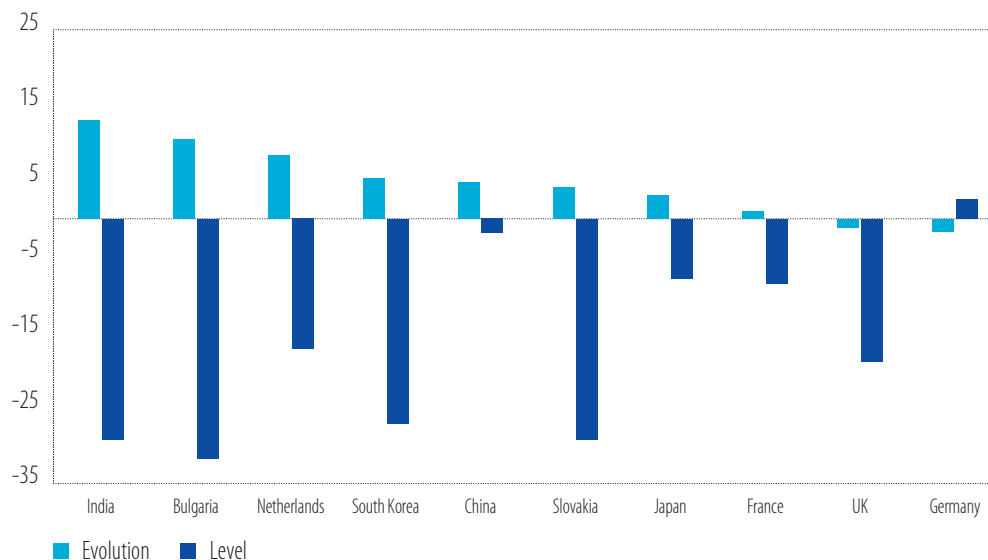
Source: EIB staff calculations based on Comtrade data, examining 224 products classified as low-carbon or environmental goods.

The EXPY index in climate change-related goods increased in all EU countries from 2017 to 2023. EXPY in Central and Eastern European countries grew faster than in other parts of the European Union, with Slovakia recording an increase of 291% (Figure 41). The very high growth seen in Slovakia is mainly driven by hybrid and electric vehicles, electric generators and accumulators, and paper and paperboard. Exports of green goods also grew in all countries considered, with China and Germany being the top exporters, and EU exports (excluding intra-EU trade) growing only slightly less than those in China. Slovakia once again leads the way with a remarkable 266% increase (Figure 42).

Simply summing the revealed comparative advantages of green goods can provide additional information on specialisation in these goods. When comparing the average of 2005–2016 figures to those from 2017–2022, two conclusions can be drawn – one related to the level of these exports and the other to the evolution. Germany is a frontrunner and is specialised in these goods. In 2022, it is one of the few countries for which the sum of the revealed comparative advantages in these goods is positive (Figure 43). However, this figure declines in 2017–2022 with respect to the average in 2005–2016. Other EU countries are doing particularly well in the ranking.

External trade has traditionally been a strength of the EU economy, and the green transition is an important opportunity. However, competition in the production of green products is ramping up, and the global market for climate change-related goods is likely to expand very quickly. Some EU countries are well positioned in this area and others are in the process of joining them, but a stronger, more coordinated policy push may be needed to reap the benefits of the transition.

**Figure 43**  
**Historical evolution of the revealed comparative advantages in green goods**



Source: EIB staff calculations based on Comtrade data.

## Financing investment needs

**Investment needs within the European Union are substantial, but savings are equally significant.** The key challenge lies in how to effectively channel aggregate savings into the necessary real investments while maintaining prudential standards and ensuring investor protection. To address this challenge, public policy must focus on investment and improving the investment environment for firms while also strengthening the financial system's ability to absorb and allocate these funds. This section starts by providing an overview of investment needs for the private and public sectors, before turning to the financial resources that are available to meet these needs.

### Europe's investment needs are substantial, but the required increase is not unprecedented

**Leaders increasingly agree that for Europe to meet key challenges, investment needs to rise significantly.** As set out by European Commission President Ursula von der Leyen (2024), countries need to invest massively in cleantech to mitigate climate change, to invest in digital technologies and other innovation areas, and to raise the productivity and competitiveness of European industry. Scaled-up investment is required to tackle gaps in security, agriculture and climate adaptation, skills, and social infrastructure such as affordable housing. In his recent [report](#), Mario Draghi provides further backing for this view, suggesting that investment as a share of GDP might need to return to levels last seen in Europe in the 1970s (Draghi, 2024). Other publications have also sought to collate estimates of investment needs (Andersson et al., 2024; Demertzis et al., 2024; European Commission, 2023b).

**Estimating the total size of the additional investment needed is difficult, but it is useful to give a sense of scale, sector by sector.** The Draghi report cites investment needs totalling EUR 750 billion to EUR 800 billion. The report makes clear that these estimates are highly uncertain and incomplete. The section below seeks to provide a brief overview of investment trends, needs and gaps by sector,

reporting quantitative estimations where available. It cautions against simplistically summing the investment needs and gaps suggested by different sources to derive an overall total.

**A mix of public and private investment is required to address investment needs, and public policy should strive to create the conditions that will attract private investment.** As Draghi's report points out, the emphasis should be on the role of public policy and public investment in effecting the specific structural shifts needed to enhance European competitiveness, sustainability and well-being. Importantly, this includes unlocking private investment, as investment needs are far beyond what the public sector can deliver directly.

**The consensus on the need for a sharp increase in investment is driven by the identification of sector-specific investment gaps related to different EU policy objectives.** Objectives such as the transition to carbon neutrality, digital transition goals and better defence capabilities clearly require specific new and increased investments in infrastructure and technologies. A range of analyses have therefore been conducted in recent years to estimate sector-specific investment needs and gaps. The estimate overview in Box C provides a sense of the scale of the investment increases required, as well as an indication of how needs are distributed (although overlaps cannot be ruled out). Some recent EIB estimates may help to fill information gaps.

**It is prudent to clearly define the terms "investment need" and "investment gap."** In the literature, the term investment gap is sometimes used to refer to the annual or cumulative investment needed to reach a certain goal or benchmark, irrespective of whether that investment is already taking place. In Box C, such estimates are referred to as investment needs. The terms investment gap and additional investment needed are taken to refer to the difference between the levels of investment achieved and the investment that is required. High investment needs may reflect the backlog in innovative and transformative investment necessary to change the productive structure of the EU economy. While this may not necessarily lead to structural shift in investment levels, investment in certain areas might have to accelerate in the short term (Buti et al., 2024).

**The existence of an investment need does not necessarily imply a need for public finance.** Instead, investment needs must be addressed by a combination of private and public funding. The public-private split required is likely to depend heavily on the sector concerned, and the extent to which public funding is necessary to de-risk and catalyse private involvement.

