



INVESTMENT REPORT
2022/2023

Resilience and renewal in Europe



Chapter 1 **The macroeconomic context**

EUROPEAN INVESTMENT BANK INVESTMENT REPORT
2022/2023

Resilience and renewal in Europe

Part I Investment environment
in a time of crises

Chapter 1 **The macroeconomic context**



Investment Report 2022/2023: Resilience and renewal in Europe.

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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 on how Europe is progressing towards a digital and green future amid an energy crisis. The report draws extensively on the results of the annual EIB Investment Survey (EIBIS) and the EIB Municipality Survey, combining internal EIB analysis with contributions from leading experts in the field.

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The mission of the EIB Economics Department is to provide economic analyses and studies to support the Bank in its operations and to help define its positioning, strategy and policy. The director of the Economics Department, Debora Revoltella, heads a team of 40 economists.

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Chapter 1

The macroeconomic context



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Chapter 1

The macroeconomic context

High geopolitical uncertainty caused by Russia's invasion of Ukraine, trade shocks fuelled by spiralling energy prices and persistent supply chain disruptions deteriorated the investment environment in 2022. In 2021, the world economy expanded at its fastest rate in almost 50 years. The suspension of economic activity imposed by the pandemic gave way to a strong rebound once lockdown measures were lifted. Monetary and fiscal policy provided a major boost. However, as inflation spiralled during 2022, central banks started to hike interest rates (sharply compared to the recent past, especially in the United States). Higher policy rates and greater risk increased corporate funding costs. The proportion of firms highlighting a lack of available finance as a major constraint increased, albeit from low levels, particularly in Southern Europe and among small and medium businesses.

During the first six months of the Ukraine conflict, the European Union transferred wealth worth around 3.5% of its gross domestic product (GDP) to oil and gas producers (15% of which went to Russia), through higher prices. A major deterioration in the European Union's terms of trade (the ratio of export and import prices) and the widening in interest rates between Europe and the United States caused the euro to depreciate. While labour markets remained tight in most of the European Union, wage growth did not compensate for the rapid increase in inflation. Consumer confidence fell sharply, particularly in EU members most exposed to higher gas and oil prices.

The current macroeconomic environment makes monetary and fiscal policy coordination difficult. During the pandemic, monetary and fiscal policy measures provided ample support to the economy. Monetary policy, which supported inflation targets, also lowered governments' financing costs. During 2022, monetary policy tightened significantly, raising governments' financing costs just as spending needs expanded in the short term (to combat a decline in real incomes caused by inflation) and in the longer term (to advance the green transition).

EU members progressively coordinated their policy responses to the crises — the Ukraine war and spiralling fuel costs. Over time, countries coordinated their policy responses more closely. The European Union played an important role here by adopting sanctions against Russia, helping Ukrainian refugees to travel and work and adopting a new programme, REPowerEU, to quickly reorient the EU energy market and make it less dependent on imports from Russia. As the short-term responses to the energy shock are implemented, policies should start to focus more on medium to long-term challenges. The EU energy market needs to become more robust and better integrated without distorting the level playing field the single market provides for firms.

Introduction

The war in Ukraine significantly worsened the investment environment in the European Union. High geopolitical uncertainty, deteriorating terms of trade caused by spiralling fuel prices, and persistent supply chain disruptions stopped the recovery in its tracks in 2022. Business confidence fell, bringing the post-pandemic rebound in corporate investment to an end. Meanwhile, EU members are spending heavily to cushion the impact of higher energy prices, even though borrowing costs are rising. The combined pressures could weigh on public investment.

The crisis is affecting EU countries very differently. Higher energy and food prices have starved the European Union's post-pandemic recovery. But while the shock itself is common to all countries, some are more heavily affected than others. The degree of the impact depends on several factors: countries' reliance on fossil fuels, the energy intensity of their production and their use of natural gas imported from Russia. Countries' ability to offset the shock also differs. Central banks outside the euro area raised interest rates quickly to return inflation to target levels, countering pressure on their currencies, while the European Central Bank (ECB) chose to tighten policy more gradually. More heavily indebted countries had not been able to increase the fiscal space lost during the pandemic. Some countries imposed extraordinary taxes on energy companies or banks to fund support for households and firms.

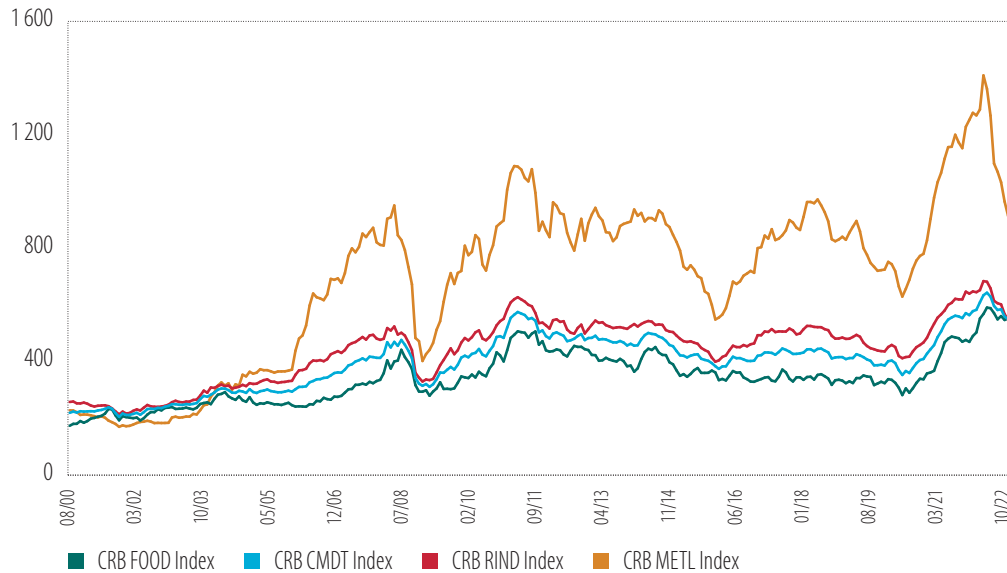
The turbulence in energy prices evokes memories of oil price shocks in the 1970s. At the time, energy production in the United States and Europe relied heavily on oil imports, and the high prices pushed many oil-importing countries into brief recessions and generated persistently higher unemployment. Those shocks, however, also stimulated research into green energies and improved the efficiency of energy use for households and industries. Similar developments can be observed today.

This chapter describes the macroeconomic factors influencing corporate and public investment in the European Union during 2021 and 2022. It starts by describing the EU economy's external environment, and then turns to the domestic economy before reviewing recent major changes in monetary policies (tightening to address inflation) and fiscal policies (more expansionary to counter the effect of higher energy prices on incomes). The chapter also contains four boxes. The first box draws on the latest EIB Investment Survey (EIBIS) to analyse the reaction of European firms to trade disruptions caused by the pandemic and the Ukraine war. The second box analyses the varying degrees to which inflation rose in EU countries. The third box considers whether the oil crisis of the 1970s might foretell how the current crisis could affect the EU economy in the longer term. The fourth and final box compares the US Inflation Reduction Act, which will provide USD 391 billion for spending on energy and climate change, to the European Union's initiatives to increase energy security, accelerate the green transition and develop local supply chains.

A major negative shift in the EU trade balance

The invasion of Ukraine boosted commodity prices, dealing a large trade blow to the EU economy. Russia invaded Ukraine just as commodity prices were rising, spurred by the reopening of the global economy. These prices were stabilising by the end of 2022 (although they were still high in historical terms), as global demand slowed (Figure 1). However, the European Union continues to pay high energy prices, a result of the conflict, sanctions and Russia's retaliation in cutting supplies (primarily natural gas). Moreover, concerns of possible energy shortfalls have created a very volatile environment, with prices spiking at the smallest sign of a possible gap in supply. All of these factors are having a major, but varied, effect on inflation and trade in EU countries.

Figure 1
Prices of selected commodities (1967=100)



Source: Bloomberg.

Note: CRB stands for Commodity Research Bureau. CMDT stands for iShares Commodities Optimized Trust, the most widely used commodity index. RIND is the sub-index including raw industrial commodities. METL is the sub-index of metals.

A negative trade balance and widening differences in real exchange rates

As energy prices surged, the EU trade balance shifted from a substantial surplus to a deficit. Higher energy prices weighed on the economy and international trade. The European Union's negative trade balance for goods in the mineral fuels, lubricants and related materials¹ category averaged EUR 285 billion per year from 2005 to 2019, fluctuating with changes in oil and energy commodity prices. However, the figure for the first ten months of 2022 massively surpassed this level, exceeding EUR 548 billion, which pushed the European Union into a net trade deficit. The European Union has historically been a net exporter, and aside from seasonal peaks (in January), a trade deficit has not been consistently registered since late 2011 (another time of high energy prices (Figure 2)). By paying more for imported oil and gas than before the war, the European Union effectively transferred wealth worth about 3.5% of its GDP to oil and gas producers (15% of which went to Russia).²

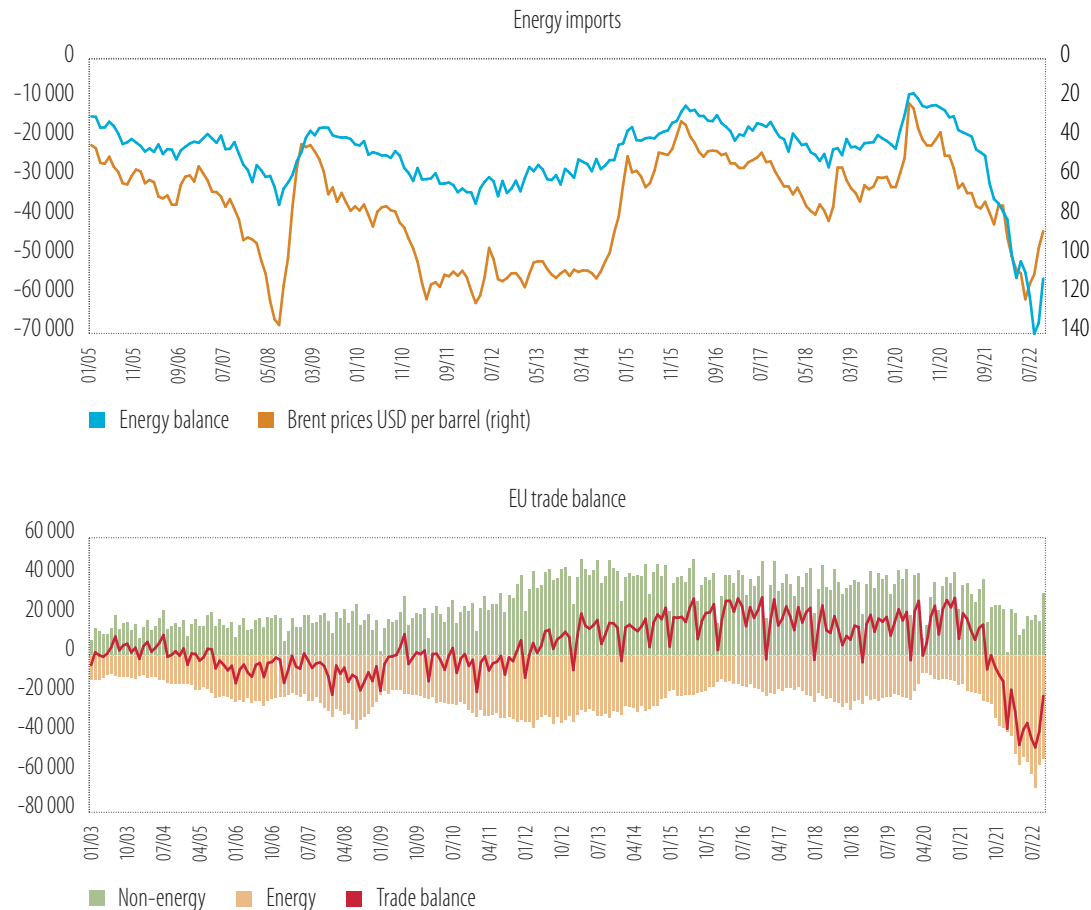
The trade deficit and growing differences between interest rates in the euro area and the United States weakened the euro. With the trade balance shifting from surplus to deficit, (transaction-related) demand for euros diminished. The euro's weakness was further exacerbated by differing monetary policy stances in the United States and the euro area. The US Federal Reserve started to tighten rates sooner and more aggressively than other major central banks. At the same time, a risk-averse environment tends to favour the US dollar, because investors think the US economy adapts and reacts to shocks more quickly. In late

¹ Standard International Trade Classification (SITC), rev. 4, Section 3.

² Computed as the value of imports of petroleum products (SITC 33) and gas (SITC 34) during March-August 2022, from all non-EU countries into the European Union, relative to half of the European Union's GDP for 2021.

August 2022, the euro-US dollar rate fell below parity and stayed there for the first time in 20 years. The euro partly recovered in the autumn. The weak euro³, which also pulled down currencies in non-euro area EU members⁴ (the exceptions being Bulgaria and the Czech Republic), should help EU exports and discourage imports. However, other factors are also at play.

Figure 2
EU trade balance and energy imports (EUR million)



Source: Eurostat.

Deteriorating EU trade comes as external demand slows. Increasing food and energy prices mean that a smaller share of income can be used to buy non-primary goods — traditionally a key area for EU exports. The energy shock is also hitting Europe harder than anywhere else, leading to higher production costs. This competitive disadvantage was only partially offset by the weakness of EU currencies vs. the US dollar (Figure 4).

