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Quarterly Report on the Euro Area

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- **Scene setter: the value of unity@25** by L Coutinho and M. Salto
- **The resilience of euro area labour markets to recent economic shocks** by A. Kiss, A. Turrini and K. Van Herck
- **The Recovery and Resilience Facility: promoting investments and driving reforms** by D. Schulz, F. Orlandi and M. Spooner
- **Robust and dynamic financial markets** by K. Hoffmeister, S. Ryan and U. Clemens
- **An evolving euro area policy mix** by A. Cepparulo, G. Cousin, A. Monks and V. E. Reitano
- **The euro: charting the next decade ahead** by A. Terzi

INSTITUTIONAL PAPER 303 | DECEMBER 2024

EUROPEAN ECONOMY

The value of unity



Economic and
Financial Affairs

The **Quarterly Report on the Euro Area** is written by the staff of the European Commission and coordinated by the Directorate-General for Economic and Financial Affairs under the direction of Maarten Verwey. It is intended to contribute to a better understanding of economic developments in the euro area and to improve the quality of the public debate surrounding the area's economic policy.

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The views expressed are the author's alone and do not necessarily correspond to those of the European Commission.

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European Commission
Directorate-General for Economic and Financial Affairs

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**Maarten Verwey**

Director-General

This special issue of the Quarterly Report on the Euro Area is one of the various initiatives launched by DG ECFIN in 2024 to mark the euro's 25th anniversary. Over the past 25 years, the euro has played a pivotal role in shaping the European economic landscape. Introduced in 1999, it has fostered closer economic integration, strengthened trade relations, and encouraged investments across Europe. Key features of its success have been its record of broad macroeconomic stability, even amid significant global challenges, and the euro area's capacity to demonstrate solidarity and reactivity at crucial moments, notably by creating new powerful policy instruments. As a result, the euro has proved to be persistently attractive, with membership of the euro area going from 11 Member States initially in 1999 to 20 today.

By now, the euro has proven to be a resilient currency, having navigated through various large economic and geopolitical shocks. First, the global financial crisis (2008-2009) and the euro area sovereign debt crisis (2010-2012), when the euro area weathered an existential crisis, demonstrating the collective strength of the EU. Then the global pandemic (2020-2021) and the energy crisis that followed Russia's war of aggression against Ukraine, from which the euro area appears to have emerged largely unscathed though with many challenges ahead.

Developments around the global financial crisis and sovereign debt crisis have been well documented in past issues of the QREA. Hence this issue focuses on the more recent period, from the pandemic to the euro's 25th anniversary. It also reflects on the challenges ahead and on what it may take to preserve the resilience of the euro area in the future. The first chapter sets the scene by discussing the nature of these recent shocks and their macroeconomic impact, and factors that will condition the future of the euro, notably new members joining the euro area and the currency's international role.

The euro area's ability to respond to recent shocks is related to past reforms and to the lessons learned from experience, which led to an unprecedented policy response both at the euro area/EU and at the national level. These reforms and policies are examined in more detail in the various chapters of this report. Chapter II describes the resilience of euro area labour markets, and the role played by EU and national policies. Job-retention schemes, supported by the SURE ⁽¹⁾ instrument at the EU level, have helped preserve valuable job-worker matches and supported labour market participation rates. Chapter III discusses liquidity provision, investments promotion and the impact of the Recovery and Resilience Facility, which, as the cornerstone of the Next Generation EU initiative, was the EU's unprecedented fiscal response to the COVID-19 pandemic.

Chapter IV shows how the wide set of financial-sector reforms undertaken in the aftermath of the global financial crisis and the sovereign debt crisis have increased the resilience of the financial sector and reduced the risks of financial fragmentation. The reinforced financial sector, aided by swift and decisive

⁽¹⁾ The European instrument for temporary Support to mitigate Unemployment Risks in an Emergency. Legal documents are available at https://economy-finance.ec.europa.eu/eu-financial-assistance/sure/sure-legal-documents_en.

policy measures taken at all levels, have weathered the adverse shocks of recent years quite well. This is despite the still significant limitations of the euro area's risk-sharing and shock absorption capacity and the area's limited cross-border investment flows.

Finally, Chapter V shows how the shocks have led to changes in the perception and functioning of the macroeconomic policy mix. The lessons learned from the crises in 2008-09 and 2010-2012 informed a successful response to the COVID-19 crisis. EU institutions stepped up promptly and introduced innovative common tools, complementing an overall supportive fiscal-monetary policy mix in the euro area. The policy response to the energy crisis and inflation surge in 2022 was also effective: the European Central Bank increased policy interest rates to keep inflation expectations anchored, while governments introduced fiscal support measures to cushion households and firms from the impact of higher energy prices, though measures were not always well targeted and efficient.

The challenge for the future is to reduce the high levels of public debt accumulated in some euro area Member States and bolster competitiveness, while making decisive progress in the green and digital transitions and navigating several mega-trends over the next decade. These trends include rising geopolitical tensions, climate change, the artificial intelligence revolution and population ageing. Chapter VI sketches out how these mega-trends could affect the European Economic and Monetary Union, and its institutions. Concerning the macroeconomic policy mix, there are reasons to expect that inflation volatility may be on the rise, suggesting a more difficult job for monetary policy authorities, while potential tensions may arise on the fiscal side between increasing demand for spending and the need to reduce high debt levels. Increasing tensions stemming from exogenous shocks with asymmetric effects such as geopolitics and climate change might highlight the need for greater risk-sharing at the European level, and for a stronger Europeanisation of economic policy, including a complete Banking and Capital Markets Union.

Overall, the euro and the euro area economy seem broadly well placed to withstand the anticipated shocks likely to emerge over the next decade, provided it adapts swiftly enough to the evolving context. Economic policymakers will need to plan in advance for the coming challenges to avoid being caught out as these trends materialise. Advances towards a complete Economic and Monetary Union will also be required, to make the euro more agile and resilient, and ultimately increase its standing among Europeans and on the international stage.

A handwritten signature in blue ink, appearing to be 'M. Draghi', is located in the lower right quadrant of the page. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

I. SCENE SETTER: THE VALUE OF UNITY@25

By Leonor Coutinho and Matteo Salto

Abstract: *This chapter describes how the euro area managed to withstand the major economic shocks that occurred over the four years between the outbreak of the COVID-19 pandemic and the 25th anniversary of the euro in 2024. The shocks were common to the whole euro area and major in scale, but with very asymmetric effects that had the potential to undermine the process of economic convergence. An analysis of the key macroeconomic variables in this chapter reveals a picture of resilience: little evidence of scarring in labour markets, anchored inflation expectations, no financial fragmentation and economic reconvergence as the shocks dissipated, particularly in terms of inflation. This resilience appears to be the product of past reforms and lessons learnt from experience, which enabled an unprecedented policy response both at euro area/EU level and at Member State level. These reforms and policies are examined in more detail in subsequent chapters. The chapter closes with a look at past enlargements of the euro area and their benefits, arguing that further enlargement would contribute to expand both the euro's outreach and the international use of the currency. ⁽¹⁾*

This chapter gives an overview of the current macroeconomic and policy context of the euro as it celebrates its 25th anniversary. The euro area economy is emerging from a few very challenging years, marked by major economic shocks and unprecedented policy responses. Though every year has been important in shaping the euro area of today, previous events have been documented and analysed in great details in earlier publications, including the Commission's euro@10 and, more recently, the euro@20. ⁽²⁾ The recent events from 2020-2024 have been less documented and analysed. To set the scene for the following chapters, which zoom in on specific policy areas, this chapter describes the nature of the shocks experienced over 2020-2024 and gives an overall picture of the macroeconomic repercussions felt across different sectors, markets and countries. It looks at the reforms and policies that enabled the euro area to withstand these shocks and analyses the role they have played within the broader macroeconomic context. The last section looks at how the euro area has grown over 25 years from a currency union of 11 countries to 20 countries. This has helped consolidate the international role of the euro, and this chapter also indicates other avenues to further consolidate and strengthen this role.

I.1. THE NATURE OF RECENT SHOCKS

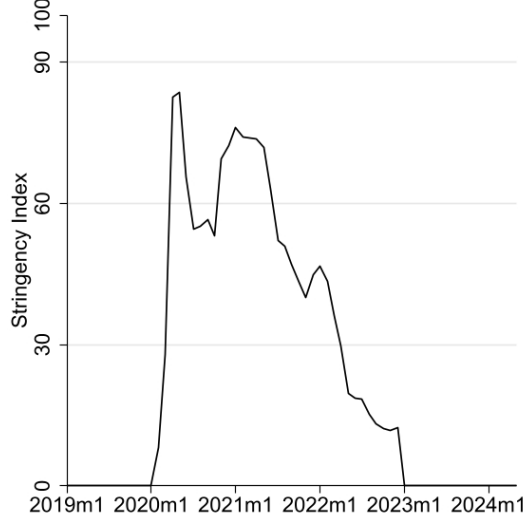
Over the four years between the outbreak of the COVID-19 pandemic and the 25th anniversary of the euro, the euro area has weathered an unprecedented sequence of major adverse shocks. The first of these shocks, the COVID-19 pandemic, was a very large, unexpected and truly exogenous shock, hitting the global economy early in 2020. It was a global pandemic not seen since the Spanish flu in 1918, which significantly impacted the health of populations across the world and resulted in a considerable loss of lives. The pandemic was tackled in two ways: by restricting mobility ('lockdowns') to contain the spread of the virus (see Graph I.1), and by supporting the economy to avoid potential hysteresis effects induced by containment measures, laying the basis for a swift recovery. Support measures enabled households and businesses to remain 'afloat' while lockdowns were in place. ⁽³⁾ In the recovery phase, the focus shifted to financing reforms and investments to ensure a sustainable recovery. As the euro area was in the process of recovering from this first shock, a second hit in the form of Russia's unprovoked and fully-fledged invasion of Ukraine in February 2022. The price of energy soared (in particular natural gas, imported largely from Russia) as did food commodity prices (Graph I.2).

⁽¹⁾ The authors thank Christian Buelens, Eric Ruscher, Aron Kiss, Allen Monks and Massimo Suardi for useful comments and suggestions. This section represents the authors' views and not necessarily those of the European Commission.

⁽²⁾ European Commission (2019), Quarterly Report on the Euro Area: The euro@20, an extraordinary journey', Volume 18, No 2 (2019); European Commission (2008), 'Quarterly Report on the Euro Area: EMU@10 – Assessing the first ten years and challenges ahead', Volume 7, No 2, See also Trichet, J. C. (2019), 'The Euro after 20 Years is a historic success: A powerful encouragement for further European reforms', Review of World Economics, 155(1), 5-14; M. Buti, M., Jollès, M., and M. Salto (2019). The Euro—A Tale of 20 Years: What Are the Priorities Going Forward?, Intereconomics, 54, 65-72; Whelan, K. (2019), 'The Euro at 20: Successes, Problems, Progress and Threats', Study for the Committee on Economic and Monetary Affairs, European Parliament; Beermann, J. (Ed.) (2022), *The euro at 20 – The future of our money*, Penguin Books; Alesina, A., and Giavazzi, F. (Eds.). (2010), *Europe and the Euro*, University of Chicago Press; K., Regling, Deroose, S., Felke, R., and P. Kutos (2010). The euro after its first decade: weathering the financial storm and enlarging the euro area, Asian Development Bank Institute (ADBI) Working Paper No 205.

⁽³⁾ These measures included short-term working schemes, subsidies, moratoria on loan and tax payments, credit guarantees, liquidity facilities and temporary suspension of requirements to file for insolvency and will be revisited later in the chapter.

Graph I.1: Oxford stringency index

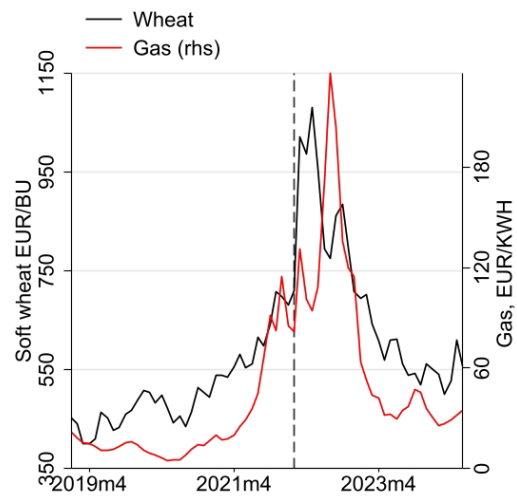


Note: Oxford stringency Index for the euro area computed as country average weighed by population

Source: data are from <https://ourworldindata.org/covid-cases> - quoted as Edouard Mathieu, Hannah Ritchie, Lucas Rod s-Guirao, Cameron Appel, Charlie Giattino, Joe Hasell, Bobbie Macdonald, Saloni Dattani, Diana Beltekian, Esteban Ortiz-Ospina and Max Roser (2020) - "Coronavirus Pandemic (COVID-19)". Published online at OurWorldInData.org.

Retrieved from: '<https://ourworldindata.org/coronavirus>' [Online Resource].

Graph I.2: Commodity prices (Natural gas EU Dutch TTF (EUR/MWh) and international wheat prices (wheat (USD/Bu)))



Dutch TTF Natural Gas, 1st Expiration Nearby, Settlement Price, Current Values are as per Jul. 2024 Contracts, euro per mega watt hour, Chicago SRW Wheat, 1st expiration nearby, settlement price, current values as per Jul. 2024 contracts.

Source: ICE Futures Europe, www.theice.com.

The COVID-19 pandemic can be described as a combination of demand and supply shocks. Several studies have sought to characterise this shock as a shock to demand or to supply in order to help design policy measures and anticipate or explain its impact on inflation. While a negative demand shock would imply deflationary pressure, a negative supply shock tends instead to be inflationary. There is broad agreement that the pandemic was a combination of both. The spread of the disease itself reduced spending and hours worked while increasing demand for certain goods and services related to health. Lockdowns not only restricted production by curtailing the mobility of workers and restricting transport, causing supply chain disruptions and input shortages. The lockdowns simultaneously imposed forced savings on households, who could mostly only purchase goods and services online. Public support to sustain household incomes and safeguard employment also affected both demand and supply. ⁽⁴⁾ A complementary view is that the asymmetric impact of the shock across sectors may also have resulted in indirect demand effects on the remaining sectors of the economy. Guerrieri et al. (2022) argue that the COVID-19 pandemic can be seen as a large asymmetric negative supply shock directly affecting contact-intensive sectors, which then generated negative demand shocks in other sectors of the economy. ⁽⁵⁾ These sectoral differences can turn the supply shock into a demand shock in several ways. First, when capital markets are incomplete, the income generated by the non-affected sectors cannot support demand in the affected sectors. Second, the affected sectors often use inputs from non-affected sectors, also lowering demand for that output. Third, goods and services are not fully substitutable, implying that demand falls when there is a more limited set of goods and services available to purchase. ⁽⁶⁾

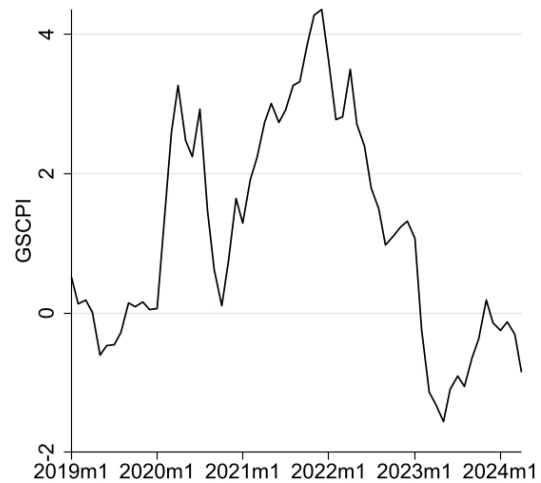
⁽⁴⁾ Kollmann (2021) and Cardani et al. (2023) show that demand or supply shocks alone cannot account for developments in GDP and inflation, by introducing a range of shocks in their dynamic stochastic general equilibrium models and showing the contribution of the various shocks to GDP and inflation developments. Kollmann R. (2021), 'Effects of Covid-19 on euro area GDP and inflation: demand v supply disturbances', *International Economics and Economic Policy*, 18(3), 475-492; Cardani R., Pfeiffer P., Ratto M., and Vogel L. (2023), 'The COVID-19 recession on both sides of the Atlantic: A model-based comparison', *European Economic Review*, 158, 104556.

⁽⁵⁾ Guerrieri V., Lorenzoni G., Straub L., and Werning, I. (2022), 'Macroeconomic implications of COVID-19: Can negative supply shocks cause demand shortages?', *American Economic Review*, 112(5), 1437-1474.

⁽⁶⁾ In summary, consumer choice is driven by both inter-temporal and intra-temporal factors. When one good or service becomes temporarily unavailable, consumers not only switch intra-temporally to other goods and services but also inter-temporally by

Major disruptions to global supply chains further constrained supply. Pandemic-related events led to historically high and volatile global supply chain pressures over the period 2020-2021 (Graph I.3). Supply pressures temporarily surged after the COVID-19 outbreak in 2020 and then again in 2021 to reach a peak in December the same year. These disruptions had multiple causes: as the global economy started to adapt to the pandemic, supply struggled to keep pace with changing patterns in consumer demand for goods, leading to shortages of raw materials, container transport and labour, which in turn led to higher prices. These disruptions were exacerbated by congested international ports, production and shipment delays along the supply chain and a surge in shipping costs attributable to asynchronised COVID-19 containment measures around the world.⁽⁷⁾ Forced savings combined with income support led to pent-up demand which fuelled accelerated household spending during the recovery phase. As lockdown restrictions started to be lifted and economic conditions began to improve, demand rebounded more rapidly than anticipated, outpacing supply. This was quickly reflected in an increase in energy prices. Demand also shifted suddenly from goods back to services and labour shortages emerged.

Graph I.3: **Global Supply Chain Pressure Index**



Source: Federal Reserve Bank of New York, Global Supply Chain Pressure Index. The index combines a comprehensive set of indicators of global transportation costs and supply bottlenecks.

As a result, prices in contact-intensive services surged from mid-2021 onwards, primarily reflecting the rise in demand for tourism and restaurants.⁽⁸⁾

The surge in commodity prices, particularly in prices of natural gas following Russia's unprovoked invasion of Ukraine was predominantly a cost-push supply shock. Commodity prices were already on the rise with demand rapidly recovering from the COVID-19 shock but climbed higher in the euro area in the run-up to Russia's aggression in Ukraine in February 2022, reflecting the high global market shares of Ukraine and Russia for many commodities.⁽⁹⁾ Prices of natural gas surged particularly strongly as Russia started to withhold supplies in the second half of 2021 (Graph I.2). In parallel, food inflation started to climb after the invasion, peaking early in 2023. There were several reasons for this increase in food prices besides the increase in the price of food commodities (Graph I.3), as higher energy and transport costs also played an important role.⁽¹⁰⁾ In addition to the impact of high prices on commodity markets, the war in Ukraine compounded by conflict in the Middle East heightened economic uncertainty and undermined consumer and business sentiment.⁽¹¹⁾

planning future consumption. Consumers respond by switching inter-temporally from present to future consumption since they expect all goods and services to be available again in the future. This reduces current purchases of all goods and services. The relative strength of these effects depends on the relative sizes of the intra- and inter-temporal elasticities of substitution.

⁽⁷⁾ In Carrière-Swallow Y., Deb P., D. Furceri, D. Jiménez, and J. D. Ostry (2023), 'Shipping costs and inflation', *Journal of International Money and Finance*, 130, 102771, the authors studied the impact of global shipping costs, as measured by the Baltic Dry Index (BDI), on domestic prices, using a large panel of countries over the period 1992-2021. Their results show that spikes in the BDI are followed by sizable and statistically significant increases in import prices, PPI, headline and core inflation, as well as inflation expectations. More broadly, Ascari et al (2022) quantify the contribution of global supply chain pressure shocks to euro area inflation, finding that they played a major role in driving inflation after COVID and had persistent effects. See G. Ascari, D. Bonam, and A. Smadu (2024), 'Global supply chain pressures, inflation, and implications for monetary policy', *Journal of International Money and Finance*, 103029.

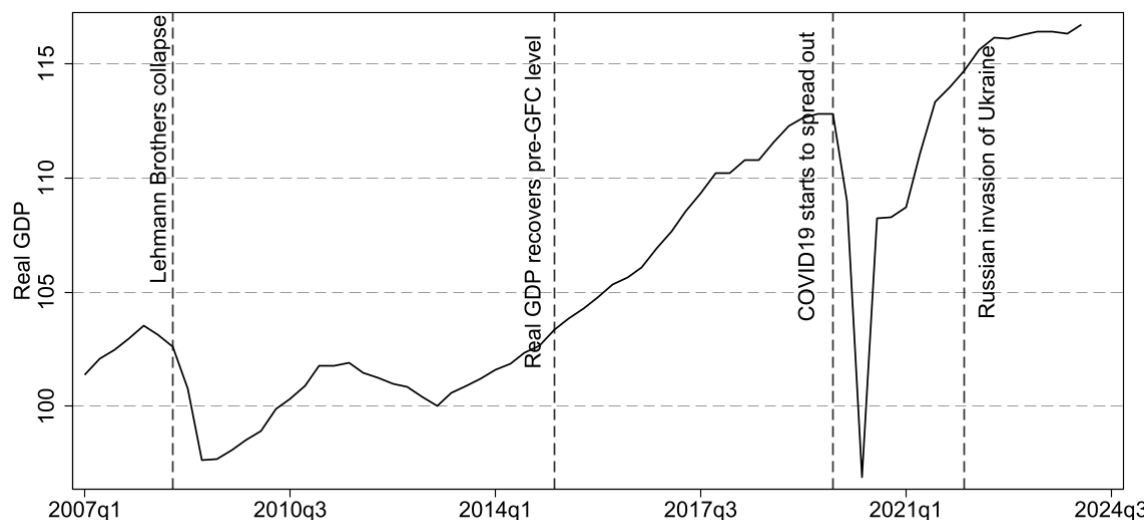
⁽⁸⁾ C. Buelens and V. Zdarek (2022), 'Euro area inflation shaped by two years of COVID-19 pandemic,' *Quarterly Report on the Euro Area* (QREA), European Commission, vol. 21(1), pages 7-20, May.

⁽⁹⁾ See C. Buelens (2023), 'The great dispersion: euro area inflation differentials in the aftermath of the pandemic and the war,' *Quarterly Report on the Euro Area* (QREA), European Commission, vol. 22(2), pages 7-22, July.

⁽¹⁰⁾ See A. Rezessy and G. Maravalli, (2024), 'What's behind the spike in food inflation – recent developments, drivers and outlook in the euro area,' *Quarterly Report on the Euro Area* (QREA), European Commission, vol. 22(4), p. 7-18.

⁽¹¹⁾ European Commission (2023) Autumn Forecast, available at: https://economy-finance.ec.europa.eu/publications/european-economic-forecast-autumn-2023_en.

Graph I.4: Euro area real GDP developments (quarterly data, calendar and seasonally adjusted)



Source: Eurostat

I.2. THE MACROECONOMIC IMPACT OF THE SHOCKS

The adverse shocks described above were very large-scale and unprecedented, and yet they were met by an equally unprecedented policy response. The subsections below describe the macroeconomic impact of the shocks to the euro area, which tested its resilience to great extents. The visible effects, however, have been contained by the policy action taken in response.

I.2.1. Real GDP and inflation effects

Both the pandemic and the energy price shock had an impact on GDP growth, but their impact was fundamentally different than the impact of the global financial crisis. The COVID-19 pandemic made a large dent in euro area real GDP at the peak of lockdown measures, which heavily restricted business activity. The lifting of the lockdown measures unleashed a strong but short-lived recovery, with the economy exceeding its pre-crisis real GDP level by the second half of 2021. The speed of the post-pandemic recovery was due to a combination of factors, discussed in more detail in the following sections and in the other chapters of this special edition. To summarise briefly, the purely exogenous and temporary nature of the shock and the policy measures adopted in response were crucial in achieving a positive outcome. More importantly, in terms of nature, the shock was not the result of economic imbalances or weaknesses in the financial sector. In terms of the policy response, there was a strong emphasis on shoring up demand and preventing hysteresis effects that would have resulted from a rise in unemployment.

It is likely that the structural transformations triggered by the pandemic will only become apparent in the years to come. Initial literature on the potential long-term impact of COVID-19 gives mixed views. Some feared the pandemic could cause scarring to the euro area economy, given the scale and nature of the shock. Croitorov et al. (2021)⁽¹²⁾ argue that the very sharp contraction in economic activity could risk permanent economic damage to potential GDP through capital, technology and labour market channels, though it may also have accelerated the necessary digital and green transitions. Thum-Thysen et al. (2022) find that the impact of the COVID-19 pandemic on the EU's potential output estimates was very different from the shock of the 2008-2009 financial crisis, with likely limited long-term scarring effects

⁽¹²⁾ O. Croitorov, G. Filippeschi, M. Licchetta, P. Pfeiffer, A. Reut, W. Simons, A. Thum-Thysen, A. Vandeplas and L. Vogel (2021), 'The macroeconomic impact of the COVID-19 pandemic in the euro area', *Quarterly Report on the Euro Area (QREA)*, European Commission, vol. 20(2), pages 7-16.

on GDP, partly due to the policy support measures taken. ⁽¹³⁾ Archanskaia et al. (2023) ⁽¹⁴⁾ caution, though, that the liquidity and credit extended to firms to keep them afloat raised debt levels in non-financial corporations, in some cases to a level that may not prove sustainable. ⁽¹⁵⁾ Uncertainty also remains regarding the long-term effects of COVID-19 on labour markets, as discussed in Chapter 2, and on preference and sectoral shifts related to these preferences (e.g. lower demand for commercial real estate due to the increase in teleworking). Even four years after the pandemic, substantial uncertainty remains over the long-term consequences.

The impact of the COVID-19 pandemic shock on inflation was complex and long-lasting. Buelens and Zdarek (2022) ⁽¹⁶⁾ analyse the effects of the pandemic on inflation. They find that the effect of the shock and responses to it exerted both upward and downward pressure on prices, with the dominant pressure changing over time. For instance, the first phase of the pandemic mainly saw deflationary pressure, when the euro area economy experienced various degrees of lockdown, while upward pressure was the main effect once the recovery took hold. Similarly, Cardani et al. (2023) ⁽¹⁷⁾ and Arce et al. (2024) ⁽¹⁸⁾ find that, while lockdown restrictions and forced savings put significant downward pressure on inflation in 2020, the effects of reopening and pent-up demand combined with constraints to supply and labour market tightness put significant upward pressure later on. The role of the considerable fiscal stimulus provided over this period in exerting upward pressure on inflation has also been extensively analysed. Jorda and Nechio (2023) ⁽¹⁹⁾ find that direct fiscal measures supporting household disposable income explain a significant portion of the price and wage inflation surge, starting from the pandemic recovery period until the first quarter of 2022. They argue also that the pass-through of inflation expectations to wages became stronger in the aftermath of the pandemic. Studies comparing the effects of fiscal policy in the euro area and the US generally find that the impact was greater in the US than in the euro area (see Di Giovanni et al., 2023, ⁽²⁰⁾ and Cardani et al., 2023 ⁽²¹⁾ and references therein).

Rising gas and food commodity prices from early 2022 added upward pressure on euro area inflation but there is a debate on the relative contribution of demand and supply shocks to post-pandemic inflation. It is not easy to disentangle the impact of the energy shock on inflation from post-COVID pent-up demand effects and policy support measures. A significant body of literature finds that the energy price shock and its pass-through in the production chain played a major role in explaining euro area inflation and its persistence after February 2022, while in the US, demand was the main driver. ⁽²²⁾ Though initially there

⁽¹³⁾ A. Thum-Thysen, F. Blondeau d'Auria, B. Döhring, A. Hristov and K. Mc Morrow (2022), 'Potential output and output gaps against the backdrop of the COVID-19 pandemic', *Quarterly Report on the Euro Area* (QREA), vol. 21(1), pages 21-30.

⁽¹⁴⁾ E. Archanskaia, E. Canton, A. Hobza, P. Nikolov, and W. Simons (2023), 'The asymmetric impact of COVID-19: A novel approach to quantifying financial distress across industries', *European Economic Review*, 158, 104509.