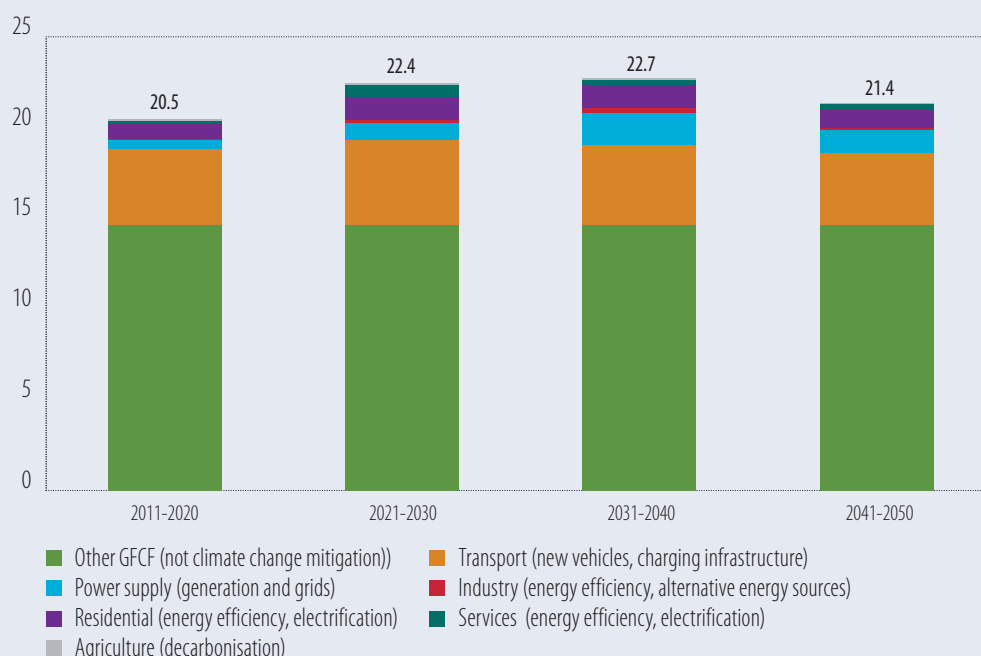
**Moreover, caution should be applied in using these bottom-up estimates to quantify an overall investment gap.** Many of these estimates are highly uncertain, and their bottom-up nature means they do not necessarily account for possible substitution effects between sectors (such as between public transport and private vehicles), or between old and new technologies. There are also information gaps regarding some methodologies used. At the same time, the estimates are not comprehensive and investment needs for some policy goals (particularly for social investment) are hard to quantify. There is also often uncertainty about current progress in closing gaps where the baseline estimates come from less recent data.

**Box C****Estimated investment needs**

**Climate change mitigation:** The European Commission estimates (2021c, 2024a) that additional annual investment of EUR 506 billion (in 2023 prices) – beyond levels seen from 2011 to 2020 – will be needed this decade to meet the [Fit-for-55](#) objectives, and an additional EUR 673 billion will be needed from 2031 to 2050 to reach climate neutrality. These estimates cover investments in clean energy supply; in the residential, industrial and services sectors (in energy efficiency, electrification and alternative fuels); and in new vehicles and charging infrastructure. These are large numbers, but they should be considered together with GDP growth. As a share of GDP, they involve an increase in total investment from 20.5% of GDP from 2011 to 2020 to 22.4% this decade and 22.7% next decade, where other categories of investment are held constant (Figure C.1).

**Figure C.1**

**Effect of projected increases in climate mitigation investment on GDP (in %)**



*Source:* European Commission, staff working documents SWD(2024) 63 final and SWD(2021) 621 final. EIB staff calculations.

*Note:* All data are based on European Commission PRIMES modelling. Investment needs and GDP estimates for 2011-2020, 2031-2040 and 2041-2050 are based on European Commission (2024a), with projections for 2030-2050 targeting climate neutrality by 2050 (Scenario 3). Estimates for 2021-2030 are based on European Commission (2021c), Fit-for-55 policy scenario, with average annual GDP for that decade interpolated from the figures available in European Commission (2024a), and close to actual EU GDP in 2023. Transport investment includes all investment in motor vehicles, not just in the technology that makes them greener, and so implicitly accounts for the substitution of internal combustion engines. Other gross fixed capital formation (GFCF) (not climate change mitigation, or not covered by European Commission estimates) is assumed to remain constant as a share of GDP.

**Transport infrastructure:** A report for the European Commission (Schade et al., 2021; European Commission, 2021b) estimated that the annual investment needed to implement the core [Trans-European Transport Network \(TEN-T\)](#) in the current decade would be EUR 63 billion (in 2023 euros), with the same amount needed to implement the core and comprehensive network goals from 2031 to 2050. Less detail is available on urban transport infrastructure, but one report (European Commission, 2020a) suggests additional annual investment of EUR 35 billion is needed this decade, beyond 2015 levels of investment.

**Strategic autonomy in cleantech:** The [Green Deal Industrial Plan](#) calls for a significant boost to the manufacturing of wind turbines, photovoltaic panels, heat pumps, batteries, electrolysers and carbon capture and storage to reduce Europe's dependency on imports during the green transition (European Commission, 2023a). The Commission (2023b) estimates that annual investment of EUR 11.5 billion will be needed from 2023 to 2030 to reach [Net-Zero Industry Act](#) benchmarks. There are no estimates for current investment levels, but EUR 6 billion would be needed just to maintain Europe's share of the global market for these technologies.

**Digital networks:** Europe has set a [Digital Decade](#) goal of ensuring that all European households have access to a gigabit network and all populated areas are covered by 5G or equivalent wireless networks by 2030 (European Commission, 2024b). Considerable progress has been made, with 89% of EU households served by connections of at least 100 megabits per second (Eurostat). The most recent estimate (Ockenfels et al., 2023) suggests that a joint broadband and mobile deployment meeting both of the Digital Decade connectivity targets will require around EUR 15 billion in investment per year, with a further EUR 3.3 billion needed for full coverage of main transport routes.

**Data centres, cybersecurity and other associated investments:** A recent detailed industry report (European Commission, 2021a) estimated investment needs in cloud and edge (data centres and the associated technology and service provision) to be EUR 6.64 billion per year until 2025. This includes investments in cybersecurity of EUR 500 million. There is no indication of current investment levels, but the report suggests that the public sector would need to provide EUR 3.4 billion per year of the total. These estimates are lower than the additional EUR 17 billion per year for cloud, cybersecurity and common European data spaces for 2021 and 2022 stated in European Commission (2020a).

**Other areas of digital transformation:** Europe's Digital Decade policy also calls for increased investment in various other digital technologies. In an exercise covering 2009 to 2021, Torrecillas Jodar et al. (2023) estimate that asset growth in EU firms related to semiconductors, big data and artificial intelligence amounted to EUR 46.4 billion per year, compared to EUR 71.9 billion in the United States, a gap of EUR 25.5 billion per year. The European Commission (2020a) suggests that additional investment of EUR 57 billion per year would be needed in 2021 and 2022 in digital technologies, including semiconductors, artificial intelligence, blockchain, quantum computing, digital green technologies and next-generation internet, with a further EUR 9 billion needed per year for developing digital skills.

**R&D:** EU members agreed to spending 3% of GDP on R&D in 2000 and reconfirmed this target in 2020 (European Commission, 2020b). According to the latest data (for 2022), R&D spending accounts for just over 2% of GDP, implying a gap of 0.8% of GDP, or EUR 129 billion (in 2023 euros).