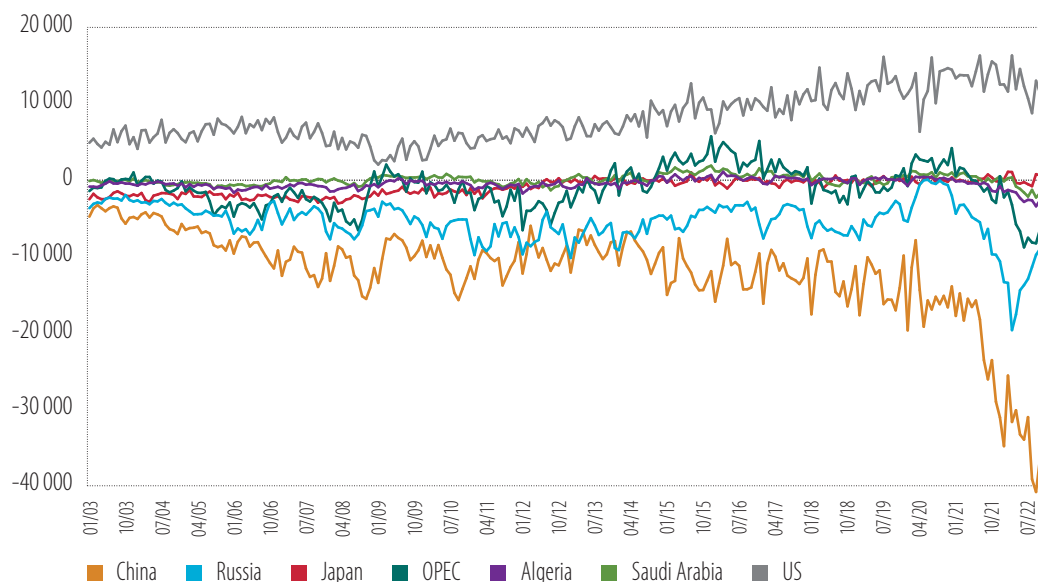
The non-energy-related trade balance also deteriorated significantly (Figure 2). In the first ten months of 2022, the net trade surplus excluding fuels was EUR 150 billion (compared to around EUR 360 billion on average for January to October from 2015 to 2019). It is particularly difficult to pinpoint the cause, as rising prices make it difficult to understand how much import and export volumes are growing. However, in nominal terms, imports are clearly growing more than exports (including in non-energy trade).

³ Figure 4 shows the evolution of the nominal effective exchange rate for the euro and US dollar vs. a broad group of trade partners.

⁴ The trade balance of non-euro EU countries in Central and Eastern Europe is in line with that of euro area countries. The performance of two non-euro Nordic countries (Sweden and Denmark) was affected less because they rely more on renewable energy.

The worsening of the non-energy trade balance is, surprisingly, mostly because of exponentially large increases in imports from China (Figure 3). The energy shock weighed on the competitiveness of European firms. At the same time, the green transition raised EU demand for Chinese-made products, such as solar panels and electric cars. Imports in the first ten months of 2022 were about EUR 152 billion higher than in the same period of 2021 (while the overall trade balance, including energy, worsened by nearly EUR 480 billion, going from a EUR 80 billion surplus in the first ten months of 2021 to a EUR 398 billion deficit in the same period of 2022). Machinery and transport equipment accounted for the largest portion of this — about 45% (4% of which was for road vehicles). Electrical machinery, equipment and appliances accounted for about 23% (5% of which was telecommunications equipment, 4.5% office machines and automatic data processing, and 3.9% other industrial machinery). Metals (including steel) accounted for around 13%, while chemicals (particularly organic chemicals) made up 21%.

Figure 3
EU trade balance (EUR million), by partner country



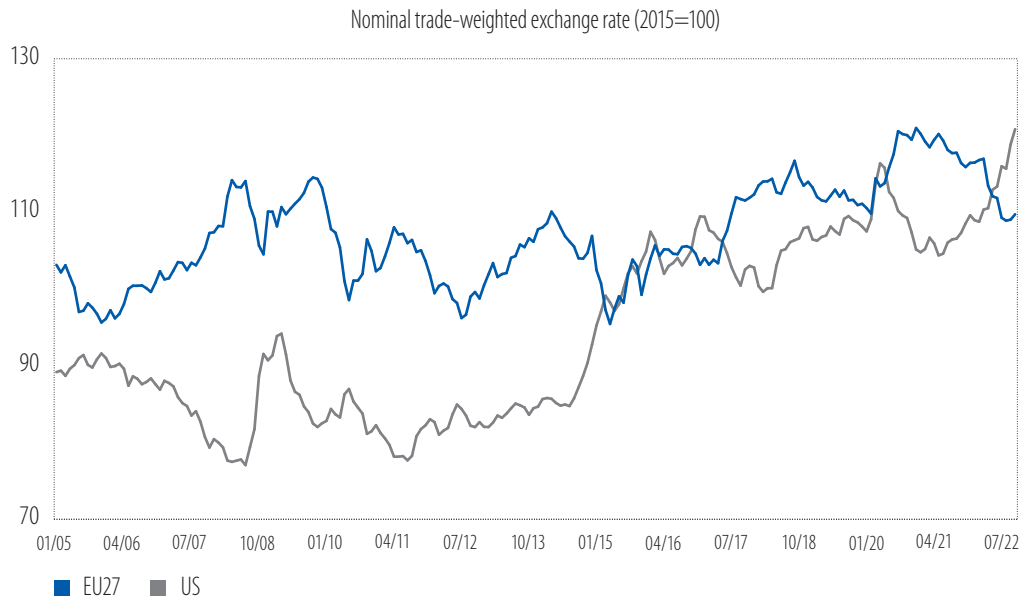
Source: Eurostat.

Effective exchange rates among various EU currencies — both nominal and real — are increasingly varied. The dispersion of the nominal trade-weighted exchange rates among the different EU currencies is clear, but a widening spread can also be seen inside the euro area. There, the gap can only be attributed to the different weights used for trading partners. The dispersion of real effective exchange rates (Figure 5) has increased because of the large differences in inflation within the European Union, even in the euro area (see below in Box B). At first glance, the evolution of real effective exchange rates with the main EU partners and data on the trade of goods seem to indicate that pressure on demand is outweighing the effect of depreciation. In other words, the negative impact of higher prices on external demand for goods produced in the European Union is greater than the positive effect of currency depreciation. From January to October 2022, the EU-US non-energy trade balance improved by 28% (or almost EUR 42 billion), but Europe's aggregate non-energy trade balance worsened by more than 48% (EUR 142 billion).

The worsening trade situation coupled with high energy prices is affecting trade balances in various EU countries differently. The impact on data from the national accounts has been computed in real terms and offers a different point of view. The net export contribution to growth declined and turned negative in the course of 2022 (taking 0.04 percentage points off average growth for the European Union as a whole and for the euro area in the first three quarters of 2022). In all countries, export performance is clearly linked to movements in real exchange rates and a country's physical proximity to the Ukraine

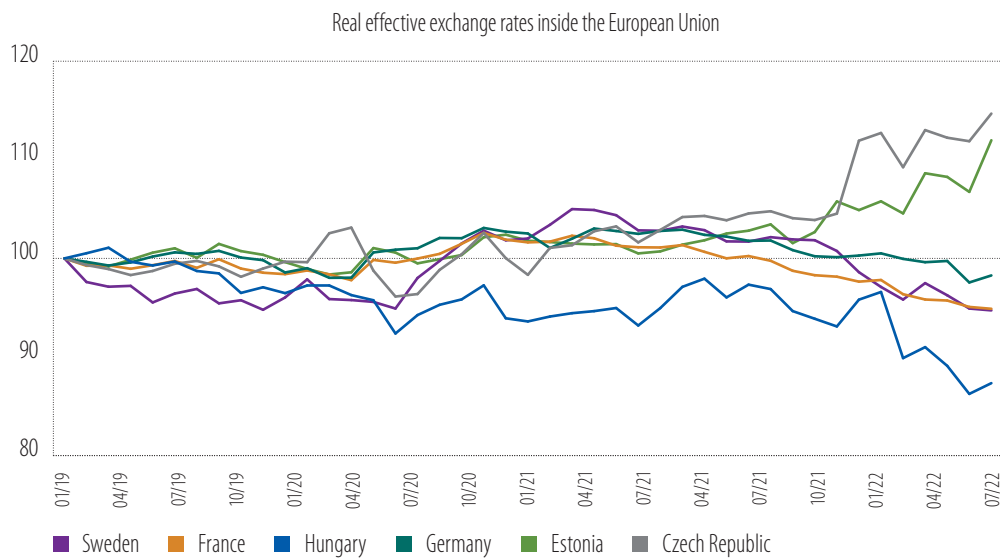
conflict (Figure 7).⁵ In six out of 11 countries in Central and Eastern Europe, the contribution of net exports to growth was negative on average in the first three quarters of 2022. Among those in Western and Northern Europe, exports are weighing on growth in four countries, and two of them (Sweden and Finland) are closer to the conflict area. Overall, the standard deviation of the net contribution⁶ between EU countries is as high (Figure 6) as it was during the pandemic.

Figure 4
Euro exchange rates



Source: [EC Price and Cost Competitiveness, Refinitiv](#).

Figure 5
Real effective exchange rates of European currencies (baseline=100)

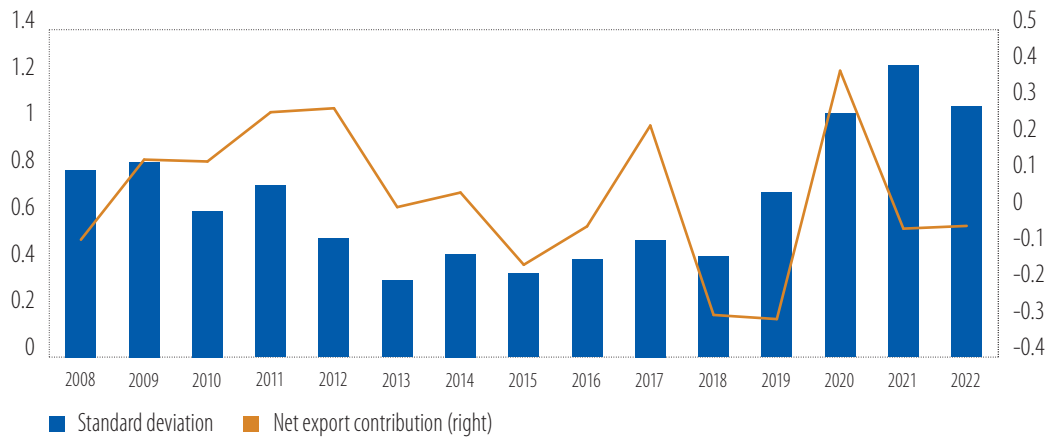


Source: [EC Price and Cost Competitiveness, Refinitiv](#).

5 For the effect of the Ukraine war on different EU regions, see Chapter 4.

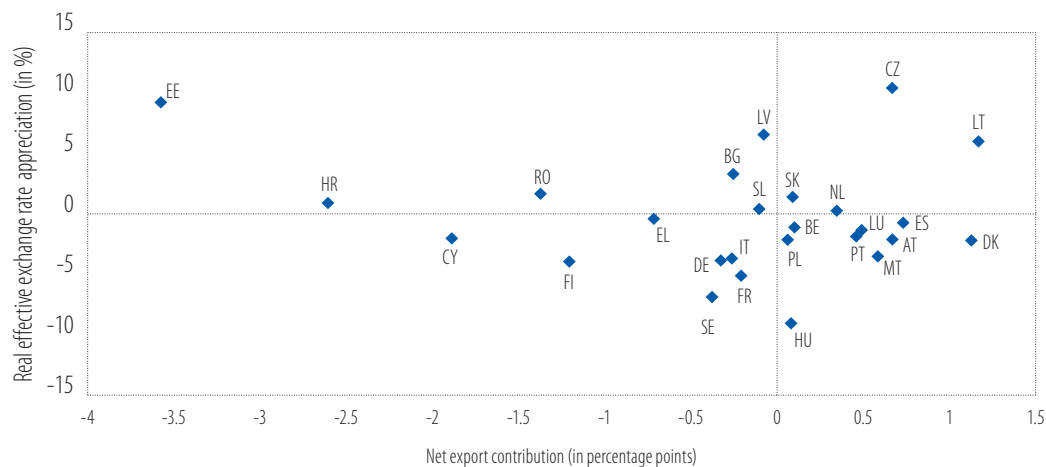
6 Ireland was excluded from the calculation because of the recent volatility of Irish National Accounts data.

Figure 6
Contribution of net exports to EU GDP growth and the dispersion across EU countries
(left axis: standard deviation; right axis: percentage points)



Source: Eurostat, EIB staff estimates.

Figure 7
Contribution of net exports to EU GDP growth and the change in EU countries' real exchange rates



Source: European Commission, Eurostat, EIB staff estimates.