⁽¹⁵⁾ There is no evidence, though, that zombie firms (firms that cannot fulfil their payment obligations in the long term but stay afloat through credit) increased due to the credit extended during the pandemic. Altman et al. (2024) find no evidence that the percentage of zombie firms increased with the pandemic; see E. I., Altman, R., Dai, and Wang, W. (2024), Global zombie companies: measurements, determinants, and outcomes, *Journal of International Business Studies*, 1-22. Altavilla et al. (2023) find that monetary and prudential policies did not promote 'zombie' lending; see Altavilla, C., Barbiero, F., Boucinha, M., and L. Burlon, (2023), The great lockdown: pandemic response policies and bank lending conditions, *European Economic Review*, 156, 104478.

⁽¹⁶⁾ C. Buelens and V. Zdarek (2022), 'Euro area inflation shaped by two years of COVID-19 pandemic', *Quarterly Report on the Euro Area* (QREA), European Commission, vol. 21(1), pages 7-20, May.

⁽¹⁷⁾ Op. Cit.

⁽¹⁸⁾ O. Arce, M. Ciccarelli, A. Kornprobst and C. Montes-Galdón (2024), 'What Caused the Euro Area Post-Pandemic Inflation?', ECB Occasional Paper No 2024/343.

⁽¹⁹⁾ Ö. Jordà, and F. Nechio (2023) 'Inflation and wage growth since the pandemic', *European Economic Review*, 156, 104474.

⁽²⁰⁾ J. Di Giovanni, S. Kalemli-Özcan, A. Silva, M.A Yildirim. (2022), 'Global Supply Chain Pressures, International Trade, and Inflation', NBER Working Paper 30240.

⁽²¹⁾ Op. Cit.

⁽²²⁾ For euro area developments, see C. Buelens (2023) op. cit. and L. Coutinho and M. Lichetta (2023) and references therein. For comparisons between the euro area and the US, see Arce et al. (2024) op. cit. and Cardani et al. (2023) op. cit. and references therein. Bernanke and Blanchard. (2024) and the studies reviewed by them find that energy and food price hikes made a major contribution to euro area inflation. Bařbura et al. (2023) find, more broadly, that supply shocks made a major contribution to euro area inflation, while Ascari et al. (2024) op. cit., and Bai et al. (2024) attribute it mainly to global supply bottlenecks, notwithstanding the significant role of energy price shocks. One caveat of many of these studies is that energy, food and supply chain shocks are fully exogenous variables, though they may also be affected by demand forces. L. Coutinho and M. Licchetta, (2023). Inflation Differentials in the Euro Area at the Time of High Energy Prices. *European Economy Discussion Papers*, 197.

were strong demand effects, including demand for energy prompted by the reopening of the economy, inflation in the euro area was subsequently driven by adverse supply-side effects, consisting of tightening supply chain bottlenecks, higher commodity prices and other distortions sparked by Russia's invasion of Ukraine. ⁽²³⁾ The energy inflation shock spread rapidly to other inflation components, through spillover effects on production costs and wages. The result was that inflation remained high even after energy prices peaked and after the original energy shock had dissipated (Graph I.5). In contrast to the more conventional view that supply-side effects played a large role in driving post-pandemic inflation after the initial recovery phase, Giannone and Primiceri (2024) argue that demand factors (recovery and support) boosting economic activity since 2021 were the main drivers of inflation over this period, also in the euro area. ⁽²⁴⁾

Inflation excluding energy and food trailed headline inflation, reflecting the slow pass-through of energy inflation. HICP inflation, excluding energy and food, tracked overall HICP inflation, peaking five months after headline inflation and remaining persistently high even as the commodity price shocks dissipated. To understand the drivers of the persistence in inflation components other than energy and food, several studies analyse the pass-through of energy price hikes to other inflation items. Guerrieri et al. (2023) ⁽²⁵⁾ analyse how energy supply shocks propagate through the euro area economy. They show that energy affects some sectors (e.g. manufacturing) directly and others (e.g. services) indirectly through the use of intermediate inputs and second-round effects on wages. While inflation in energy-intensive sectors responds quickly to energy price hikes, inflation in other sectors of the economy builds up only gradually. Furthermore, if prices tend not to fall due to downward nominal rigidities, any relative price adjustments required by these major shocks must be driven by additional inflation. ⁽²⁶⁾ Alessandri and Gazzani (2023) ⁽²⁷⁾ show also that negative shocks to gas supplies are stagflationary, and that their impact on inflation is more gradual but ultimately greater than that of oil supply shocks. This may be due to the specific features of gas markets, which have been fragmented and dominated by long-term contracts. Their estimates suggest prolonged repercussions of the scarcity of gas caused by the war of aggression against Ukraine through indirect effects. In addition, De Santis and Tornese (2023) ⁽²⁸⁾ explain the high pass-through in 2021-2022 by showing that energy price hikes pass through to consumer prices more in situations of high inflation. ⁽²⁹⁾

B.S. Bernanke and O. J. Blanchard (2024), An Analysis of Pandemic-Era Inflation in 11 Economies, NBER working paper 32532. M. Bańbura, E. Bobeica, and C. Martínez Hernández, (2023), 'What drives core inflation? The role of supply shocks', ECB working paper 2875. X. Bai, J. Fernández-Villaverde, Y. Li and F. Zanetti (2024), 'The causal effects of global supply chain disruption on macroeconomic outcomes: Theory and evidence', mimeo, available at: https://www.sas.upenn.edu/~jesusfv/Supply_Chain_Disruption.pdf.

⁽²³⁾ Op. Cit.

⁽²⁴⁾ This, in their view, can be reconciled with a relatively steep supply curve and a relatively flat demand curve, which is consistent with credible inflation targeting regimes. Other papers that find that surges in demand played a significant role in explaining inflation in the euro area, despite the major energy inflation shock, include G. Ascari, P. Bonomolo, M. Hoeberichts, and R. Trezzi (2023), 'The Euro Area Great Inflation Surge', SUERF Policy Brief, No 548; D. Bergholt, F. Canova, F. Furlanetto, N. Maffei-Faccioli and P. Ulvedal (2024) 'What drives the recent surge in inflation? The historical decomposition roller coaster', Norges Bank working paper 7; and Di Giovanni et al. (2022) op. cit.

⁽²⁵⁾ V. Guerrieri, M. Marcussen, L. Reichlin and S. Tenreyro (2023), The arts and science of patience: Inflation and Relative Prices, Geneva Reports on the World Economy 26.

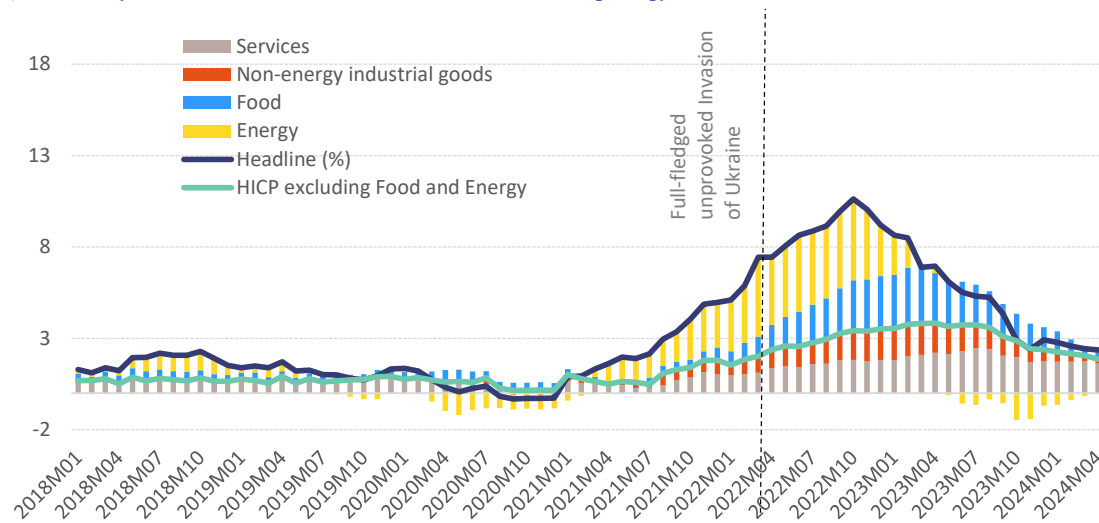
⁽²⁶⁾ Guerrieri et al. (2023) op. cit. See also European Commission (2024), which includes a detailed analysis of relative price trends since the pre-pandemic period. European Commission (2024), 'Inflation in the euro area', Technical Note for the Eurogroup, March 2024.

⁽²⁷⁾ P. Alessandri and A. Gazzani (2023), 'Natural Gas and the Macroeconomy: Not all Energy Shocks are Alike', Bank of Italy Temi di Discussione (Working Paper) No 142.

⁽²⁸⁾ R. A. De Santis and T. Tornese (2023). 'Energy supply shocks' nonlinearities on output and prices', European Central Bank Working paper 2834.

⁽²⁹⁾ Baqaee et al (2024) also allows for endogenous pass-through, arguing for a supply channel of monetary policy that allows for a reallocation of production across sector, which reduces pass-through; see D. R. Baqaee, E. Farhi, and K. Sangani (2024) 'The supply-side effects of monetary policy', Journal of Political Economy, 132(4), 1065-1112.

Graph I.5: Composition of Euro area HICP (headline) and HICP excluding energy and food



Source: Eurostat.

There is ample evidence that inflation expectations remained broadly anchored throughout the post-pandemic inflation period. Jorda and Nechio (2023)⁽³⁰⁾ estimate a Philips curve in which wages respond to inflation expectations and to the activity gap, measured by the deviation of real household gross disposable income per capita from trend. The advantage of using this measure of activity gap is that it takes account of the different types of government support to the economy. They find that wages respond to this measure of 'activity gap' in the economy perhaps more strongly than prices, which is consistent with the fact that firms have other margins over which they can adjust prices. The study also shows that wages respond to inflation expectations. As the response of inflation expectations was contained (Graph I.7), wages have risen only slightly in response. Contained inflation expectations was likely due to the tightening of monetary policy, signalling a strong resolve to bring inflation down back to target and, to some extent, to the fiscal measures aimed at containing the increase in retail energy prices.⁽³¹⁾ Corroborating the view that inflation expectations remained relatively anchored, studies that further separate inflation expectations from the risk premium show that longer-term inflation expectations remained quite close to the European Central Bank's 2% target (see Grønlund et al., 2024⁽³²⁾ and references therein).

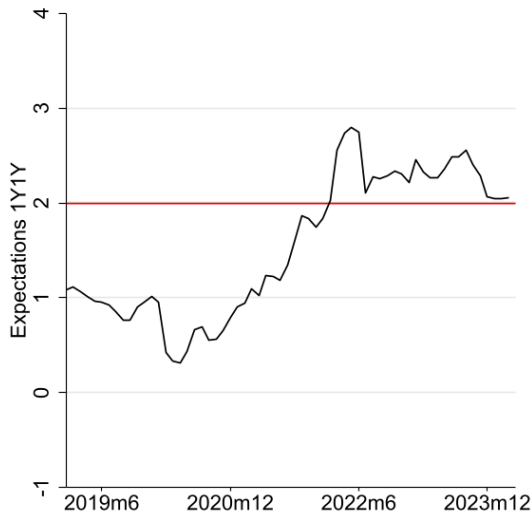
The euro exchange rate has also remained relatively stable, particularly in effective terms. The value of the euro oscillated between a peak of around USD 1.2 in early 2021 and a trough of close to parity in October 2022 when euro area inflation reached its peak (Graph I.8). To put this into perspective, over the global financial and European sovereign debt crisis, the dollar-euro exchange rate fluctuated between 1.6 and 1.1. At the onset of the pandemic, differences in monetary policy may have driven up the price of the euro, as markets expected interest rates to fall more in the US than in the euro area. Conversely, with the recovery and inflation climbing faster in the US, markets expected monetary policy to tighten faster in the US, driving up the price of the US dollar. From February 2022, Russia's invasion of Ukraine put further downside pressure on the euro due to the euro area's higher exposure to the economic consequences of the conflict.

⁽³⁰⁾ Op. Cit.

⁽³¹⁾ See Darracq Pariès et al. (2024) for a counterfactual analysis of the effects of monetary policy on inflation; M. Darracq Pariès, A. Kornprobst, and R. Priftis (2024), 'Monetary policy strategies to navigate post-pandemic inflation: An assessment using the ECB's New Area-Wide Model', ECB Working Paper 2935. See Dao et al. (2024) for the effects of unconventional fiscal policy; M. Dao, A. Dizioli, C. Jackson, P. Gourinchas and D. Leigh (2024), 'Unconventional Fiscal Policy in Times of High Inflation', in English B., K. Forbes, and A. Ubide (eds.), *Monetary policy responses to the post-pandemic inflation*, CEPR Press.

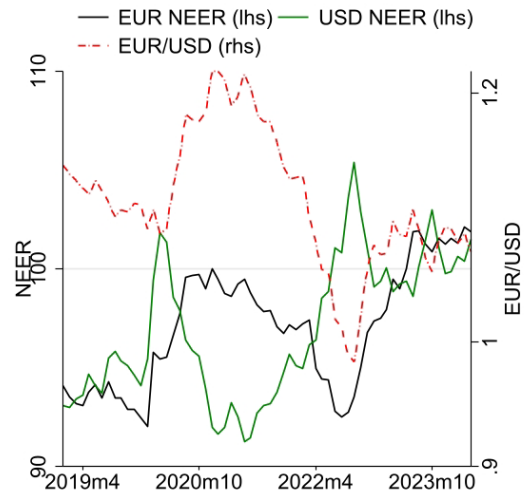
⁽³²⁾ A. M. Grønlund, K. Jørgensen, and F. Schupp (2024), 'Measuring market-based core inflation expectations', ECB working paper 2908.

Graph I.6: **Inflation expectations 1 year in 1 year - Euro area 2018-2024 (May)**



Source: Bloomberg, own calculations.

Graph I.7: **Euro and US dollar exchange rates**



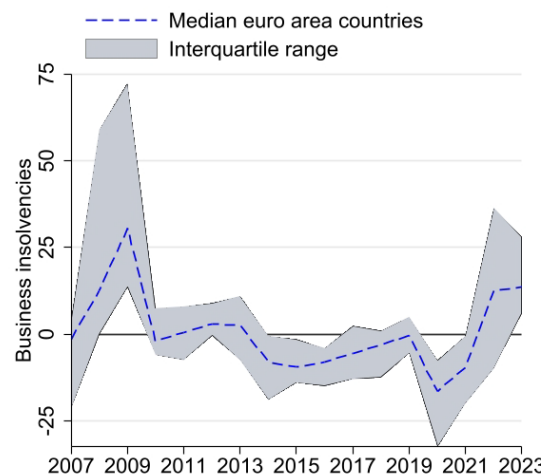
Note: An upward movement represents an appreciation of the NEER
Source: Commission, ECB.

Ilzetzki et al (2020) ⁽³³⁾ show the relative stability observed during COVID-19 among major currencies, despite the size of this shock, is in fact the acceleration of a barely studied longer-term trend, which can be explained by the convergence of short-term and long-term interest rates. This reflects both the global nature of the pandemic and the significant decline in long-term global inflation differentials, which continued even as economies moved out of the zero lower bound, with long-term inflation anchored by independent, technocratic central banks.

1.2.2. Impact on businesses and labour markets

The COVID-19 pandemic and the energy price shock had the potential to imprint long-lasting scars on euro area firms and the labour force, but policy action averted the worst-case scenario. COVID-19-related health concerns forced many businesses to close and restricted the activity of others, particularly in contact-intensive sectors and activities where teleworking was not possible. The energy price shock increased production and transport costs, affecting energy-intensive sectors more significantly, while the proximity of the war in Ukraine increased uncertainty more broadly. As mentioned above, and discussed below in more detail, euro area countries adopted a range of measures to avoid widespread bankruptcies and job losses. The measures enabled euro area countries to avoid the significant increase in bankruptcy filings experienced after the global financial crisis, with filings even falling in 2020 (Graph I.9). Despite this, some pockets of vulnerability remained, particularly in contact-intensive and energy-intensive sectors (see Archanskaia et al.,

Graph I.8: **Euro area insolvencies growth rate and dispersion - Euro Area, 2007-2023³³**



Source: Allianz (2024), "Global Allianz Trade Insolvency Outlook: Reality check" Allianz Research Report.

⁽³³⁾ E. Ilzetzki, C. M. Reinhart and K. S. Rogoff (2020), "Will the secular decline in exchange rate and inflation volatility survive COVID-19?", National Bureau of Economic Research Discussion Paper 28108.

2023 ⁽³⁴⁾ and references therein).

Although there was ample consensus that measures to support the economy should have been targeted to the most affected viable companies and the most vulnerable households, the speed with which responses had to be launched effectively limited governments' ability to design more targeted interventions. ⁽³⁵⁾

The post-pandemic period featured remarkable tightness in labour markets and fluctuations in labour productivity. Labour market adjustment took place more through a reduction in hours worked than through employment and unemployment (see Graph I.10). As a result of output falling much more dramatically than employment (mostly due to job retention schemes), productivity per person plunged during the pandemic, while productivity per hours worked remained stable. The unemployment rate barely increased during the pandemic and the broader labour market slack, which is a concept of unemployment that also includes underemployed part-time workers, people seeking a job but not immediately available and people available but not seeking, increased only temporarily, quickly reverting to below pre-pandemic levels. Productivity per worker also recovered to its pre-pandemic level in 2021 but started a very slow downward trend in 2022 as a result of slow growth and a resilient labour market. The figures for productivity per hours worked also followed this downward trend. In 2023, labour market tightness, as measured by the job vacancy-to-unemployment ratio, was higher than before the pandemic, despite the economic slowdown and the end of job retention schemes. In the US, the post-COVID 'great resignation' may be part of the story behind labour market tightness but in the euro area, participation rates had recovered to pre-pandemic levels by 2022. As discussed in Chapter 2, in the euro area, the decline in real wages triggered by inflation contributed to strong labour demand over this period. This, combined with a decline in hours worked per person, continuing the trend that had started well before the pandemic, contributed to labour shortages which were more pronounced in specific sectors and countries.

Wages increased only slightly in 2022, even when inflation started to pick up, and accelerated only later in 2023 as capital and labour shared the burden of the terms-of-trade shock. Wages adjusted only slowly to rising inflation, which reduced purchasing power. As a result, the labour share contracted initially and the profit share increased (see European Commission, 2024). ⁽³⁶⁾ As the costs of production started to rise, first due to reopening effects and supply side restrictions and then later due to the spike in gas prices, firms succeeded in passing on the rising costs to output prices. Archanskaia et al. (2023b) ⁽³⁷⁾ show, using input-output analyses, that the increase in producer prices in 2022 was overall proportional to the change in input costs in the euro area, particularly when factoring in wages. As the terms-of-trade costs subsided, workers progressively started to recover purchasing power through higher wages and inflation became increasingly driven by domestic forces (Graph I.10).

Relatively high household savings accumulated during the pandemic enabled spending to remain resilient when inflation rose in the post-pandemic period. Net government transfers stabilised household real gross disposable income in 2020 (Graph I.11). This, combined with forced savings due to lockdowns, enabled households to build savings buffers, which sustained spending in the subsequent period of high inflation. However, the impact of the rise in inflation on households was likely uneven across the income distribution, with lower-income households particularly vulnerable (see Menyhert, 2023).⁽³⁸⁾ To some extent, the aggregate resilience of household spending gave market power to firms to pass-through the higher production costs to consumer prices. However, in 2024, there was already evidence of profits making less of a contribution to HICP inflation, which is an indication that firms were starting to cushion wage increases with lower margins (Graph I.10).

⁽³⁴⁾ E. Archanskaia, P. Nikolov, W. Simons, A. Turrini and L. Vogel, (2023b), 'Corporate vulnerability and the energy crisis,' *Quarterly Report on the Euro Area* (QREA), Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 22(2), pages 35-47, July.

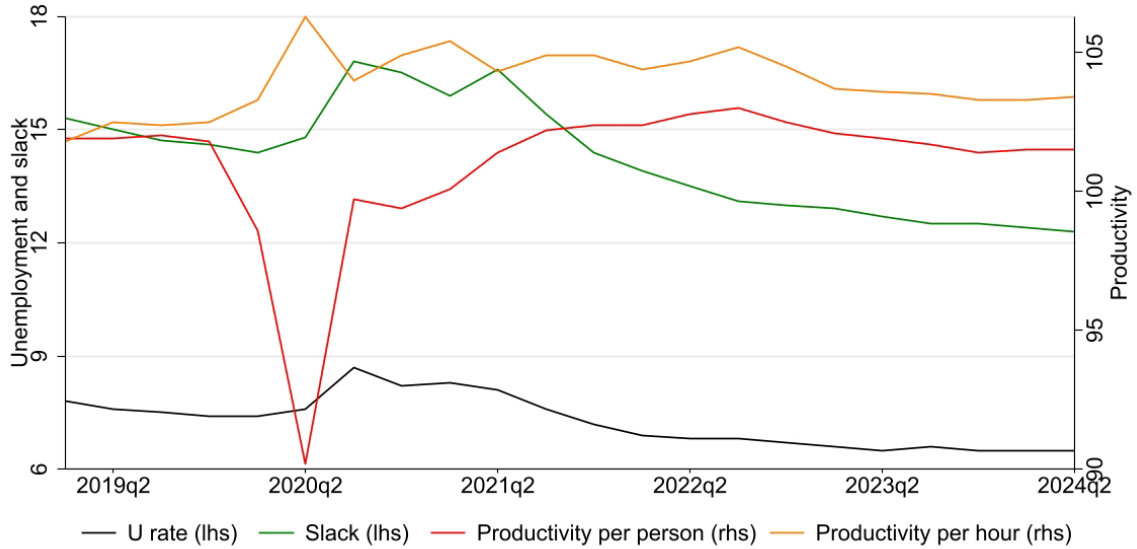
⁽³⁵⁾ European Commission (2023), 2023 Report on the euro area, Commission staff working document 782.

⁽³⁶⁾ Op. Cit.

⁽³⁷⁾ Op. cit.

⁽³⁸⁾ B. Menyhert (2023), 'Inflation and its diverse social consequences across the euro area,' *Quarterly Report on the Euro Area* (QREA), Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 22(1), pages 7-16, May.

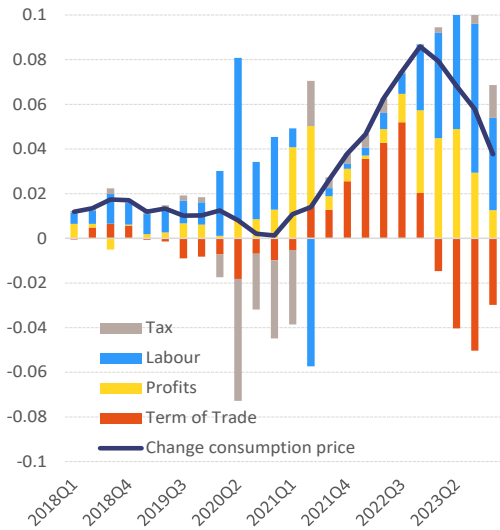
Graph I.9: **Unemployment, slack and productivity - Euro area 2018-2024 (q1)**



Source: Eurostat. Slack includes unemployment according to the ILO definition as well as underemployed part-time workers, people seeking a job but not immediately available to work, people available to work but not seeking.

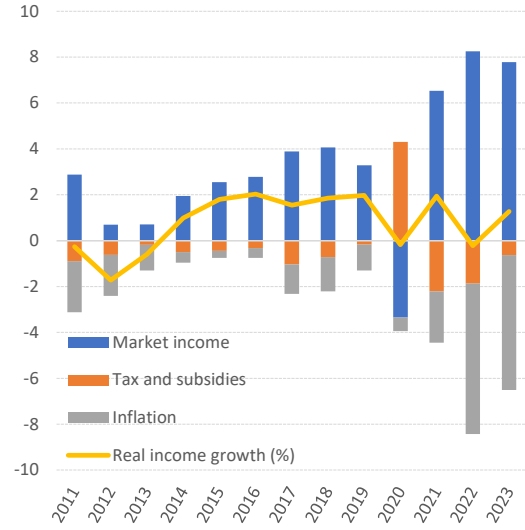
1.2.3. The asymmetric impact of economic shocks

Graph I.10: **Internal versus external contributions to price growth - Euro Area, 2004-2024**



Source: Eurostat.

Graph I.11: **Contribution to real growth of household income - Euro Area, 2017 - 2024**



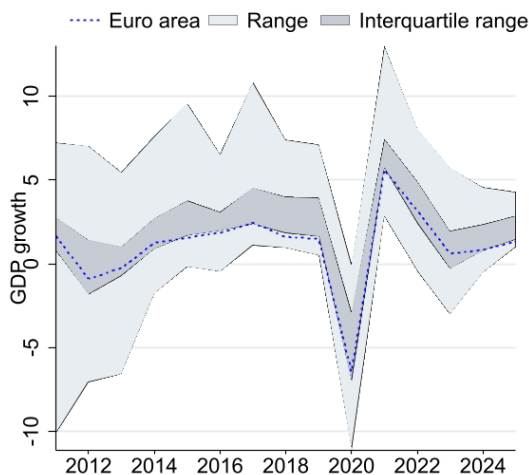
Source: Eurostat.

The economic shocks that the euro area has weathered over the past few years were global shocks but they had an asymmetric impact on Member States. Both the pandemic and the energy price shock triggered by Russia's unprovoked war of aggression against Ukraine had a differentiated sectoral impact. This, combined with the different economic structures of euro area economies, meant that the shocks had an asymmetric impact, which can be gauged by the range of variation in real GDP across the euro area (Graph I.13).

Meyermans et al. (2021)⁽³⁹⁾ show that countries with a higher share of contact-intensive activities, including tourism, experienced a deeper contraction during the pandemic, with a higher level of trade openness generally amplifying the negative impact of the lockdown measures.

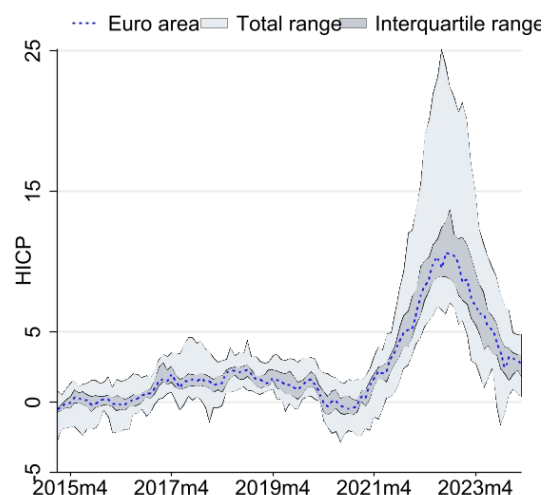
Following the pandemic, the supply bottlenecks experienced as the economy reopened were concentrated in sectors where value chains were more prominent or relying on crucial inputs affected by production or transport delays and restrictions. In terms of the effects of the economic shock triggered by the Ukraine war, different levels of output growth and inflation differentials were due to differences in countries' level of energy import dependence from Russia, the energy intensity of their economies, the weights of energy and food in the consumption basket and the proximity to the war (see Coutinho and Licchetta, 2023, Buelens (2023),⁽⁴⁰⁾ Coutinho et al., 2023⁽⁴¹⁾ and references therein). Inflation differentials were also significantly affected by different national approaches to the fiscal subsidisation of retail energy costs (see Honohan, 2024 and references therein).⁽⁴²⁾ Similarly, in the labour market, recruitment difficulties were more concentrated in specific sectors, likely driving up wages and prices more in countries where these sectors have a higher weight (see Kiss et al., 2024.⁽⁴³⁾ Overall, inflation differentials across euro area countries widened significantly in 2021. Although the differentials started to narrow in 2023, they remained above pre-pandemic levels in mid-2024 as the pace of disinflation was uneven across countries, likely linked to differences in the pass-through of changes in energy and food prices (see European Commission, 2024).

Graph I.12: **GDP growth and dispersion - Euro Area (excluding Ireland), 2011-2024**



Source: Eurostat and own calculations.

Graph I.13: **HICP and dispersion across member states - Euro Area, 2015-2024 (May)**



Source: Eurostat and own calculation.

Despite these asymmetries, monetary policy and economic policy at the Member State, euro area and EU level reduced the risks of fragmentation. The size of the shocks and their asymmetric impact had the potential to affect public and private sector balance sheets in ways that could constrain countries' access

⁽³⁹⁾ E. Meyermans, V. Rutkauskas, and W. Simons, 2021. 'The uneven impact of the COVID-19 pandemic across the euro area,' *Quarterly Report on the Euro Area (QREA)*, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 20(2), pages 17-30, July.