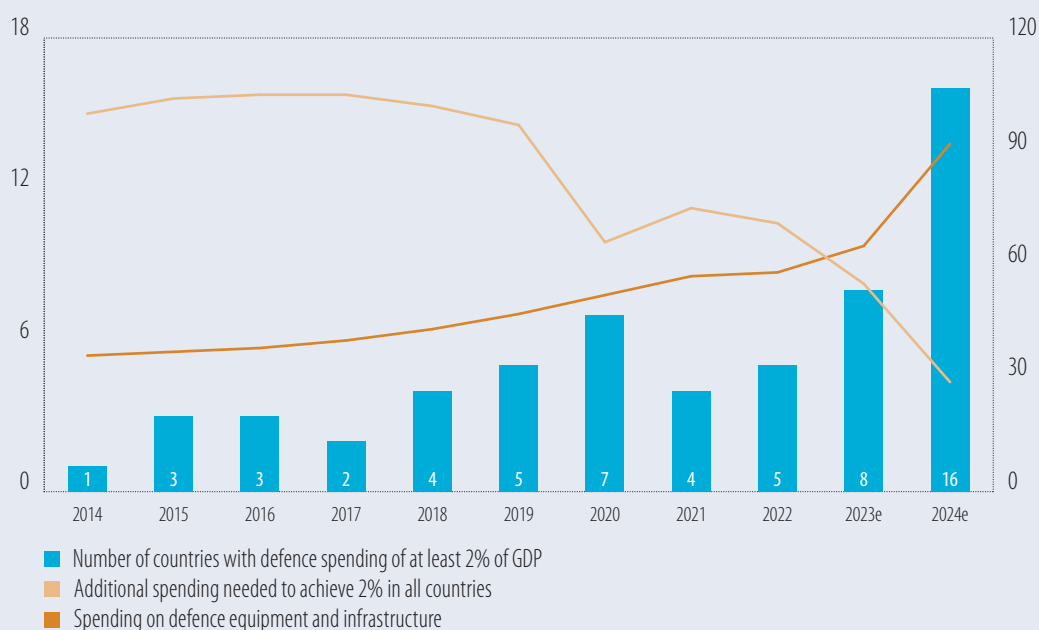
**Education and health infrastructure:** There is a shortage of information on investment needs for social infrastructure (such as health and education facilities), which is critical for raising participation rates in the labour market, labour productivity, human well-being and longer-term social sustainability (see Chapter 4). In 2018, the [High-Level Task Force on Investing in Social Infrastructure in Europe](#) (Fransen et al., 2018) suggested that additional spending of 25% over existing levels was a reasonable minimum estimate of the gap, with more money needed for long-term care. The European Commission (2020a) increased the estimate for healthcare in 2020 in view of the impact of the COVID-19 pandemic.

**Housing:** Europe has for some time recognised the need to push up spending for social and other affordable housing (Fransen et al., 2018). As discussed in Chapter 4, a lack of affordable housing, particularly in cities, hinders labour mobility, exacerbating skill shortages experienced by firms and undermining productivity growth. Based on national data sources on building permits and

household formation rates, an estimated 2.25 million additional housing units will be needed across the European Union in 2025. This is 50% greater than the number of housing starts as indicated by permit data, suggesting a gap of 925 000 units (Chapter 4, Box B).

**Figure C.2**

**Defence spending among the 23 EU NATO members** (left axis: number of countries; right axis: EUR billion)



Source: North Atlantic Treaty Organisation (NATO) (2024).

Note: Data for 2023 and 2024 are estimates. Spending amounts are in constant 2023 euros. Data for the four EU members that are not NATO members are not included (and are not available for 2023-2024).

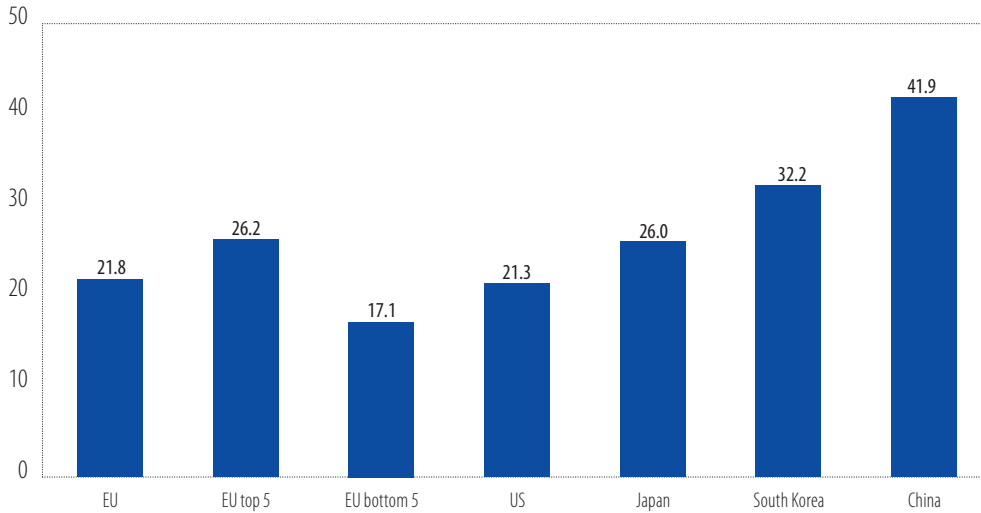
**Defence:** Russia's invasion of Ukraine in 2022 drew attention to weaknesses in Europe's defence capabilities and renewed Europe's resolve to increase spending on defence. Significant progress has been made since then. According to North Atlantic Treaty Organization (NATO) estimates, all but seven of the 23 EU members that are also NATO members were expected to reach the 2% of GDP target for defence spending in 2024 (North Atlantic Treaty Organization (NATO), 2024). The additional spending needed to achieve that target in those seven countries has fallen to around EUR 29 billion (Figure C.2). Capital expenditure (on defence equipment and infrastructure) has risen to 35% of total spending. Despite this progress, there are strong calls for further sustained increases in European defence spending to address new security challenges and close gaps left by past underinvestment.

**To address these investment needs, Europe will have to shift to significantly higher – but not implausible – rates of investment as a share of GDP.** The gaps quantified above amount to at least 3% of 2023 GDP, when taking GDP growth into account.<sup>16</sup> Such an increase in the investment share of European GDP has not been seen in Europe since the 1970s, but it is not unprecedented. Structurally higher investment rates also exist today in peer economies such as Japan and some European countries (Figure 44).

<sup>16</sup> Specifically, the European Commission's modelling of climate mitigation investment needs (which also models GDP) suggests a decade-on-decade increase in investment as a share of GDP of 2 percentage points. This is lower than EUR 500 billion as a share of current GDP. In general, additional investment may also itself raise GDP (the investment multiplier cannot be assumed to be zero), but this effect has not been considered here.

**Figure 44**

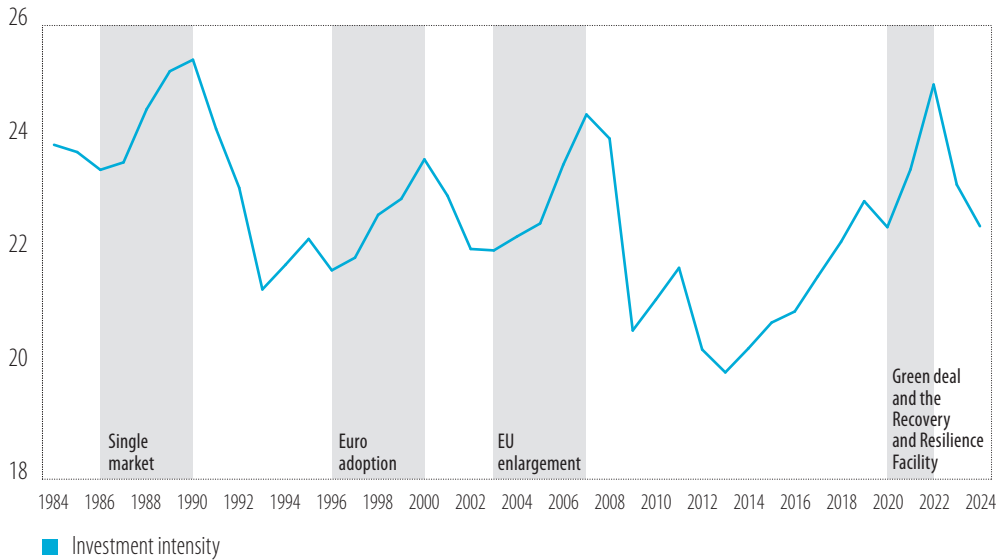
**Gross fixed capital formation as a share of GDP (in %, 2023 or latest available data), for EU and comparison countries**



Source: Eurostat, the World Bank.