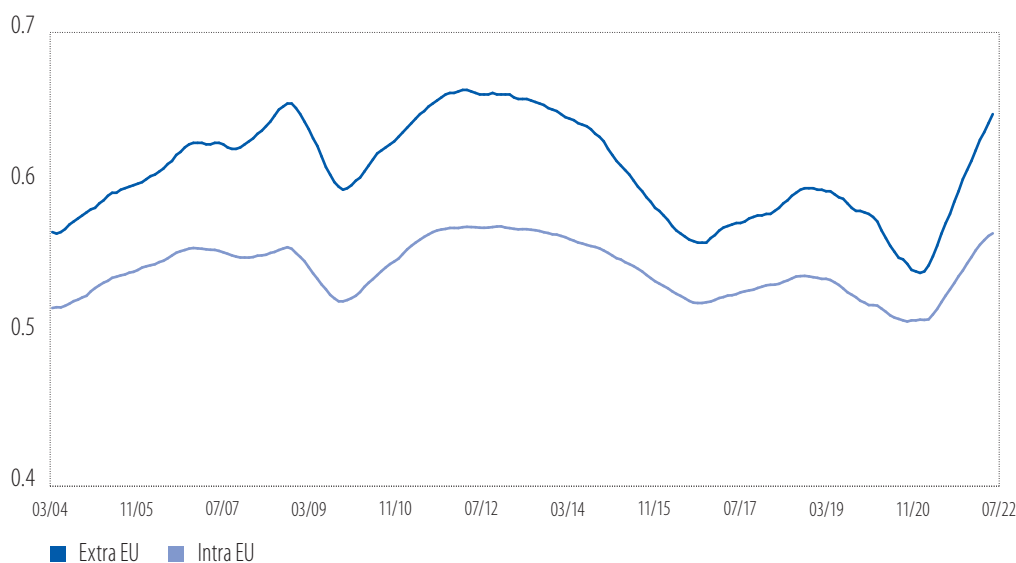
The growing debate on changes to global supply (or value) chains

Trade disruptions have renewed the debate on how to balance resilience with cost when structuring supply chains. Whether global value chains are sufficiently resilient has been a topic of discussion in academia and in policy-oriented groups for some time. The key questions were the costs and benefits of diversifying and shortening supply chains and, more broadly, whether economies would enter a new phase of deglobalisation (Baldwin, 2022; Yellen, 2022).⁷ The invasion of Ukraine has given new impetus to this debate. Trade flows and information from the EIBIS suggest that firms are diversifying but not (yet) shortening their supply chains. Box A provides details.

⁷ On the academic side, Richard Baldwin's posts on VoxEU summarise some of the evidence and the interpretation. Speeches by Janet Yellen (for example, "Remarks by Secretary of the Treasury Janet L. Yellen at LG Sciencepark") or the proposal that the European Union should consider strategic autonomy in specific sectors are examples of the policy implications.

The share of imported intermediate goods in total imports is not declining. If European firms were to rely less on outsourced intermediate goods (particularly from far-away sources), the share of imported intermediate goods in total imports would likely decline. Figure 8 shows this share computed over time for imports from outside and inside the European Union. The share declined from 2013 to 2017, but rebounded in early 2021, bringing the ratio close to its maximum level (in 2012). The higher number likely reflects higher prices. However, it does not provide any explicit evidence that more intermediate goods were coming from inside Europe.

Figure 8
Share of intermediate goods in imports of goods (in %)

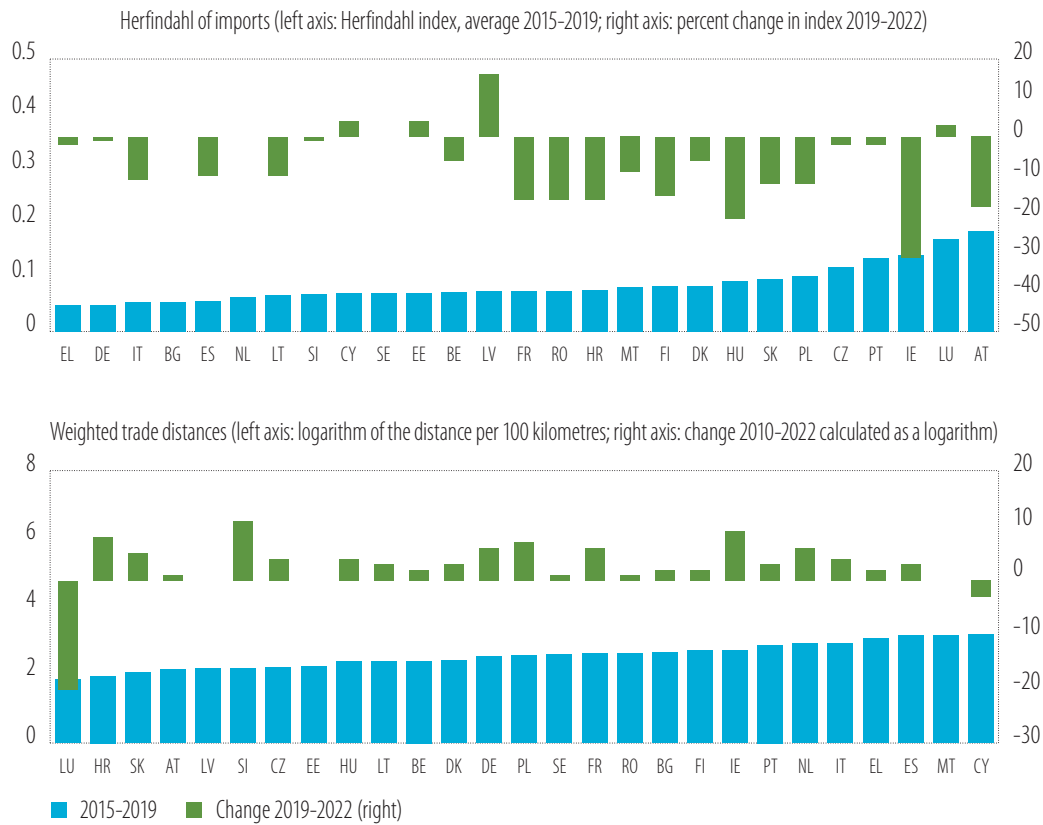


Source: Eurostat.

Figures on imports indicate that they are coming from more diverse sources than previously. Figure 9 (upper panel) shows the Herfindahl index (a widely used measure of concentration) for goods imported between trading partners in recent years. The figure compares results for the first half of 2022 to the same periods from 2015 to 2019. Concentration decreases for the majority of EU countries, with the largest declines seen in countries that had a less diverse sources of imports before the pandemic, which includes Ireland and Austria.

At the same time, the average distance between trading countries is not declining. A decrease in the average distance could be interpreted as companies looking for suppliers closer to home, either within the European Union or in neighbouring countries. Figure 9 (lower panel) shows that except for a handful of countries (notably Luxembourg), the average distance between import partners and EU countries has increased moderately since the pandemic.

Figure 9
Changes in the structure of goods imported to the European Union



Source: Eurostat, CEPII, EIB staff estimates.

Note: The Herfindahl index is the sum of the squares of each country's share of EU imports. A lower number suggests imports come from more diversified sources.

Box A

How firms are dealing with trade disruptions — evidence from the EIBIS

More than 80% of firms report that they experienced some kind of trade disruption. While most EU firms (56%) reported a major disruption, almost one-third (30%) reported only minor problems. The most common disruptions concern global logistics (45%) and the provision of raw materials or services (42%). A smaller share of firms (15%) say trade has been upset by new regulations, customs or tariffs.

The coronavirus pandemic and the war in Ukraine are the main causes of disruption — 58% of firms cite both factors. Almost one-fifth of firms (19%) say only the COVID-19 crisis caused a disruption, while an even smaller share (13%) point to the war in Ukraine as the sole cause.

Table A.1
Response of firms' sales to trade shocks

Variables	(1)		(2)	
	Sales from 2019 to 2020		Sales from 2020 to 2021	
	Decline	Increase	Decline	Increase
Major disruptions				
Logistics/maritime	0.196*** [0.070]	0.171** [0.072]	0.202** [0.084]	0.123* [0.067]
Material	0.085 [0.070]	-0.008 [0.072]	0.112 [0.084]	0.020 [0.067]
Customs/Regulation	0.157* [0.086]	0.046 [0.090]	0.203** [0.100]	-0.066 [0.082]
Any financial support during COVID-19	0.972*** [0.056]	0.016 [0.056]	0.324*** [0.066]	0.296*** [0.052]
Constant	-0.603*** [0.213]	0.060 [0.214]	-0.594** [0.254]	-0.050 [0.202]
Observations	10 260	10 260	10 276	10 276
Sector fixed effects	yes	yes	yes	yes
Country fixed effects	yes	yes	yes	yes

Source: EIBIS 2022.

Note: The table presents results from three multinomial logit regressions. The baseline for each regression is "stay the same." Each regression controls for firm size and age categories, trading status, severity of the disruption and type of trade shocks. Sector and country fixed effects are also included. Standard errors are in brackets. Statistical significance: *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1.

When the economic consequences of the pandemic hit firms in 2020, the distribution of firm sales changed. In addition to the high share of firms that had significant losses, the share of firms experiencing a large increase in sales was also more elevated than in other years.

The results indicate that firms reporting problems with global logistics and maritime transport were more likely to lose money or enjoy sales growth than other firms. However, firms that reported obstacles concerning trade regulations were more likely to lose money. The results also confirm the conclusion of Harasztosi et al. (2021) that COVID-19 measures supported firms with significant losses. The effect of trade disruption on 2021 sales follows a similar pattern to the previous year, although firms that received government support were also more likely to see sales stabilise.

Almost 60% of EU firms say they will act to deal with international trade disruptions. EIBIS 2022 asked firms to signal whether they were adopting one of two strategies for limiting trade disruption: increasing their number of trade partners to diversify, or focusing more on domestic suppliers and markets. Firms could also say that they had not taken any action. EU firms were slightly more likely to diversify (37%) than look for domestic suppliers and markets (35%).

Firms taking action to reduce the effects of trade disruptions were more likely than other firms to expect higher sales in 2022 than in 2019. Table A.2 shows estimates of the factors determining the probability that sales would increase. The results suggest that firms taking action to diversify their import or export partners were more likely to expect higher sales in 2022 than in 2019. However, this was not the case for firms responding to trade shocks by looking for domestic markets. Those firms' sales were not expected to improve significantly.

Table A.2
Sales expectations in 2022, by the response to trade shocks

Variables	(1)	
	Sales from 2019 to 2022	
	Decline	Increase
Diversification	-0.073 [0.078]	0.131** [0.057]
Domestic markets	-0.004 [0.075]	-0.040 [0.056]
Observations	8 267	8 267
Sector 12 fixed effects	yes	yes
Country fixed effects	yes	yes

Source: EIBIS 2022.

Note: The table presents results from a single multinomial logit regression. The baseline is "stay the same." Regression controls for firm size and age categories, trading status, severity of the disruption and type of trade shocks. Sector and country fixed effects are also included. Standard errors are in brackets. Statistical significance: *** p-value<0.01, ** p-value<0.05, * p-value<0.1.

The willingness or ability of firms to respond to the trade shock varies considerably. Larger, innovative and digital firms are more likely to react to trade shocks. Regression estimations show that small and medium businesses are about 3-4 percentage points less likely to take action. Innovative firms are about 10 percentage points more likely to react to trade disruptions. At the same time, digitalised firms seem to display a similar level of adaptability, and they are more likely to report diversifying or focusing on domestic markets instead of not taking action. For a more detailed analysis see Brasili and Harasztosi (2022).

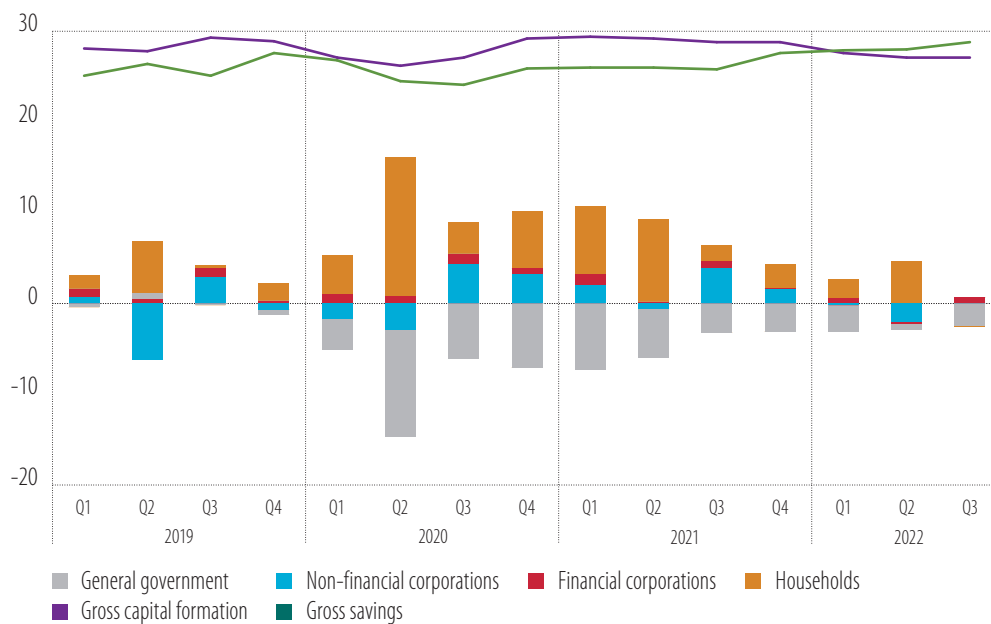
The EIBIS evidence therefore suggests that firms' choices are related to the type of firm and the shock experienced. In general, more digital and innovative firms implement strategies to address disruptions more frequently. Major logistic and transport-related difficulties are also likely to push firms to diversify. Larger and more innovative firms seem to prefer diversifying over focusing on domestic markets. The choice to diversify suppliers seems to be linked to positive sales expectations, suggesting that firms believe this strategy will help returns. Innovative firms and firms that perform well tend to implement diversification strategies, potentially widening the gap between firms that are leaders and laggards.