⁽⁴⁰⁾ Op. Cit.

⁽⁴¹⁾ L. Coutinho, C. Frayne, A. Kiss, M. Licchetta, and S. Zeugner. 2023. Inflation Differentials in Europe and Implications for Competitiveness, *European Economy Institutional Paper 198*, Brussels, European Commission.

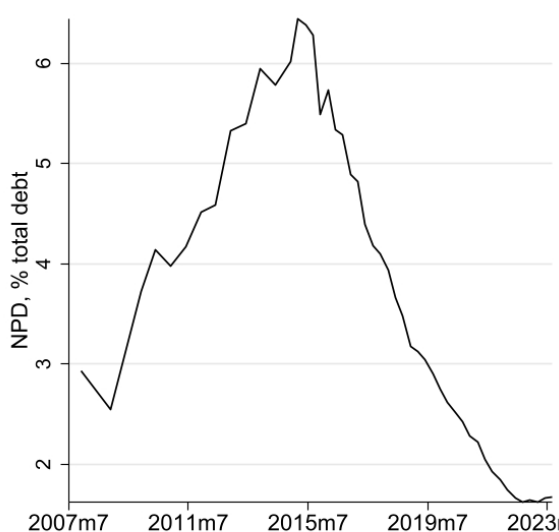
⁽⁴²⁾ Honohan, Patrick, The Inflation Surge in Europe (2024). Peterson Institute for International Economics Policy Brief 24-2, Available at SSRN: <https://ssrn.com/abstract=4875072> or <http://dx.doi.org/10.2139/ssrn.4875072>.

⁽⁴³⁾ A. Kiss, G. Maravalli, M. Salto and K. Van Herck, 2024, 'Sectoral wage shock and inflation in the euro area,' *Quarterly Report on the Euro Area (QREA)*, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 23(1), pages 41-54, May.

to markets. However, policies at the EU level, discussed in more detail in Chapters III and V, helped euro area member states fund the support to their economies, while preserving investments and reforms. At the same time, the single monetary policy had an important role in ensuring liquidity and preventing fragmentation. During the pandemic in its aftermath, the “Pandemic emergency purchase programme” (PEPP) and other monetary measures ensured ample liquidity across the euro area, supporting credit to households and firms. As inflation picked up pace, the increase in policy rates had an important role in anchoring inflation expectations and bringing the euro area economy to a “soft landing”, while the adoption of the Transmission Protection Instrument (TPI) helped to ensure effective monetary policy transmission, as discussed in Chapter IV.

I.2.4. Impact on financial markets

Graph I.14: **Gross non-performing debt instruments as % of total gross debt instruments**



Source: ECB.

Financial markets withstood the COVID-19 and subsequent inflation shock relatively well and were able to support the economy with credit. Credit continued to flow to the economy even as the euro area countries were in lockdown. Asset purchases by the ECB, ample liquidity provision and the easing of collateral standards all helped maintain favourable financing conditions (see Croitorov et al., 2021).⁽⁴⁴⁾ The risk of a credit crunch was also significantly mitigated by bank funding provided on attractive terms, by easing the conditions for the third series of targeted longer-term refinancing operations (TLTRO III), as discussed in Chapter IV. Nominal financing conditions, measured by composite credit cost indicators, reached historically low levels at the beginning of 2021, reflecting ECB measures. Between January 2020 and February 2021, credit to businesses and households increased at a rate similar to that seen pre-pandemic, partly due to credit subsidies and guarantees provided by governments.

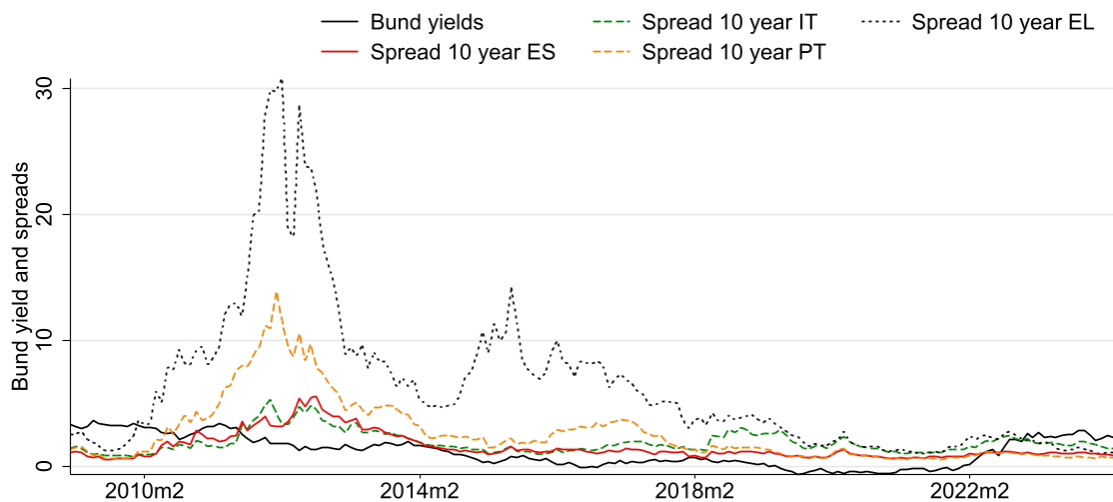
Measures taken by the European banking supervision and national macro-prudential authorities also supported the lending capacity of banks. This, combined with the overall support provided to the economy, prevented the steep increase in non-performing loans observed in the aftermath of the global financial crisis (Graph I.15). Instead, the share of non-performing loans continued their downward trend. At the same time, government bond spreads remained remarkably stable in the post-pandemic period (Graph I.16), attesting to the effectiveness of ECB action to maintain price stability. The EIB also played an important role in ensuring small and medium enterprises could access credit, and the European Stability Mechanism backstop arguably helped underpin the sovereign. However, as argued in Chapter IV, financial market resilience was not only the result of new policies put in place during the pandemic but also of the major reforms carried out in the financial sector over the previous decade to increase the resilience of the financial system.

I.3. SOLIDARITY AND FLEXIBILITY

In response to the pandemic and later to the energy crisis, Member States acted promptly and forcefully to safeguard businesses and employment. Having learnt from the experience of the global financial crisis, which was followed by a massive wave of non-performing loans, bankruptcies and unemployment, in 2020, Member States took swift action to deploy a range of policy instruments to help businesses survive the period of lockdown, keep operating to the extent possible and avoid dismissals. They took important measures to maintain public services, including health and education services.

⁽⁴⁴⁾ Op. Cit.

Graph I.15: Spreads to German 10-years bund, selected countries



Source: AMECO.

As mentioned before, the policies had to be designed and implemented at record speed. The measures included short-time work schemes to cover the salary costs of unworked hours, while maintaining workers' income and jobs. They were complemented by liquidity support, by postponing social security and tax payments for companies and self-employed, compensating for turnover losses, issuing credit subsidies and credit guarantees. To avoid a massive wave of bankruptcies, several Member States also brought in temporary measures relaxing the requirements to file for bankruptcy. There was also ample support to households in the form of social benefits, moratoria on loan payments and credit subsidies.⁽⁴⁵⁾ When the energy price shock hit, many of these measures were still in place and were extended, but several Member States took additional measures to shield households and businesses from higher energy prices. In particular, under the EU Temporary Crisis Framework for State aid, Member States were able to provide compensation to companies for the additional costs incurred due to exceptionally high gas and electricity prices, with safeguards for the overall aid provided. They could also provide aid for accelerating the rollout of renewable energy, storage and renewable heat, to help decarbonise industrial production processes, and to reduce electricity consumption.⁽⁴⁶⁾ All of this was possible in part because euro area Member States had, to various degrees, strengthened their fiscal positions following the global financial crisis and due to the activation of the general escape clause of the Stability and Growth Pact. The large public support resulted nevertheless in further accumulation of debt in the euro area.

The euro area has weathered the extreme shocks described above rather successfully also with the help of common temporary tools that allowed for shock absorption and risk sharing. Having a fiscal union with transfers across Member States, as in the United States, would have facilitated much of the adjustment. However, solutions, albeit temporary, were found through an unprecedented effort of coordination and resourcefulness on the part of Member States, which enabled the deployment of solidarity instruments by the European Commission, including SURE and the RRF, and the Pandemic Crisis Support by the European Stability Mechanism (see McDonnell et al. 2022⁽⁴⁷⁾ and Afman et al., 2021⁽⁴⁸⁾ and Chapters III and V in

⁽⁴⁵⁾ An extensive list of fiscal measures implemented during COVID-19 is provided by the International Monetary Fund COVID-19 Policy Tracker (<https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>). See also European Commission (2020), 'Analysis of the euro area economy', staff working document 746.

⁽⁴⁶⁾ European Commission (2022), '2023 Report on the euro area', staff working document 782.

⁽⁴⁷⁾ C. McDonnell, J. Boussard, I. Justo, Ph. Mohl, G. Mourre and K. Stovicek, 2022, 'The SURE Instrument: an updated assessment,' *Quarterly Report on the Euro Area* (QREA), Directorate-General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 21(2), pages 29-40, July.

this publication). To some degree, these instruments can be viewed as equivalent to federal-level spending programmes in the US system. They were designed to prioritise spending to countries that suffered the most from the pandemic. They have demonstrated that joint EU-level fiscal initiatives can be envisaged to face major common shocks in the future and that it is possible to design a large EU-level fiscal instrument to tackle tail risks (see Chapter III). The REPowerEU plans, rolled out as an extension to the Recovery and Resilience (RRF) plans and related budget, further enabled countries to finance measures to reduce the EU's dependence on Russian fossil fuels by fast-forwarding the clean energy transition and by building a more resilient energy system and was complemented by further action at EU level to limit extreme price volatility, enable the joint purchasing of gas, and reduce gas demand. ⁽⁴⁹⁾

Overall, there was an unprecedented policy response at Member State, EU and euro area level, representing a unique combination of complementary policies at macro and micro levels. At the macro level, policy action in response to the pandemic was designed to ensure enough liquidity in the economy and to limit the risks of fragmentation. This included the 'Pandemic emergency purchase programme' (PEPP) and targeted longer-term refinancing operations by the ECB, mentioned above, as well as a supportive fiscal stance, enabled by some prior fiscal consolidation combined with EU financing through innovative common tools and the activation of the general escape clause of the Stability and Growth Pact. At the micro level, countries implemented sector-specific programmes to support the economy, covering households and businesses, funded by the SURE and the RRF funds. In response to the energy crisis, the action taken by the ECB to contain inflation expectations by rising policy rates was complemented by Member States at the micro level with measures to help the most vulnerable households withstand losses in purchasing power and help households and businesses accelerate the energy transition with the support of the REPowerEU initiative. These efforts may not all have been coordinated in the best possible manner and efficiently targeted, but the overall package was successful in enabling the euro area to recover from the pandemic relatively quickly and to make a soft landing after a period of high inflation. ⁽⁵⁰⁾ This represents a paradigm shift in the way the role of fiscal policies in the policy mix is understood. It underscores the need to make the most of periods of economic growth to create the fiscal space needed to respond to shocks, as discussed in Chapter V.

Common borrowing at EU level to finance the recovery proved successful in many ways. Monteiro (2022 and 2023) ⁽⁵¹⁾ analyse the first three years of large-scale EU issuance under the SURE and NextGenerationEU programmes. During the period analysed, EU issuance consistently enjoyed a positive market reception, rising to the challenges posed by a swift expansion in debt market placement. Lane (2021) ⁽⁵²⁾ argues that expanding the issuance of jointly backed debt would improve the resilience of the euro area, not least by reducing the likelihood of financial instability in Member States, which would amplify an adverse shock by increasing the sovereign risk premium. Such pro-cyclicality can be especially acute in a monetary union because investors can easily switch between sovereign bonds without taking on currency risk. Expanding the issuance of common debt could be used in particular, but not necessarily, to finance 'European public goods', as discussed in Chapter III. Increasing EU debt issuance would also facilitate a more integrated financial system by setting a common benchmark for asset pricing and liquidity management by banks and would make the euro more popular as an international reserve currency.

The euro area has successfully absorbed two massive shocks since the beginning of the decade but more needs to be done to make it even more resilient. The EU has an important reform agenda to enhance the resilience and crisis management capacity of the euro area and help it face the set of major structural challenges which are already starting to take shape. These challenges include changes to the geopolitical

⁽⁴⁸⁾ E. Afman, S. Engels, S. Langedijk, Ph. Pfeiffer and J. in 't Veld, 2021, 'An overview of the economics of the Recovery and Resilience Facility,' *Quarterly Report on the Euro Area (QREA)*, Directorate-General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 20(3), pages 7-16.

⁽⁴⁹⁾ See https://ec.europa.eu/commission/presscorner/api/files/attachment/873730/Energy_Emergency_Factsheet_EN.pdf.pdf.

⁽⁵⁰⁾ N. Arregui, O. Celasun, D. M. Iakova, A. Mineshima, V. Mylonas, F. G. Toscani, Y. C. Wong, L. Zeng, and J. Zhou (2022), 'Targeted, Implementable, and Practical Energy Relief Measures for Households in Europe', IMF Working Paper 22/262.

⁽⁵¹⁾ D. Monteiro (2022) 'The market performance of EU bonds', *Quarterly Report on the Euro Area (QREA)*, 2022, vol. 21, issue 1, 31-42; and D. Monteiro (2023) 'Common Sovereign Debt Instruments: An Analytical Framework,' discussion paper 194.

⁽⁵²⁾ P. R. Lane (2021), The resilience of the euro, *Journal of Economic Perspectives*, 35(2), p. 3-22.

landscape, climate change, digital transformation and demographic trends (see Chapter VI). As discussed in Chapter IV, completing the banking union would strengthen the resilience of banks and sever the last ties in the 'sovereign-banks nexus' (see Bellia et al., 2020)⁽⁵³⁾, enhancing also private risk-sharing across Member States.⁽⁵⁴⁾ One of the crucial items still missing in this project is the European Deposit Insurance System, which would provide area-wide protection to small depositors independently of the fiscal capacity of Member States. To complement this, the creation of a capital markets union is also on the agenda to develop larger and more integrated markets for equity and debt securities in the euro area. This initiative would reduce dependence on banks for funding and would further facilitate risk-sharing in the euro area.⁽⁵⁵⁾ Finally, implementation of the reformed European economic governance framework agreed in 2024 will improve the coordination of fiscal policies while maintaining fiscal sustainability to facilitate an optimal policy mix, as discussed in Chapter V.

1.4. BROADENING THE UNION'S OUTREACH AND WEIGHT

The euro area continued to expand in the run-up to its 25th anniversary, growing from a union of 11 countries initially to a union of 20. The euro area is an ongoing project. Following monetary unification of the initial 11 countries in 1999, Greece joined the euro area in 2001. From 2007 to 2015, there was a second wave of expansion when Slovenia (2007), Cyprus (2008), Malta (2008), Slovakia (2009), Estonia (2011), Latvia (2014) and Lithuania (2015) also adopted the euro as their currency. Croatia joined in 2023, making the euro a currency of 20 countries and about 350 million people. All EU Member States, except Denmark, are committed to join the euro when ready to do so. Non-euro area EU Member States with a derogation will join the euro as soon as they fulfil all the convergence criteria set in the Maastricht Treaty and reviewed every two years, or at the request of a Member State, by the European Commission and the ECB in their respective convergence reports. The European Commission report forms the basis for the Commission proposal to the European Council on adoption of the euro.⁽⁵⁶⁾

The euro is the second most widely used currency in the world; further expanding its outreach would bring benefits to the euro area. It is the second most actively traded currency in global foreign exchange markets after the US dollar. The share of the euro in global official foreign reserves increased from around 18% in 1999 to close to 20% in 2023, as the share of the US dollar fell from around 71% to close to 58% (see Box 1, Chapter VI). Although the US dollar remains the leading invoicing currency for international trade, confirming highly persistent invoicing currency patterns over time, the euro dominates in certain regions, including in non-euro area and non-EU European countries and African countries in the Western African Monetary Union (Benin, Burkina Faso, Guinea-Bissau, Mali, Niger and Togo). Boz et al. (2022)⁽⁵⁷⁾ show a striking increase in new euro area Member States' export shares invoiced in euro following EU accession, especially since the shares of their exports to the euro area have either been relatively stable or risen only slightly. In these cases, the rise in the share of exports invoiced in euro is typically paralleled by a fall in the share invoiced in US dollars.

⁽⁵³⁾ M. Bellia, L. Cales, L. Frattarolo, A. Maerean, D. Monteiro, M. Petracco Giudici and L. Vogel (2020), 'The sovereign-bank nexus in the euro area: financial and real channel,' *Quarterly Report on the Euro Area (QREA)*, Directorate-General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 19(1), pages 45-65, June.

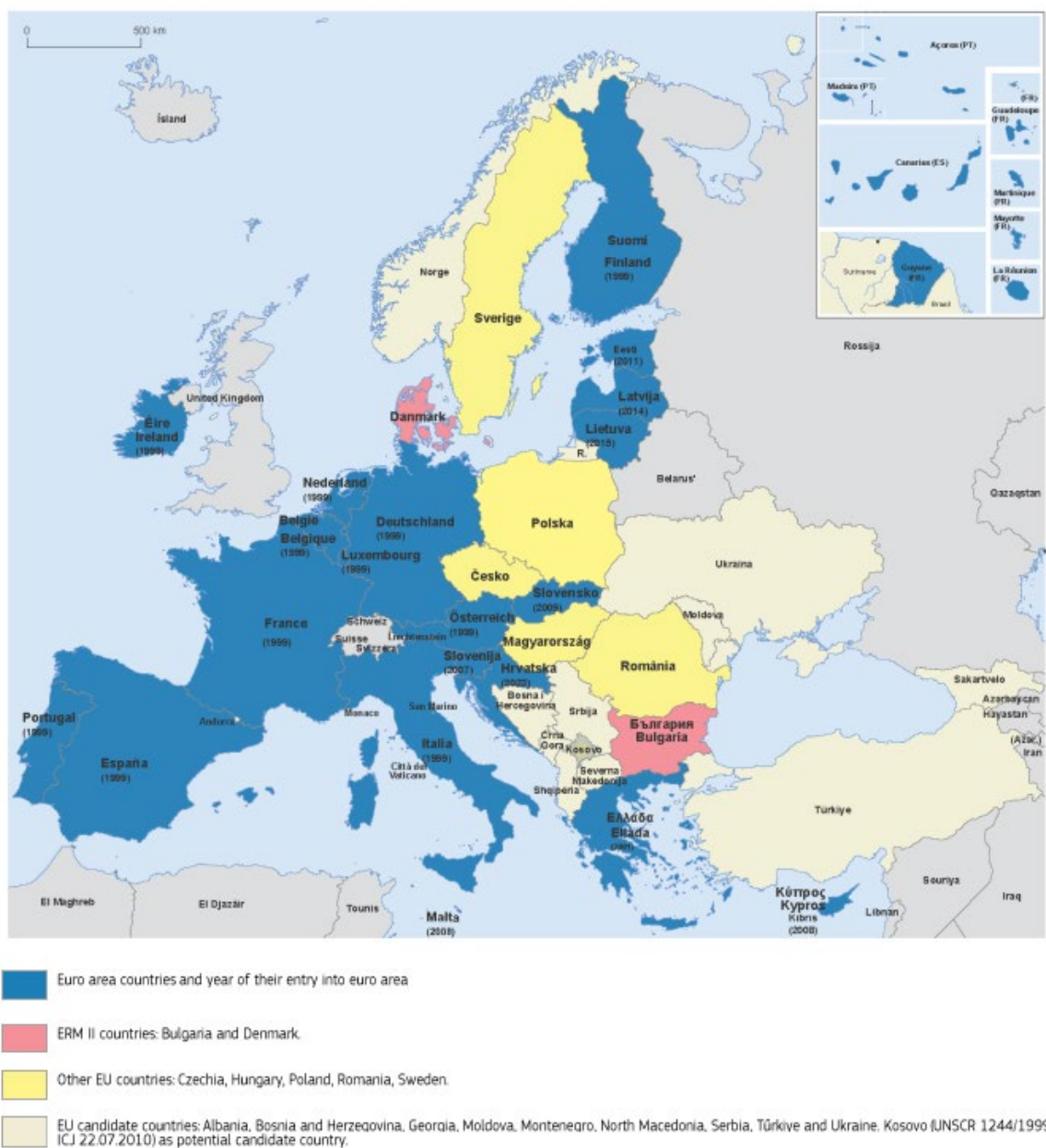
⁽⁵⁴⁾ Z. Kontolemis et al. (2020) analysed euro area risk sharing through savings and borrowing and found that cross-border banking channels provided a useful countercyclical impulse to consumption over their sample period, noting however that integration has declined since the global financial crisis. Z. Kontolemis, E. Meyermans and C. Uregian, 2020. 'Consumption smoothing and the role of banking integration in the euro area,' *Quarterly Report on the Euro Area (QREA)*, Directorate-General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 19(2), pages 7-26, October.

⁽⁵⁵⁾ M. J. Artis and M. Hoffmann, 'The Home Bias, Capital Income Flows and Improved Long-Term Consumption Risk Sharing', *International Finance Volume 14*, Issue 3 Winter 2011, p. 481-505 shows that various forms of cross-border equity holdings have strong risk-sharing properties.

⁽⁵⁶⁾ See European Commission (2024a), 'Convergence Report 2024', institutional paper 294. On the basis of its assessment, the European Commission submits a proposal to the ECOFIN Council, which in consultation the European Parliament, and after discussion among the Heads of State or Government, decides whether the country fulfils the necessary conditions and may adopt the euro. If the decision is favourable, the ECOFIN Council takes the necessary legal steps and – based on a Commission proposal, having consulted the ECB – adopts the conversion rate at which the national currency will be replaced by the euro, which thereby becomes irrevocably fixed.

⁽⁵⁷⁾ E. Boz, C. Casas, G. Georgiadis, G. Gopinath, H. Le Mezo, A. Mehl, and T. Nguyen (2022), Patterns of invoicing currency in global trade: New evidence, *Journal of international economics*, 136, 103604.

Graph I.16: Euro area membership



This is important as Emter et al. (2024)⁽⁵⁸⁾ show complementarities between trade invoicing and the currency denomination of bank lending. The digital euro project,⁽⁵⁹⁾ albeit primarily geared to domestic use, as in other similar projects around the world, has great potential to increase the international role of the euro by easing trade payments, remittances and other international transactions in the future, in particular if different digital currencies are interoperable.

A greater international role for the euro benefits euro area countries by improving financing conditions for the euro area in international capital markets and lowering its overall exposure to currency risk. Even if there are costs and risks inherent in expanding the international role of the euro in terms of monetary policy responsibilities vis-a-vis the rest of the world, there is consensus that the benefits, in terms of

⁽⁵⁸⁾ L. Emter, McQuade, Peter; Pradhan, Swapan-Kumar; Schmitz, Martin (2024): Determinants of currency choice in cross-border bank loans, ECB Working Paper, No 2918.

⁽⁵⁹⁾ See the discussion in Chapter IV.

seigniorage revenue, liquidity and safety premium on government borrowing, lower transaction costs for euro area firms and banks, and geopolitical advantages, outweigh the costs. The cost-benefit calculus may over time tilt even more in favour of a stronger global status of the euro, due to strategic autonomy advantages of the euro playing a greater global role in the new geopolitical environment.

I.5. CONCLUSIONS

The euro's 25th anniversary marks an important milestone in the history of the single currency. It has proven to be a resilient currency that coped extremely well with the shocks of the current decade, which were unique in nature. This was achieved thanks to previous reforms and improved fiscal positions to some extent, to innovative policies and to a paradigm change in the role of fiscal policy in responding to major shocks. Furthermore, the value of EU unity was revealed in the coordination of policy responses and in the creation of innovative economic solidarity instruments, which enabled the EU to reduce and share risk. Overall, the euro has served the European public well. It has provided price stability and prosperity and is set to continue to expand its outreach. However, there's much road ahead to make the euro area even stronger and ready to face the challenges ahead. The following chapters will illustrate this in more detail.

II. THE RESILIENCE OF EURO AREA LABOUR MARKETS TO RECENT ECONOMIC SHOCKS

By Aron Kiss, Alessandro Turrini and Kristine van Herck

Abstract: Euro area labour markets weathered the COVID-19 crisis without significant scarring effects, in contrast to the aftermath of the global financial crisis. Policies, both at national and EU level, played an important role in keeping companies afloat and in safeguarding employment. In particular, job retention schemes, funded by the EU's SURE instrument, helped preserve valuable job-worker matches and seem to have supported labour market participation rates before being scaled down by mid-2022 as the economy rebounded. The dynamic recovery from the pandemic-related recession brought about significant labour shortages. This reflected a sudden rebound of labour demand but also a labour supply that was slower to react. Labour market mismatches played only a limited role in labour shortages. The labour market remained resilient also during the 2021-2022 inflationary shock and the ensuing economic slowdown. The resilience of euro area labour markets was mainly due to labour demand holding firm on the back of strong corporate profits and falls in real wages. The recent weakening of economic growth combined with resilient labour market outcomes automatically implied a further weakening of labour productivity dynamics. ⁽¹⁾

II.1. INTRODUCTION

Euro area labour markets have been surprisingly resilient in the face of the pandemic-related economic shock and the subsequent inflationary shocks. The aim of this chapter is to present the main labour market developments over this period and to assess the factors behind their surprising resilience. It identifies robust labour demand growth which outpaced labour supply as the main reason for the resilience of euro area labour markets. Initially, the sharp rise in labour demand was underpinned by the withdrawal of pandemic containment measures. Then, when the energy crisis hit the EU economy, labour demand remained strong on the back of strong corporate profits, falling real wages, and apparent changes in companies' hiring and firing behaviour in a context of high labour shortages. It is important to have a correct understanding of the drivers behind the labour shortages to assess potential future labour market developments and formulate the right policy responses.

Section II.2 sets the scene with a brief overview of labour market developments in the aftermath of the global financial and subsequent sovereign debt crisis. Section II.3 assesses the impact of the pandemic and the policy response to safeguard jobs. Section II.4 looks at the strong recovery in the aftermath of the pandemic, and Section II.5 assesses the impact of the recent economic slowdown following the rise in energy prices. Section II.6 offers some considerations about the prospects of labour market resilience going forward.

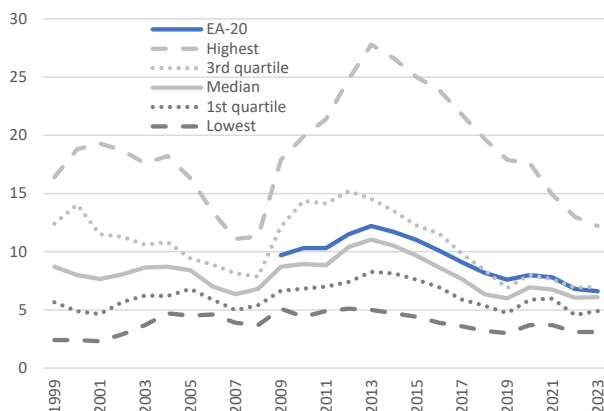
II.2. SETTING THE SCENE: THE LABOUR MARKET BEFORE THE COVID-19 OUTBREAK

The labour market recovery between 2013 and 2019 followed a period of very high unemployment in several euro area countries in the aftermath of the global financial crisis and the sovereign debt crisis. The unemployment rate in the euro area peaked at 12% in 2013, to decline below 8% by 2019 (Graph II.1). By then, unemployment had fallen below 2008 levels in most Member States, although it remained significantly above that level in Greece, Cyprus, Italy and Spain.

During the recovery, unemployment fell by more than could be expected based on economic growth, following an analysis of 'Okun's law', the statistical relationship between unemployment and economic growth.

⁽¹⁾ The authors would like to thank Anneleen Vandeplas and Maria Chiara Morandini for their contributions to previous joint work on labour shortages, as well as the editors for useful comments and suggestions. This section represents the authors' views and not necessarily those of the European Commission.