**Figure 45**

**Investment intensity, five-year swings and GDP growth in the European Union**



Source: IMF World Economic Outlook database, October 2024.

Within the European Union, there have been three episodes over the last 40 years during which investment's share of GDP increased substantially. One was from 1986 to 1990 (with intensity growing from 23.5 % to 25.4%), the second in 2002 to 2007 (from 22.1% to 23.5%) and the third in the years after 2014, and in particular from 2018 to 2022 (from 22.2% to 25%). None persisted: In 2024, investment had returned to about 22.5% of GDP, lower than in 1980.

All three of these phases were the result of significant structural shifts (Figure 45). The first episode (1986-1990) was primarily driven by EU market integration as it coincided with the creation of the EU

single market. The [Single Market Act](#) entered into force in July 1987, setting a precise deadline of the end of 1992 for completing the EU single market. This period was characterised by significant growth in investment intensity in large EU countries in the north, west and south of the European Union, particularly France (from 21.8% to 24.4%), Belgium (from 19.2% to 25.2%), Spain (from 20.8% to 25.7%) and Portugal (from 25.7% to 30.4%), with Spain and Portugal also benefiting from entering the European Union in 1986. The second episode (2002-2007) was fuelled by the Central, Eastern and Southeastern European accession countries, including Bulgaria, Slovenia, Croatia and the Baltic States, alongside the structural shift associated with the euro introduction, which led to continued acceleration of investment activities in Belgium, France and Spain, in particular. The third episode, spanning the COVID-19 period (2018-2022), is more challenging to interpret due to the GDP drop during this time, but it stands out as the most geographically homogeneous of the three. It might be linked to the phase of coordinated policy response from EU members.

**Construction was an important element in two of the more recent investment peaks.** During the second episode, the investment boom was largely driven by construction (residential and business-related), while in the third episode, it was exclusively attributed to construction.<sup>17</sup> For institutional sectors, the second episode was led by non-financial corporations, followed by households. In contrast, the third episode was primarily driven by households (mainly through residential investment) and the general government. Unsurprisingly, not all investment during these episodes appears to have been allocated efficiently. For private investments, market risk generally provides good incentives for investing in productive projects. For public investment, it is crucial that projects are selected transparently and competitively, that the execution of projects is monitored, and that the extent to which investments meet their objectives is evaluated afterwards.

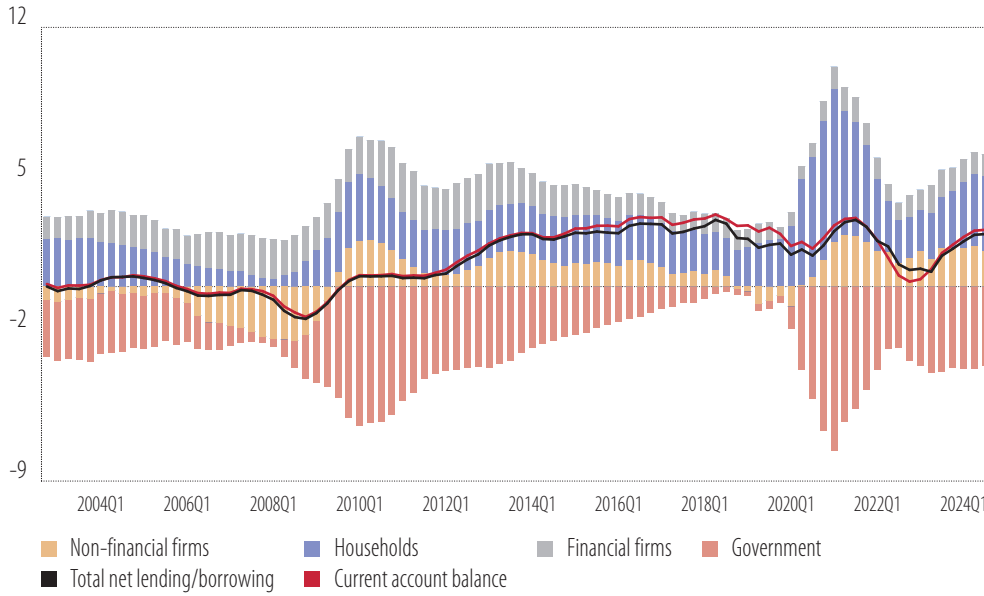
## Financial systems must channel ample savings to the necessary investments

**The European Union has ample savings to finance substantial domestic investment needs.**<sup>18</sup> Over the last decade, net domestic savings have risen, driven by households and firms. These financial resources flow abroad, particularly to the United States, as they are diverted away from financing domestic investments. Households, the main source of EU financing, prefer safe assets like real estate and deposits, while businesses have shifted from net borrowers to net lenders, reflecting weak investment relative to savings. Institutional factors, including the European Union's reliance on a bank-dominated financial system and underdeveloped pension funds, hinder an efficient allocation of savings. The challenge lies in effectively channelling these savings into domestic productive investments while maintaining high oversight.

<sup>17</sup> There is no breakdown of investment by assets for the first episode.

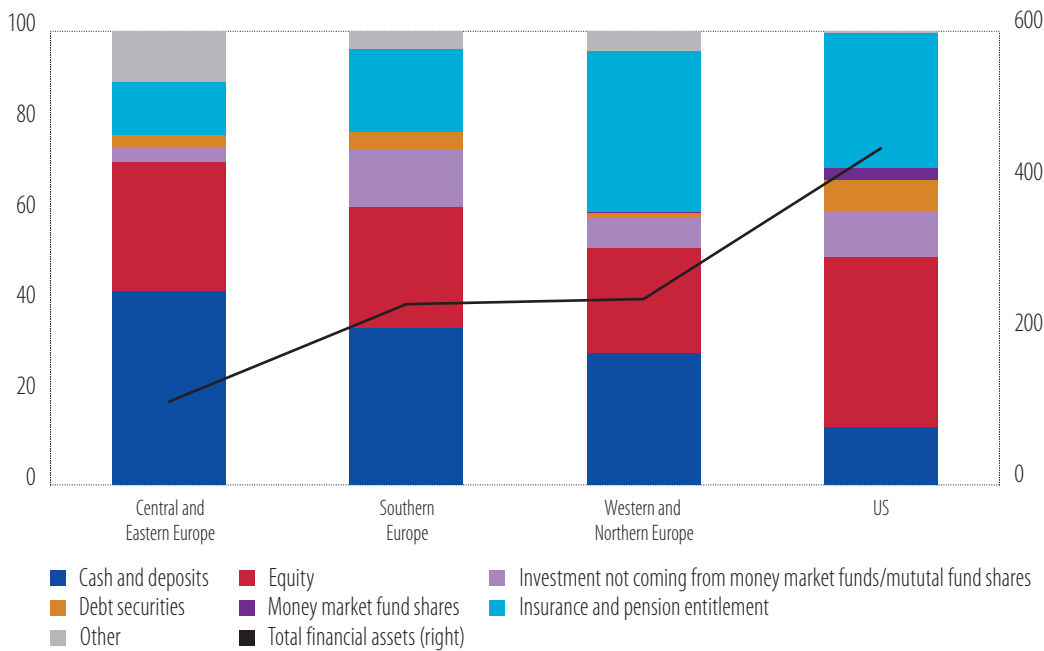
<sup>18</sup> This point concerns making better use of savings (a flow concept), rather than financial wealth (the corresponding stock concept). Savings are influenced by cyclical and structural factors, meaning that weaker investment lowers aggregate demand and therefore raises savings, especially during periods of weak economic activity. The resulting stock of private wealth can be geared towards the financing of EU real investment instead of financing real investments abroad. But the conditions must be right for this shift to happen. More integrated EU financial markets, a more developed market for risk capital, lower transaction costs, higher financial literacy and less political and regulatory uncertainty are all necessary.