Falling real incomes depressed growth in the European Union, with major differences between countries

The EU economy had surpassed its pre-pandemic level of output when energy prices surged and trade began unravelling. Fiscal policy, which had provided unprecedented levels of support during the pandemic, was gradually wound down and governments were planning to consolidate their finances. Monetary policy was still very expansionary, with interest rates around zero in all EU countries and stimulus, such as central bank asset purchases, continuing in the euro area. Rates charged for riskier investments were low and overall financial conditions were relatively loose. Household savings built up during the COVID-19 crisis were supporting consumer demand. Construction activity was booming as low interest rates stimulated demand for residential real estate. Labour markets tightened as services started to recover despite a new pandemic wave. Job vacancy rates exceeded their pre-pandemic levels, reflecting the economic upswing and, perhaps, greater friction in matching firms with labour.

Fiscal policy unwound its exceptionally expansionary stance while households consumed heavily. Net savings in various institutional sectors had gradually moved towards normal levels by mid-2022. Deficits, which had swelled when governments supported the economy during the pandemic, shrank to almost zero (Figure 10). Households consumed more, after having received government support and primarily because they had limited opportunities to do so during lockdowns and other pandemic measures. Non-financial firms had sharply reduced investment during the pandemic, but they now picked up the pace (including expanding inventories) and saved less. On balance, a small savings shortfall emerged and was financed by investments from abroad.

Figure 10
EU savings and investments (% GDP), by sector



Source: Eurostat.

Note: The bars show the net financial balance for each institutional sector.

Two unforeseen events brought the recovery to a halt during the first half of 2022: the inability of supply to keep up with demand and the war in Ukraine. Confronted with supply chain bottlenecks, the strong rebound in demand following the pandemic pushed up inflation. Bottlenecks developed and remained not only because demand pivoted from services to goods, but also because pandemic-related restrictions constrained imports from China. As demand for services recovered, labour shortages emerged in areas such as tourism and hospitality, which had been hit particularly hard by the pandemic.

The war in Ukraine highlighted the European Union's dependence on energy imports from Russia and the vulnerability of supply chains more generally. The war affected the EU economy mainly because it relied heavily on fuel imports from Russia. The European Union imports 90% of its natural gas, and 45% came from Russia. Russia also accounted for around 25% of the European Union's oil imports and 45% of its coal imports. In addition, the war inhibited EU imports from Ukraine that, despite their small value, included some key supplies, particularly in the automobile industry (Boston, 2022). Supply chain disruptions were exacerbated as companies built up inventories, shifting from just-in-time to just-in-case inventory management.

Inflation rose and slowed GDP growth. Concerns about energy security caused oil and gas prices to explode, quickly feeding through to other products and services. Food prices were pushed up as imports of Ukrainian grain plummeted and fertilisers (the production of which uses large quantities of natural gas) became more expensive. In the third quarter of 2022, annual consumer price inflation exceeded 10%

in the European Union for the first time since records began in 2000. People and firms began expecting higher prices to continue. Consumer inflation expectations over the next 12 and 36 months increased in line with official forecasts (ECB, 2023). Consumer confidence plummeted further than it had during the pandemic. Households reined in their spending on food, energy and discretionary items to match their lower real income. Industrial production stagnated, and fewer energy-intensive goods were made. The growth of real GDP slowed.

By the autumn, the blow the Ukraine war dealt to real GDP appeared much less violent than that of the pandemic (Figure 11). However, steep declines in business and particularly in consumer confidence pointed to a recession and a protracted recovery (Figure 12), even though confidence recovered a little during the winter when energy prices rose less than feared.

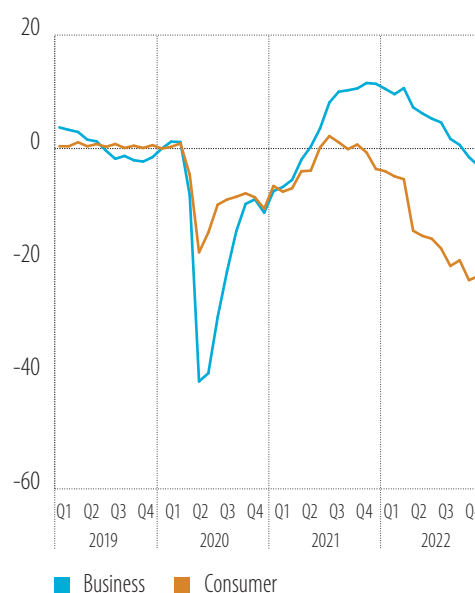
Figure 11
Forecast and actual GDP and inflation (in %, year-on-year)



Source: IMF, EIB staff estimates.

Note: Forecasts for 2020 are from the Autumn 2019 forecast of the International Monetary Fund (IMF). The forecast for 2022 is from the IMF's Autumn 2021 forecast; the nowcast is from the IMF's Autumn 2022 forecast.

Figure 12
Consumer and business confidence (index), changes relative to December 2019



Source: European Commission.

Note: For business confidence, the European Commission's sector weights are applied to industry, services, construction and retail.

The combination of rising inflation and slowing growth created new challenges for fiscal and monetary policy. The pandemic initially led to a steep fall in demand and inflation consequently fell short of central bank targets. Years of stable growth had also given some EU countries more fiscal flexibility. As a result, fiscal and monetary policy were able to act in tandem and provide sizeable impulses to economic growth. By early 2022, governments' fiscal space had shrunk and inflation was already growing well above central bank targets. As the energy crisis erupted, fiscal policy provided strong stimulus measures worth several percentage points of GDP to shield households and business from high energy costs. In contrast, central banks were confronted with the risk that inflation expectations might rise substantially above target. Instead of providing additional stimulus, they accelerated the normalisation of their policy stances (see below).

Although all EU countries saw inflation soar and economic growth slow, the shocks affected each nation differently. The impact was greater for countries whose production was more energy intensive

(such as many Central and Eastern European countries); whose energy consumption relied more on gas and oil (such as the Benelux countries of Belgium, Luxembourg and the Netherlands); which imported a greater share of fossil fuels from Russia and Ukraine (such as Germany); whose households consumed more food and energy (generally countries with GDP per capita below the EU average); whose fiscal situation left governments with less resources to provide support; and whose monetary policy was more constrained by widespread inflation and the risk of capital outflows (such as Hungary and the Czech Republic). Broadly speaking, the impact was strongest in Central and Eastern Europe (see Chapter 4).

Inflation in different EU members varied widely, reflecting their exposure to energy and food prices, and the energy contracts already in place. In September 2022, annual consumer price inflation in the European Union ranged from 6.2% in France to 24.1% in Estonia. Box B investigates these differences and their policy implications. Differences in wealth explain part of this dynamic, as households in poorer member countries tend to spend a higher share of their income on food and energy. Another factor is differing policies. For example, not all countries have capped or are planning to cap electricity and gas prices. Also, the type of energy covered, the levels of consumption and prices at which these caps enter into force, and the duration of these policies all vary. The speed at which such measures are lifted will affect when inflation rears its head.

Spiralling energy prices evoke memories of the 1970 oil crisis. At the time, energy production in the United States and Europe relied heavily on oil imports, and rapidly rising prices pushed many oil-importing countries into brief recessions and generated persistently higher unemployment. High prices for fossil fuels, however, also stimulated research into green energies and increased energy efficiency for households and industry (Box C). Similar developments can be observed today.

Box B

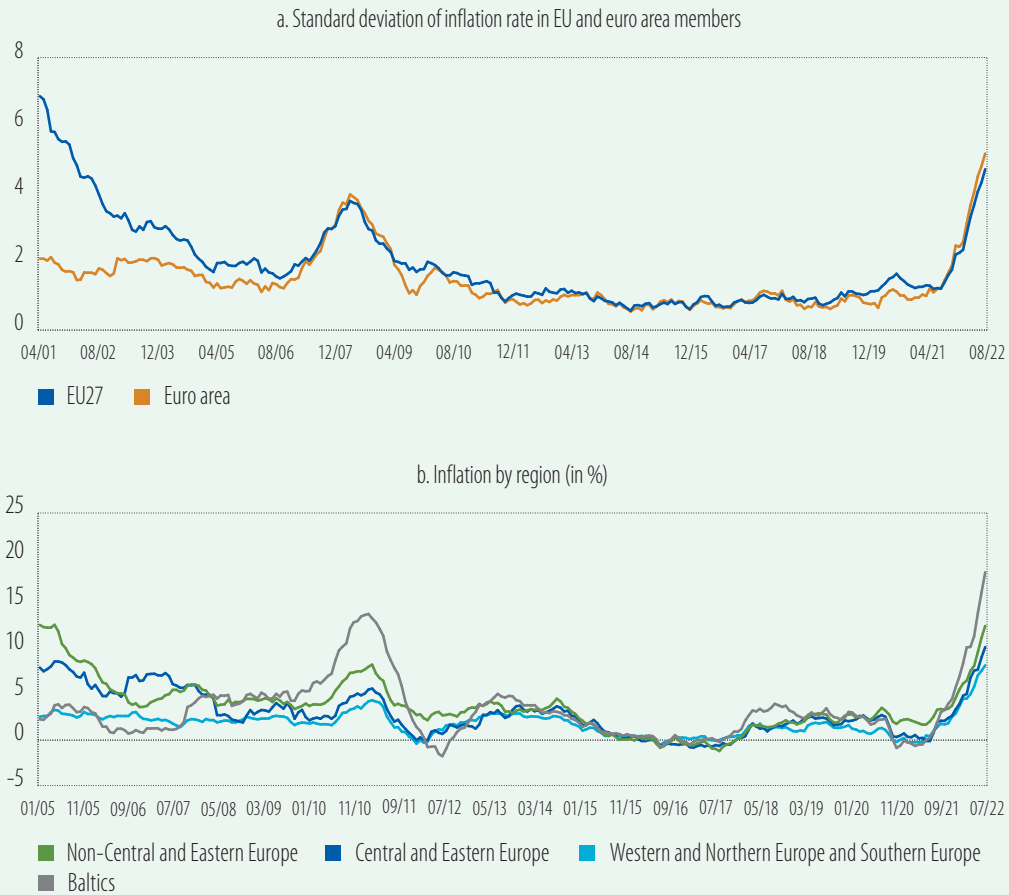
Inflation in the European Union: Features, origins and consequences

Inflation is not only high, but it also varies widely between countries, with headline inflation in September 2022 ranging from 6.2% in France to 24.1% in Estonia. The standard deviation of inflation among the European Union's 27 member countries is at record levels and is also very high for the smaller euro area. The bottom panel of Figure B.1 clearly shows that inflation has not been so dispersed since commodity prices spiked before the global financial crisis of 2009.

The impact of the war and the energy shock on inflation in different EU countries depends on certain characteristics, the two most relevant being geographical proximity to Ukraine and the existence of a national currency. The top panel of Figure B.1 uses simple (unweighted) averages of monthly inflation rates by country group. Inflation is incredibly high in the Baltics (close to 23% annually) and notably high in Central and Eastern European countries not using the euro (around 16%). It is less marked in Central and Eastern European countries with the euro and around 10% for Western and Northern European countries (including countries still using a national currency) and Southern European countries.

The ways countries calculate inflation influence the dispersion, namely the different weights applied and different methods used to track prices. Focusing on the energy and the food, beverages and tobacco categories, the two tables below show differences in weights (Table B.1, left panel) and in price evolution (Table B.1, right panel). The Harmonised Index of Consumer Prices (HICP) system uses different weights for each country to reflect the varying role of each item in the national consumption basket.

Figure B.1
Inflation dispersion in Europe



Source: EIB staff estimates based on Eurostat data.

Table B.1
Weights and price changes for energy and food

	Weights (in 1000) in the CPI basket		Year-on-year change as of August 2022 (in %)	
	Energy	Food	Energy	Food
Baltics	149.5	291.8	77.7	21.5
Western and Northern Europe	102.8	198.6	42.4	10.1
Southern Europe	95.6	237.0	32.9	10.0
Non-euro Central and Eastern Europe	126.9	300.9	30.6	18.1
Euro Central and Eastern Europe	141.5	258.1	28.0	15.1

Source: Eurostat.

Note: CPI stands for the consumer price index.

For the weights, it is possible to perform a counterfactual exercise in which actual price changes are applied to the HICP euro weighting scheme. In this case, dispersion would only be 4.1 (compared to 4.9), while the difference between the more and less inflationary country groups would be 10.3 (instead of 12.6).

It is difficult to gather reliable information on the evolution of prices. This element depends not only on the structure of different markets, but also on the measurement methods. A blog published by Eesti Pank (the Estonian central bank)⁸ in July 2022 points out that the actual measure of energy prices in the consumer price index released by the statistical office can overestimate the real prices paid by customers. Without this overestimation, inflation might have been closer to 20% instead of the 24% recorded in July 2022. Statistics Netherlands⁹ also provides evidence that the observation method currently used can overestimate actual energy price increases, because the method only uses data from newly signed contracts.