Graph II.1: Unemployment rate in the euro area, 1999-2023, %



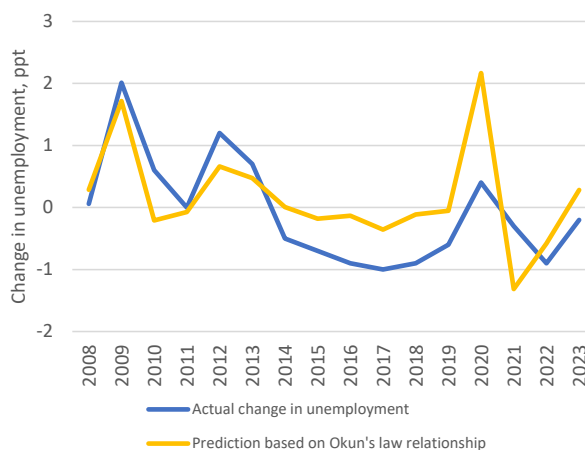
Source: European Commission based on data from the European Commission's AMECO database.

The estimated Okun's law relationship for the euro area based on the period 1995-2007 suggests that, in the absence of GDP growth, the unemployment rate is expected to increase by 0.41 percentage points. Each percentage point of economic growth is estimated to reduce unemployment by 0.29 percentage points, implying that unemployment is expected to decline if economic growth is faster than 1.25%. Between 2014 and 2019, unemployment fell faster in the euro area (by about 0.6 ppts per year on average) than expected based on the statistical relationship before 2007 (Graph II.2).⁽²⁾

Favourable unemployment developments between 2013 and 2019 were not due to a fall in labour market participation. Since the early 2000s, activity rates in the euro area have been on an upward trend, in contrast to the declining labour market participation observed in the US in the early 2000s (Graph II.3). The upward trend in the euro area was driven in particular by the increasing labour market participation of women and older workers. In some countries, the recovery was also underpinned by significant labour market reforms adopted in the aftermath of the sovereign debt crisis. Initially, the reforms adopted by the Member States after 2008 focused on cushioning the impact of the global financial crisis mainly by temporary tax cuts, extending unemployment benefits, as well as boosting short-time work schemes.⁽³⁾ In a second phase, mostly between 2010-2012, the focus was on correcting macro-economic imbalances through structural reforms to employment protection legislation, wage setting, and unemployment benefits.

Member States continued reforms over the recovery period, although the focus partially shifted to tackling the social implications of the crisis, including action to improve the effectiveness of social safety nets and to reduce the tax wedge on labour to stimulate job creation and protect incomes.

Graph II.2: Unemployment rate: actual change and prediction from Okun's law, euro area, 2013-2023



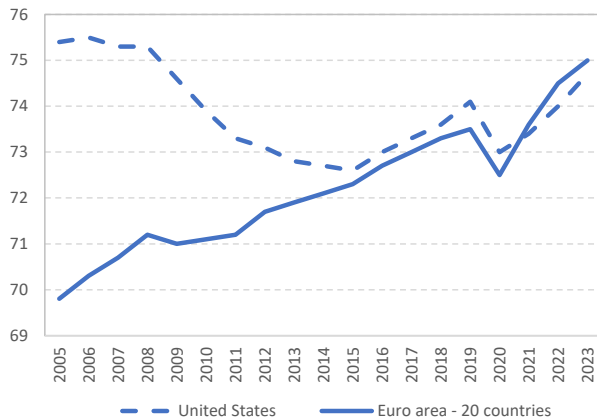
Note: Prediction based on the Okun's law relationship for the period 1995-2007 for the panel of 20-euro area Member States and the euro area aggregate.

Source: European Commission based on data from the European Commission's AMECO database.

⁽²⁾ See also an assessment of the Okun's law relationship by the European Commission (2019): Labour market and wage developments in Europe: Annual review 2019, p. 24, Directorate-General for Employment, Social Affairs and Inclusion.

⁽³⁾ For a more detailed analysis of the various phases of reforms adopted in response to the crisis, see European Commission (2015): "Labour market developments in Europe 2015", Chapter IV, Directorate-General for Employment, Social Affairs and Inclusion. On the determinants of labour market reforms before and during the crisis period, see A. Turrini, G. Koltay, F. Pierini, C. Goffard, A. Kiss (2015): "A decade of labour market reforms in the EU: insights from the LABREF database", *IZA Journal of Labor Policy* 4, 12.

Graph II.3: Activity rate (age group 15-64) in the euro area and the US, 2005-2023



Source: European Commission based on data by Eurostat and OECD.

Labour market reforms adopted between 2013-2015 had a positive impact on potential growth by boosting employment and productivity. (4)

However, as the labour market recovered, wages increased only moderately by historical standards, mainly as a result of low inflation, low trend productivity growth, and high initial unemployment. (5)

II.3. IMPACT OF THE PANDEMIC AND POLICY RESPONSE TO SAFEGUARD JOBS

The initial impact on labour markets of the pandemic and the measures to contain it were very significant. In 2020-Q2, employment was down by about 3% compared to 2019-Q4. This significant fall in employment was less than the major contraction in economic activity and hours worked, which fell by 14% and 17%, respectively, over the same period (Graph II.4). In 2020, the unemployment rate also increased by far less (by about 1.5 percentage points) than could be expected based on the historical relationship between GDP growth and unemployment rate (see Graph II.2 above).

An important factor behind the relatively contained impact of the pandemic on employment and unemployment was the swift and vigorous policy response by both the EU and its Member States. In addition to the macro-economic stimulus to shore up demand and measures to keep corporate financing going and prevent massive bankruptcies, job retention schemes (including short-time work schemes) played a key role. National schemes were supported by the EU's SURE instrument in 19 Member States. (6)

Graph II.4: GDP and employment in the euro area (index, 2019-Q4 = 100)



Note: Value added (VA) is calculated based on gross value added in chain-linked volumes (index 2015=100). Employment, both in hours worked (EMPL-HW) and in persons (EMPL-PERS), is based on domestic concepts. Data are seasonally and calendar adjusted.

Source: ECFIN calculations based on quarterly national accounts data (ESTAT).

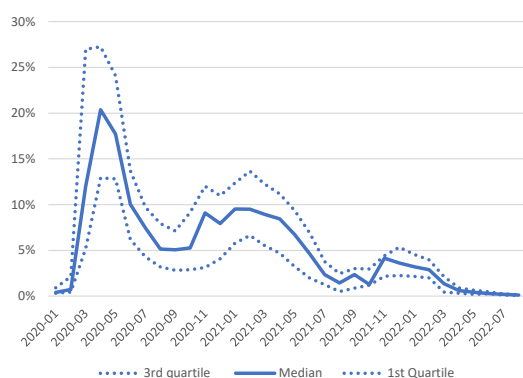
(4) See, e.g. Jan in 't Veld, 2016, 'The economic impact of selected structural reform measures in Italy, France, Spain and Portugal,' *Quarterly Report on the Euro Area (QREA)*, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 15(1), pages 7-17, April.

(5) See European Commission (2018): "Labour market and wage developments in Europe, Annual Review 2018", Chapter II.1, Directorate-General for Employment, Social Affairs and Inclusion; Á. Kiss and K. Van Herck (2018): "Short-term and long-term determinants of moderate wage growth in the EU," IZA Policy Paper 144; Vandeplas, A., A. Arpaia, E. Ruscher, A. Turrini and W. Roeger (2018): "Wage dynamics in the EMU," *Quarterly Report on the Euro Area (QREA)*, vol. 17(3), pages 9-26, European Commission, DG ECFIN. Similar results for a broader set of advanced economies were found by IMF (2017): "Recent Wage Dynamics in Advanced Economies: Drivers and Implications" in: *World Economic Outlook* (Oct.).

(6) The SURE instrument was proposed by the European Commission on 2 April 2020, and adopted by the Council on 19 May 2020. For more information on SURE, see: https://economy-finance.ec.europa.eu/eu-financial-assistance/sure_en.

Short-time work schemes are public programmes allowing businesses experiencing economic difficulties to temporarily reduce the hours worked by their employees, who receive public income support for the hours not worked. Some Member States already had short-time work schemes as part of their institutional setup or created them in 2008-2009, ⁽⁷⁾ but many others set up schemes, supported by the SURE programme, in response to the COVID-19 pandemic. Most Member States used SURE funding to finance short-time work schemes, but it was also used to fund other programmes with similar aims, for instance targeting the self-employed. ⁽⁸⁾

Graph II.5: **Proportion of jobs supported by governmental measures, %**



Note: The median and quartile values are calculated based on a changing number of countries, based on data availability.

Source: European Commission based on Eurostat data.

The proportion of jobs supported by job retention schemes peaked in April 2020 with about 20% of jobs in the median euro area Member State (Graph II.5). The deployment of these schemes differed widely across countries: in April 2020, the share of government-supported jobs was under 13% in one-quarter of the countries, over 27% in another quarter and in-between in the remaining half of countries (Graph II.5). Subsequent peaks followed in the first and last months of 2021, reflecting developments in the epidemiological situation.

By mid-2022, the share of jobs supported by job retention schemes had fallen to levels close to zero. This pattern is confirmed in the annual statistics of 19 Member States that received SURE support (largely based on administrative data): SURE covered around 31½ million people and over 2½ million firms

in 2020, corresponding to almost one third of total employment and over a quarter of all firms in recipient countries. In 2021, SURE supported an estimated 9 million people and over 900 000 firms. In 2022, SURE is estimated to have supported almost 350 000 people and over 40 000 firms. ⁽⁹⁾

Job retention schemes helped prevent large-scale layoffs and safeguard valuable worker-job matches, over the relatively short periods of pandemic-related economic disruption. This is backed up both by a comparative look at EU Member States and by a comparison between the euro area and the US. For the 19 EU Member States that received SURE support, higher levels of support from SURE in 2020 is correlated with better unemployment outcomes. ⁽¹⁰⁾ Furthermore, a comparison between the euro area and US labour markets shows that the unemployment spike was much smaller in the euro area than in the US. Microsimulation analyses suggest that job retention schemes mitigated the increase in EU unemployment by about 3 percentage points, and also muted the increase in income inequality. ⁽¹¹⁾ While the policy response to the pandemic was also vigorous in the US, it was not based on job retention schemes but on extended unemployment and means-tested benefits, tax credits and direct payments to citizens. Hence, while the US policy response was successful in keeping poverty low (even in reducing poverty during the pandemic) it did not prevent a spike in unemployment that greatly exceeded the rise in

⁽⁷⁾ For an analysis of short-time work schemes in the aftermath of the global financial crisis see e.g.: Arpaia, A., N. Curci, E. Meyermans, J. Peschner, and F. Pierini (2010): "Short-time working arrangements as response to cyclical fluctuations" *European Economy - Occasional Papers*, No. 64, European Commission; , A. Hijzen and D. Venn (2011): "The Role of Short-Time Work Schemes during the 2008-09 Recession", *OECD Social, Employment and Migration Working Papers*, No. 115, OECD Publishing, Paris; T. Boeri and H. Bruecker (2011): "Short-time work benefits revisited: some lessons from the Great Recession" *Economic Policy* 26(68), pp.697-765.

⁽⁸⁾ C. McDonnell, J. Boussard, I. Justo, P. Mohl, G. Mourre, and K. Stovicek (2021): "The SURE instrument – key features and first assessment." *Quarterly Report on the Euro Area*, Vol. 20 (2), European Commission, DG ECFIN; C. McDonnell, J. Boussard, I. Justo, P. Mohl, G. Mourre, K. Stovicek (2022): "The SURE Instrument: an updated assessment," *Quarterly Report on the Euro Area*, vol. 21(2), European Commission, DG ECFIN.

⁽⁹⁾ European Commission (2023): "SURE after its sunset: final bi-annual report," Report on the European instrument for Temporary Support to mitigate Unemployment Risks in an Emergency (SURE) following the COVID-19 outbreak pursuant to Article 14 of Council Regulation (EU) 2020/672. Brussels, COM (2023) 291 final.

⁽¹⁰⁾ C. McDonnell et al. (2022, *op. cit.*).

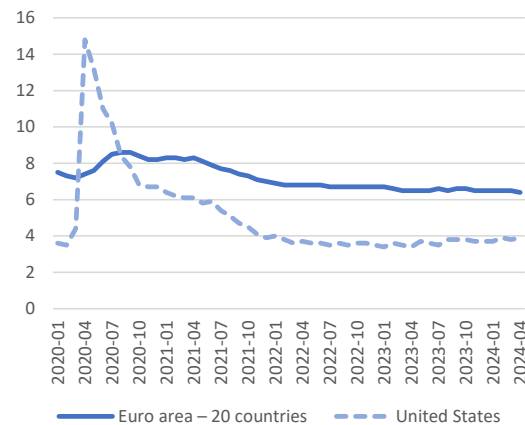
⁽¹¹⁾ W. R. Lam and A. Solovyeva (2023): "How Effective were Job-Retention Schemes during the COVID-19 Pandemic? A Microsimulation Approach for European Countries." *IMF Working Paper No. 2023/003*, International Monetary Fund.

the euro area (Graph II.6).⁽¹²⁾ Nevertheless, as in the euro area, US unemployment recovered quickly, returning to its pre-COVID levels by 2021.

US labour market developments saw a more pronounced and longer-lasting reduction in participation rates after the pandemic. In the euro area, the participation rate recovered in 2021 to its pre-COVID level, but in the US it only recovered in 2022. This muted recovery can be partly explained by a higher rate of people leaving their jobs in the US, a phenomenon also called the “Great Resignation”. Although most quits represented switches to other jobs or transitions into self-employment, there was also a temporary surge in people leaving the labour market entirely, including into early retirement.⁽¹³⁾ This trend was not observed in the euro area, suggesting that EU job retention schemes might have helped prevent a fall in activity rates by maintaining employer-employee relationships.⁽¹⁴⁾

A different question is whether job retention schemes may have hampered the necessary reallocation of labour across firms and sectors.⁽¹⁵⁾ For the EU it has been argued that job retention schemes probably had a limited effect on reallocation, because the schemes were wound down as the pandemic receded and were only extended until 2021 in sectors that continued to experience disruption, i.e. primarily accommodation and food, wholesale and retail trade and other service sectors.⁽¹⁶⁾ Although it will take time to assess the medium to longer-term impacts of the pandemic-related support programmes, early evidence suggests that job retention schemes may not have had substantial negative effects on productivity for a number of reasons.⁽¹⁷⁾ First, the take-up of job retention schemes was lower among the least productive firms than among more productive firms. Second, participation in these schemes appears to have increased the survival rate of firms in the highest productivity groups but not in the groups with lower productivity. Third, participation in these schemes seems to have helped more productive firms avoid shedding jobs, while this effect is not significant for low-productivity firms.⁽¹⁸⁾

Graph II.6: Monthly unemployment rate, January 2020 to April 2024, %



Source: European Commission based on Eurostat data.

⁽¹²⁾ For a discussion of the US policy response and its effect on unemployment and poverty, see S. Parrott, (2022): “Robust COVID Relief Achieved Historic Gains Against Poverty and Hardship, Bolstered Economy”: <https://www.cbpp.org/research/poverty-and-inequality/robust-covid-relief-achieved-historic-gains-against-poverty-and-0> Testimony of Sharon Parrott, President, Center on Budget and Policy Priorities, Before the House Committee on the Budget.

⁽¹³⁾ F. Aidala, G. Kosar, and W. van der Klaauw (2024). The Post-Pandemic Shift in Retirement Expectations in the U.S. – The Post-Pandemic Shift in Retirement Expectations in the U.S. – Liberty Street Economics: <https://libertystreeteconomics.newyorkfed.org/2024/05/the-post-pandemic-shift-in-retirement-expectations-in-the-u-s/> Federal Reserve Bank of New York

⁽¹⁴⁾ See e.g. R. Duval et al. (2022): “Labor market tightness in advanced economies.” IMF Staff Discussion Note 2022/01.

⁽¹⁵⁾ Policy advice related to job retention schemes emphasised that they should be temporary in order not to impede necessary labour reallocation in cases where economic shocks prove to be permanent. See e.g. R. Duval et al. (2022, *op. cit.*).

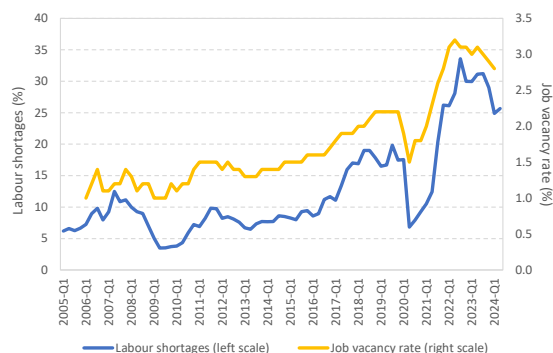
⁽¹⁶⁾ I. Boussard et al. (2022, *op. cit.*).

⁽¹⁷⁾ S. Calligaris et al. (2023), “Employment dynamics across firms during COVID-19: The role of job retention schemes”, OECD Economics Department Working Papers, No. 1788, OECD Publishing, Paris, <https://doi.org/10.1787/33388537-en>, based on findings for eight OECD countries (Australia, Denmark, Latvia, Netherlands, New Zealand, Norway, Slovakia, UK).

⁽¹⁸⁾ Similar conclusions were reached for five European countries (Croatia, Finland, the Netherlands, the Slovak Republic, and Slovenia) by T. Bighelli, T. Lalinsky and C. Providers (2021): “COVID-19 government support and productivity: Micro-based cross-country evidence”, CompNet Policy Brief, Vol. 14, while less favourable conclusions were reached for the Netherlands by L. Bettendorf, D. Freeman and Y. Adema (2021): “Covid-19 support distorted the process of creative destruction in the Netherlands”, VOX, CEPR Policy Portal.

II.4. STEEP RECOVERY FROM PANDEMIC-RELATED DISRUPTIONS AND ENSUING LABOUR SHORTAGES

Graph II.7: Labour shortages and vacancy rate in the euro area, 2004q1-2024q2



Note: Labour shortages are included as the share of firms in industry, services and construction indicating that labour is a “factor limiting production” obtained from the European Business and Consumer Survey (averaged over the sectors). The job vacancy rate, obtained from the Job Vacancy Survey, is the number of job vacancies expressed as a percentage of the sum of the number of occupied posts and the number of job vacancies.

Source: European Business and Consumer Survey and Eurostat (Job Vacancy Survey).

While the fall in economic activity was steep at the onset of the pandemic, the recovery in labour demand was also very abrupt compared with the previous recovery, as it was mostly driven by the containment measures being wound down rather than a gradual market-driven recovery of economic activity. The dynamic recovery brought about significant labour shortages, as firms reported both vacancies and labour shortages at rates exceeding pre-pandemic levels, which were already historically high (Graph II.7). This reflected not only the sudden bounce-back of labour demand but also a slower reaction of labour supply, with some workers facing barriers to returning to work while others expressing changing preferences related to certain types of jobs. ⁽¹⁹⁾

The pandemic had some persistent (and possibly permanent) effects on labour markets, including on the ways of working (such as teleworking), and

accelerating some longer-term trends related to digitalisation. By contrast, the sectoral effects of the pandemic were sizeable but proved to be largely temporary.

Labour shortages and labour market tightness are unlikely to have been the result of a deterioration in labour market matching. This is evidenced both by an analysis of the Beveridge curve and by indicators of labour market mismatch. The Beveridge curve is the usually downward-sloping relationship between vacancies ⁽²⁰⁾ and unemployment. In good economic times, unemployment is low and labour shortages are high, while the opposite happens in times of economic hardship. When labour market matching deteriorates, the Beveridge curve may shift outwards, and vice versa. ⁽²¹⁾

The Beveridge curve for the euro area did not shift outward over the pandemic period, suggesting that the matching efficiency of the euro area labour market has not deteriorated (Graph II.8). At the outset of the pandemic, vacancies dropped dramatically, and the unemployment rate rose slightly. However, in 2021 the economy regained traction and vacancies started to increase again, followed by improvements in unemployment. This resulted in a counterclockwise movement in the unemployment-vacancy space. By 2023 vacancies and unemployment had largely returned to the negatively sloped relationship observed before the pandemic (Graph II.8). ⁽²²⁾

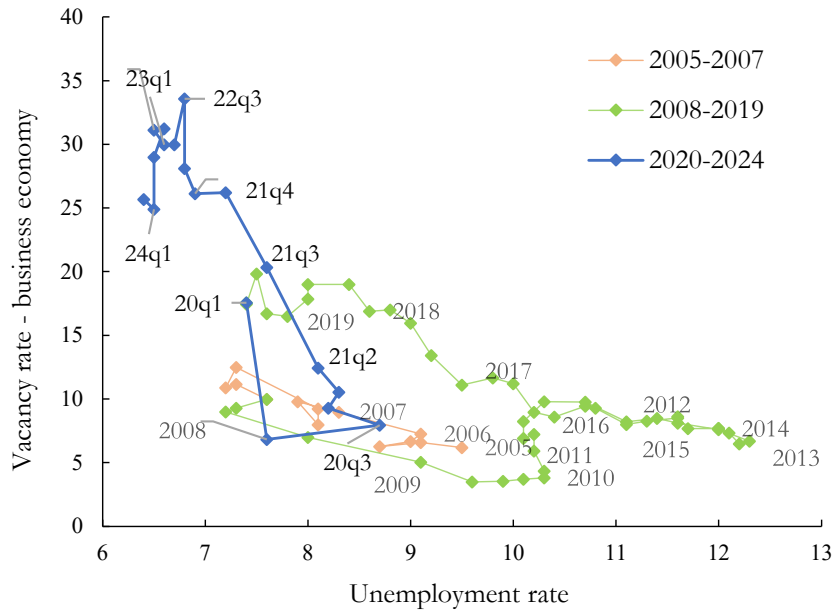
⁽¹⁹⁾ See R. Duval et al. (2022, *op. cit.*) for an assessment of post-pandemic tightness in the labour markets of advanced economies; for an assessment of the euro area labour markets in particular, see: A. Kiss, A. Turrini, A. Vandeplas (2022): “Slack vs. tightness in euro area labour markets: growing mismatch after COVID-19?” Quarterly Report on the Euro Area (QREA), Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 21(2), pages 19-28.

⁽²⁰⁾ Vacancies are sometimes proxied by labour shortages.

⁽²¹⁾ It should be noted that apparent shifts of the Beveridge curve may also occur over the business cycle without a significant change in matching efficiency. Among other things, apparent shifts may occur because vacancies may react faster to business cycle developments than unemployment, resulting in a counterclockwise movement in the unemployment-vacancy space.

⁽²²⁾ For a more detailed analysis of Beveridge curves in the EU, see Á. Kiss, M.C. Morandini, A. Turrini, A. Vandeplas (2022): “Slack and Tightness: Making Sense of Post COVID-19 Labour Market Developments in the EU,” European Economy - Discussion Papers 178, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.

Graph II.8: **Beveridge curve for the euro area (2005-2024-Q2)**



Note: The vacancy rate has been proxied by the share of firms in industry, services and construction indicating that labour is a “factor limiting production” from the European Business and Consumer Survey.

Source: European Commission based on Eurostat (EU Labour Force Survey) and European Business and Consumer Survey.

Synthetic indicators of labour market mismatches also suggest that a deterioration of labour market matching was not one of the factors explaining tight labour markets in the recovery from the pandemic-related disruptions (Graph II.9). At the onset of the pandemic, skill mismatches across educational attainment levels increased slightly as employment rates of low and medium-skilled workers fell more than the rate for high-skilled workers. ⁽²³⁾ However, the increase was only temporary as low and medium-skilled workers in particular benefited when the economy gained traction in 2021. In turn, the pandemic had a more pronounced impact on sectoral mismatches, but it was also short-lived as after the economy reopened, growth in labour demand was broad-based (Graph II.9).

All in all, the evidence suggests that labour shortages were not the result of large-scale sectoral reallocations as feared at the onset of the pandemic but were related to the difficulties for labour supply to adapt to a sudden increase in hiring after the containment measures ended. ⁽²⁴⁾

II.5. THE SURPRISING RESILIENCE OF LABOUR MARKETS OVER THE ENERGY CRISIS

The spike in energy and food prices that started in the second half of 2021 and accelerated sharply following Russia’s invasion of Ukraine in February 2022 created an inflationary spike and an economic slowdown in the euro area. Policy measures were taken to cushion households’ loss of purchasing power, especially for vulnerable groups, while avoiding the risk of wage-price spirals. National policy makers adopted sizeable temporary measures especially to cushion the effect of high energy prices, including measures affecting both incomes and prices.

⁽²³⁾ The skills mismatch indicator measures the relative dispersion of employment rates by educational levels, while the sectoral mismatch indicator measures the dispersion of reported labour shortages across the three main sectors of industry, services and construction.

⁽²⁴⁾ Á. Kiss, A. Turrini, A. Vandeplass (2022, *op. cit.*); R. Duval et al. (2022, *op. cit.*).

Other significant measures were taken at the EU level, including the State aid Temporary Crisis Framework adopted in March 2022. Under the Recovery and Resilience Facility, Member States could receive additional resources to fund measures under new REPowerEU chapters and to boost reforms and investments that diversify the EU's energy supplies, accelerate the green transition and support vulnerable households. Meanwhile, pre-financing and other disbursements made under the Facility in 2021 and 2022 created fiscal space for Member States to tackle the economic shocks. ⁽²⁵⁾

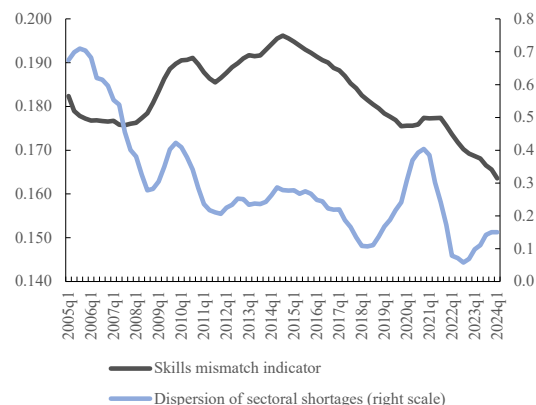
Despite the economic slowdown, labour markets remained surprisingly resilient. In particular, the unemployment rate remained at historically low levels (see Graph II.6 above), while job vacancies and labour shortages remained at historically high levels, only slightly down from the peaks reached in 2021 and early 2022 (see Graph II.7 above).

Continued tightness on euro area labour markets was not due to falling labour supply. The euro area did not see a sharp drop in labour market participation rates that contributed to labour market tightening in the US. On the contrary, after the pandemic, the number of people active on the labour market swiftly recovered and, by late 2021, the euro area labour force exceeded pre-pandemic levels (see Graph II.3 above). As argued above, labour market mismatch did not worsen.

Instead, the resilience of the labour market was due to labour demand growth outpacing the growth in labour supply. This is illustrated in Graph II.10, where labour demand is proxied by the sum of employment and vacancies. While evidence on the situation in the US links the high level of post-COVID labour shortages to supply factors including demography or reduced participation, euro area data suggest that the labour market tightening after the pandemic is mostly linked to strong growth in labour demand outpacing growth in labour supply, which was partly held back by the long-term decline in average hours worked per employee. ⁽²⁶⁾

Despite recent increases, average hours worked remain below their pre-COVID-19 level (-0.8% in 2023-Q4 below the 2019-Q4 level). However, a back-of-the-envelope calculation suggests that this fall in average hours worked explains approximately 15% of the total increase in employment in this period. Evidence suggests that the fall in average hours worked reflects a more longer-term historical trend that had already started well before the pandemic and can be explained by changes in preferences. ⁽²⁷⁾

Graph II.9: Sectoral and skills mismatches, euro area, 2005-2024-Q3



Note: The skills mismatch indicator measures the relative dispersion of employment rates by educational levels. Sectoral mismatch is defined as the dispersion of reported shortages across the three main sectors of industry, services, and construction. The series in the figure are smoothed.

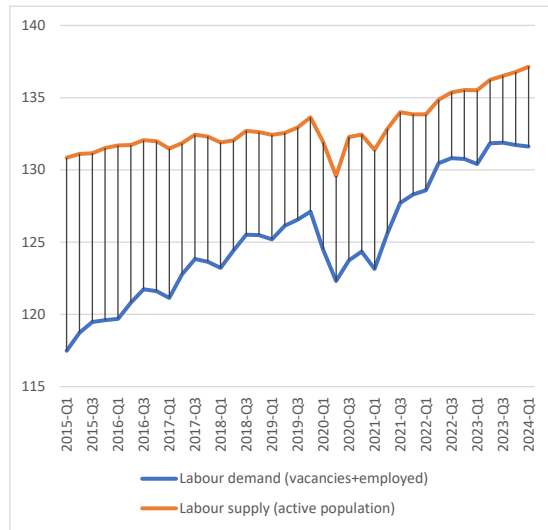
Source: European Commission calculations based on Eurostat (EU Labour Force Survey) and European Business and Consumer Survey.