**Figure 46**  
EU net lending and borrowing based on current and capital accounts (% GDP), four quarter moving average



Source: EIB staff calculations based on Eurostat.  
Note: The latest figures available are for the third quarter of 2024.

**Figure 47**  
The composition of household financial assets (left axis: % of total financial assets; right axis: % GDP), average 2018-2023

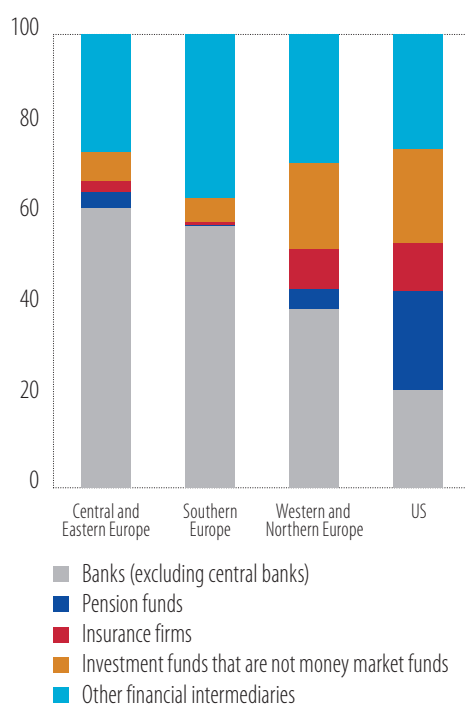


Source: EIB staff calculations based on Eurostat, and data from US Federal Reserve Economic Data (FRED).

Since 2010, domestic savings have exceeded investment, and the European Union has remained a net lender to the rest of the world (see Figure 46). Households contributed an average of 2.4% of GDP in net lending from the end of the global financial crisis until the beginning of 2024, peaking at over 7% during the COVID-19 pandemic. Corporate net lending averaged 1.3% of GDP over the same period, and it has increased since mid-2022 due to weak investment. Government borrowing fell during the fiscal consolidation that followed the financial crisis, from a peak of over 6.5% of GDP in the early 2010s to a nearly neutral stance (0.3%) by the second half of 2019. While it increased again in the wake of the COVID-19 crisis, it has hovered around 3% of GDP since the middle of 2022. After balancing the net borrowing positions of the three main sectors, the European Union is a net lender to the rest of the world, and its export savings have accounted for an average of 2% to 3% of GDP since 2008. EU portfolio investments in the United States reached nearly 3% of GDP during the COVID-19 pandemic and recent data show a resurgence in outflows.

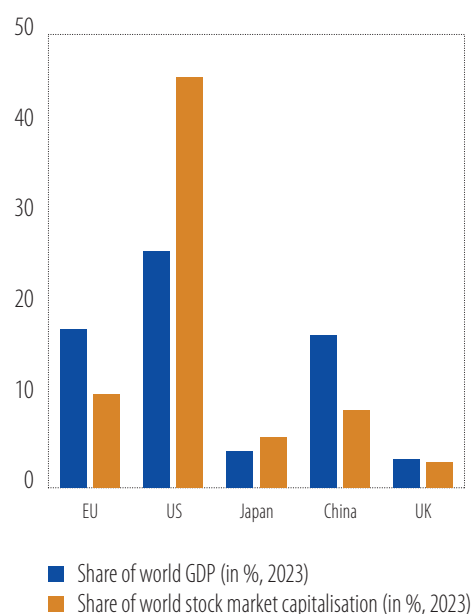
**EU households invest heavily in safe assets, such as real estate and bank deposits, with cash holdings exceeding €11 trillion in 2023.** In contrast, US households allocate a greater share to equities and financial instruments (Figure 47).<sup>19</sup> Financial literacy gaps partly explain this divergence, with higher literacy associated with greater equity ownership. Only 18% of EU citizens have a high level of financial literacy, and disparities between EU members are notable. Boosting financial literacy could channel household savings into higher-risk investments.

**Figure 48**  
Institutional breakdown of the financial sector  
(% of total assets, excluding central banks),  
2018-2023



Source: EIB staff calculations based on Eurostat and FRED.

**Figure 49**  
EU market capitalisation does not  
reflect the size of its economy



Source: EIB staff calculations based on Bloomberg and the IMF.

<sup>19</sup> The primary reason for this is that the top 10% of US households hold approximately 80% of total household net worth, and this is held predominantly in financial assets. In contrast, even the top 10% of EU households maintain a high level of non-financial assets.

**EU companies remain a net lender to the rest of the economy, and they primarily access these ample savings through bank lending.** This is reflected in financial sector structures, with banks dominating EU financial markets, especially in Southern and Central and Eastern Europe, where they hold over 60% of total assets of the overall financial system. In contrast, banks hold around 40% of assets in Western and Northern Europe and 21% in the United States (Figure 51). Additionally, pension funds hold the second-largest quantity of assets in the United States, but these funds are a minor player in most of the European Union. This limits financing options for high-growth, riskier companies, as these funds are better suited to riskier and long-term investments. However, they remain underdeveloped in the European Union, tamping down the vibrancy of capital markets.

**The size of the EU capital market is not commensurate with the size of its economy, and this discrepancy weighs on corporate financing.** In 2023, the EU economy accounted for 17% of global GDP but only 10% of global market capitalisation (Figure 52). The European Union lacks sizeable equity and corporate bond markets, and the liquidity of European equity markets falls short of the US market, especially for small-cap investments. This shortfall extends to bonds and private markets. The EU securitisation market also lags behind the United States, limiting Europe's capacity to redistribute risk and finance the green and digital transitions (see Chapter 3). While bank balance sheets in the European Union are twice as large as those in the United States, securitisation issuance is only one-fifth of the US level, underscoring untapped potential in this area (Association for Financial Markets in Europe (AFME), 2024).<sup>20</sup> Together with fragmentation, underdeveloped markets and a lack of liquidity result in higher capital costs for European companies. In some cases, this environment leads them to raise funds in the United States.