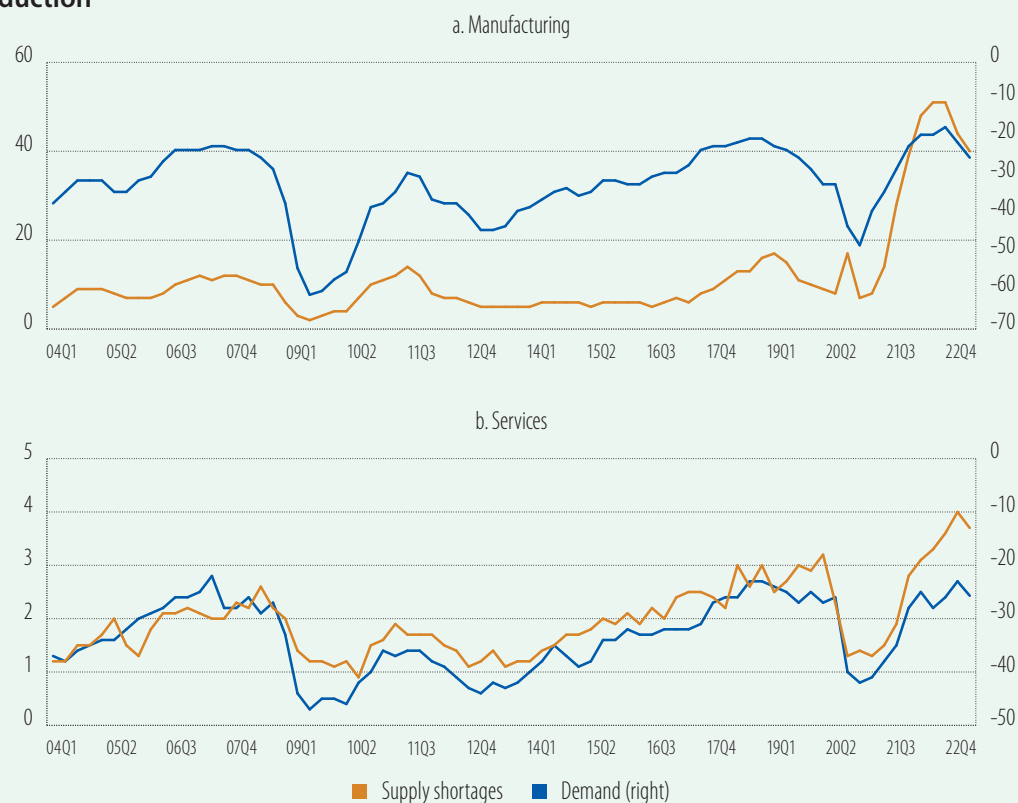
Inflation dispersion creates problems in a well-integrated economic area, and even more in a currency union. Assuming that measurement issues are not the problem, significant price dispersion creates two major issues. In the short run, it makes it more difficult to craft one-size-fits-all approaches to monetary and fiscal policy. For monetary policy, the appropriate increase in policy interest rates is obviously different if the inflation rate is above 20% or below 10%, regardless of inflation's origins (for how much is derived from supply and demand, see below). Fiscal policies also change depending on the level of inflation. Another, longer-term issue is how wide differences in prices affect competitiveness. Wide variations in domestic prices will eventually weigh on a country's performance.

Understanding the inflation's origin is key to predicting how prices evolve and the most appropriate policy responses. Research in the United States (Shapiro 2022) assumes that a demand shock moves prices and quantities in the same direction, while a supply shock forces prices up and quantities down. Examining over 100 product categories, the research finds that more than half of the US inflation rate stemmed from supply bottlenecks, such as disruptions related to the pandemic and the war in Ukraine. In contrast, demand factors explain only one-third of recent inflation, despite playing a big role in the spring of 2021.

The European Commission performed parallel analysis of inflation's origins in the European Union. The analysis (Pasimeni 2022) was based on survey data, since the European Commission Business Survey includes questions on the main obstacles hindering production. Respondents could choose between demand and supply factors, and these were used as explanatory variables in a regression with the producer price index as a dependent variable. The conclusion was that in Europe, supply factors seem to be responsible for at least 80% of producer price inflation. Figure B.2 shows the evolution of the two survey indicators used in the analysis. For the manufacturing sector, supply issues were a major factor in the first quarter of 2022 and their importance is now slowly declining, though they remain at record levels (the long-term average indicator was 8 for 2004-2019, is currently 40 and peaked at 51.1). The same dynamic also applies to demand, although current figures for demand's impact are high but remain below other peaks. The situation in the service sector is similar, with less supply pressure. The main policy implication is clear. Removing supply obstacles, by promoting and accelerating the transition to renewable energy, could help lower inflation.

8 Kaspar Oja: Eesti elektri hinnatõus on seletamatult suur | Blogi | Eesti Pank.

9 Towards a new method of calculating energy prices (cbs.nl) CBS Netherlands.

Figure B.2**Share of firms (in %) reporting supply shortages or demand as an obstacle to production**

Source: EIB staff estimates based on European Commission survey data.

Box C**The 1970s oil shock: Impact, policy responses and structural changes**

At the start of the 1970s, energy production in the United States and Europe relied heavily on oil imports. Over the preceding two decades, many countries had scaled up their use of crude oil to meet increasing energy needs. On the eve of the first oil shock, dependence on crude oil was particularly high in Europe. Italy sourced almost its entire energy supply from imported oil, with similarly high figures in France (75%), the United Kingdom (50%) and Germany (40%). The United States was less dependent: It only imported 27% of the crude oil used to produce energy, while oil itself generated just over one-third of the total energy produced (International Energy Agency (IEA), 2019).

The oil shocks of 1973 and 1979 transferred substantial wealth to oil-exporting countries. In 1973, oil prices tripled following export embargoes by Arab oil-producing countries.¹⁰ They continued to rise gradually in US dollar terms until they again more than doubled in 1979, when Iranian oil production temporarily fell in the aftermath of the Iranian revolution. Many oil-importing economies entered recessions in 1974-1975 and 1980-1981. The two oil shocks transferred around 2% of gross national product from Organisation for Economic Co-operation and Development (OECD) countries to Organization of the Petroleum Exporting Countries (OPEC) members (Llewellyn, 1983).

¹⁰ West Texas Intermediate (WTI), in current US dollars.

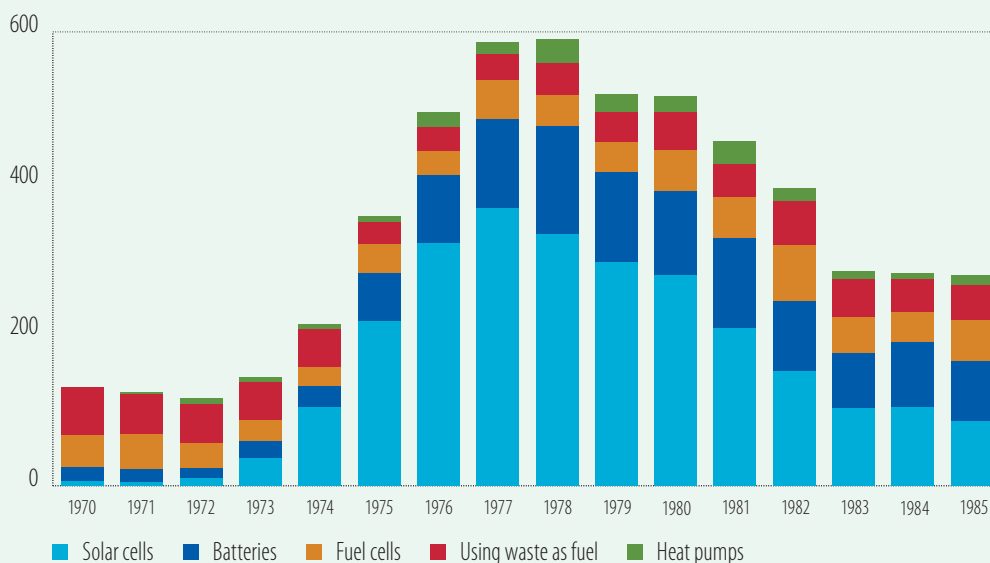
Policymakers responded very differently to the two shocks. In 1973, policymakers in the large oil-importing economies were mainly concerned about offsetting the negative impact higher oil prices were having on demand. Fiscal policy was generally mildly expansionary and monetary policy accommodative. A notable exception was Germany, where the Bundesbank tightened policy rapidly. As a result, inflation rose by less in Germany than in other large oil-importing countries, increasing from 5.5% in 1972 to 7% in 1974 (compared with a rise from 4.5% to 13.2% for Group of Seven (G7) countries). In 1979, concerns about persistent inflation and growing fiscal deficits generated a very different response. Monetary policy was tightened aggressively. Average real interest rates in the G7 nations from 1980 to 1982 were 2.4%, vs. -2.3% from 1973 to 1975 (Black, 1985). Discretionary changes to fiscal policy, such as spending freezes and increases in taxes and social security contributions, amounted to 1.5% of GDP from 1979 to 1982, reducing but not fully offsetting the impact of automatic stabilisers, such as changes in tax revenue and spending (Llewellyn, 1983). As a result, inflation fell back. Unemployment, however, continued to increase, rising from 4.9% in 1973 to a peak of 9.7% in 1982 in the United States, and from 0.8% in 1973 to a peak of 6.1% in 1983 in Germany.

The oil shocks drove a search for alternative energy sources to increase energy security. US coal demand grew by an average of 2.3% per year in the 20 years following the first oil shock, vs. only 0.9% per year for total energy and no growth for oil and gas. Italy halved the share of crude oil in its energy production, relying more on natural gas. France scaled up its nuclear energy programme. By 1990, the share of nuclear energy in its total energy supply had reached 36%, up from just 2% in 1973. The United Kingdom developed its own oil reserves in the North Sea and by 1990, its net exports of crude amounted to 16% of the energy it generated from oil.

High energy prices stimulated research into green energies. The number of patent applications for green energy generation and storage in the United States increased sharply following the first oil shock (Figure C.1). After the second oil shock, patenting activity in these technologies receded, potentially because of changing policy priorities, combined with declining oil prices. Another reason may have been declining returns on innovation at the time (Popp, 2002).

Figure C.1

Patent applications for green energy solutions (by number), in the United States



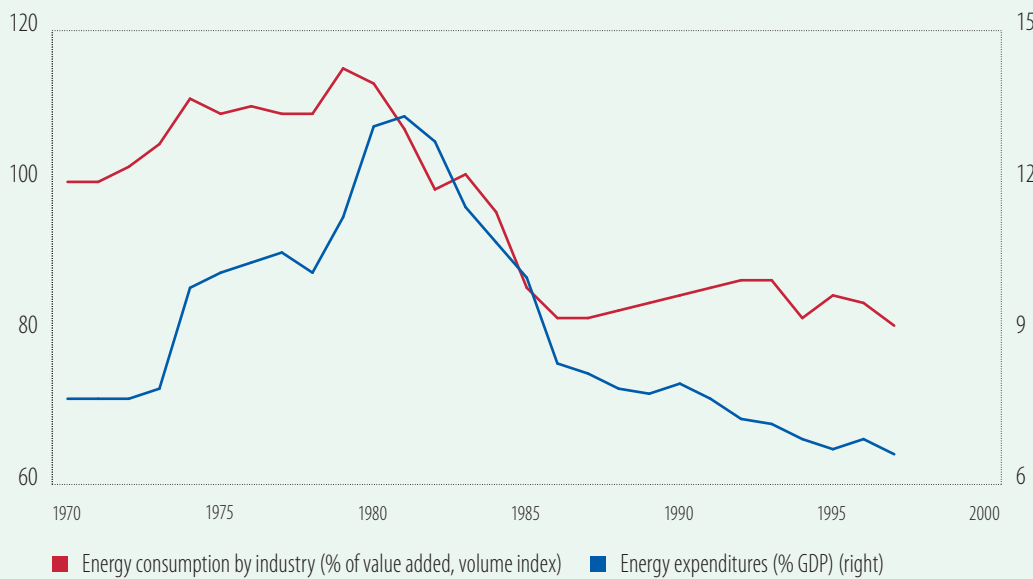
Source: Popp (2002).

Note: Privately held patents are attributed to the year of application. Battery patents are for storing solar energy.

Households and industries used energy more efficiently. Technologies such as computer-aided design and manufacturing, numerically controlled machines and information networks reduced the energy needs of production (Alpanda and Peralta-Alva, 2010). The amount of energy US business used to add economic value declined by about one-third in the decade following the first oil shock (Figure C.2). Technological improvements in heating, lighting and cooling systems led to a decline in energy use, despite a rise in the building space that required heating and cooling (Rosenfeld, 1990).

Figure C.2

Energy expenditures and use by businesses (left axis: an index; right axis: % GDP), in the United States



Source: Energy Information Administration (EIA) and Bureau of Economic Analysis (BEA).