⁽²⁵⁾ European Commission (2024): Communication - Strengthening the EU through ambitious reforms and investments. February 21.

⁽²⁶⁾ R. Duval et al. (2022, *op. cit.*).

⁽²⁷⁾ D. Astinova, R.A. Duval, N.-J.H. Hanse, B. Park, I. Shibata and F.G. Toscani (2024). Dissecting the Decline in Average Hours Worked in Europe. IMF Working Paper 24/2, International Monetary Fund.

Graph II.10: **Labour demand and supply (million people), euro area, 2015-Q1-2024-Q1**



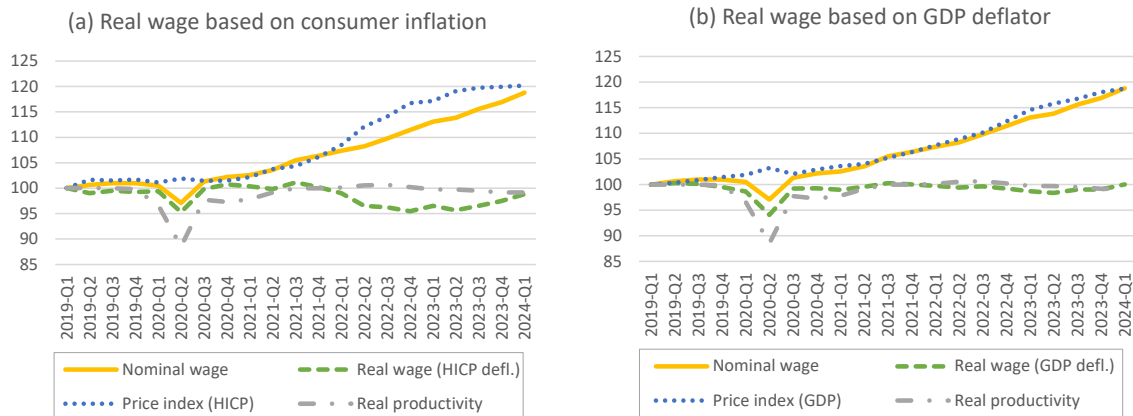
Note: Labour supply is proxied by the sum of all employed and unemployed people, while labour demand by the sum of employed (20-64) and vacancies in industry, construction and services (NACE B-S).

Source: European Commission based on Eurostat (EU Labour Force Survey and Job Vacancy Survey excluding EE, IT and MT, due to data limitations).

While in the wake of the pandemic the main driver of the positive labour demand shock was the lifting of containment measures, the subsequent resilience of euro area labour markets was mainly associated with more muted but persistent trends underpinning labour demand dynamics. In particular, these trends are linked to strong corporate profits and balance sheet dynamics in a context of falling real wages.⁽²⁸⁾ Real wages fell in the aftermath of the steep rise in inflation that started in 2021, with wages lagging behind productivity growth (Graph II.11).

Alongside the fall in real wages, profit shares surged in the post-pandemic period to the highest levels seen for two decades.⁽²⁹⁾ In the second half of 2023, however, faster nominal wage growth and rapid disinflation contributed to a recovery of real wages. By the first quarter of 2024 real wage growth was on par with productivity growth for the first time since the onset of the pandemic, independently of the deflator used to calculate real wage growth. In combination with a decline in profit share, the recent recovery of real wages suggests that the impact of this driver on labour shortages is gradually fading.

Graph II.11: **Nominal and real compensation in the euro area, developments in levels (2019=100)**



Source: European Commission calculations based on Eurostat data.

There may be other, structural drivers underpinning the strong demand for labour. Over the past decade, the relative weight of the older age cohorts in the working age population increased as the ‘baby-boom’ generation reaches retirement, and the younger age cohort is relatively smaller.⁽³⁰⁾ As a result, companies facing a reverse age pyramid in their payroll experience a medium-term need to restructure their skill portfolio. The prospect of a higher replacement demand over the coming years may have triggered part of the increase in vacancies, in particular in the context of a tight labour market. This effect

⁽²⁸⁾ P.O. Gourinchas (2023). “Global Economy on Track but Not Yet Out of the Woods”, IMF Blog, IMF, Washington D.C. <https://www.imf.org/en/Blogs/Articles/2023/07/25/global-economy-on-track-but-not-yet-out-of-the-woods>

⁽²⁹⁾ European Commission (2023). “European Economic Forecast Spring 2023.”, Institutional Paper 200, DG Economic and Financial Affairs, European Commission.

⁽³⁰⁾ The relative size of the young age cohort (15-24) in the working age population fell sharply as compared to older age cohort (55-64) in EU, from 1.3 in 2000 to 0.8 in 2023.

may have been compounded by the fact that it has become cheaper to post vacancies thanks to the rise of online posting and interviews. This may have led some firms to post vacancies without needing to fill them immediately so that they have the option to hire high-profile talent among a pool of potential applicants. ⁽³¹⁾

Another possible explanation of the resilience of the labour market is that companies may have changed their behaviour in terms of shedding labour. They may have become more reluctant to lay off workers despite weakening economic conditions. ⁽³²⁾ The hesitancy may be fuelled by the difficulties experienced by companies re-hiring workers after extensive layoffs. ⁽³³⁾ This phenomenon of ‘labour hoarding’ may have been reflected in the fall in separation rates and could have been an indirect by-product of tightening labour markets. Over the past decade, the separation rate in the euro area (as measured by transition rates from employment to unemployment) fell from 3,4% in 2013 to 2,2% in 2018 and 2,0% in 2023.

The recent weakening of economic growth combined with resilient labour market outcomes automatically translates into a further weakening of labour productivity dynamics. In 2023, this meant that labour productivity fell by 0.9% per person and 0.8% per hour worked. This added to the long-term slowdown in labour productivity growth, which mainly stems from factors outside the labour market such as weak capital deepening and a decline in technological innovation and diffusion. ⁽³⁴⁾

II.6. CONCLUSIONS AND CHALLENGES AHEAD

Over the past 15 years, the euro area economy has weathered two major crises: the global financial crisis in 2008 (and the ensuing sovereign debt crisis) and the COVID-19 pandemic in 2020. However, the two crises had a very different impact on labour market outcomes and their subsequent recovery.

In the aftermath of the global financial crisis, the euro area saw a protracted period of low job creation and unemployment rose to 13% in 2013 with sizeable differences across countries. In the subsequent recovery period (2013-2019), unemployment receded, differences were at least partly reversed, while activity rates continued to increase, underpinning a job-rich recovery.

In the wake of the COVID-19 pandemic, employment and total hours worked declined sharply, but unemployment increased to a lesser extent, reflecting the widespread take-up of job retention schemes, including schemes funded at the EU level by the SURE instrument. Unlike in the global financial crisis, labour market outcomes bounced back quickly, and labour shortages re-emerged rapidly during the recovery from the pandemic.

The surge in labour shortages was initially interpreted as the result of a dynamic reopening of the economy after the pandemic containment measures ended. However, labour shortages did not return to their pre-pandemic levels and remained close to their record high in 2023 and the first half of 2024 in a context of subdued economic growth indicating that other factors were at play than simple cyclical effects. In particular, the overall resilience in labour market outcomes can be explained by strong labour demand, outpacing labour supply. Labour demand was underpinned by strong corporate profits and falling real wages. Other possible drivers include changes in firm behaviour as regards hiring and firing in a context of high labour shortages.

⁽³¹⁾ T.-P. Chen (2023). Job Listing Abound, but Many Are Fake: <https://www.wsj.com/articles/that-plum-job-listing-may-just-be-a-ghost-3aafc794>, Wall Street Journal article.

⁽³²⁾ European Commission (2023). European Business Cycle Indicators: A new survey-based labour hoarding indicator: https://economy-finance.ec.europa.eu/document/download/4fbc4f57-eac8-4375-a89d-4ec3ecec6028e_en?filename=tp066_en.pdf

⁽³³⁾ O. Acre, A. Consolo and A. Dias Da Silva (2023). More jobs but fewer hours: <https://www.ecb.europa.eu/press/blog/date/2023/html/ecb.blog230607-9d31b379c8.en.html>. ECB Blog, European Central Bank, Frankfurt.

⁽³⁴⁾ P. Lopez-Garcia, and B. Szörfi (2021). Key factors behind productivity trends in euro area countries: https://www.ecb.europa.eu/press/economic-bulletin/articles/2021/html/ecb.ebart202107_02-c95a8477e1.en.html ECB Economic Bulletin 7/2021, Frankfurt.

Going forward, labour demand is likely to ease further amid subdued economic growth combined with gains in real wages and falling profit shares. Less dynamic labour demand is set to be mainly reflected in a decline in the number of vacancies and labour shortages, which already started to fall from their record high levels in 2023 and 2024. The impact on unemployment, however, is expected to be more muted. This is partly due to stagnating or decreasing labour supply, driven by adverse demographic trends and changes in preferences with respect to working hours. The importance of these supply drivers is expected to be even greater over the short-to-medium term, meaning that labour shortages could remain historically high. However, significant uncertainties lie ahead, including the impact of other structural challenges, such as the need for labour reallocation related to the green and digital transitions.

To mitigate the impact of these supply drivers on labour market outcomes, policy action should focus on measures that aim to sustain labour supply, including by providing high-quality and inclusive initial education, enhancing activation and retainment of underrepresented groups in the labour market, promoting labour mobility and, where relevant, migration. Measures that facilitate labour reallocation will also remain crucial. These include effective up- and re-skilling strategies designed to meet labour market needs, based on up-to-date labour market intelligence, accessible and well-functioning public employment services, and efficient labour market institutions.

III. THE RECOVERY AND RESILIENCE FACILITY: PROMOTING INVESTMENTS AND DRIVING REFORMS

By Daniel Schulz, Magdalena Spooner and Fabrice Orlandi

Abstract: *The Recovery and Resilience Facility (RRF), the cornerstone of the EU's Next Generation EU initiative, is an unprecedented response to the COVID-19 pandemic. With EUR 648 billion in funding, it supports reforms and investments aimed at mitigating the economic impact of the crisis while fostering long-term resilience. This chapter explores the RRF's critical role in stabilising the euro area by preventing financial fragmentation, maintaining public investment levels and promoting key structural reforms. It highlights the RRF's innovative performance-based framework, in which funding is released once specific milestones and targets in national Recovery and Resilience Plans (RRPs) have been achieved. The RRFs focus on essential EU priorities (particularly the green and digital transitions) and on the broader objectives of fostering sustainable growth and resilience. The RRF's performance-based approach and its elements that promote economic convergence and support the provision of EU public goods (such as climate change mitigation, digitalisation and energy security) provide useful insights that could inform the design of future EU instruments⁽¹⁾.*

III.1. INTRODUCTION

The Recovery and Resilience Facility (RRF), the cornerstone of the Next Generation EU (NGEU) initiative, is an unprecedented fiscal response by the EU to the COVID-19 pandemic. With a budget of EUR 648 billion for investments and reforms (EUR 357 billion in grants and EUR 291 billion in loans), the RRF is the EU's largest instrument and aims to mitigate the pandemic's economic and social impacts while fostering a sustainable and resilient recovery. This chapter examines the RRF's economic significance for the euro area, highlighting its role in providing liquidity, promoting investments, providing EU public goods, driving structural reforms and enhancing the euro area's resilience.

The RRF targets both recovery and resilience, and has established a strong and unified response to the economic downturn which simultaneously hit all the EU's Member States following the COVID-19 pandemic. It has ensured rapid macroeconomic stabilisation and maintained public investment levels – in contrast to previous crises. It has also laid the groundwork for structurally enhancing resilience by promoting the implementation of major structural reforms that are aligned with the EU's common priorities.

The RRF is an EU-level instrument but has significantly contributed to the stabilisation of the euro area during the COVID-19 crisis. The political announcement of the NGEU initiative was followed by an immediate compression of sovereign bond spreads, which prevented the divergence between euro area sovereign issuers' spreads that was seen in previous crises. The large common fiscal response to the COVID-19 crisis prevented economic divergence between euro area countries and protected Member States that were more economically vulnerable. The structural reforms implemented under the RRF also make the euro area more resilient to future shocks by addressing some of its structural weaknesses.

III.2. MAIN FEATURES OF THE RRF

The RRF's primary innovative aspect is its performance-based framework. Unlike conventional EU instruments, which reimburse costs that have been incurred, RRF funds are only released when Member States achieve specific milestones and targets in their national Recovery and Resilience Plans (RRPs), reflecting the successful implementation of reforms and investments on the ground. To request RRF

⁽¹⁾ This section represents the authors' views, which are not necessarily those of the European Commission.

support, EU Member States were required to submit national RRP, outlining a coherent set of proposed reforms and investments that were distributed across six policy pillars: green transition, digital transformation, smart and inclusive growth, social and territorial cohesion, health and resilience, and policies for the next generation.

The Commission assessed these RRP on the basis of the contribution they make to EU priorities, the coverage of country-specific recommendations (CSRs), and the coherence and impact of the proposed measures. As a key objective, the RRF emphasises two critical EU priorities: the green and digital transitions. Each RRP must allocate at least 37% of funding to green initiatives and 20% to the digital transformation. These contributions are assessed using rigorous methodologies. Under the ‘do no significant harm’ (DNSH) principle, no measures in the RRP can harm environmental objectives.

Through its asymmetric allocation formula, the RRF protected the Member States most affected by the COVID-19 pandemic and promotes economic convergence across the EU. The formula is based on four factors: (i) the share of each Member State’s population in the total EU population; (ii) the inverse ratio of GDP per capita relative to the EU average; (iii) the average unemployment rate in 2015–2020 compared with the EU average; and (iv) the relative fall in real GDP in both 2020 and 2021 compared with the average decline across the EU as a whole. This ensures that poorer and more affected Member States receive a larger share of grants, while wealthier Member States with more resilient economies receive comparatively less. Member States’ allocations therefore vary significantly, with Germany receiving around 1% of its GDP, Italy 10%, and Greece close to 19%. The overall envelope – EUR 357 billion in grants and EUR 291 billion in loans – accounts for about 4.1% of the EU’s GDP.

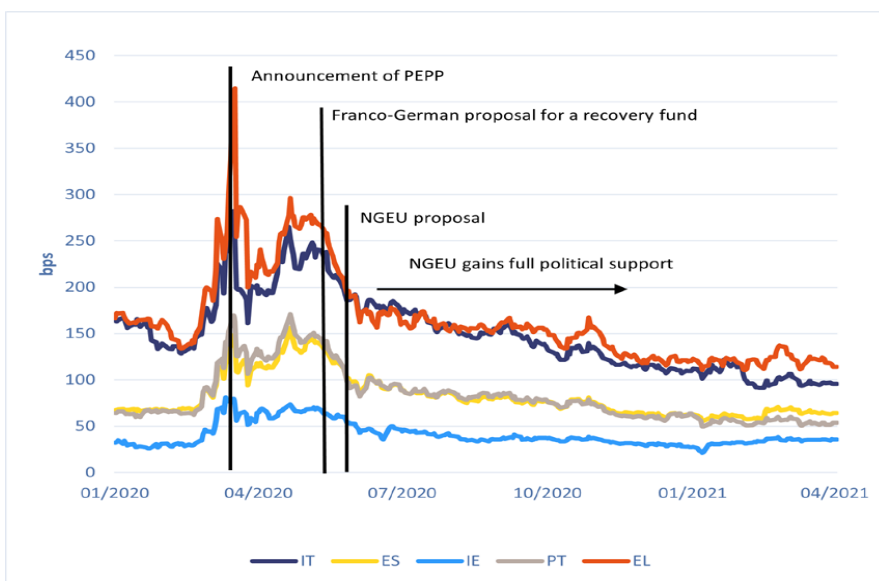
The RRF combines large-scale funding, performance-driven incentives and an allocation mechanism that favours convergence. This makes it a pivotal tool not only in driving the EU’s recovery from the COVID-19 pandemic but also in fostering long-term sustainability and resilience.

III.3. RRF OBJECTIVES AND ACHIEVEMENTS

III.3.1. Preventing financial fragmentation and economic divergence

Even before implementation started, the prospect of decisive political action at the EU-level calmed markets, which had shown signs of stress at the beginning of the pandemic. Between March and July 2020, the announcement of the NGEU agreement – combined with national fiscal responses, the adoption

Graph III.1: Spreads of selected 10-years bonds versus bund



Source: AMECO.

of a temporary State aid framework by the Commission, the launch of the European instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE), the activation of the general escape clause of the Stability and Growth Pact (SGP) and the roll-out of the European Central Bank's (ECB) Pandemic Emergency Purchase Programme (PEPP) – restored confidence in the resilience of vulnerable EU economies (see Graph III.1). Bond spreads for euro area countries with higher borrowing costs shrank by 50 to 100 basis points in the first weeks following the policy announcements, thus reflecting a significant reduction in perceived risk⁽²⁾. The avoidance of a divergence in bond spreads contrasts with previous crises in which spreads widened considerably.

The issuance of NGEU debt has had a profound impact on market stability⁽³⁾. The Commission finances the RRF by issuing EU bonds on capital markets in what is the first instance of common EU borrowing on this scale. The amount borrowed between mid-2021 and 2026 will be repaid by 2058 through the introduction of sufficient new own resources into the EU budget for grants and through loan repayments by borrowing Member States.

The RRF is partly born out of the experience of previous crises. The financial crisis of 2008 and the subsequent euro area crisis of 2010–2012 had seen significant widening in bond spreads (particularly in Member States like Greece, Spain, Italy, Cyprus and Portugal) and revealed fragilities in the Economic and Monetary Union. The fragmentation in bond markets underscored the need for mechanisms that could provide collective financial support and stabilise markets during periods of stress. This eventually led to the establishment of the ESM, which provides financial assistance subject to strict macroeconomic conditionality. Even so, the absence of a unified fiscal response and the reliance on fiscal consolidation measures dampened economic growth in the affected Member States, exacerbating economic divergence within the euro area⁽⁴⁾.

The RRF's approach marks a stark policy change and departure from past approaches by providing a unified and robust common fiscal response with a forward-looking vision. An important factor behind this united response was the truly exogenous nature of the COVID-19 shock, which lessened concerns about moral hazard. The RRF allowed all Member States to access affordable financing, irrespective of their individual fiscal situations⁽⁵⁾. In addition, the presence of a large liquid market for EU bonds enhances the depth and resilience of the EU's financial markets⁽⁶⁾.

III.3.2. Preserving investment

Investment is often the easiest form of expenditure for governments to cut during times of budget constraints. This is because it typically involves long-term projects whose benefits may not be immediately visible, so it is politically less costly to reduce them than other types of expenses. Between 2009 and 2013, public investment in the euro area fell by around 20%. The declines were particularly sharp in Member States such as Greece, Spain and Italy⁽⁷⁾. The fall in investment has long-term implications for productivity growth via a reduced development of adequate public infrastructure.

Underinvestment has been identified as a characteristic of several EU Member States' economies following the financial crisis, and as contributing to the slow recovery. Observers have identified investment in the EU as lagging far behind other advanced economies even before the financial crisis; and have identified a historically unprecedented collapse in fixed capital formation because of the crisis,

⁽²⁾ Lane, P.R., 'Monetary Policy and Liquidity in the Pandemic', *ECB Economic Bulletin*, 2020.

⁽³⁾ Monteiro, D.P., 'Large-scale EU issuance: 3 years on', *Quarterly Report on the Euro Area*, Vol. 22, No 4, 2024.

⁽⁴⁾ Corsetti, G., and Müller, J.G., 'Fiscal Multipliers: Lessons from the Great Recession for Small Open Economies', *Economic Policy*, 30(83), 2015, pp. 453-497.

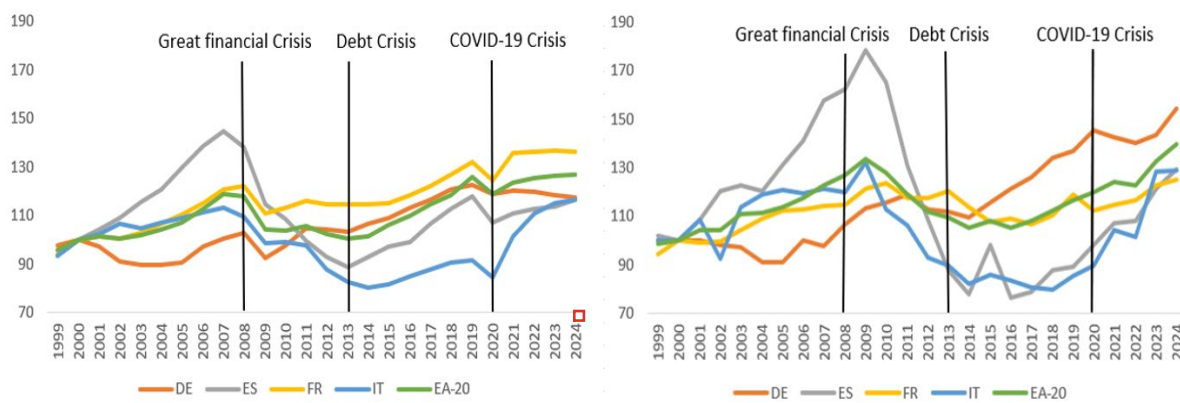
⁽⁵⁾ Baldwin, R., and Werder di Mauro, B. (eds.), *Economics in the Time of COVID-19*, CEPR Press, 2020.

⁽⁶⁾ Blanchard, O., Leandro, Á. and Zettelmeyer, J., 'Redesigning EU Fiscal Rules: From Rules to Standards', *Economic Policy*, 35(100), 2020, pp. 685-736.

⁽⁷⁾ International Monetary Fund, *Fiscal Monitor*, April 2014.

with a slowing effect on growth⁽⁸⁾. Graph III.2 illustrates the period of low investment, with (total and public) investment in the EU-27 struggling to reach the pre-crisis level of 2007 even by 2019.

Graph III.2: Gross fixed capital formation at constant prices, Index=2000, euro area and largest Member States. Left: total economy; right: general government



Source: European Commission, AMECO.

To address the chronically low investment levels after the global financial crisis and the euro sovereign debt crisis, the Commission launched first the Juncker Plan and then the InvestEU programme, mobilising over EUR 500 billion in investments between 2015 and 2020 and boosting employment and GDP levels. As seen in Graph III.2, this has been associated with increasing fixed capital formation in both the overall economy and the government sector until the start of the COVID-19 crisis in early 2020.

The RRF *inter alia* emerged out of the need to avoid a repeated crash in investment levels. From 2020 onwards, and in contrast with the 2007 shock, there has been a clear recovering trend in public investment and gross fixed capital formation in the total economy which can, at least in part, be ascribed to the RRF. A cut in public investment was avoided thanks to the large financial support provided at the EU level and in combination with other measures, with the EU average of public investment increasing from 3.0% in 2019 to 3.3% in 2022⁽⁹⁾. The over EUR 265 billion of RRF funds that has been disbursed so far has had a multiplier effect on private investment. This multiplier effect is larger in economies with significant slack, where public investment can crowd in private investment by boosting confidence and demand. Moreover, the requirement for RRF investment to be aligned with EU objectives (particularly the green and digital transitions) ensures that the benefits are not only immediate but also sustainable over the long term⁽¹⁰⁾.

III.3.3. Towards a more resilient euro area: driving structural reforms

Exploring the RRF's features through the lens of the literature on the optimum currency area (OCA) can shed some light on the RRF's contributions to the euro area's resilience.

⁽⁸⁾ Christodoulakis, N. and Axioglou C., *Underinvestment and Unemployment: The Double Helix of the Euro area Crisis* (article in L. Paganetto (ed.), *Sustainable Growth in the EU: Challenges and Solutions*, Springer International Publishing, 2016, pp. 83-110).

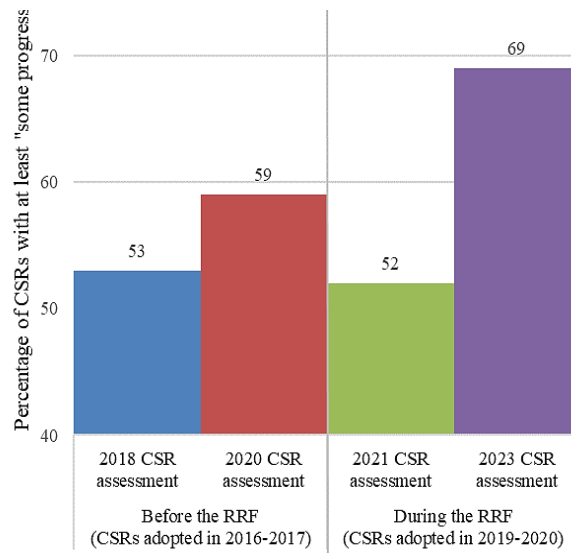
⁽⁹⁾ European Commission, *European Economic Forecast*, Autumn 2023.

⁽¹⁰⁾ Buti, M. and Messori, M., 'The Euro Area Policy Mix: From Horizontal to Vertical Coordination', *CEPR Policy Insight*, No 113, 2021.

The concept of an OCA, as introduced by Mundell⁽¹¹⁾, provides a framework for understanding the requirements for a successful currency union. These include labour mobility, capital mobility, other risk-sharing mechanisms (e.g. fiscal transfers or common deposit and unemployment insurances) and similar business cycles in different Member States. The euro area’s structure has often been criticised for being incomplete as regards these criteria and particularly as regards the lack of adequate fiscal transfers and risk-sharing mechanisms⁽¹²⁾.

Measures contained in the RRFs can advance the resilience of the euro area by tackling EU economies’ structural weaknesses. The RRF appears to have propelled a large increase in the implementation of the country-specific recommendations (CSRs), because each RRP must address all or a significant subset of the CSRs to the respective Member State on structural challenges. The multiannual increase in implementation in the years before the RRF was in the range of 6 percentage points (between 2018 and 2020), while the RRF fuelled an increase of 17 percentage points (2021 to 2023) (Graph III.3). Stakeholders and external evaluators interviewed in the context of the RRF’s mid-term evaluation⁽¹³⁾ recognised that the RRF’s conditional financial support had led to the implementation of long-standing reforms that would not have occurred without the RRF.

Graph III.3: Share of CSRs with at least ‘some progress’ before and during the first years of the RRF



Notes:

- (1) The CSR assessment takes into account the degree of implementation of the measures included in the RRFs and of those done outside the RRFs at the time of the assessment.
- (2) Implemented measures can lead to ‘some/substantial progress’ or ‘full implementation’, depending on their relevance.

The implementation of key RRF reforms increases the euro area’s resilience and stability. Firstly, the reforms on the green and digital transitions, labour markets, education, health and judiciary increase the economic potential and resilience of the constituent Member States. Secondly, many reforms linked to CSRs are partially or fully directed at the well-functioning of the single market and euro area.

The following three areas have been widely identified as core reform priorities, and can showcase the RRF’s structural reforms’ contribution to the euro area’s resilience.

⁽¹¹⁾ Mundell, R. A., ‘A Theory of Optimum Currency Areas’, *American Economic Review*, 51(4), 1961, pp. 657-665.

⁽¹²⁾ Krugman, P., *Lessons of Massachusetts for EMU* (article in Torres F. & Giavazzi F. (eds.), *Adjustment and Growth in the European Monetary Union*, Cambridge University Press, Cambridge, 1993, pp. 241-261).

⁽¹³⁾ Commission Staff Working Document of 21 February 2024, *Mid-Term Evaluation of the Recovery and Resilience Facility*, SWD(2024) 70 final.