**EU banks are relatively focused on their own home country, which can create a bias.** A bird's-eye view of bank asset allocation shows banks' strong prevalence for domestic assets, especially since the global financial crisis (Figure 50). From 2020 to 2023, domestic corporate loans accounted for over 75% of bank portfolios, while domestic corporate and government bonds stabilised at 60-70% of holdings. Cross-border exposure within the European banking union remains low, with only 14% of assets originating from other EU countries. Despite widespread foreign ownership of companies in Central and Eastern Europe, even the subsidiaries of international firms increasingly rely on domestic funding.

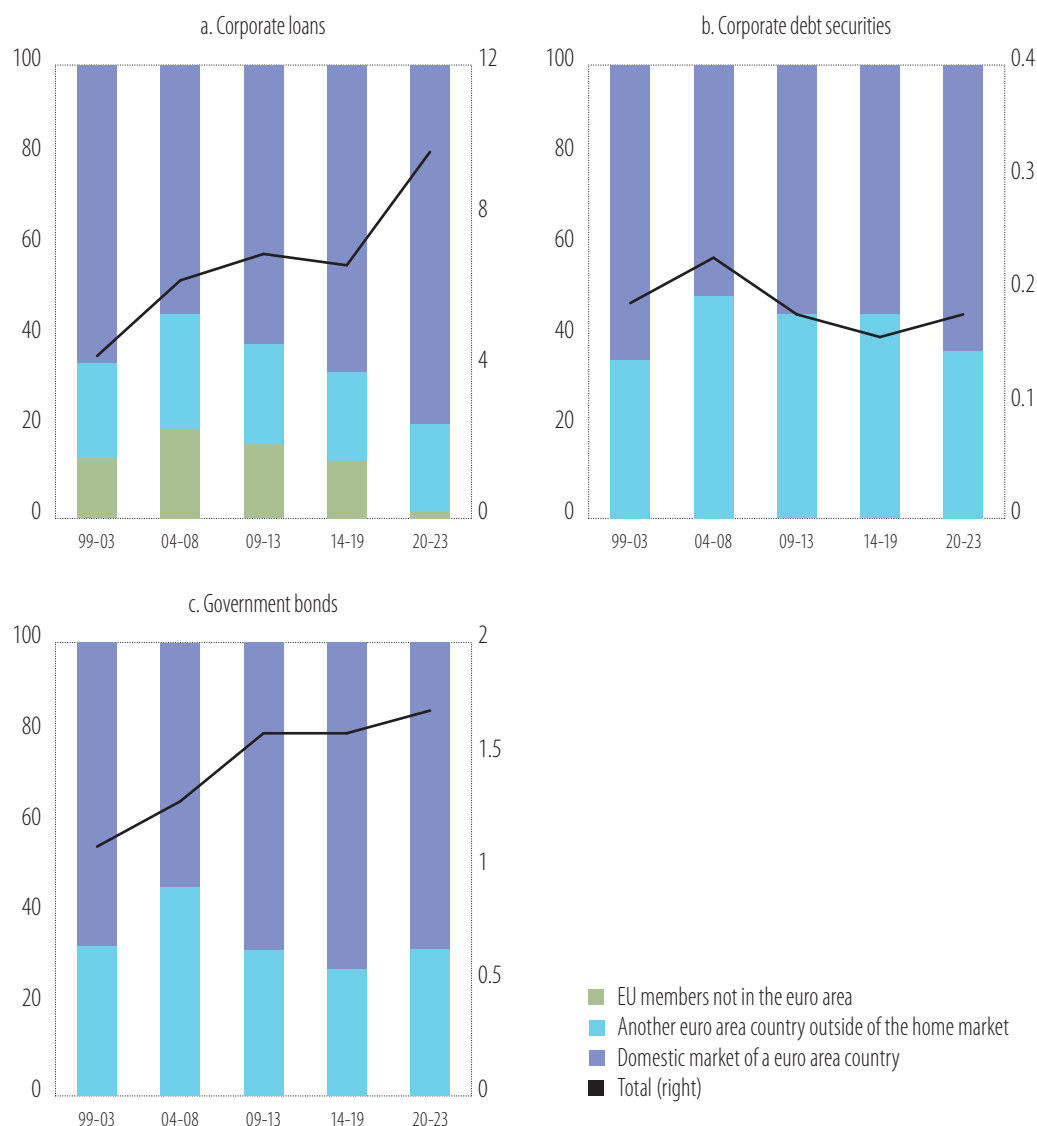
**A stronger role for institutional investors would support investments across borders and firms with high growth potential.** Institutional investors (especially pension funds) play a limited role in the European Union despite their stronger cross-border asset diversification and higher likelihood of investing in growth assets. US pension funds' assets constitute 22% of the financial sector's total, vs. only 1% to 5% in EU regions (Figure 48). EU pension funds exhibit stronger cross-border diversification than insurance companies (especially in direct equity investment), with more than 80% of equity investment going to markets outside of their home country (see Figure 51).

**Institutional investors are more likely to invest in growth assets.** As shown in Figure 52, pension funds and insurance companies hold the majority of their assets in market-based instruments such as debt securities, equities and collective investment undertakings (such as mutual fund shares and money market fund shares). Interestingly, EU pension funds invest more in collective undertakings (42% of their assets), followed by government bonds (20%) and direct equity investments (17%). In contrast, US pension funds invest heavily in direct equity (33%), followed by money market and mutual fund shares (26%), and very little in government securities (4%). Additionally, US institutional investors hold relatively small amounts of their assets in cash and deposits: 0.4-1.4%, compared with 4-5% in the European Union.

<sup>20</sup> It should be noted that the data provided by the Association for Financial Markets in Europe (AFME) include the United Kingdom, while US data include agency issuance.

Figure 50

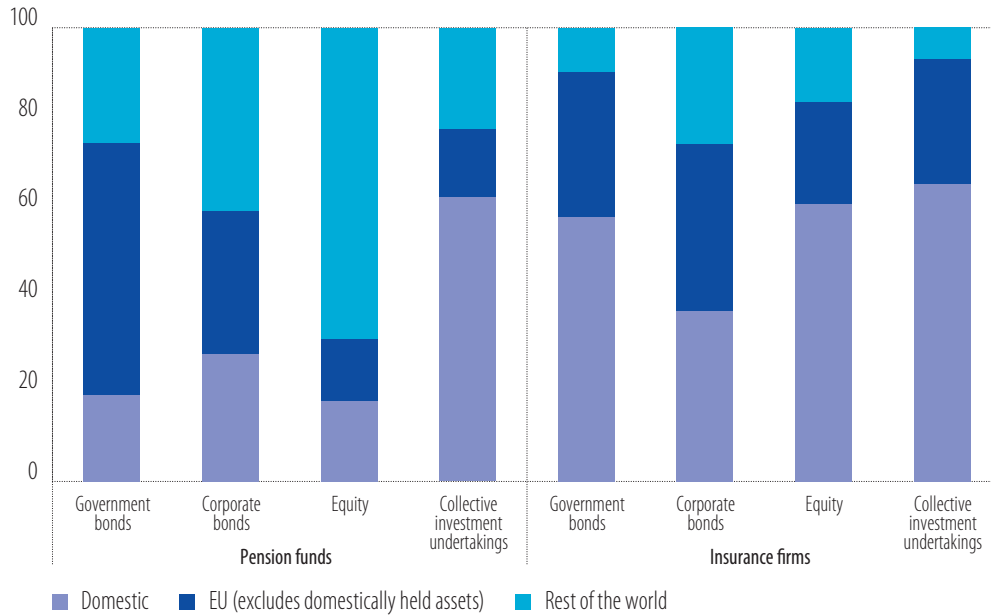
Bank asset exposure (left axis: % of total assets; right axis: EUR trillion), by location



Source: EIB staff calculations based on data from the ECB.