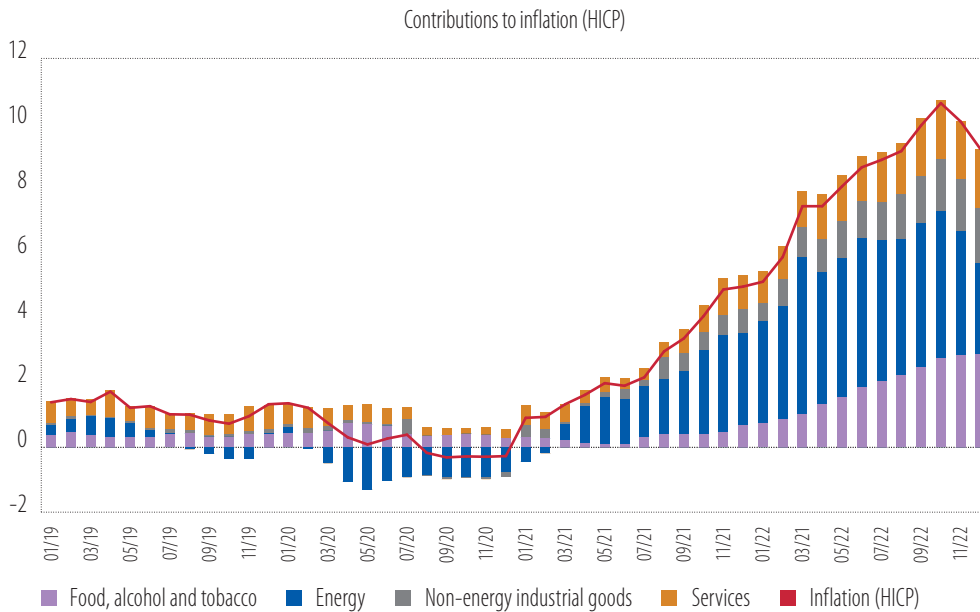
Note: The index measures the total energy consumed by industry relative to the quantity of industrial value added (1970=100).

Tighter monetary policy and greater risk aversion are pushing up corporate funding costs

By the end of 2021, central banks across the European Union started to withdraw some of the extraordinary stimulus provided during the pandemic. Amid a robust recovery, in December 2021 the ECB announced that it would stop increasing its Pandemic Emergency Purchase Programme (PEPP) in March 2022. Under PEPP and the Public Sector Purchase Programme (PSPP), the ECB bought bonds worth equivalent to euro area countries' entire government bond issuance from 2020 to 2021 (Figure 19). Elsewhere, central banks in EU members not using the euro had started to raise interest rates. For example, Hungary increased its rates from a low of 0.6% to 2.4%, the Czech Republic from 0.25% to 3.75%, and Poland from 0.1% to 1.75%.

The war in Ukraine darkened the outlook for growth while pushing inflation far above central banks' targets. Initially, rising prices were confined to energy and food (Figure 13). Because those increases were considered to be temporary, they were initially overlooked by monetary policy. But rising prices proved persistent and broadened to other components of the consumer price index basket. Internet searches for "inflation" rose steeply, suggesting that households and firms were incorporating higher inflation into their price and wage demands (Figure 14).

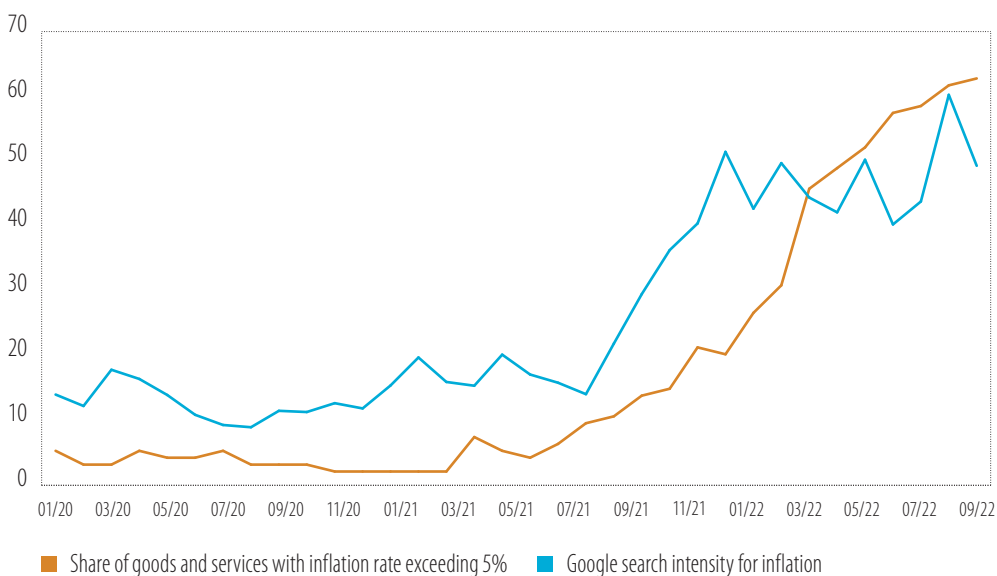
Figure 13
Contributions to annual EU inflation (in percent)



Source: Eurostat, authors' calculations.

Note: HICP stands for Harmonised Indices of Consumer Prices.

Figure 14
Attention to inflation (left axis: an index) and share of goods with high inflation (in %)



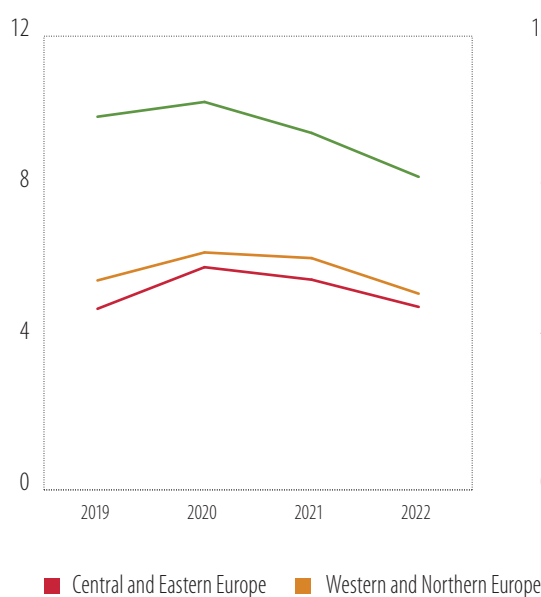
Source: Eurostat, Google.

Note: Share of CPI basket items based on 4-digit items. Google search intensity is based on GDP-weighted indices of the 11 EU members with the largest GDP. The frequency with which Google users search for inflation is taken as a measure of their attention to inflation. Data was last updated in October 2022.

Concerns grew that wages would start to spiral, unhinging inflation expectations. The picture was ambiguous. Strong labour markets were likely to support higher wages. In fact, wages and salaries had started to grow faster, particularly in EU countries in the east, but they did not keep pace with inflation.

Reliable data had a six-month lag, making it difficult to see the inflation picture clearly (Figure 16). There were also regional discrepancies, with much higher unemployment in Southern Europe than in the rest of the European Union (Figure 15). Longer-term inflation expectations remained generally close to central banks' targets. In the euro area, expectations for 2022 and 2023 had gradually risen but those from 2024 onwards remained close to 2% (Figure 17).

Figure 15
EU unemployment (% of labour force)



Source: Eurostat, EIB staff calculations.

Note: Regional aggregates are simple averages across countries. 2022 reflects the average of the first ten months of the year.

Figure 16
Growth of wages and salaries (in %, year-on-year), by EU region



Source: Eurostat, EIB staff calculations.

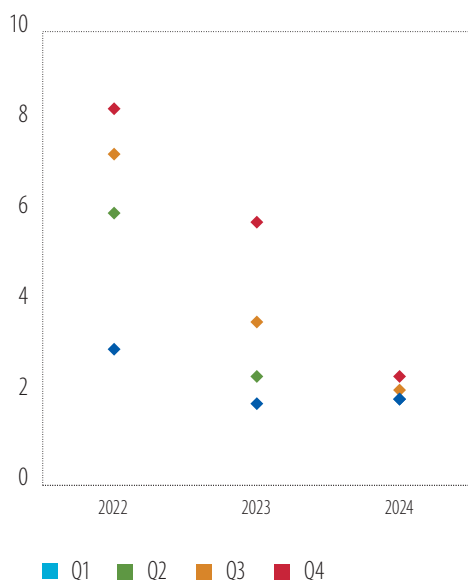
Note: Regional aggregates are simple averages across countries.

An intense debate ensued on how much monetary policy could and should do to contain inflation without plunging the European economy into recession. If inflation was mainly caused by demand exceeding supply (for example by households unwinding savings accumulated during the pandemic), tighter monetary policy could rebalance the economy. If, instead, the main cause of inflation was a rise in the cost of inputs, or supplies, monetary policy could do little to hinder its transmission through the economy. Instead, supply obstacles would need to be removed, such as by building renewable energy production capacity to meet energy demands. The demand and supply pressures were affecting various EU members differently (see Box B above).

Central banks responded by tightening monetary policy rapidly despite concerns about growth. EU central banks in Central and Eastern Europe, which is largely outside the euro area, accelerated tightening. In 2022, the Hungarian central bank increased interest rates by over 10 percentage points, the Polish central bank by 5 percentage points, and the Czech National Bank by 3.25 percentage points. These hikes also supported non-euro area countries' exchange rates, which had started to come under pressure as the global investment climate turned more risk averse. The ECB ended net asset purchases (including those in the PSPP) as of July 2022, and it started to raise its policy rate in the same month. Given how difficult it was to predict inflation, the ECB also abandoned forward guidance, which had been useful when interest rates were close to zero.¹¹

¹¹ The ECB started to provide forward guidance about its policy actions in July 2013, when its Governing Council said it expected interest rates to remain low for an extended period. This quasi-commitment to low rates was meant to stimulate the recovery in the medium and longer term.

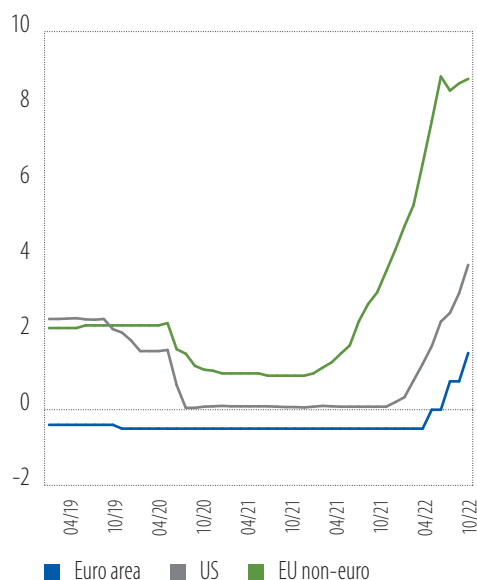
Figure 17
Forecasts for 2022-2024 euro area inflation by professional forecasters at different times in 2022 (in %), by survey quarter



Source: ECB.

Note: The chart shows the mean forecasts for annual inflation for 2022, 2023, and 2024 from the Survey of Professional Forecasters conducted in the first quarter of 2022 and the fourth quarter of 2022.

Figure 18
Central bank policy rates (in %)



Source: National central banks.

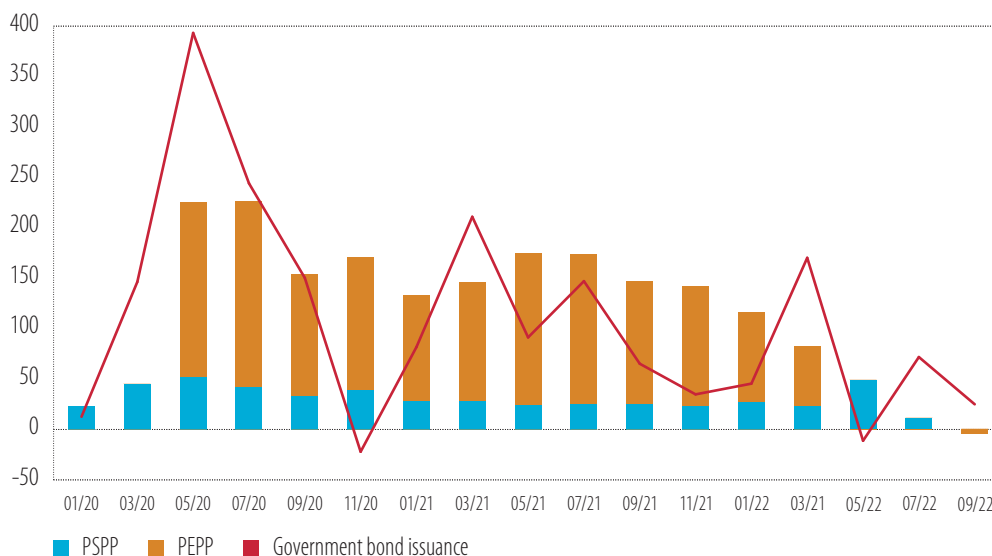
Note: For EU countries outside the euro area, rates were calculated using the simple average of policy rates in Poland, the Czech Republic, Hungary and Romania.

Sovereign funding costs rose rapidly amid much volatility. Yields on longer-term euro area sovereign bonds fluctuated during 2022, caught between concerns about rising inflation and slowing growth. The yield on 10-year German sovereign bonds rose from -0.1% at the end of December 2021 to 1.6% by mid-June, fell back to 0.8% by the start of August, and increased again to 2.5% in late December. Part of the increase may also have been caused by the ECB's renewed focus on keeping inflation expectations in check and its apparent willingness to accept that the euro area economy might have to enter a recession to bring inflation down. While sovereign bond yields remained low in historical terms, the speed at which they increased generated volatility in some financial markets.¹²

The spreads between the sovereign bonds of EU countries with higher and lower debt widened, prompting the ECB to announce a new asset purchase programme. Sovereign bond yields widened more for highly indebted euro area member countries. For example, spreads of Italian over German 10-year sovereign bonds increased from around 130 basis points at the start of the year to 240 basis points in mid-October (Figure 20). Aiming to avoid an increase in longer-term sovereign yield spreads, the ECB began a new bond purchase programme, the Transmission Protection Instrument. Under this programme, the ECB can purchase securities issued in jurisdictions experiencing a deterioration in financial conditions not warranted by country-specific fundamentals. The fundamentals considered include compliance with the EU fiscal framework, fiscal sustainability and soundness of macroeconomic policies. Purchases are unlimited but should not alter the ECB's overall monetary policy stance.