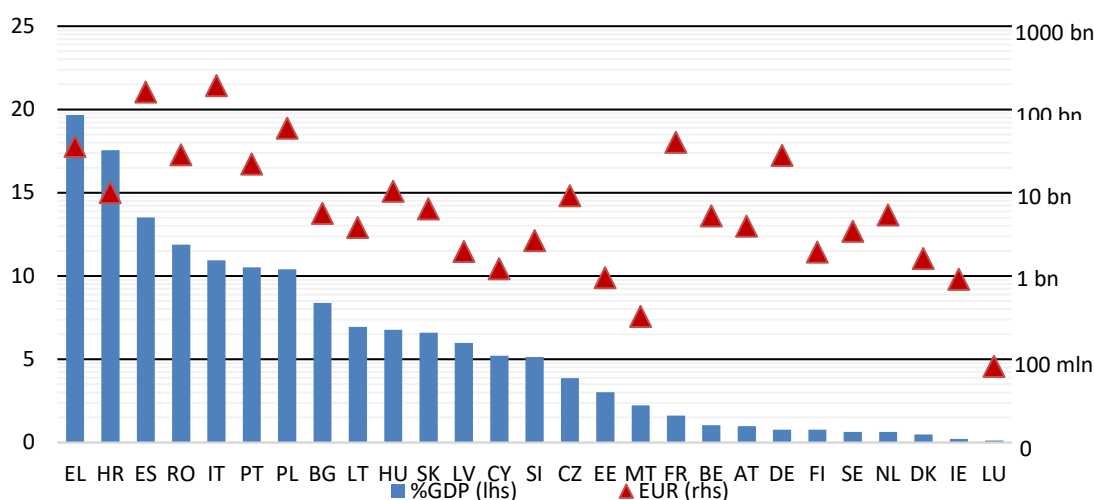
- Limited labour mobility and labour market flexibilities, and structural unemployment:

Research emphasises that labour market reforms are crucial for improving the euro area’s resilience ⁽¹⁴⁾. Labour market inflexibility, limited labour mobility and structural unemployment have undermined the euro area’s resilience during economic crises.

Labour market flexibility allows economies to adjust efficiently to shocks, but many euro area countries have rigid employment regulations. This makes it harder for firms to adapt to economic downturns, leading to prolonged recessions. Member States like Spain and Italy experienced persistent high unemployment, which constrains growth and recovery ⁽¹⁵⁾. In addition, cultural, linguistic and regulatory barriers have limited labour movement in the euro area, hindering its ability to respond to asymmetric shocks ⁽¹⁶⁾⁽¹⁷⁾. Labour mobility, which is a key aspect of OCA theory, helps mitigate shocks by allowing workers to move from distressed to prosperous regions. This alleviates unemployment, addresses labour shortages and promotes balanced economic adjustment, with less impact on welfare than full wage flexibility. Policies to reduce mobility barriers (e.g. harmonising qualifications and improving language education) could boost cross-border labour movement. Mismatches between available jobs and worker skills also impair resilience and increase structural unemployment. Large differences in labour market performance contribute to economic divergences within the euro area and complicate the deployment of common policies.

The RRF includes several significant reforms aimed at tackling these labour market challenges. Many RRFs contain reforms aimed at modernising labour regulations, increasing labour mobility through harmonising qualification and fostering (language) education and upskilling; and address long-standing reasons for structural unemployment. For example, Spain has implemented a labour market reform to address long-standing structural issues such as duality and a high temporary employment rate. Such reforms across the euro area are intended to improve both flexibility and long-term employment prospects, thereby boosting its capacity to withstand future shocks ⁽¹⁸⁾.

Graph III.4: RRF allocation (EUR bn and as a share of GDP)



Note: Funding allocated to each endorsed RRF (right-hand side) and as a share of each Member State’s GDP in 2021 (left-hand side), including grants and loans.

Source: European Commission and AMECO.

⁽¹⁴⁾ Anderton, R., Aranki, T., Dieppe, A., Elding, C., Hauzenberger, K. and M. Mohr, *Labour market reforms in the euro area: a quantitative assessment of their macroeconomic impact*, European Central Bank, 2020.

⁽¹⁵⁾ Bassanini, A. and Duval, R., ‘The determinants of unemployment across OECD countries: reassessing the role of policies and institutions’, *OECD Economic Studies*, 2006(42), pp. 7-86.

⁽¹⁶⁾ Decressin, J. and Fatas, A., ‘Regional labor market dynamics in Europe’, *European Economic Review*, 39(9), 1995, pp. 1627-1655.

⁽¹⁷⁾ Blanchard, O.J., and Katz, L.F., ‘Regional evolutions’, *Brookings Papers on Economic Activity*, 1992(1), pp. 1-75.

⁽¹⁸⁾ International Monetary Fund, *Regional economic outlook: Europe – strengthening resilience amid growing challenges*, 2022.

- *Divergent fiscal policies and the absence of fiscal buffers and stabilisers:*

The absence of a central fiscal authority means that individual Member States' fiscal policies can diverge significantly, leading to instability (De Grauwe, 2013). Fiscal integration is essential to mitigating large asymmetric shocks within a currency area. The RRF addresses, albeit temporarily, the euro area's lack of fiscal capacity. By allocating funds based on the severity of the economic impact from the pandemic, the RRF has protected the economically more vulnerable Member States (Graph III.4). This risk-sharing element has mitigated the risk of lasting economic divergence between Member States⁽¹⁹⁾.

- *Economic disparities and structural gaps in competitiveness:*

Persistent economic disparities between Member States threaten the cohesion and stability of the euro area⁽²⁰⁾. Economic convergence reduces the risk of economic imbalances between regions within a currency area. The RRF contributes to economic convergence in two ways: its redistributive effect (as discussed above) and the incentive to accelerate structural reforms, with a stronger impact on Member States with long-standing structural challenges (as captured by the CSRs).

For example, Italy has introduced measures to reduce civil justice system backlogs. These include strengthening the trial office and setting up incentives for judicial offices to meet case-reduction targets that aim to attract investment and foster growth. Spain uses RRF loans to improve SMEs' access to capital markets and encourage private investment (particularly in the green and digital sectors), because SMEs are crucial to its economy. Portugal's RRP supports net-zero technology manufacturing projects, aiming to boost industry competitiveness through investments in solar, wind and battery technologies aligned with the Net-Zero Industry Act.

III.3.4. Boosting the provision of European public goods (EPGs)

The RRF was enacted in response to the COVID-19 crisis, but its creation was used as an opportunity to pursue the transition to climate neutrality by 2050 (as enshrined in the EU Climate Law⁽²¹⁾) and the digital transition. The funding available via the RRF therefore gave an important boost to the provision of European public goods (EPGs)(see Box III.1) that correspond to common challenges that are tackled by the RRF: decarbonisation, circularity, biodiversity protection, climate change mitigation, digitalisation, health policy, strategic sovereignty, research and development.

By their nature, EPGs are efficiently provided at a supranational level (such as the EU) because the incentive structure at national level is insufficient for their full provision. However, the EU budget has historically faced challenges in adequately funding EPGs due to its limited size – it accounts for only approximately 1% of the EU's gross national income (GNI). In this context, the RRF has provided a landmark in increasing the provision of EPGs and can be seen as a temporary central fiscal tool for their financing (Buti et al., 2023)⁽²²⁾. This success has led to increasing proposals for a permanent central fiscal capacity for the EU, combining the provision of public goods with economic stabilisation (see Section III.4. below).

Focus on 'green' public goods

In order to channel more funds towards making the EU sustainable, resilient and prepared for the green transition, the RRF requires at least 37% of the allocation of each national RRP to go to measures that support climate objectives.

⁽¹⁹⁾ Farhi, E. and Werning, I., 'Fiscal unions', *American Economic Review*, 107(12), 2016, pp. 3788-3834.

⁽²⁰⁾ De Grauwe, P. and Ji, Y., 'Financial engineering will not stabilize an unstable euro area', *European Economic Review*, 101, 2018, pp. 1-11.

⁽²¹⁾ Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999, OJ L 243, 9.7.2001, p. 1-17. The Regulation is also known as the European Climate Law.

⁽²²⁾ Buti, M., Coloccia, A. and Messori, M., 'European public goods', *VoxEU.org*, 9 June 2023.

The Regulation ⁽²³⁾ defines the scope of the measures that are eligible to be funded by the RRF. Each relevant climate measure is assigned an intervention field with a specific climate (and, if relevant, environmental) coefficient. The requirement of at least 37% climate allocation was intended to support the implementation of the EU's commitment to climate neutrality by 2050. Environmental coefficients help to determine how much of the available funding supports the environmental ambition, which goes beyond (or in addition to) the climate ambition.

The recent energy crisis has heightened the importance of striking a balance between meeting short-term energy needs and pursuing long-term energy security, within the wider context of the climate crisis ⁽²⁴⁾. Before the energy crisis, the EU relied on a limited number of major fossil fuels' importers, while energy security dictates to diversify the sources of energy. This had already been highlighted when the Energy

BOX III.1: What are European Public Goods?

European public goods (EPGs) are defined as goods or services that benefit all EU Member States and citizens. They are characterised by their non-rivalry (they do not diminish in supply as more Member States or citizens benefit from them) and non-excludability (Member States and their citizens cannot be excluded from enjoying them). They therefore represent a class of services and benefits that are essential for the EU's functioning and cohesion.

Governments generally play a key role in providing public goods to their citizens ⁽¹⁾. While it is impossible to exclude citizens from consuming them, it is also difficult to charge for their consumption. Moreover, an additional user does not create any extra cost. While the national governments are under obligation to their citizens, in the case of EPGs (where effective solutions benefit all EU citizens) the EU is better placed to provide such public goods. However, EPGs are susceptible to underfunding and the free rider problem, because their benefits can be enjoyed regardless of the level of financial contribution to the cost of providing them.

The EU can nevertheless only act in areas explicitly authorised by the treaties. It has a mandate to act in the areas of its exclusive competence, while the value added of EU action should be established in areas where competence the EU and its Member States share competence ⁽²⁾. In policies that should apply across the EU and that would significantly benefit from coordination and cooperation between Member States, EU action can overcome possible frictions.

(1) Fuest, C. and Pisani-Ferry, J., A Primer on Developing European Public Goods: a report to Ministers Bruno Le Maire and Olaf Scholz, 3 November 2019.

(2) Article 4 of the Treaty of the Functioning of the European Union establishes three main classes of EU competence: (i) exclusive competences: in areas that fall under the sole jurisdiction of the EU (e.g. the customs union, competition rules for the internal market, monetary policy for euro-area countries and the conservation of marine biological resources under the common fisheries policy); (ii) shared competences: both the EU and its Member States can legislate and adopt legally binding acts in these areas (e.g. the internal market, some aspects of social policy, regional policy, agriculture, environment, and transport); and (iii) supporting competences: the EU intervenes in these areas to support, coordinate or complement Member States' actions (e.g. human health protection, industry, culture, tourism, education, vocational training and civil protection).

⁽²³⁾ Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility, OJ L 57, 18.2.2021, p. 17–75.

⁽²⁴⁾ Kim, J., Panton, A.J. and Schwerhoff, G., 'Energy Security and The Green Transition', *IMF Working Papers*, 2024/006.

Union was launched in 2015– energy security is one of the Energy Union’s five dimensions. The Energy Union helps to provide EU consumers with secure, sustainable, competitive and affordable energy. By extension, diversifying energy sources also leads to increased locally produced renewable energy, which goes hand in hand with ongoing efforts to green and decarbonise our society.

Following on from that and as a response to the global energy market disruptions caused by Russia’s full-scale invasion of Ukraine and its weaponising of gas deliveries, the Commission adopted the REPowerEU Plan ⁽²⁵⁾. This is intended to make the EU independent of Russian fossil fuels well before 2030. Particular challenges relate to reducing gas imports and – at the same time – tackling the climate crisis. The Plan does this through bigger emphasis on energy saving, diversification of energy supplies and an accelerated roll-out of renewable energy to replace fossil fuels in homes, industry and power generation. The RRF is at the heart of the REPowerEU Plan, providing additional funding for crucial energy investments and reforms.

The RRF and the REPowerEU Plan support the provision of the EPGs and help to overcome some of the implementation challenges related to the large set of policies that accompany the EU climate targets, by stressing the importance of climate efforts. This goes hand in hand with the climate mainstreaming that was already introduced in the 2014-2020 multiannual financial framework (MFF), in which the overall climate spending target was 20% of the EU budget. For 2021-2027, the EU budget – including Next Generation EU (and the RRF) – is projected to contribute EUR 658 billion to climate spending, representing 34.3% of the budget envelope and exceeding the initial target of 30%. More than 40% of EU climate spending can be attributed to the RRF ⁽²⁶⁾.

The green transition and other EPGs (e.g. security and defence) will nevertheless need to receive continuing support. The RRF will be fully implemented by the end of 2026 and the large funding needs will need to be covered in other ways. The ongoing discussions on the design of the next MFF will be crucial to ensuring that sufficient public funds are made available to support EU priorities.

III.4. THE RRF AND THE DEBATE ON A CENTRAL FISCAL CAPACITY FOR THE EU

The swift and successful EU-level support provided during the COVID-19 crisis (particularly via the RRF and SURE) led to renewed calls to establish a permanent central fiscal capacity (CFC) in the EU in order to enhance readiness and resilience in the face of similar shocks that may hit the EU in the future. Some have argued that tools such as SURE could provide a template for the development of a permanent CFC ⁽²⁷⁾.

There have been calls to establish a CFC in the EU since the EMU was established. These calls have tended to resurface when the EU faces major economic shocks and when monetary policy had little room left to absorb those shocks. Various studies have stressed that enacting necessary reforms and ensuring an appropriate fiscal policy are prerequisites for joining a monetary union. They have also reviewed whether and what type of CFC could usefully help complete and enhance the EMU’s architecture ⁽²⁸⁾. A

⁽²⁵⁾ Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions of 18 May 2022, *REPowerEU Plan*, COM(2022) 230 final.

⁽²⁶⁾ European Commission, [Climate overview 2024](#).

⁽²⁷⁾ Buti, M. and Corsetti, G., ‘The first 25 years of the euro’, *CEPR Policy Insight*, No 126, 2024.

⁽²⁸⁾ See for instance:

- Berger, H., Dell’Ariccia, G. and M. Obstfeld, ‘Revisiting the Economic Case for Fiscal Union in the Euro Area’, *IMF Departmental Paper*, No 2018/003, 2018;
- ECB, ‘One scheme fits all: a central fiscal capacity for the EMU targeting eurozone, national and regional shocks’, 2022;
- ECB Working Paper No 2666;
- European Fiscal Board, ‘What kind of EU fiscal capacity? Evidence from a randomized survey experiment in five European countries in times of corona’, *Economic Policy*, Volume 37, Issue 111, 2022;
- ESM, ‘EU fiscal rules: reform considerations’, *ESM Discussion Paper*, No 17, 2021.

See also:

CFC was initially advocated (primarily in order to provide cyclical stabilisation), but the provision of EPGs has more recently emerged as possibly the most prominent argument for a CFC.

Future decisions on whether or not to establish a CFC and its possible design should carefully consider the potential benefits as well as the challenges. A key benefit of creating a CFC is its capacity to support the provision of EPGs. By focusing on areas such as infrastructure, defence and climate change, a CFC could help address shared investment needs that are vital for the EU's long-term economic stability and growth. These investments are crucial for maintaining and developing public goods across Member States. They could also promote stronger economic integration and cooperation within the EU. Centralised fiscal tools would also allow more unified and effective responses to economic crises. This enhanced coordination could lead to more efficient allocation of resources, ensuring that EU-wide priorities are addressed consistently.

However, the establishment of a CFC comes with significant challenges. One of the primary concerns is the potential for moral hazard. There is a risk that Member States might become overly reliant on central funds, reducing their incentive to maintain sound fiscal policies at the national level. This could undermine fiscal discipline across the EU. Political feasibility also presents a considerable challenge. Some Member States are resistant to the idea of a CFC due to concerns over national sovereignty and the potential creation of a 'transfer union'. The design and implementation of a CFC is also challenging. Balancing the objectives of stabilisation, investment in public goods and compliance with EU fiscal rules would require careful planning. Ensuring that funds are deployed efficiently and in a timely and targeted manner poses several implementation challenges, although experience gained in the context of the implementation of temporary central support initiatives such as the RRF may have helped mitigate such implementation challenges.

Overall, while the establishment of a CFC could significantly enhance the provision of EPGs and improve coordination within the EU, it would face challenges related to political resistance and operational complexity. The rich debate and the experience of providing EU-level support via temporary tools such as SURE and RRF will contribute to further debates on the scope and purpose of a possible permanent CFC. In the absence of a CFC, ad hoc financial support and burden-sharing may still need to take place in the EU in response to large shocks but would again have to be conceived under time pressure.

III.5. CONCLUSION

The RRF has proved itself to be a vital instrument at the EU level, playing a significant role in stabilising the euro area during the COVID-19 crisis. The issuance of euro-denominated debt helped to avoid financial fragmentation and financial stress; and has provided crucial liquidity to the market during the turmoil caused by the pandemic. The common fiscal response effectively mitigated economic divergence between euro area countries, particularly safeguarding the hardest hit and economically weaker Member States. In addition, the structural reforms enacted under the RRF will increase the euro area's resilience to future shocks by addressing its long-standing structural weaknesses. This chapter has also explored how the RRF has contributed to achieving EU priorities and the provision of EU public goods; and has highlighted how this experience could inform the preparation of the EU budget in the future and the debate on a permanent CFC.

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- Arnold N., Balakrishnan R., Barkbu B., Davoodi H., Lagerborg A., Lam W., Medas P., Otten J., Rabier L., Roehler C., Shahmoradi A., Spector M., Weber S. and J. Zettelmeyer, 'Reforming the EU fiscal framework: strengthening the fiscal rules and institutions', IMF Departmental Paper No 2022/014, 2022;
 - OECD, *Economic Surveys: euro area 2021*, September 2021;
 - Burriel P., Chronis P., Freier M., Hauptmeie S., Reiss L., Stegarescu D. and S. Van Parys, 'A fiscal capacity for the euro area: lessons from existing fiscal-federal systems', *ECB Occasional Paper*, No 239, 2020; and
 - European Commission, *Completing Europe's Economic and Monetary Union*, 2015.

IV. ROBUST AND DYNAMIC FINANCIAL MARKETS

By Kalojan Hoffmeister, Stephen Ryan and Ulrich Clemens

Abstract: *The global financial crisis and subsequent European sovereign debt crisis prompted a wide set of financial sector reforms to increase the financial sector's resilience and authorities' capacity to react. These reforms laid the groundwork for a resilient euro area financial sector that has – aided both by the ECB's interventions and swift and decisive policy measures taken at national and EU level – weathered a number of adverse shocks in recent years. Nonetheless, the risk-sharing and shock absorption capacity of the euro area still has important limitations, reflecting both shortcomings in the institutional and legislative framework and persistent structural weaknesses. Impediments to euro area cross-border investment flows also limit the currency area's growth potential and efficient resource allocation. Addressing these shortcomings is key to further solidifying the stability of the euro area's financial system and to exploiting the euro area's full growth potential. At the same time, a continuously changing financial landscape and broader challenges such as the twin green and digital transitions and geopolitical developments require policy makers both to plan for the future and to remain reactive to emerging trends. ⁽¹⁾*

IV.1. POST-2008 FINANCIAL SECTOR REFORMS AND EURO AREA FINANCIAL SECTOR RESILIENCE IN THE FACE OF RECENT SHOCKS

IV.1.1. The legacy of two crises: regulatory response to the global financial crisis and the European sovereign debt crisis

The global financial crisis that originated in the US subprime mortgage market and subsequently spread throughout the world in 2008 highlighted weaknesses in financial systems worldwide and triggered a collective response that was largely addressed to the banking sector. In recognition of the interconnectedness of global financial markets, the G20 countries agreed on a set of coordinated actions, including the establishment of the Financial Stability Board (FSB) as a coordinating body for the reform of international financial regulation and supervision. As a direct result of the crisis, the Basel framework for banking supervision underwent a review that resulted in the Basel III framework published in 2010. These reforms to banking supervision and regulation were intended to increase banks' shock absorption capacity and liquidity position while ensuring a global level playing field. Its main elements were strengthened bank capital requirements, as well as requirements for liquid asset holdings and funding stability.

The updated Basel framework was implemented in the EU mainly through revisions of the Capital Requirements Directive (CRD) and the Capital Requirements Regulation (CRR). These revisions, together with the Bank Recovery and Resolution Directive (BRRD) and the amended Directive on Deposit Guarantee Schemes (DGSD), formed the core of the 'Single Rulebook', a unified regulatory framework for the EU financial sector that is intended to ensure the uniform application of Basel III in all Member States and to strengthen the single market in financial services. Similarly, the G20 commitment to reduce systemic, counterparty and operational risks (particularly in the over-the-counter (OTC) derivatives market) was realised in the EU in 2012 with the European Market Infrastructure Regulation (EMIR), which lays down rules on OTC derivatives, central counterparties (CCPs) and trade repositories.

Additional financial sector reforms beyond the collective global response to the financial crisis were adopted in the EU. Central to these reforms was the need for harmonisation, centralisation and stronger coordination of (national) regulatory frameworks. Already in 2010, the EU co-legislators agreed on the establishment of the European System of Financial Supervision (ESFS) with the objective of creating a comprehensive framework for financial sector supervision. The ESFS incorporates the European Systemic Risk Board (ESRB), which acts as its macroprudential arm and is responsible for identifying and addressing potential threats to financial stability across the EU. In addition, the ESFS consolidates oversight under the three European Supervisory Authorities (ESAs): the European Banking Authority (EBA), which is in charge of micro-prudential supervision for banking; the European Securities and Markets Authority (ESMA), which is in charge of securities exchange; and the European Insurance and Occupational Pensions Authority (EIOPA), which is in charge of supervising insurance companies and pension funds.

⁽¹⁾ This section represents the authors' views and not necessarily those of the European Commission.

These specialised ESAs are responsible for developing consistent regulatory standards for banks, securities markets and insurance companies respectively.

The European sovereign debt crisis in 2010-2012 revealed additional weaknesses that were specific to the economic and monetary union, and required a response that was specific to the euro area. Most prominently, EU legislators created in 2014 the Banking Union with the aim of harmonising and (partially) centralising banking supervision and resolution via a European architecture, thus achieving deeper integration of national banking systems. Participation in the Banking Union is mandatory for euro area countries, but other EU Member States can opt in. ⁽²⁾ Underpinned by the Single Rulebook, the Banking Union as initially envisioned rests on three pillars. The first pillar, the Single Supervisory Mechanism (SSM), was established in 2013. It is tasked with the supervision of banks in participating Member States and with setting microprudential and macroprudential capital requirements. The second pillar, the Single Resolution Mechanism (SRM), was set up in 2014. It ensures the effective and efficient resolution of non-viable credit institutions and consists of the Single Resolution Board and a Single Resolution Fund (SRF) to be used in the resolution process after a bank failure. The third pillar, a European Deposit Insurance Scheme (EDIS), would be another important risk-sharing component of the Banking Union. However, it has not yet been implemented, despite repeated efforts to reconcile divergent views on its design and preconditions for its establishment.

Prompted by the European sovereign debt crisis, EU Member States set up financial assistance facilities to support Member States in severe financial difficulties. To this end, the European Financial Stability Facility (EFSF) was created in 2010 as a temporary crisis resolution mechanism by euro area countries ⁽³⁾ to address the urgent financial assistance needs of some euro area Member States and to safeguard the financial stability of the euro area as a whole. In parallel, the European Financial Stabilisation Mechanism (EFSM) was set up with a broader scope of providing financial assistance to any EU Member State facing financial difficulties. ⁽⁴⁾ In both cases, financial support was tied to economic adjustment programmes for the recipient country. In subsequent years, EFSF and EFSM loans were disbursed to provide assistance to Greece, Ireland and Portugal. As a permanent fiscal backstop and successor of the EFSF, euro area governments established the European Stability Mechanism (ESM) in 2012. The ESM is based on an intergovernmental agreement and finances itself via debt issuance on financial markets that is ultimately guaranteed by the collective capital subscriptions of all euro area Member States. However, the ESM's toolkit has a comparatively wider scope that is not limited to loans as part of a macroeconomic adjustment programme ⁽⁵⁾ but also includes loans for indirect bank recapitalisation purposes ⁽⁶⁾ as well as a number of instruments that have not yet been used but that nonetheless provide stability by virtue of their availability. This particularly includes the ESM precautionary credit lines, which should prevent financial difficulties that do not originate from unsound economic fundamentals from turning into larger crises that may require a full economic adjustment programme with comparatively stricter conditions.

In addition to the above-mentioned institutional and supervisory reforms directly triggered by the crises, the EU has, over the past decade, undertaken significant work to strengthen other aspects of its financial market infrastructure with a view to enhancing financial market efficiency and transparency and to further deepening financial market integration, which should ultimately also increase risk-sharing across Member States. For instance, the revised Markets in Financial Instruments Directive (MiFID II) is intended to enhance investor protection by ensuring that financial products are traded on regulated venues and to limit speculation on commodities. Alongside MiFID II, the Central Securities Depositories Regulation (CSDR) was introduced in 2014. CSDR seeks to reduce settlement risk and improve efficiency within the EU's securities clearing and settlement system as well as to foster cross-border provision of settlement services within the single market. To further bolster financial stability, co-legislators also agreed in 2020

⁽²⁾ Currently, in addition to the 20 euro area Member States, Bulgaria is also part of the Banking Union as part of its euro adoption process.

⁽³⁾ The EFSF was financed through bond issuances that are backed by guarantees from euro area Member States in proportion to their share in the European Central Bank's paid-up capital.

⁽⁴⁾ The EFSM's bond issuances are guaranteed by the EU budget.

⁽⁵⁾ Such ESM loans were used in the cases of Greece and Cyprus.

⁽⁶⁾ An ESM loan for the indirect recapitalisation of a financial institution tied to a financial sector adjustment programme was disbursed to Spain in 2012-2013.

on the Regulation on CCP recovery and resolution, which outlines a framework for managing central counterparty (CCP) failures and mitigating potential systemic risks, also reflecting the increased importance of CCPs in financial market trading since the financial crisis.

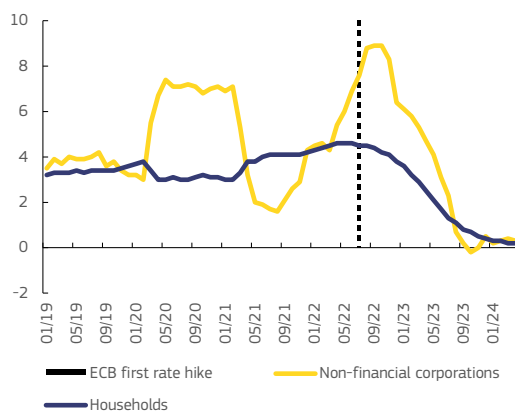
Finally, recognising the importance of a well-integrated capital market for economic growth and resilience, the EU has launched the Capital Markets Union (CMU) initiative. This ongoing project encompasses a variety of policies designed to remove barriers to cross-border investment within the EU, which remains below EU potential. By facilitating capital flows and fostering a deeper capital market, the CMU aims to unlock new sources of financing for European businesses, offer new opportunities for savers and investors and contribute to a more resilient and competitive European economy.

IV.1.2. Euro area financial sector resilience in the face of recent shocks

The reforms implemented in the years following the global financial crisis and the European sovereign debt crisis proved instrumental in bolstering the resilience of the euro area financial sector. ⁽⁷⁾ Alongside complementary policy measures taken by the European Central Bank (ECB) and policy interventions at the EU and national levels, these reforms have helped the euro area financial sector to withstand a number of subsequent shocks over the past years and allowed it to continue lending to the real economy without interruption.

The outbreak of the COVID-19 pandemic in early 2020 presented an unprecedented challenge, with lockdowns and economic disruptions posing a severe risk to the financial system. However, strengthened capital and liquidity buffers mandated by Basel III, along with a stricter supervisory approach by the ESAs, ensured that banks entered the crisis with a robust loss absorption capacity and strong liquidity positions. This, combined with swift and decisive action by both EU and national authorities and by the ECB, helped maintain orderly market functioning and enabled the banking sector to be part of the solution rather than a source of instability. The ECB ensured sufficient market liquidity via its Pandemic Emergency Purchase Programme (PEPP), ⁽⁸⁾ in which the Eurosystem purchased both private and public sector securities, ⁽⁹⁾ as well as through additional longer-term refinancing operations. ⁽¹⁰⁾ The ECB also ensured the provision of euro liquidity to non-euro area central banks through swap and repo lines. At the same time, euro area governments took unprecedented fiscal measures ⁽¹¹⁾ to cushion the impact of the pandemic on households and businesses (including through grants, tax deferrals, loan guarantees and other support measures). The Commission's

Graph IV.1: Euro area bank loans to the non-financial private sector, annual growth rate



Source: ECB.

⁽⁷⁾ See, for instance:

Y. Cao, and J. Chou 'Bank resilience over the COVID-19 crisis: The role of regulatory capital', *Finance Research Letters*, No 48, 2022; or

Financial Stability Board, *Holistic Review of the March Market Turmoil*, 2020: <https://www.fsb.org/2020/11/holistic-review-of-the-march-market-turmoil/>.

For a broader macroeconomic view, see also P. Lane, 'The Resilience of the Euro', *Journal of Economic Perspectives*, 35(2), 2021, pp. 3–22.