**Pension funds are also a possible source of venture capital and private equity funding.** However, their overall small size constrains their ability to drive EU cross-border investments and venture capital or private equity investments, which are vital for innovation, competitiveness and the efficient use of EU savings. Interestingly, EU pension funds tend to invest more in the equity of firms beyond the European Union than within.

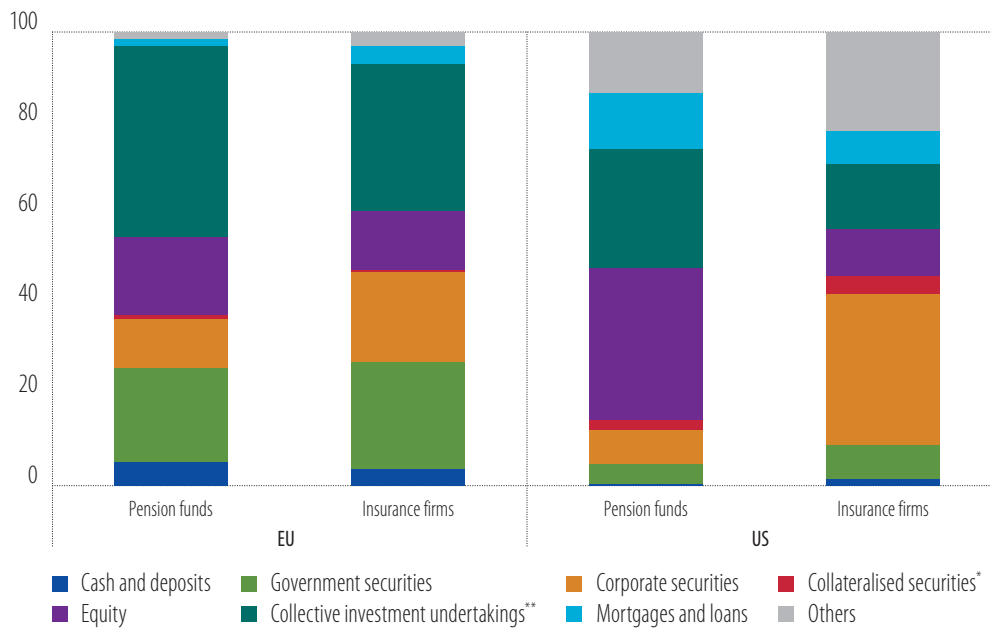
**Figure 51**  
Pension funds invest more abroad (% of total assets), fourth-quarter average, 2017-2023



Source: EIB staff calculations based on the European Insurance and Occupational Pensions Authority (EIOPA).

Note: Collective investment undertakings include equity funds, debt funds, money market funds, private equity, alternative funds, etc.

**Figure 52**  
Institutional investors are more likely to invest in growth assets (% of total assets), fourth-quarter average, 2017-2023



Source: EIB staff calculations based on EIOPA and FRED.

Note: Claims of pension funds on sponsors are excluded to align with EU data. \*EIOPA classifies asset-backed securities as collateralised securities. For the United States, FRED reports only agency and government-sponsored enterprise securities, which we classify accordingly. \*\*EIOPA's collective investment undertakings include equity, debt, money market, private equity and alternative funds. For US data, we classify money market fund shares and mutual fund shares under this category.

**European financial integration has not yet recovered from the financial crisis.** Cross-border financial flows retrenched following the global financial crisis and the sovereign debt crisis. While these flows began to recover in mid-2012, financial market integration remains substantially below its historical peak since the euro adoption (see Figure 53). However, part of the rise in integration during the introduction of the euro was not necessarily due to a fundamental shift, and therefore did not last long (Maurin et al., 2024). Over the last two years, the evolution of financial integration has been disappointing, with significant declines in the composite financial integration indicator, an indicator that combines data on various market segments. The decline was triggered by drops in both price-based and quantity-based sub-indicators.<sup>21</sup> Figure 53 also plots the evolution of the risk sharing indicator, an indicator of the capacity to smooth specific shocks to income in one country with the financial returns received from investments made abroad. Higher financial integration is associated with stronger risk sharing, and the figure does show a positive correlation between both indicators over the long term. While the risk sharing indicator has remained below its long-term average since the end of 2020, the financial integration indicator has hovered around its long-term average values since the second quarter of 2023.

**Figure 53**

**Indicators of financial integration and risk sharing** (indicators are de-measured and standardised)



Source: EIB staff calculations calculation based on ECB (2024).

Note: The risk sharing indicator is derived from a smoothed estimate of the correlation between private consumption growth and GDP growth across countries. It is inverted on the figure to display a positive correlation with financial integration indicators. The horizontal dotted line represents the long-term average. The latest figures available are for the second quarter of 2024.

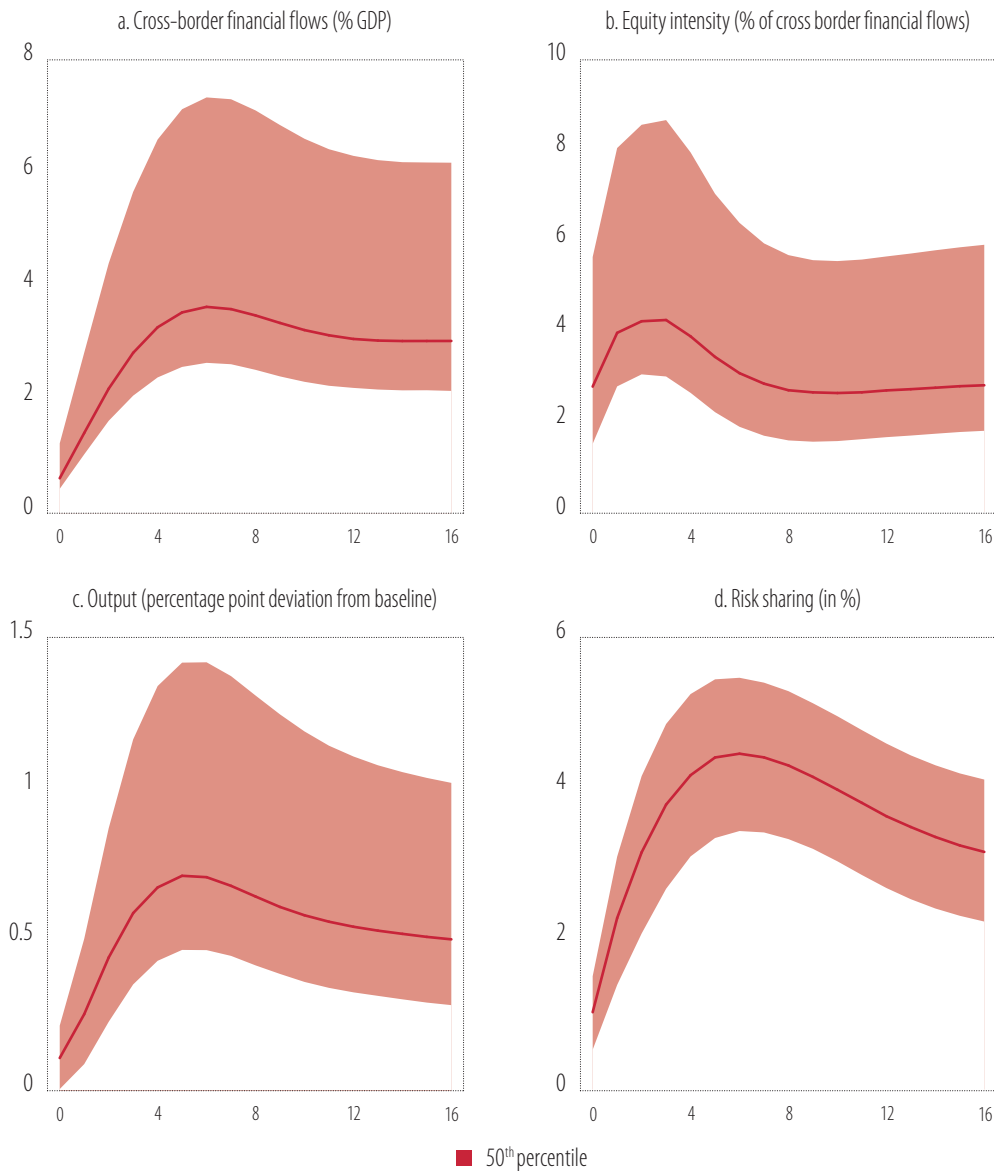
**Stronger cross-border financial integration would benefit the European Union.** Figure 54 plots the estimated response of selected macroeconomic variables to an increase in financial integration grounded on structural factors and a reduction in financial firms' domestic bias brought about by an improvement in the institutional framework (for example, the creation of pan-European supervisory policies raising transparency and confidence in cross-border investments). The rise in the financial integration indicator is calibrated to correspond to one-half of the gap between the current degree of financial integration and its historical peak. The results show that this stronger financial integration raises cross-border financial flows by around 3 percentage points of GDP in the long run. As it is based on long-lasting factors, it also raises the equity intensity of cross-border financial flows by 3 percentage points. While a widening gap in the interest rates between EU members can increase bond purchases