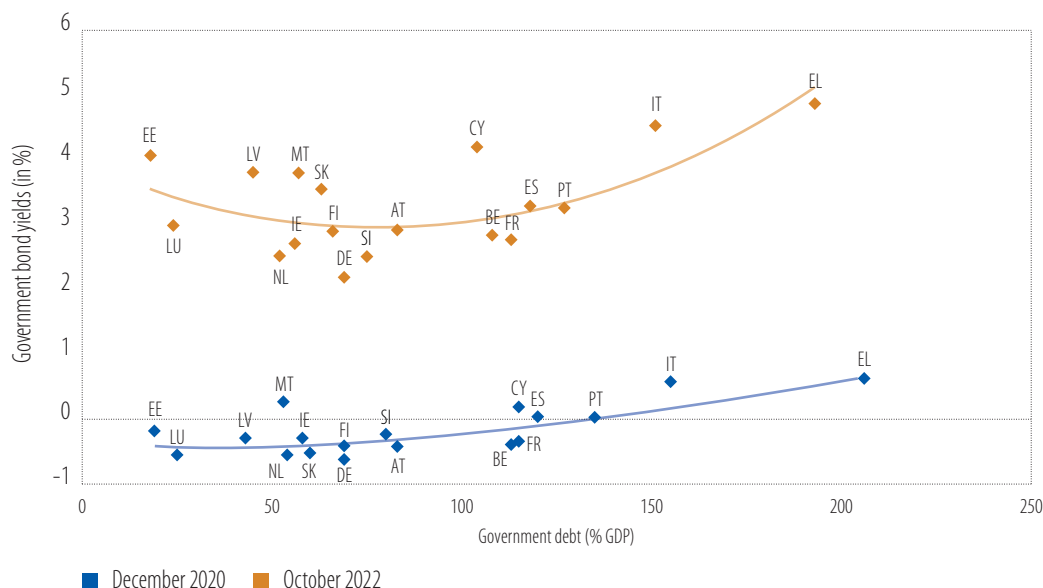
¹² One such episode occurred in the United Kingdom, where the Bank of England intervened to halt a steady decline in the price of gilts.

Figure 19
Value of bonds issued by euro area governments and of bonds purchased by the ECB
 (EUR billion)



Source: EIB staff estimates based on Eurostat, ECB.
 Note: ECB's net purchases of bonds issued by euro area residents under the PSPP and the PEPP from January 2020 until July 2022 and the market value of net bonds issued by euro area governments during the same time. A small fraction of the PEPP contains corporate bonds. There is a break in the series of government bond issuance in January 2021.

Figure 20
Government debt and government bond yields

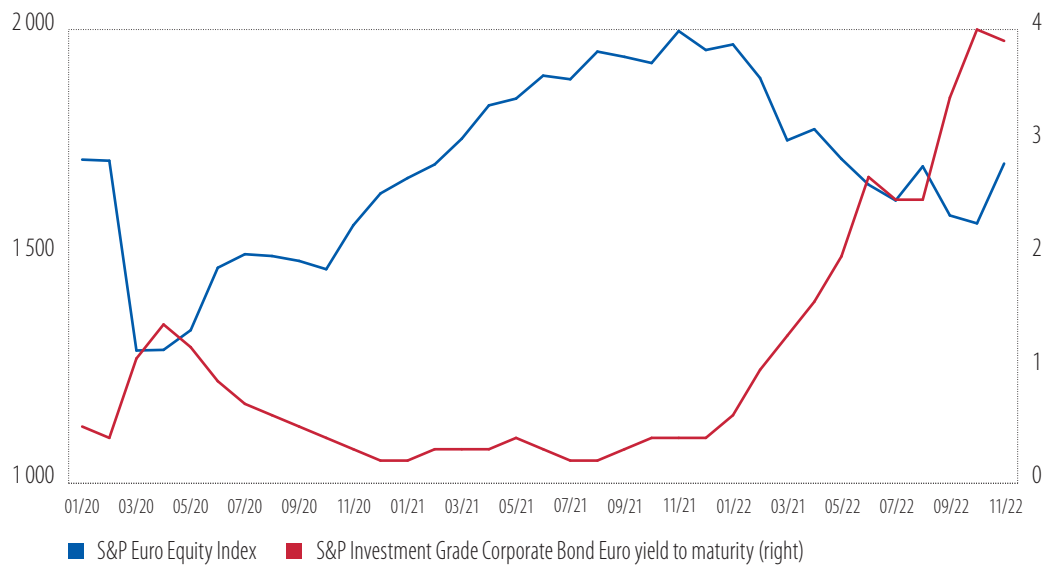


Source: EIB staff estimates based on Eurostat, ECB.
 Note: The chart uses 2021 government debt for yields in October 2022. The dashed line represents a second-order polynomial trend.

Tighter monetary policy and higher risk spreads weighed on corporate refinancing. The proportion of firms that highlighted the lack of available finance as a major constraint increased, particularly in Southern Europe and among small and medium companies (EIB, 2022). The cost of bank lending to corporates,

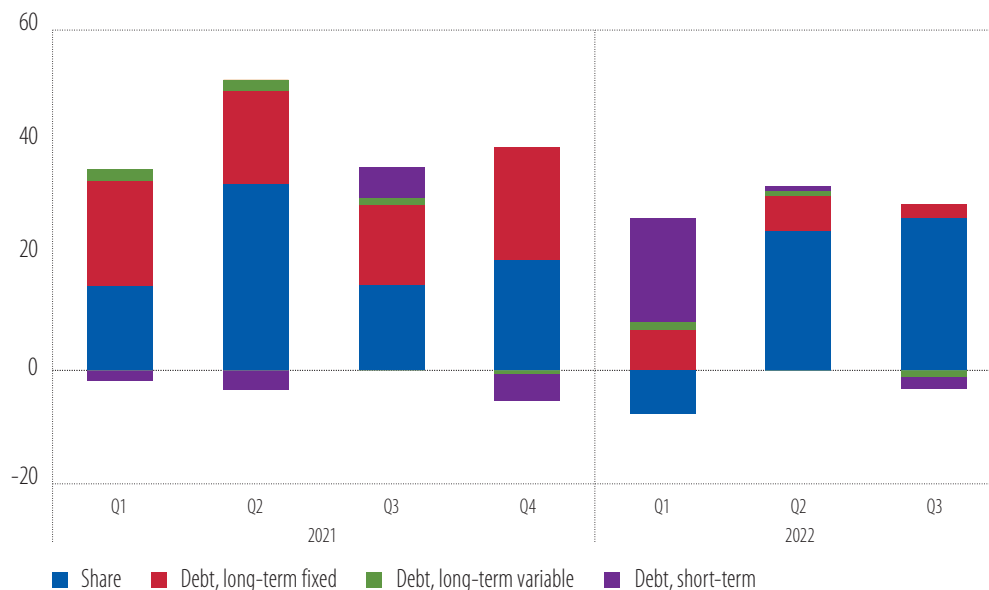
most of which is at variable rates, followed the ECB's policy rate. Banks tightened their lending standards while firms increased their demand for loans to fund working capital and inventories (ECB, 2022). Yields on fixed-rate corporate bonds rose rapidly (Figure 21), especially for firms in Southern Europe, where spreads over German bonds widened the most. Non-financial firms reduced their net issuance of longer-term bonds, primarily those at fixed rates (Figure 22). Higher interest rates and wider risk spreads also reduced share prices and dampened the equity issuance. For example, the Euro Stoxx 50 declined by about 20% over the first nine months of 2022, with technology firms losing the most value. Net share issuance by companies picked up again when the equity market appeared to bottom out.

Figure 21
Euro area share prices (left axis: index) and corporate bond yields (right axis: in %)



Source: Standard & Poor's.

Figure 22
Net issuance of securities by non-financial corporations in the euro area (EUR billion)



Source: ECB.

Towards the end of the year, central banks slowed or halted their tightening of monetary policy and risk spreads narrowed. Oil and gas prices had receded from their mid-summer peak, reflecting high storage levels and reduced demand due to warmer weather, less demand from energy-intensive industries, energy savings and slower economic growth in the European Union and elsewhere. Annual consumer price inflation appeared to stop rising. Cuts to gas supplies — and lasting damage to industry — had become less likely. Central banks argued that previous interest rate increases needed time to work their way through into the economy.

Fiscal policy between short- and long-term challenges

More than two years after the coronavirus pandemic began, the environment created by the war in Ukraine, the energy crisis and monetary policy tightening threatens to exacerbate differences in the fiscal health of EU countries. Three immediate factors are at play. The first is the increase in interest rates, which influences fiscal performance by absorbing public resources to a different degree depending on a country's debt levels. The second is the different pressures in countries to offset high energy prices with support (which depends on geographical, household and corporate exposure). The third is the non-uniform need for structural revamps as a country progresses more quickly towards the climate transition and energy security. Better fiscal policy coordination among countries and at the EU level is needed to stop these divergent forces from becoming too strong.

At the start of 2022, the main challenge for European fiscal policy seemed to be unwinding the post-pandemic expansionary measures and gradually returning to normal. However, the geopolitical crisis triggered by the Russian invasion of Ukraine changed everything. The initial reaction was to keep the general escape clause¹³ of the EU economic governance framework active, and to acknowledge the mounting uncertainty surrounding the economic outlook and need for intervention. As during the COVID-19 crisis, two levels of policy intervention were applied. At a national level, fiscal policy provided discretionary transfers to ease the impact of higher energy prices on households and businesses. At an EU level, the focus was on policies to structurally improve energy security and break dependency on Russia, accelerating the transition away from fossil fuels (such as the introduction of REPowerEU). In the United States, the Inflation Reduction Act pushed in the same direction (Box D). The European Union also continued to play a pivotal role in safeguarding public investment (via the implementation of the Recovery and Resilience Facility).

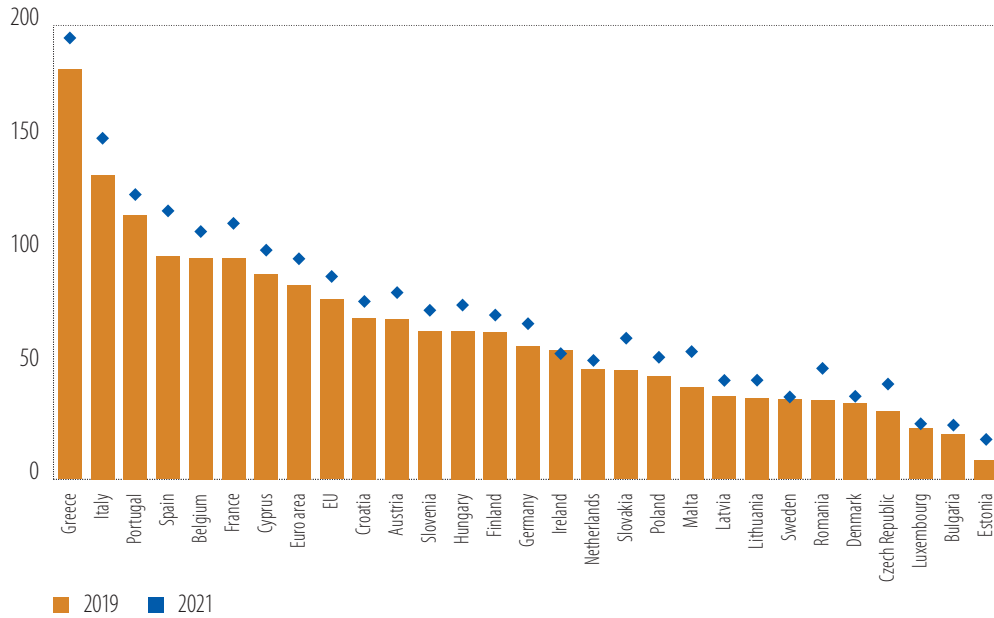
The COVID-19 crisis left the European Union with higher public debt. Owing to the pandemic-related expansionary fiscal stance and lower growth, by the end of 2021 the general government debt for the EU27 had increased by almost EUR 2 trillion, rising to an overall debt-to-EU GDP ratio of 89.4% from 79.2% at the end of 2019. In this period, general government debt increased by an average of 10.2% in EU members and by 11.4% of GDP in euro area countries (Figure 23). In seven EU countries (all in the euro area and representing 44% of the European Union's GDP), the public debt-to-GDP ratio was above 100%.

In May 2022, the European Commission and the Council of the European Union recommended gradually making fiscal policy less expansionary than during the pandemic. The Council of the European Union and the euro area finance ministers¹⁴ recommended that Member States be ready to react to the evolving economic situation (with the high level of uncertainty caused by the energy crisis) and confirmed the move from a supportive fiscal stance in 2022 to a neutral one in 2023. The European Commission's European Semester Spring Package (issued on 22 May 2022) stated that fiscal policy should ease the impact of high energy prices on vulnerable households "being mindful of the measures' potential impact on inflation." The European Commission also recommended that EU members use the Recovery and Resilience Facility to support their recovery to preserve nationally financed investment.

¹³ The general escape clause allows for a coordinated and orderly temporary deviation from the normal requirements for all EU members in a situation of generalised crisis caused by a severe economic downturn of the euro area or the European Union as a whole.