⁽⁸⁾ The PEPP had an initial envelope of EUR 750 billion. This was increased twice in 2020 and reached EUR 1 850 billion in December 2020.

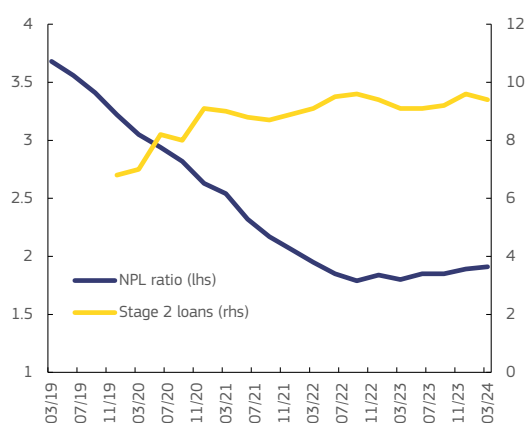
⁽⁹⁾ For the PEPP, eligibility requirements applying to sovereign bond purchases under other purchase programmes were waived for securities issued by the Greek government. Furthermore, the PEPP allows deviations of sovereign debt purchases from the ECB capital key-based shares, potentially benefiting strongly affected Member States.

⁽¹⁰⁾ The ECB eased the borrowing conditions under its targeted longer-term refinancing operations (TLTROs) and introduced new pandemic emergency longer-term refinancing operations (PELTROs) with a 1-year maturity as a liquidity backstop to the euro area banking system.

⁽¹¹⁾ Euro area countries' fiscal support packages amounted on average to 4% of GDP. See S. Haroutunian, S. Osterloh and K. Slawinska "The initial fiscal policy responses of euro area countries to the COVID-19 crisis", ECB Economic Bulletin 1/2021.

temporary relaxation of State aid rules played an important role in this context, because it allowed national governments to provide support to specific sectors and businesses that had been significantly affected by the pandemic. This helped prevent widespread insolvencies and financial distress, thereby protecting the health of the financial system. At the EU level, the EU's Recovery and Resilience Facility (RRF) provided substantial grants and loans with an overall envelope of EUR 750 billion to Member States to support investment and economic reforms. This fiscal stimulus helped mitigate the pandemic's negative impact on businesses and households, ultimately contributing to a more stable financial environment. Similarly, the Support to mitigate Unemployment Risks in an Emergency (SURE) programme provided financial assistance in the form of loans of up to EUR 100 billion to national unemployment schemes during the pandemic, further safeguarding financial stability by preventing lay-offs and laying the groundwork for a smooth post-pandemic recovery. Graph IV.1 shows that the euro area banking sector not only withstood the pandemic shock but played an active supporting role in cushioning the crisis effects on the wider economy via increased credit provisioning, aided by national governments' loan guarantee schemes. By the end of March 2020, the annual growth rate in bank loans to non-financial corporations in the euro area shot up to 7.4% and remained robust even after the statistical effect levelled off in 2021. The sharp increases in energy prices following Russia's unprovoked full-scale invasion of Ukraine, the inflationary pressures that have subsequently emerged and the resulting rapid monetary policy tightening by the ECB pose another challenge to the financial sector. So far, there have been only limited effects on banks and the wider financial sector, also reflecting the fact that, overall and contrary to expectations, household and corporate balance sheets have proven resilient to the interest rate increases. In this respect, banks' overall strong capital positions combined with a revised supervisory approach towards the active management of non-performing loans (NPLs) have provided support by countering and eliminating the adverse impact on access to finance that characterised previous crises. However, while the profits of euro area banks increased as a result of higher interest income, this effect is expected to partly wear off over the coming quarters as deposit rates adjust. There are already early signs of deteriorating asset quality as the effects of higher interest rates on corporate solvency may only appear with a delay (see Graph IV.2).⁽¹²⁾ Long-term institutional investors such as pension funds should profit from higher rates in the medium term but had to take valuation losses on their existing fixed income investments and service margin calls. According to the ECB, some categories of non-bank financial investors in the euro area exhibit structural liquidity vulnerabilities related to their low liquidity buffers and high leverage that could create issues in an adverse shock scenario.⁽¹³⁾

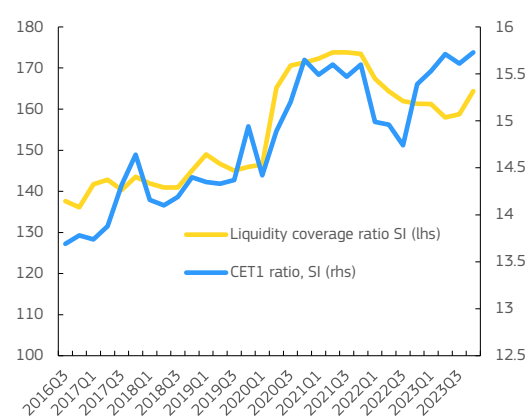
Graph IV.2: **Non-performing and Stage 2 loans, %**



(1) Non-performing loans: % of total loans, SSM significant institutions.
(2) Stage 2 loans: % of loans and advances subject to impairment review.

Sources: ECB and EBA.

Graph IV.3: **SSM banks' capital and liquidity position**



Source: ECB.

⁽¹²⁾ According to the EBA's Q1 Risk Dashboard, most of the surveyed banks expected further asset quality deterioration in CRE, SME loans and consumer credit in the next 6-12 months.

⁽¹³⁾ ECB Financial Stability Review, May 2024.

The euro area banking sector also showed resilience during the turmoil in the US banking sector in early 2023, which exposed a lack of diversification in some institutions, high unrealised balance sheet losses following a rapid monetary policy normalisation process and strong reliance on unsecured deposits in some parts of the US banking sector. Difficulties in the US financial system subsequently also had ripple effects across the Atlantic, most prominently forcing the already troubled Swiss bank Credit Suisse to close via a merger with its domestic competitor UBS. Euro area bank stocks did decline at the onset of the crisis, but this decline was relatively short-lived and the banking turmoil did not in itself significantly affect access to finance in the euro area economy. The episode nonetheless serves as a reminder of the importance of a swift and effective resolution system. The bank failures in the US and Switzerland also underlined the importance of strong and effective supervision of banks of all sizes and business models. In the Banking Union, the regulatory regime applies a more prudent framework for banks of the size of Silicon Valley Bank, whose collapse was a main catalyst in the US banking turmoil and subjects all banks to internationally agreed liquidity requirements. ⁽¹⁴⁾ A data collection exercise launched by the ECB in the wake of the US banking sector turmoil ⁽¹⁵⁾ showed comparatively contained net unrealised losses for significant Banking Union institutions as well as contained aggregate interest rate risk exposure from banks' bond holdings, while the overall banking sector had robust capital levels and ample liquidity (see Graph IV.3).

IV.2. THE WAY AHEAD

IV.2.1. Remaining challenges and proposed solutions

Despite the progress made since the global financial crisis and notwithstanding the above-mentioned resilience of the euro area financial sector to the shocks of recent years, the risk-sharing and shock absorption capacity of the euro area still has important limitations, which are largely inherent in the incomplete state of the currency union set-up when compared with that of a single unified economy. Impediments to euro area cross-border investment flows also limit its growth potential and efficient resource allocation. These limitations reflect not only shortcomings in the institutional set-up but also structural weaknesses that may persist despite policies that are intended to address them.

An incomplete Banking Union and gaps in the bank crisis management framework

As described in Section IV.1, the Banking Union remains incomplete. The European Deposit Insurance Scheme (EDIS), which was proposed in 2015 as the third pillar of the Banking Union, would provide a stronger and more uniform degree of insurance cover in the euro area and thus be instrumental in fostering depositor confidence. By reducing the vulnerability of national deposit guarantee schemes to large local shocks, it could also reduce the link between banks and their sovereigns and thus reinforce financial stability in the euro area as a whole. A further constraint regards the limited size of the SRF, which might be insufficient to handle a potential large bank failure (particularly as regards liquidity support). Many major jurisdictions with large banking sectors (Japan, Switzerland, the United Kingdom and the United States) have ex ante unlimited public backstops in place to provide emergency liquidity to banks in resolution. The revised ESM treaty, which is still awaiting full ratification, provides for a backstop to the SRF in the form of ESM loans that would double the SRF's firepower to EUR 120 billion. ⁽¹⁶⁾ Solvent but illiquid institutions in resolution can in theory also access additional liquidity in exchange for lower-value collateral via their national central banks. However, such liquidity provision – either via additional credit claim (ACC) frameworks or under Emergency Liquidity Assistance (ELA) – is not uniform across the euro area ⁽¹⁷⁾ and associated risks are not shared in the Eurosystem. Not only does this introduce an element of uncertainty and asymmetry for the banking sector, but it could also further strengthen the

⁽¹⁴⁾ Furthermore, the proposed reform of the bank crisis management and deposit insurance (CMDI) framework (see Section IV.2.1) would improve the resolution process for smaller- and medium-sized banks.

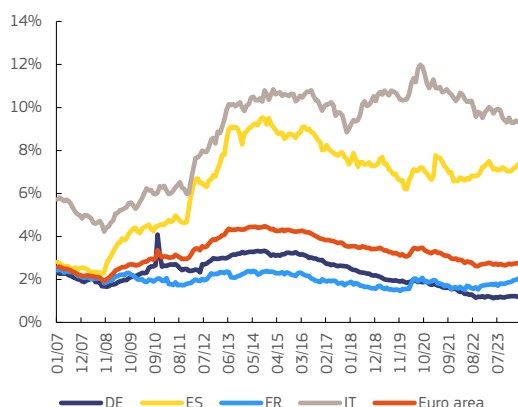
⁽¹⁵⁾ https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.Report_unrealised_losses~445dcf8a99.es.pdf.

⁽¹⁶⁾ It has been argued, however, that even this may prove insufficient in extreme scenarios such as a systemic banking crisis.

⁽¹⁷⁾ Access conditions are defined by the national central banks and can vary between countries. For example, government guarantees are required in the provision of ELA in some jurisdictions.

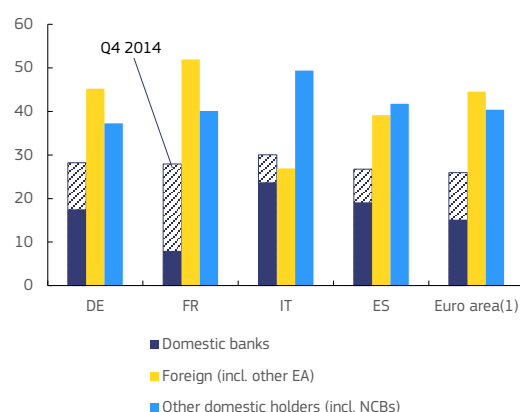
sovereign-bank nexus, contrary to the objectives of the Banking Union. ⁽¹⁸⁾ Lastly, it has been argued that national considerations are still often prioritised when managing bank failures in the euro area – both when deciding whether or not to liquidate a failing bank; and also, in any potential resolution process, where home-host issues ⁽¹⁹⁾ naturally occur. Effectively, in recent years, many failing medium-sized and smaller banks have been managed with solutions outside the resolution framework, often using public funds instead of bail-in-able liabilities. This has been aided by the fact that, unlike the resolution framework, which is fully harmonised under the SRB in the Banking Union, the liquidation framework relies on national provisions. At the same time, new resolution tools under the BRRD (other than the “sale-of-business” tool) have yet to be tested in a large EU case. The proposed reform ⁽²⁰⁾ of the bank crisis management and deposit insurance (CMDI) framework, which includes a review of the BRRD, the Single Resolution Mechanism Regulation (SRMR) and of the DGSD would address some of these issues but has not yet been agreed by the co-legislators. The legislative package would enable a wider handling of bank crises under the EU framework and thus lower the possibility of using State aid to bypass Banking Union rules. In particular, the reform would strengthen the use of banks’ internal loss absorption capacity as the first line of defence in a banking crisis, while facilitating the use of industry-funded safety nets to enable authorities to shield depositors from losses. With a view to improving the management of potential failures of medium-sized and smaller banks, the proposed reform would also make it easier to implement resolution strategies that envisage the transfer of the failing bank’s business (including deposits) to a buyer – thereby ensuring an orderly market exit and reducing financial stability risks.

Graph IV.4: Euro area bank holdings of domestic sovereign bonds, % of total assets



Source: ECB.

Graph IV.5: Holders of euro area sovereign debt in Q4 2023, % of total outstanding sovereign debt



(1) Weighted average of 12 euro area countries in the sample (BE, DE, IE, EL, ES, FR, IT, NL, AT, PT, SI and FI). The shaded bar indicates the share that domestic banks owned at the end of 2014.

Source: IMF.

Persisting home bias and bank-sovereign nexus

The monetary union continues to be hampered by a number of structural weaknesses that are in part deeply entrenched in the set-up of Member States’ economies and market participants’ behaviour. For instance, despite numerous initiatives to ease cross-border investments in the euro area, investors and in particular banks still exhibit a high and persistent home bias in their asset structure. ⁽²¹⁾ This not hampers

⁽¹⁸⁾ For a deeper analysis of the issue at hand, see: Gruber, M. and S. Schmitz, ‘A pragmatic solution for the liquidity in resolution problem’, *SUERF Policy Note No 222*, February 2021.

⁽¹⁹⁾ Home-host issues are obstacles to the integrated management of bank capital and liquidity within cross-border bank groups operating in the Banking Union.

⁽²⁰⁾ The respective legal texts can be found: https://finance.ec.europa.eu/publications/reform-bank-crisis-management-and-deposit-insurance-framework_en.

⁽²¹⁾ With regard to banks’ sovereign debt holdings, Nicolas Véron has calculated that the median home bias (i.e. the share of domestic sovereign exposures in overall sovereign exposures) in a sample of significant euro area banks stood at 71% in mid-2023. N. Véron., *Europe’s banking union at ten: unfinished yet transformative*, Bruegel books, 2024:

efficient resource allocation and risk-sharing across the euro area but also further aggravates the prevailing bank-sovereign nexus⁽²²⁾ that gained attention during the European sovereign debt crisis and significantly strengthened in peripheral countries in the following years (Graph IV.4). The Eurosystem's asset purchases under the various purchase programmes since 2015 and the provision of supranational bonds under the NGEU and SURE programmes have loosened this link at least temporarily, but the domestic banking sector still holds a considerable share of total sovereign debt⁽²³⁾ in the euro area, with somewhat higher shares in peripheral countries (Graph IV.5). The gradual unwinding of the Eurosystem's bond holdings may reinforce this nexus again to some extent. The persisting home bias and sovereign-bank nexus could be alleviated not only via more asset diversification, but also via cross-border banking sector integration. The need for consolidation of the euro area banking sector has been suggested in the past⁽²⁴⁾ in order to reduce overcapacity and address persistently low aggregate bank profitability. However, little consolidation has occurred in the euro area banking sector since the financial crisis and, when it did, it was mainly between domestic banking groups, thus further entrenching the banking sector's fragmentation along national lines. Increased cross-border consolidation would foster a true single market for capital and weaken the bank-sovereign nexus.

Barriers to cross-border investment

The common currency has clear benefits in terms of reduced transaction and financing costs for the private sector as a result of the larger and more integrated financial market.⁽²⁵⁾ However, further barriers to cross-border investment remain, including a lack of harmonisation of insolvency frameworks and with regard to different applicable tax regimes across euro area countries. The CMU initiative is a key initiative for addressing some of the structural weaknesses that are holding back cross-border investment. Launched in 2015, it aims to remove the remaining obstacles to free capital flows within the euro area and to thereby create a true single market for capital. This would in turn improve firms' (particularly small and medium-sized enterprises) access to funding, increase retail investor participation in economic growth and profit allocation, and improve financial stability via cross-border risk-sharing. Since 2015, the Commission has tabled various proposals as part of its 2015 CMU action plan and of the 2017 mid-term review. Many of these aim to harmonise national rules and practices (including a revised securitisation framework, a proposal for a Pan-European Personal Pension Product (PEPP), an EU framework for covered bonds, and the 2019 Restructuring and Insolvency Directive that sets minimum standards for preventive debt restructuring mechanisms⁽²⁶⁾ and debt discharge for entrepreneurs). In 2020, the Commission tabled a new CMU action plan, recognising the need to support the economic recovery following the COVID-19 crisis, and to finance the green and digital transitions. The action plan outlines a set of 16 legislative and non-legislative measures, with many of them already implemented or in the legislative process (including a proposal for a directive on a faster recovery of excess withholding tax in cross-border investments and a proposal for a directive harmonising certain aspects of insolvency law across Member States).

https://www.bruegel.org/sites/default/files/private/202406/Europe%E2%80%99s%20Banking%20Union%20at%20ten_unfinished%20yet%20transformative_0.pdf

⁽²²⁾ 'The bank-sovereign nexus' is the strong interdependence between banks and their domestic sovereign in some countries. This leads to a situation in which the financial health of banks and sovereigns is intertwined and adverse feedback loops can originate from a shock to one of the two.

⁽²³⁾ At the end of 2014, before the Eurosystem sovereign bond purchases, the weighted euro area share stood at 26%. Calculations are based on the IMF Sovereign Debt Investor Base for Advanced Economies, which includes a sample of 12 euro area countries. Sovereign debt figures include both loans and debt securities.

⁽²⁴⁾ See, for instance: 'Banking Union: meaning and implications for the future of banking', a speech by V. Constâncio, at the Banking Union Conference organised by the Master in Banking and Financial Regulation, Navarra University, Madrid, 24 April 2014; and Fernandez-Bollo et al., 'Euro area bank profitability and consolidation', *Bank of Spain Financial Stability Review*, 40, 2021: https://www.ecb.europa.eu/press/key/date/2014/html/sp140424_1.en.html https://www.bde.es/f/webbde/Secciones/Publicaciones/InformesBoletinesRevistas/InformesEstabilidadFinancera/21/4_Consolidation_FSR.pdf.

⁽²⁵⁾ See P. Brans, U. Clemens, C. Kattami and E. Meyermans, (2021) 'Economic benefits of the euro', Quarterly report on the euro area, 20(1): https://economy-finance.ec.europa.eu/system/files/2021-02/ip146_en_chapter_iv.pdf

⁽²⁶⁾ Preventive debt restructuring refers to restructuring outside the scope of formal insolvency proceedings. This should help viable debtors in financial difficulties to restructure effectively at an early stage, while avoiding insolvency and limiting unwarranted liquidations.

Box IV.1: Legislation on payments in the EU

The EU has a significant body of legislation on payments in force. Some relates only to payments in euro, but most relates to payments in any currency within the EU. The 2020 Retail Payments Strategy set out the Commission's strategy for payments for the coming years.

Regarding payments in euro, the 2012 Regulation on SEPA (the Single Euro Payments Area) lays down the technical modalities for credit transfers and direct debits in euro. It was amended in 2024 to require banks and other payment service providers (PSPs) to offer their customers the service of instant euro credit transfers, which arrive in the payee's account within 10 seconds. This service, which must be offered to customers by 9 October 2025, must not cost more than regular credit transfers that take 2 business days to arrive. Other EU payments legislation, not limited to the euro, includes the Payment Accounts Directive, which gives EU residents the right to a basic bank account that provides payment services; and the Regulation on Cross-border Payments, which lays down that a cross-border payment in the EU must not cost more than an equivalent domestic payment. Furthermore, the regulation on interchange fees for card-based payment transactions of 2015 has set maximum levels for multilateral interchange fees for card payments. In addition, the Electronic Money Directive of 2009 establishes licensing and supervision rules for institutions which issue e-money.

However, the main piece of legislation governing all payments in the EU in any currency is the second Payment Services Directive (PSD2) of 2015, which has been applied since 2018. It establishes licensing and supervision rules for payment institutions and imposes rules for all payment transactions (including on security and consumer protection). In particular, PSD2 aims to:

- ensure a level playing field between incumbent and new providers of card, internet and mobile payments;
- increase the efficiency, transparency and choice of payment instruments for payment service users (consumers and merchants);
- facilitate the provision of card, internet and mobile payment services across borders within the EU by ensuring a single market for payments;
- create an environment that helps innovative payment services to reach a broader market;
- ensure a high level of protection for users of payment services across all Member States of the EU.

On 28 June 2023, following an evaluation of PSD2, the Commission adopted a package of two proposals to replace both PSD2 and the 2009 Electronic Money Directive with (i) a new Payment Services Regulation (PSR) that would contain rules concerning payment services and transactions; and (ii) a third Payment Services Directive (PSD3) that would contain rules for the authorisation and registration of different categories of payment institutions (including former e-money institutions). The proposals would amend the existing EU legal framework for payments in areas which the evaluation identified as needing improvement as regards: combating and mitigating payment fraud, strengthening consumer information and rights, levelling the playing field between banks and non-bank PSPs, improving the functioning of open banking, better availability of cash, strengthening harmonisation and

(Continued on the next page)

Box (continued)

enforcing the rules on payments. These proposals are still progressing through the European Parliament and Council, and it is anticipated that they will be adopted in 2025.

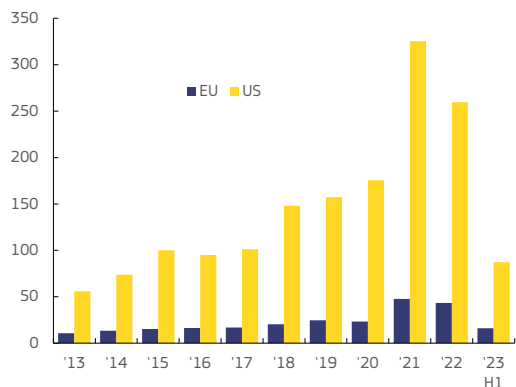
Fragmented payments landscape

Seamless capital flows in the monetary union require cheap and efficient payment systems. The ECB has contributed to this objective within its mandate via the creation of an efficient settlement infrastructure for central bank money (TARGET), complemented by a wide range of EU payments legislation, as further described in Box IV.1. However, some impediments to a true pan-euro-area retail payments market remain as digital payment solutions often have a domestic scope and are not always accepted in other euro area jurisdictions (contrary to the logic of the currency union). A possible euro central bank digital currency – the digital euro – could be an important step in addressing fragmentation in the euro area payments landscape (see Box IV.2).

IV.2.2. A changing financial landscape and emerging challenges require continued adaptation

Addressing the institutional and structural shortcomings in the euro area financial sector (described in Section IV.2.1.) is key to further solidifying the stability of the euro area financial system and exploiting the currency area’s full growth potential. At the same time, the financial landscape continues to evolve and a number of developments require policymakers’ attention.

Graph IV.6: Risk capital investment in the EU and the US, EUR bn



Most prominently, the twin green and digital transitions require large-scale investment in the euro area economy over the coming years, while mounting geopolitical challenges may further increase the need to strengthen domestic production and reduce external dependencies. The focus of financial market policies is therefore increasingly shifting from risk-sharing and loss absorption considerations in the aftermath of the crises towards the objectives of (i) fostering growth opportunities, competitiveness and strategic autonomy, and (ii) catering for the increased financing needs of the twin digital and green transitions of the euro area economy.

Source: ESM.

In this regard, public co-investment programmes (e.g. the Recovery and Resilience Facility and InvestEU) can play an important role but will not be enough to fill the funding gap. Additional private financing is paramount for an accelerated green transition and evidence shows that capital markets in general and equity financing in particular are better suited to financing innovation-intensive investment. (27) This was also recognised in the March 2024 Eurogroup statement on the future of the Capital Markets Union (CMU), in which the ministers underlined the importance of deep and efficient capital markets to financing innovation in the EU. In this context, the fact was highlighted that many dynamic and innovative

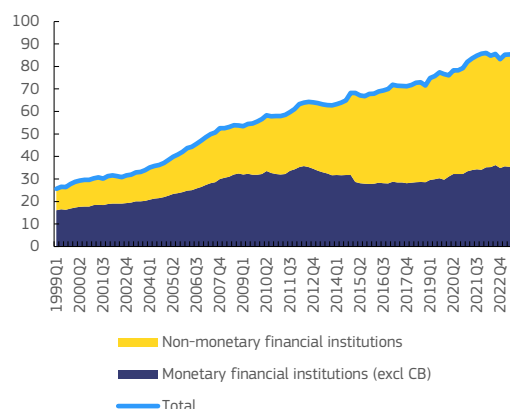
(27) See, for instance, K. Janse and R. Strauch, *How capital market finance can boost European businesses*, European Stability Mechanism blog, 2024; and Altomonte, C., *Are capital markets the only friend of innovation?*, Bruegel blog, 2014: <https://www.esm.europa.eu/blog/how-capital-market-finance-can-boost-european-businesses>. <https://www.bruegel.org/blog-post/are-capital-markets-only-friend-innovation>.

EU businesses turn to foreign funding sources because the EU market for venture capital is underdeveloped.

Indeed, market-financing (specifically equity financing) for euro area companies remains relatively subdued compared with the US and the UK. This is both on account of a lack of available funding, which is particularly pronounced in the high-risk and start-up segment⁽²⁸⁾ as well as for companies seeking financing in the scale-up phase, and due to the prevailing debt bias in companies' financing choices. As underlined in the Draghi report,⁽²⁹⁾ the Listing Act⁽³⁰⁾ could increase companies' incentives to tap equity markets, alongside the Commission's proposed Debt-Equity Bias Reduction Allowance (DEBRA).⁽³¹⁾

Since the global financial crisis and over the past decade, changes in the structure of euro area financial markets have also been observed. In particular, non-bank financial intermediation has grown in overall size and importance in financing the economy. Non-bank financial intermediaries' (NBFIs)⁽³²⁾ assets accounted for EUR 43 trillion in 2023, representing 41% of the EU financial sector's assets. NBFIs also increased their direct financing provision to euro area non-financial corporations relative to banks.⁽³³⁾ While a growing role of non-banks in financing the economy is in general a welcome development as it implies a diversification of funding sources in the traditionally bank-based euro area economy, it also poses risks as the NBFIs sector is comparatively less regulated and supervised. This issue has received renewed attention worldwide in light of the financial market tensions at the onset of the COVID-19 pandemic (the 'dash for cash') and during the 2022 UK gilt market crisis that brought to light liquidity mismatches and excessive leverage in parts of the NBFIs sector. Furthermore, the interconnectedness between NBFIs and the banking sector⁽³⁴⁾ increases the risk of contagion across the financial sector. The challenge for policymakers in regulating and supervising NBFIs is therefore to ensure financial stability without curtailing the NBFIs sector's crucial role in financing innovation, which may require comparatively more risk-taking. The EU has already in recent years introduced a number of directives and regulations applicable to certain subsegments of the NBFIs sector (e.g. investment funds,

Graph IV.7: Financial asset holdings of the euro area financial sector, EUR trillion



(1) Non-monetary financial institutions include insurance companies and pension funds, investment funds, and other financial intermediaries. Source: ECB.

⁽²⁸⁾ In the EU, the share of risk capital has been between 2% and 5% of total SME financing since 2018 – compared with over 10% in the UK. The amount of risk capital investment in the US has been 5 to 7.5 times higher than in the EU over the last 10 years, following a general upward trend. See K. Janse, K. and R. Strauch, *How capital market finance can boost European businesses*, European Stability Mechanism blog, 2024: <https://www.esm.europa.eu/blog/how-capital-market-finance-can-boost-european-businesses>.

⁽²⁹⁾ M. Draghi, *The future of European competitiveness – in-depth analysis and recommendations*, 2024: https://commission.europa.eu/document/download/ec1409c1-d4b4-4882-8bdd-3519f86bbb92_en?filename=The%20future%20of%20European%20competitiveness_%20In-depth%20analysis%20and%20recommendations_0.pdf.

⁽³⁰⁾ See Listing Act: <https://data.consilium.europa.eu/doc/document/ST-6249-2024-INIT/en/pdf>.

⁽³¹⁾ See Debt-Equity Bias Reduction Allowance (DEBRA) - European Commission: https://taxation-customs.ec.europa.eu/taxation/business-taxation/debt-equity-bias-reduction-allowance-debra_en.

⁽³²⁾ "Non-bank financial intermediaries" is an umbrella term for a diverse group of sectors, such as asset management companies and investment funds, non-bank investment firms, pension funds, insurance companies, and other non-bank financial entities.

⁽³³⁾ See European Central Bank, 'Non-bank financial intermediation in the euro area: implications for monetary policy transmission and key vulnerabilities', *Occasional Paper Series*, 270, 2021: <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op270-36f79cd6ca.en.pdf>.