<sup>21</sup> The price-based sub-indicator of financial integration tracks the return dispersion of cross-country assets, while the quantity-based sub-indicator compiles data on cross-border holdings of various asset classes, including bonds and equities. For more details, see Hoffmann et al. (2019).

in the short term, proper financial integration supports more patient investments entailing higher risk, such as equity investment. Capital flows will unlock investments as they expand and are better allocated within the European Union. The rise in financial integration is therefore accompanied by GDP that is structurally higher (0.3% to 1%, with a median impact of 0.6%).

**Figure 54**

**Estimated response to increased integration** (a one standard deviation rise in the financial integration index)



Source: EIB staff calculations.

Note: See Maurin et al. (2024). The solid red line is the posterior median response whereas the red shaded area corresponds to the area between the 20<sup>th</sup> and 80<sup>th</sup> percentile. The future horizon is reported as quarters on the x-axis.

**Equity finance is also crucial, and countries with deeper and more sophisticated capital markets tend to invest more in innovative technology.** Market depth is measured here using a synthetic indicator that includes capital market financing, initial public offering size, pre-initial public offering risk

capital (venture capital or private equity investment), and the pool of investors (retail and institutional). Figure 55 shows a positive correlation between investment in innovative technologies and financial market development. The Nordic countries, the Netherlands and Belgium excel in both areas. Larger market sizes also benefit Germany, France, Italy and Spain. Eastern European countries (except Estonia, Slovenia and Czechia) lag behind in financial market development and technology investments. This link is not surprising, as market-based financing is crucial for investing in the high-risk, intangible and innovative assets that traditional bank financing may not adequately support.

**Figure 55**  
Investment in innovative technologies and financial market depth



Source: EIB staff calculations based on Eurostat, Bloomberg, CapitalIQ, IMF, DG-FISMA and AFME data.

Note: Market depth includes (i) public market financing (market capitalisation relative to GDP) and capital raised through IPO relative to GDP; (ii) pre-IPO risk capital (venture capital investment relative to GDP) and (iii) pool of investors including households' holding of listed equities, bonds and investment fund shares and institutional investors (pension funds and insurance corporates) relative to GDP. Averages for 2016-2023. Investment in innovative technologies and gross value added are measured in chain-link volumes at 2015 prices. This investment includes gross fixed capital formation in R&D, software and databases, other intellectual property products and telecommunications equipment.

**Three key issues (the “three E’s”) impede progress on Europe’s saving and investment union (Lagarde, 2024a).** European savings are concentrated in low-yield deposits (not entering), remain confined within national markets (not expanding) and fail to reach innovative companies because of an underdeveloped venture capital ecosystem (not exiting). It is paramount to develop accessible, transparent and affordable investment products to address the not entering issue, harmonise the regulatory environment to resolve the not expanding issue, and enhance institutional investments in venture capital, as well as leverage funds provided by public development banks like the EIB, to tackle the not exiting issue.

## Conclusion and policy implications

**EU policymakers face the dual task of addressing current economic challenges while unlocking opportunities for future growth.** The recovery from the energy shock and shifts in monetary and fiscal policies have improved real incomes. However, domestic demand remains fragile, while external demand is constrained by trade conflicts. Investment – a key driver of long-term growth – has weakened. This reflects the lingering impact of tighter financial conditions and persistent structural challenges in reallocating resources efficiently.

**To secure sustainable growth, the European Union must tackle three interlinked tasks: revitalising productivity, addressing demographic challenges and facilitating the reallocation of capital and labour.**

**Revitalising productivity:** To improve productivity, the European Union needs coordinated action and better targeted R&D funding to ensure that the most promising projects receive support across all EU members. Equally important is public investment in state-of-the-art research infrastructure to foster innovation and competitiveness. Reducing fragmentation in the EU single market and the EU capital market is essential to facilitate the funding of innovation, and to allow companies to exploit economies of scale.

**Offsetting demographic pressures on labour supply:** Raising labour market participation across genders, age groups and nationalities, and encouraging immigration to sustain and diversify the skill pool can offset the impact of declining birth rates.

**Facilitating reallocation for the green and digital transitions, while also dealing with security concerns:** The contraction of carbon-intensive industries risks causing a rise in unemployment and skill mismatches, especially in vulnerable regions. A flexible labour market supported by retraining programmes and better physical and social infrastructure – including affordable housing, public transport and dependent care facilities – will help workers transition to emerging green and digital sectors. Similarly, capital reallocation must be encouraged by reducing barriers to scaling up businesses and by advancing the integration of the EU capital market.

**The EU capital market needs to become more integrated to ensure that ample savings can finance much-needed investments.** The large investment needed in tangible, intangible and social capital must be found to move forward with the green and digital transitions, guaranteeing EU sovereignty and maintaining competitiveness.

**History shows that the European economy is able to generate high investment rates when structural changes to the economy unlock new business opportunities.** Today, the green and digital transitions are pushing forward such structural changes. The challenge lies in enabling firms to exploit the resulting business opportunities. One aspect is to effectively channel Europe's substantial savings into productive investments inside the European Union while protecting investors and maintaining adequate oversight. Public policy should focus on creating a favourable investment environment by harmonising regulations across the single market, lowering barriers to cross-border investments and enhancing the financial sector's capacity to allocate savings efficiently. Policy measures that incentivise investment not only raise the supply of products and services but, by encouraging companies to invest, also generate demand, which in turn supports economic growth.

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