¹⁴ Eurogroup, 23 May 2022 Main Results.

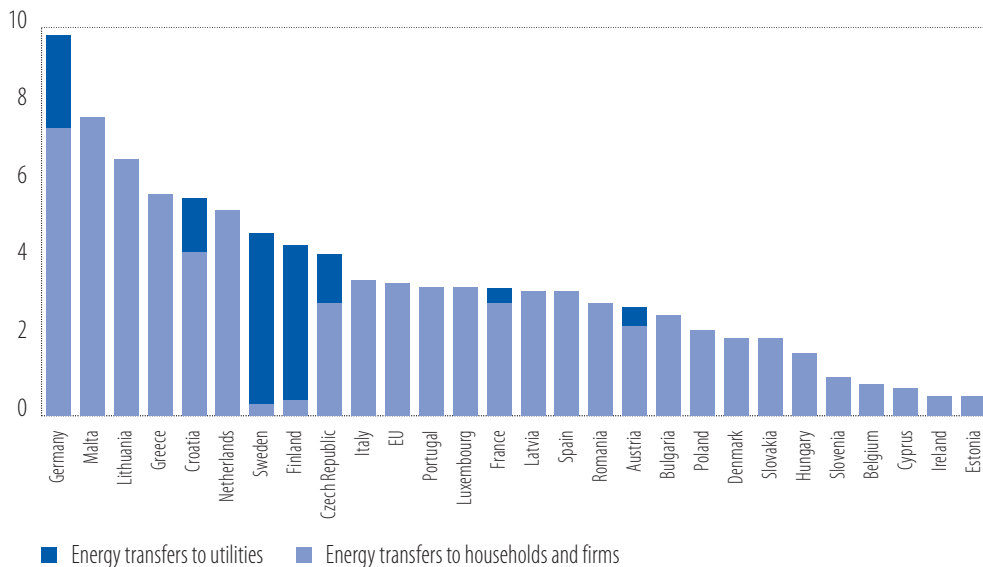
Figure 23
General government gross debt in the European Union (% GDP), 2021 vs. 2019



Source: European Commission.

However, gas and electricity prices on European markets continued to rise throughout the spring, reaching record levels. EU members rolled out various energy-related subsidies to alleviate the negative impact of the higher energy prices and overall cost of living on firms' and households' disposable income, and they provided extraordinary funding to energy-sector public utilities. From September 2021 to October 2022, total allocations for the transfers were estimated to be about EUR 756 billion (3.9% of EU GDP), 76% of which was provided through direct subsidies to consumers and firms and 24% as bailout funds to public utilities (Figure 24).

Figure 24
Value of fiscal transfers related to high energy prices (% GDP), September 2021 to October 2022



Source: Bruegel and EIB staff estimates.

In October 2022, the European Council reached a milestone agreement on how to address high gas prices in European Union, thus alleviating the pressure on national governments. While negotiation and fine-tuning are still ongoing, the European Council held in Brussels on 20-21 October 2022 reached a broad agreement for new emergency measures to address high gas prices in the European Union and to ensure a secure supply of energy. This will be done through: (i) joint liquid natural gas purchasing to negotiate better prices (by pooling demand for at least 15% of EU member country gas storage needs during 2023); (ii) a mandate to the European Commission to create a temporary mechanism to limit gas prices and volatility on the main European Title Transfer Facility (TTF); (iii) a solidarity mechanism between EU members ensuring that any country facing an energy emergency will receive gas from others in exchange for fair compensation (up to EUR 40 billion in transfers drawn from unused EU cohesion funds); and (iv) continuous efforts to reduce gas demand at national level.

The impact of higher inflation and lower growth on government balances is unclear. According to the European Commission's autumn forecast (from November), EU GDP growth was expected to be 3.3% in 2022 and 0.3% in 2023 (3.2% and 0.3% for the euro area). Figures for EU gross public debt are projected to be 86% in 2022 and 84.9% in 2023, while the deficit is expected to be -3.4% in 2022 (down from -4.6% in 2021) and -3.6% in 2023. The structural primary balance is projected to move from -2.5% in 2021 to -2.0% in 2022 and -1.5% in 2023. The change in the structural primary balance is considered to be the best single indicator of how the fiscal stance is changing. The numbers confirm the gradual reduction in the expansionary stance. However, it is important to note that the number was positive before the pandemic, averaging 1.2% from 2014 to 2019.

The European Commission proposal for a revised fiscal framework points to enhanced coordination on debt reduction plans. The proposal presented to the Council by the European Commission in early November acknowledges that some of the automatic mechanisms — particularly a rule that implies government debt to GDP should fall below 60% in 20 years — are now unworkable (given the debt levels reached) and difficult to implement. In the spring, each EU member should present a plan merging the current stability and convergence programmes and national reform programmes. Countries with high debt (particularly those with debt over 90%) should find an agreement with the European Commission on tailor-made four-year (maximum seven-year) debt reduction plans. Non-compliant countries will enter into the standard procedure for dealing with excessive deficit. Committing to specific reforms and investments may grant EU countries additional time regarding their debt reduction (with a stronger guidance from the European Commission). The new framework also aims to simplify the definition of the reduction path (for debt and deficit) using a simple and single fiscal indicator (net primary expenditures¹⁵, defined for each EU member by the European Commission on the basis of the debt sustainability analysis). It also points to increased national participation on defining reforms and policies. The European Commission has acknowledged that the proposal takes inspiration on implementation and monitoring from the governance of the Recovery and Resilience Facility.

In the overall assessment of 2023 budget plans¹⁶ (in euro area countries only), the European Commission confirmed the debt guidelines issued during the summer. These guidelines stated that EU members with high debt levels should limit the growth of primary current expenditure below potential GDP growth, while those with low or medium debt should move towards a neutral fiscal stance. It was also reiterated that any further measures to tackle the energy crisis should specifically target vulnerable households and exposed firms. The European Commission highlighted the role of the Recovery and Resilience Facility in protecting public investment proposed in EU members' plans.

Looking ahead, national and EU-wide fiscal policy challenges remain. Higher public debt and lower economic growth, against a global backdrop of high inflation and rising interest rates, give governments and policymakers less room for manoeuvre. With the ECB ending quantitative easing and tightening monetary policy, European governments are confronted with higher borrowing costs on top of increased

¹⁵ As suggested repeatedly by the European Fiscal Board in its Annual Reports.

¹⁶ European Commission (2022).

debt levels following the pandemic, limiting their capacity to borrow. At the same time, the ECB has introduced the Transmission Protection Instrument (TPI) as a tool to prevent market turbulence that is unrelated to macroeconomic fundamentals. That turbulence can hinder the normal transmission mechanisms of monetary policy. However, the TPI is principally intended to tackle crises. The weight of interest rate expenditure on government spending will unavoidably return to levels not seen in recent years, absorbing substantial resources from the most indebted countries. For example, the yield for Italy's average debt maturity (seven years) rose from 0.42% in June 2021 to 4% in October 2022. At the current level of debt (147.2%) and after higher interest rates are taken into account for debt payments, interest expenditures will absorb close to 6% of GDP compared to 3.4% in 2019. As the difference between interest rates and economic growth once again becomes a key component in assessing debt sustainability¹⁷, European countries will face the challenge of carefully calibrating spending programmes and keeping gross financing needs in check for years to come.

Box D

How the US Inflation Reduction Act could alter the international trade of green products

The Inflation Reduction Act aims to support households and businesses, stimulating employment and investment, and reducing deficits amid rampant inflation. Central to the vast USD 369 billion public spending plan are clean energy provisions intended to cut energy bills, remove barriers to clean energy deployment and build resilience. The act entered into force on 16 August 2022.

Preliminary assessment suggests that the spending plan could trigger over USD 1.5 trillion of new investments in clean manufacturing within ten years. An initial wave of USD 28 billion of investments were expected to be announced following the bill's signature, directly boosting the deployment of electric vehicles, batteries and solar energy manufacturing. A Clean Energy and Sustainability Accelerator, an independent finance entity, will support state and local financing for clean energy investments, pushing the uptake of zero-emission technologies. Production tax credits will encourage the domestic development of more secure and sustainable supply chains, embedding critical minerals that should be extracted, processed and recycled in North America.

This landmark legislation marks a turning point for climate action in the United States. But given the sheer size of subsidies involved, some fear the bill could cause market distortions that pull operations or manufacturing back to the United States. That reshoring could impede the industrial competitiveness of key US trading partners, including in the European Union, eventually undermining their own decarbonisation efforts.

The European Union is also repositioning industrial supply chains to meet its domestic needs for green-tech solutions, with public provisions to catalyse research and foster innovation. A firmed-up REPowerEU action plan — originally put in place to alleviate the immediate impact of the energy crisis — is expected to result in the wider adoption of cheaper clean energy by small and medium companies and industries (von der Leyen, 2022). A key example of the European Union's strategic reorientation is the newly established [European Solar Photovoltaic Industry Alliance](#), following the [European Battery Alliance](#) programme founded in 2017 and the [European Clean Hydrogen Alliance](#) in 2020, reducing the reliance on imported products vital to Europe's green transition.

The bloc has also announced new trade partnerships to secure the supply of green hydrogen and to offset the deficit of critical materials in the long term. The progressive implementation of the European Union's Carbon Border Adjustment Mechanism — an integral part of the [Fit for 55](#) package effective from 2023 — is intended to harmonise the carbon footprint of goods circulating in the European Union, but it may entail higher tariffs for European consumers.

¹⁷ The IMF Fiscal Monitor projection for Italy's rate-growth differential is -1.1% for 2022 to 2027. It was -1.8% in the 2021 October Fiscal Monitor. For France, the differential is -2.3% (it was -3.0% in 2021).

Without some degree of policy and trade rule harmonisation among regional partners, isolated initiatives may result in wider gaps in domestic production costs and inconsistent sustainability standards, which will slow down the green transition globally. Conversely, strengthened cooperation and more transparent support schemes could create a virtuous circle that encourages industrial transformation, stimulates the exchange of green products and delivers a cost-effective and timely transition on both sides of the Atlantic.

In line with the Inflation Reduction Act, the European Commission recently announced its proposals for a Green Deal Industrial Plan to boost the competitiveness of European industries and accelerate the transition to climate neutrality. The plan revolves around four pillars: the regulatory environment pillar, a funding pillar articulated around a newly-created European Sovereignty Fund to raise capital for businesses as well as skills and trade pillars.

Conclusion and policy implications

The ongoing crisis is affecting EU members to very different extents. The upward pressure on energy and food prices exacerbated by the Ukraine war starved the European Union's post-pandemic recovery. But while the shock itself is common to all countries, some EU members are more profoundly affected than others, reflecting their dependency on fossil fuels, the energy intensity of their production and their reliance on gas imported from Russia. Countries' ability to offset the shock also differs. Non-euro area central banks felt the need to raise interest rates quickly to counter pressure on their exchange rates, while the ECB chose to tighten policy more gradually. More heavily indebted countries find their spending constrained after the pandemic, limiting the support they can provide to households and firms.

Better policy coordination would strengthen the European Union. The uneven effect of the crisis highlights the need for coordinating national policies to prevent the rising prices from driving a permanent wedge between the different economies. As it did during the pandemic, the European Union has played an important role in the energy crisis by adopting sanctions against Russia, helping Ukrainian refugees to travel and work and adopting a new programme (REPowerEU) to address the energy crisis.

Europe's energy supply would be more secure if energy purchases were coordinated and network infrastructure improved. For example, coordinating purchasing could help push down prices for energy previously imported from Russia, and improved gas and electricity distribution networks could help countries to avoid rationing energy. These investments will not be implemented overnight, but some might still arrive in time. Energy prices remain volatile and might react quickly to signs of supply shortages. Those shortages might be more acute during the winter of 2023-2024, when gas storage is less full than at the start of winter 2022-2023.

Support for businesses should be targeted, focused on energy efficiency and coordinated to minimise distortions to the single market. National energy prices differed even before the energy shock. However, the increase in wholesale gas prices could easily dwarf the price differences that existed between EU members before the war. Differing price caps across the European Union could give a competitive advantage to firms in countries with lower caps. The single market could be distorted. Moreover, measures to protect business should not weaken incentives for companies to diversify their energy mix, invest in energy efficiency or invest in renewables.

Fiscal policies will need to be coordinated, not least to protect public investment. The European Union's decision to prolong the escape clause of the Stability and Growth Pact provided countries with flexibility to offset the impact of higher energy costs on households and firms. The key question remains how to prevent some countries from making harsh cuts to spending and investment if they are forced to meet the pact's debt and deficit rules. The green and digital transformation requires substantial public investment, but in the past public investments have often fallen victim to fiscal consolidation. Several options exist to protect public investment, such as taking account of the positive effect of investment expenditures on growth when assessing countries' debt sustainability, while ensuring that the European Union meets its longer-term fiscal goals. Measures to hold in check increases in sovereign interest rate spreads — such as the ECB's new asset purchase programme, the TPI — will be more effective if Europe's fiscal framework remains sound and credible.

Overall, the crisis is a challenge as much as it is an opportunity for Europe. The opportunity is that almost all investments tackling the energy crisis will also drive the green transition. The challenge is threefold. First, inflation needs to be tamed. Second, public investment needs to be protected even as countries stare down budget deficits caused by higher military spending and measures to shield households and firms from the energy price shock. And third, investment in the green and digital transitions need to be implemented effectively.

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