⁽³⁴⁾ According to the May 2024 ECB Financial Stability Review, the NBFIs sector provides around 20% of euro area banks' funding. This is mainly in the form of market-based instruments such as repurchase agreements, which can be considered less stable than retail funding sources. Banks also have considerable asset exposures to NBFIs via loans, securities and derivatives exposures, which account on average for about 9% of significant institutions' total assets (see also the ECB Financial Stability Review, May 2023).

insurance companies and central counterparties) that include provisions on liquidity risks, leverage risks and operational risks to restrain the build-up of systemic risks. However, there is no common macroprudential framework governing NBFIs. The Commission is therefore further analysing the NBFi market's functioning and structure, with a view to identifying gaps in the macroprudential toolbox and assessing the effectiveness and consistency of macroprudential policies for NBFIs in the EU.

Technological developments and digitalisation are spurring rapid innovation in finance and the payments domain, bringing both opportunities and challenges. This includes the digitalisation of existing business models such as online banking, but also more disruptive financial innovation based on distributed ledger technology (DLT) (e.g. crypto-assets and related services, stablecoins or wider decentralised finance solutions that aim to provide financial intermediation without the need for a central entity). The overall size of the market for decentralised finance and linkages to the wider financial sector both remain relatively limited, but this may change in the future. The use of artificial intelligence in finance, which is still at an early stage, may bring further changes to the financial landscape. Innovative finance and intermediation solutions have the potential to bring significant efficiency gains and cost reduction, improve access to finance and remove market barriers. At the same time, they may also disrupt existing market structures and, if unregulated, raise privacy and data protection concerns and create financial stability issues.

The EU is positioning itself at the forefront of many of these developments, including through legislative initiatives in the field of payments (see Box IV.1) and digital finance. The Commission's 2020 Digital Finance strategy sets out general guidelines on how the EU can support the digital transformation of finance in the coming years, while also regulating its risks. As part of this strategy, the Markets in Crypto-Assets (MiCA) Regulation, which came into force in June 2023, provides a framework on crypto-assets in order to allow innovation in a way that preserves financial stability and protects investors. To complement this, the Commission has proposed a pilot regime⁽³⁵⁾ for market infrastructures that wish to trade and settle transactions based on DLT. This should enable both market participants and EU regulators to gain experience on new opportunities and issues raised by DLT. Furthermore, to address the increasing operational and cybersecurity risks that come with digitalisation, the Digital Operational Resilience Act (DORA) will apply from 2025, with the goal of strengthening the IT security of financial entities. Most recently, in June 2024, the Commission launched a targeted consultation on AI in the financial sector for the purposes of gathering information on the concrete application and impact of AI in financial services. In June 2023, the Commission published its proposal for a regulation on the establishment of the digital euro,⁽³⁶⁾ a digital form of central bank money available to households and businesses. Issued by the ECB, the digital euro would bring the single currency into the digital age and provide several potential benefits that are detailed in Box IV.2.

⁽³⁵⁾ Under this pilot regime, DLT market infrastructures can request exemptions from specific requirements embedded in EU legislation (MiFID II, CSDR).

⁽³⁶⁾ https://eur-lex.europa.eu/resource.html?uri=cellar:6f2f669f-1686-11ee-806b-01aa75ed71a1.0001.02/DOC_1&format=PDF.

Box IV.2: What are some benefits of the digital euro?

Safeguarding the role of public money in the 21st century: the digital euro as a monetary anchor, fostering privacy and inclusiveness

The digital euro can play a crucial role in safeguarding and reinforcing the role of public money at a time when physical cash usage and acceptance are on the decline. Euro banknotes and coins, which are currently the only form of legal tender available to everyone, act as a common anchor for the wide range of privately issued forms of money by ensuring their convertibility on a one-to-one basis into the safest form of money in the economy – central bank money ⁽¹⁾. Like cash, a digital euro would be accessible for everyone in the economy and would thus underpin public confidence in the financial system.

With private payment means becoming the main and in some cases (e.g. e-commerce) even the only available payment option, the introduction of a digital euro can also serve to protect euro area citizens' privacy in payments. To this end, online digital euro transactions would offer the highest possible privacy standards under the existing AML/CFT framework, whereas a higher cash-like privacy regime is envisaged for offline payments with digital euros.

In an increasingly digitalised society, the digital euro is a key step towards ensuring financial and digital inclusion. It offers a free, easy-to-use and accessible means of payment – including to the most vulnerable in society, who often currently rely on cash. In fostering an inclusive financial ecosystem, the digital euro could thus be a cornerstone of economic participation and help to integrate all citizens into the fabric of the Eurozone's future digital economy.

A true pan-euro area means of payment that fosters competition and innovation

Today's euro area payments landscape remains highly concentrated and fragmented along national lines. While domestic payment solutions based on cards or direct debit often do not work in cross-border use cases, the domination of the market for intra-EU cross-border payment solutions by a very small number of providers limits users' choice.

The digital euro would offer consumers and businesses alike a truly pan euro area payment option, thus further integrating the internal market for payment solutions. By creating a pan-euro area acceptance infrastructure for digital payments, the digital euro would make it easier for providers of domestic private solutions to offer their services across the euro area, thus increasing competition in the payments domain. This should in turn lead to a reduction in fees and widen the choice for merchants and consumers.

The digital euro can also serve as a foundational technical infrastructure for the future of payments and finance, enabling European businesses to benefit from and contribute to global financial innovation. The digital euro would foster innovative payment use cases ⁽²⁾ either indirectly through private solutions that are interoperable with the digital euro, or directly by supporting advanced functionalities in the digital euro infrastructure.

Strengthening the EU's open strategic autonomy

The current strong reliance on international card schemes and large, often foreign-owned, platforms offering digital wallets to cardholders creates risks for the resilience of the payment system and may weaken the EU's open strategic autonomy. This dependency could further increase if businesses were to have to rely on third-country solutions to meet their need for advanced payment solutions. By offering a robust EU-governed alternative, the digital euro can reduce dependencies and counterbalance emerging options such as foreign central bank digital currencies (CBDCs) and private stablecoins. Moreover, the future issuance of CBDCs by major third-country central banks could enhance the status of other international currencies at the expense of the euro, particularly if those CBDCs are made

(1) Convertibility at par provides confidence in private money because it reassures users regarding its ultimate value and its usability for payments. By providing a common benchmark, central bank money also ensures the fungibility of private forms of money.

(2) This could include conditional and smart contract-based payments (e.g. in the context of automated securities settlements or for machine-to-machine (M2M) payments) and could foster the wider tokenisation of digital assets.

(Continued on the next page)

Box (continued)

available for wide international use. The digital euro could therefore also play a crucial role in safeguarding the international role of the euro in global transactions and as a trade currency.

V. AN EVOLVING EURO AREA POLICY MIX

By Alessandra Cepparulo, Guillaume Cousin, Allen Monks and Vito Ernesto Reitano

Abstract: *In the first 25 years of the euro, the common currency proved itself to be resilient to a variety of large economic shocks. These shocks have led to changes in the functioning of the euro area and a broader reconsideration of how to make the responses of national fiscal policies and ECB monetary policy more effective. In the wake of the 9/11 terrorist attack in 2001, the euro area economy recovered rather quickly thanks to a supportive policy mix. The global financial crisis (GFC) that hit the euro area in 2008-09 was followed by the euro sovereign debt crisis, which tested the functioning of the euro area and gave rise to significant policy responses. Despite the demonstration of institutional solidarity, the euro area's institutional shortcomings and a lack of sufficient fiscal buffers in some highly indebted Member States, due to an inappropriate fiscal policy stance in the years before the GFC, were not conducive to an appropriate policy mix: fiscal policy at this time was pro-cyclically restrictive even in countries with fiscal space, and monetary policy support was delayed. The lessons learnt from that crisis, and a broader rethink in academic and policy circles about the benefits of activist fiscal policies in the case of large economic shocks, led to a highly successful response to the COVID-19 crisis, with EU institutions stepping up promptly and introducing innovative common tools, complementing an overall supportive fiscal-monetary policy mix in the euro area. The policy response to the energy crisis and inflation surge in 2022 was also broadly effective, with the ECB rapidly increasing policy interest rates to keep inflation expectations anchored, while governments put fiscal support measures in place to protect households and firms from the impact of higher energy prices. The challenge for the future is now to reduce the high levels of public debt accumulated in some euro area countries, while making decisive progress on the green and digital transitions. The new EU fiscal framework will help enhance the macroeconomic stabilisation role of fiscal policy, while focusing on debt sustainability and growth-enhancing policies. ⁽¹⁾*

V.1. THE INCREASING RELEVANCE OF THE POLICY MIX

The Maastricht Treaty established a separation of responsibilities between fiscal and monetary policies in the euro area. The Maastricht Treaty designated price stability in the euro area as the goal of a common and independent monetary policy under the responsibility of the European Central Bank (ECB), with national fiscal policies primarily geared towards ensuring debt sustainability. Fiscal policy was to operate through automatic stabilisers and, especially when fiscal adjustment was needed, discretionary measures, while monetary policy was to be rule-based and regard fiscal policy as exogenous. ⁽²⁾ National fiscal policies would also help to minimise the impact of possible asymmetric shocks in the euro area. This separation of fiscal and monetary policies created the conditions for a credible price-stability objective in the euro area and meant that there was no formal economic policy coordination between the ECB and national fiscal authorities.

In fiscal policy, horizontal policy surveillance and coordination through the Stability and Growth Pact (SGP) was introduced to prevent the build-up of fiscal imbalances. The creation of the SGP sought to address the concern that fiscal imbalances in one euro area member could spill over into others, potentially rendering common monetary policy ineffective at keeping inflation under control. This economic and institutional framework reflected the view that reducing negative spillovers and promoting convergence, as well as maintaining the stability of the financial system, can be done through credible fiscal laws, stricter oversight, and efficient coordination mechanisms (Keuschnigg, 2012). ⁽³⁾

The clear separation of the goals of fiscal and monetary policies, as set out in the Maastricht Treaty, reflected the prevailing academic consensus at the time. Underlying this consensus was Tinbergen's rule, which indicates that for economic policy to be effective, it is necessary to have as many policy instruments as policy targets. The Maastricht Treaty also combined a number of other aspects of the extant academic literatures, including the 'unpleasant monetarist arithmetic' of Sargent and Wallace

⁽¹⁾ The authors would like to thank L. Briciu, L. Coutinho, G. Mourre, L. Piana, E. Ruscher, M. Salto and M. Suardi for their helpful comments. This chapter represents the authors' views and not necessarily those of the European Commission.

⁽²⁾ To increase flexibility <in the monetary union, observers stressed the need for structural reforms (see for instance De Grauwe (2006), "What Have we Learnt about Monetary Integration since the Maastricht Treaty?," JCMS, 44(4), 711-30).

⁽³⁾ Keuschnigg, C. (2012), "Should Europe become a fiscal union?," CESifo Forum 1/2012, at <https://www.cesifo.org/DocDL/forum1-12-focus6.pdf>.

(1981), ⁽⁴⁾ the ineffectiveness of fiscal policy (Ricardian equivalence) and deep scepticism about fiscal fine tuning (tax smoothing) from Barro (1974, 1979), ⁽⁵⁾ and the benefits of an independent conservative central bank from Rogoff (1985). ⁽⁶⁾ As set out in Buti and Corsetti (2024), ⁽⁷⁾ there was also a generalised turn towards a view that financial markets were able to self-regulate and deliver an efficient allocation of resources.

More recently, greater emphasis has been placed on the need to consider the interaction between monetary and fiscal policy instruments, i.e., the policy mix. The situation following the Great Financial Crisis (GFC), with high levels of public debt and monetary policy constrained by the effective lower bound in many countries, gave rise to a major reconsideration of how monetary and fiscal policies can work towards achieving the same goals and provide additional policy space for each other. The GFC itself also led to a major shift in thinking about the need for financial market regulation and macroprudential policies to address financial stability risks. In this context, Bartsch et al. (2020) called for monetary and fiscal policies to work together to shield economies from macroeconomic and financial stability risks. ⁽⁸⁾ These authors also suggest a taxonomy for describing the policy mix: **congruent** (when monetary and fiscal policies are both counter-cyclical, whether the result of independent decisions or of explicit coordination); **destabilising** (when both instruments are pro-cyclical); and **divergent** (when one is counter-cyclical while the other is pro-cyclical).

This chapter describes the evolution of the policy mix in the euro area since its creation 25 years ago and seeks to draw some lessons from its evolution. Section V.2 sets out a methodology for empirically assessing the policy mix in the euro area, then goes on to describe the policy mix during three specific periods: in the years before the COVID-19 pandemic; during the pandemic; and during the energy crisis. Section V.3 focuses on the contribution of the reformed EU economic governance to strengthening the policy mix and provides a forward-looking description of the policy mix in 2024 and 2025. The last section draws some lessons from the evolution of the policy mix in the euro area over the last 25 years.

V.2. THE POLICY MIX OVER THE FIRST 25 YEARS OF THE EURO

V.2.1. How to assess the policy mix in the euro area

Empirically assessing the policy mix in the euro area can be hard, with *ex post* estimates sometimes tending to differ from real-time estimates. ⁽⁹⁾ By using *ex-post* data (taken in this paper from the European Commission 2024 spring forecast), ⁽¹⁰⁾ Using *ex post* data (taken in this paper from the European Commission, Economic Forecast Spring 2024), it is possible to describe the euro area policy mix since 1999 using two variables under the control of the relevant institutions. In this paper, the monetary policy stance is measured as the change in the short-term nominal interest rate, as per Bartsch et al.

⁽⁴⁾ N. Wallace and T. Sargent (1981), "Some Unpleasant Monetarist Arithmetic," Federal Reserve Bank of Minneapolis. Quarterly Review 531 available at <https://doi.org/10.21034/qr.531>.

⁽⁵⁾ See R. Barro (1974), "Are Government Bonds Net Wealth?", *Journal of Political Economy*, Vol. 82, No. 6, pp. 1095-1117, and R. Barro (1979), "On the determination of the public debt", *Journal of Political Economy*, 87 (5), pp. 940-971. Also: F. Kydland and E. Prescott (1977), "Rules Rather than Discretion: The Inconsistency of Optimal Plans", *The Journal of Political Economy*, Vol. 85, No. 3., pp. 473-492.; G. Calvo (1978), "On the Time Consistency of Optimal Policy in a Monetary Economy," *Econometrica*, 1978, vol. 46, issue 6, pp. 1411-28; and R. Barro and R. Gordon (1983), "Rules, discretion and reputation in a model of monetary policy," *Journal of Monetary Economics* Vol. 12(1), 1983, pp. 101-121, which also emphasised the costs associated with discretionary fiscal policy.

⁽⁶⁾ K. Rogoff (1985), "The Optimal Degree of Commitment to an Intermediate Monetary Target," *The Quarterly Journal of Economics*, 1985, vol. 100(4), pp. 1169-1189.

⁽⁷⁾ M. Buti and G. Corsetti (2024), Policy Insight 126, "The first 25 years of the euro", CEPR Policy Insight No 126, CEPR Press, available at <https://cepr.org/publications/policy-insight-126-first-25-years-euro>.

⁽⁸⁾ E. Bartsch, A. Bénassy-Quéré, G. Corsetti and X. Debrun (eds) (2020), "Geneva 23: It's All in the Mix: How Monetary and Fiscal Policies Can Work or Fail Together", CEPR, available at <https://cepr.org/publications/books-and-reports/geneva-23-its-all-mix-how-monetary-and-fiscal-policies-can-work-or>.

⁽⁹⁾ *Ex post* data are often the result of several revisions, with the implementation of policies in real time often based on a different set of data, especially for the estimate of potential GDP growth and the output gap.

⁽¹⁰⁾ Available at European Economic Forecast. Spring 2024 - European Commission (europa.eu): https://economy-finance.ec.europa.eu/publications/european-economic-forecast-spring-2024_en.

(2020).⁽¹¹⁾ Developments in the business cycle are also measured using the methodology in Bartsch et al. (2020), namely the change in the output gap. There is less of a consensus on how to measure the fiscal policy stance. Over the last decade, Commission staff have adopted the approach proposed by Carnot and De Castro (2015),⁽¹²⁾ based on the ‘discretionary fiscal effort’, which in part reduces the real-time problem.

The ‘discretionary fiscal effort’ considers the budgetary items (largely) under the fiscal authorities’ control. It is computed as the change in primary expenditure, including expenditure financed by EU funds – including grants from the Recovery and Resilience Facility (RRF) – relative to medium-term potential output growth, with discretionary revenue measures⁽¹³⁾ netted out, as follows:

$$Fiscal\ stance_t = \frac{(1 + Pot_t) * (1 + \pi_t) * E_t^{FS} - E_{t-1}^{FS} + \Delta RM_t}{Y_t}$$

where Pot_t indicates the 10-year average potential growth; π_t is inflation measured by the GDP deflator; ΔRM_t stands for the incremental budgetary impact of permanent discretionary revenue measures; Y_t is nominal GDP and E_t^{FS} is the expenditure aggregate computed as follows:

$$E_t^{FS} = G_t - I_t - U_t - one_{offs_t}^G$$

where G_t is general government total expenditure, including new expenditures financed by RRF grants and other EU funds; U_t is the cost of (cyclical) unemployment benefits; I_t is interest expenditure; and $one_{offs_t}^G$ is one-off government expenditure measures.⁽¹⁴⁾

This measure departs from the conventional top-down measure of the fiscal stance.⁽¹⁵⁾ Such top-down measures, commonly used by international institutions, refer to the change in the cyclically adjusted primary balance (ECB, 2016; European Fiscal Board, 2020)⁽¹⁶⁾ or in the underlying primary balance (Bartsch et al., 2020).⁽¹⁷⁾ Top-down measures such as these are subject to the criticism that they are affected by ‘non-policy factors that may be correlated with other developments affecting economic activity (and)...may reflect deliberate policy responses to other developments affecting the economic outlook’ (Guajardo et al., 2011).⁽¹⁸⁾ The approach used in this paper is also more convincing than the ‘narrative approach’ (Alesina and Ardagna, 2010; Guajardo et al., 2011),⁽¹⁹⁾ which looks only at new fiscal measures while neglecting the relevance of past discretionary policy on the current fiscal stance. This paper’s approach⁽²⁰⁾ combines the features of a bottom-up approach on the revenue side (identifying

⁽¹¹⁾ *Op. cit.* Ideally, the monetary policy stance should be measured using real interest rates, as these are the rates that matter for investment and consumption decisions. However, inflation expectations can only be assessed by looking at a range of indicators and are difficult to summarise in a single indicator. The change in short-term interest rates is a common measure of the monetary policy stance, but it is a simplification that does not take into account unconventional measures such as asset purchases, forward guidance, and long-term refinancing operations, which have become key instruments for central banks. The shadow rate would therefore be another relevant indicator of the monetary policy stance as it would account for monetary policy measures other than changes in short-term interest rates. However, there is no consensus on its estimation and doing such an estimate is beyond the scope of this article.

⁽¹²⁾ N. Carnot, and F. de Castro (2015), “The discretionary fiscal effort: an assessment of fiscal policy and its output effect”, European Economy, Economic Papers 543.

⁽¹³⁾ For more details on discretionary revenue measures see: Report on Public Finances in EMU 2016, available at: Report on Public Finances in EMU 2016 (europa.eu): https://economy-finance.ec.europa.eu/document/download/2e4bd2cc-95ac-409d-8e41-ca39a2ac71e1_en?filename=ip045_en.pdf.

⁽¹⁴⁾ For more details on the classification of one-off measures see: Report on Public Finances in EMU 2015 (europa.eu): https://economy-finance.ec.europa.eu/document/download/3e23eab2-01f1-4721-9529-9fd416ce9a1a_en?filename=ip014_en.pdf.

⁽¹⁵⁾ For a survey, see IMF (1995), “Guidelines for Fiscal Adjustment,” Pamphlet Series No. 49.

⁽¹⁶⁾ ECB (2016), Economic Bulletin, Issue 4 / 2016. European Fiscal Board (2020). Annual fiscal report, Brussels.

⁽¹⁷⁾ *Op. cit.*

⁽¹⁸⁾ J. Guajardo, D. Leigh, and A. Pescatori (2011), “Expansionary Austerity: New International Evidence,” IMF working paper 11/158.

⁽¹⁹⁾ A. Alesina and S. Ardagna, (2010), Large changes in fiscal policy: Taxes versus Spending, Tax Policy and the Economy, 24:35–68. And *op. cit.*

⁽²⁰⁾ See for more details: A. Cepparulo, C. McDonnell and V.E. Reitano (2024), “An Assessment of the Euro Area Fiscal Stance”, Economic Brief 080.

fiscal measures that affect the revenue-to-GDP ratio) with a top-down approach on the expenditure side (comparing primary expenditure growth resulting from past and new discretionary policies to the 10-year average of potential output growth).

A refinement of this fiscal stance indicator is needed for the COVID-19 crisis. The temporary emergency fiscal measures put in place to support households, workers and firms during the COVID-19 pandemic are excluded from the expenditure aggregate for the period 2020-23. The introduction and subsequent withdrawal of these significant measures would distort the annual estimates of the fiscal stance, if included.⁽²¹⁾ For example, the timing of their expansionary (and later contractionary) impact on the economy did not necessarily correspond to the years in which they were introduced (discontinued). Many of these measures were also related to short-time work schemes that implied lower cyclical unemployment benefits, which are excluded from the expenditure aggregate used to estimate the fiscal stance. Their exclusion therefore gives a more representative assessment of underlying fiscal support for economic activity during the COVID-19 pandemic.⁽²²⁾

V.2.2. The euro area policy mix before COVID-19

The first years of the euro were characterised by an expansionary and then a broadly aggregate neutral fiscal stance, with ECB monetary policy decisions largely reflecting inflation developments. Between 1999 and 2007, i.e. before the GFC, monetary policy was the main stabiliser of cyclical conditions in the euro area economy. During the economic slowdown following the terrorist attacks in the US of 11 September 2001, the ECB lowered its monetary policy rates by more than 200 basis points (until mid-2003). The euro area economy picked up after this period, thanks to more favourable global financial conditions. Looking back, cyclical conditions between 2004 and 2007 now appear more favourable than real-time estimates (Graph V.1), suggesting in hindsight that monetary policy could have been more restrictive in that period if it had adopted a “leaning against the wind” approach aimed at enhancing financial stability.⁽²³⁾ This, together with insufficient macroprudential policies, may have helped fuel housing bubbles in some Member States before the GFC. The 2004-2007 period was also characterised by some highly indebted Member States’ failure to accumulate sufficient fiscal buffers, despite the period’s favourable economic and financial conditions, although this only became clear in retrospect.⁽²⁴⁾

Although a bit late in the day, fiscal and monetary policies reacted forcefully when the GFC hit the euro area.⁽²⁵⁾ In 2007 and 2008, the ECB took measures to alleviate pressures materialising in bank funding markets. These measures mainly consisted of supplementary long-term refinancing operations and US dollar liquidity funding operations. The ECB’s initial response to the GFC therefore focused on countering systemic liquidity threats to the financial system (Mody and Nedeljkovic, 2018)⁽²⁶⁾ rather than reducing funding costs. This reaction contrasted with the reaction of the US Federal Reserve, which immediately and aggressively responded to the GFC by lowering policy rates in September 2007.

⁽²¹⁾ COVID-19 temporary emergency fiscal measures, to support healthcare systems and compensate workers and firms for pandemic-induced income losses, are not considered one-offs, although most of them were introduced temporarily to complement automatic stabilisers.

⁽²²⁾ These pandemic-related measures were phased out in 2023, so including them in the indicator would only affect the annual profile of the fiscal stance in 2020-23, but not the cumulative fiscal stance over that period. Given their temporariness, the impact of COVID-19 emergency measures on the cumulative 2020-23 fiscal stance is in fact zero, whether they are excluded from or included in the indicator.

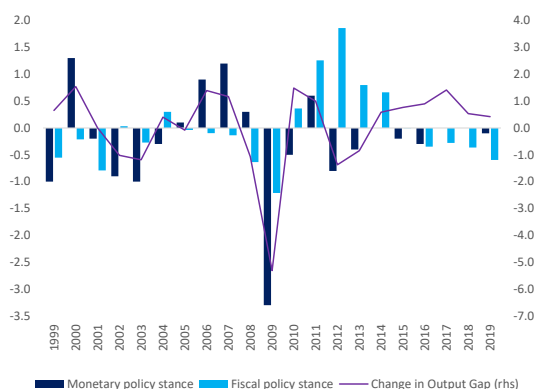
⁽²³⁾ For a discussion on this issue, see P. Hartmann and F. Smets (2018), “*The first twenty years of the European Central Bank: monetary policy*,” ECB Working Paper Series, No 2219, pp.20-23.

⁽²⁴⁾ Because of the economic slowdown in 2002 and 2003, the headline deficit exceeded the 3% of GDP Maastricht Treaty reference value in several euro area countries, including Germany and France. Political tensions emerged that resulted in a reform of the Stability and Growth Pact in 2005, putting the focus more on structural balances, by excluding the impact of the cycle and one-off measures.

⁽²⁵⁾ The GFC started in the US in August 2007, culminating in the bankruptcy of Lehman Brothers in September 2008 followed by a sharp economic slowdown across EU economies.

⁽²⁶⁾ A. Mody and M. Nedeljkovic (2018), “Central Bank Policies and Financial Markets: Lessons from the Euro Crisis”, CESifo Working Paper no. 7400.

Graph V.1: Euro area policy mix before COVID-19



Note: A positive (negative) sign indicates a contractionary (expansionary) fiscal stance (in % of GDP) and an increase (decrease) in short-term interest rates.

Source: European Commission 2024 spring forecast.

2009, the ECB significantly eased monetary policy, as economic and financial conditions deteriorated dramatically, with the materialisation of an extraordinarily severe financial crisis becoming evident. Overall, between October 2008 and May 2009, the ECB lowered the interest rate on its main refinancing operations by 325 basis points (Graph V.2). It also launched a covered bond purchase programme in July 2009. The euro area fiscal policy reaction was also counter-cyclical and expansionary (by about 2.0% of GDP) over the entire 2008-09 period of the GFC. The excessive deficit procedure (EDP) was used to implement the EERP. Many euro area countries had general government deficits over 3% of GDP and EDPs were opened in 2009, recommending Member States to first implement a fiscal stimulus and extending deadlines for correcting excessive deficits, differentiated according to the available fiscal space. ⁽²⁹⁾

The euro area fiscal stance was contractionary and pro-cyclical in 2010-2014, while monetary policy eased (a bit late) and addressed fragmentation risks. Following the expansionary stance in 2008-09, fiscal support was subsequently withdrawn in the euro area, even by Member States with fiscal space and despite the onset of the euro area sovereign debt crisis. This contributed to a second recession in the euro area in 2012 and 2013, marked by high unemployment and inflation falling short of the ECB's target. According to Orphanides (2017) ⁽³⁰⁾ fiscal policy was "*inappropriately contractionary over 2011-2014*" considering the negative output gap. In the same vein, Bańkowski et al. (2021) ⁽³¹⁾ have pointed out that real-time counter-cyclical fiscal policy, conditional on monetary accommodation, would have helped eliminate a large part of the second downturn in the euro area, based on the ECB-BASE model.

The ECB prematurely increased its policy rates in April and July 2011 to alleviate inflationary pressures, it brought them back down to 1% at the end of 2011. Monetary policy then remained accommodative, and the ECB lowered its key interest rates further during the euro area sovereign debt crisis, with the deposit facility rate reaching zero in July 2012. However, transmission channels were hampered in countries

⁽²⁷⁾ The Eurosystem macroeconomic projections of September 2008 projected euro area real GDP growth would be between 1.1% and 1.7% in 2008, and between 0.6% and 1.8% in 2009, while the European Commission Economic Forecast Autumn 2008 projected euro area GDP would be 1.2% in 2008 and 0.1% in 2009.

⁽²⁸⁾ The European Investment Bank also contributed to the stimulus.

⁽²⁹⁾ For more details see: Excessive deficit procedures - overview - European Commission (europa.eu);

https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/stability-and-growth-pact/corrective-arm-excessive-deficit-procedure/excessive-deficit-procedures-overview_en#overview-of-ongoing-and-closed-excessive-deficit-procedures

⁽³⁰⁾ A. Orphanides (2017), "The Fiscal-Monetary Policy Mix in the Euro Area: Challenges at the Zero Lower Bound," Discussion Paper 060 available at The Fiscal-Monetary Policy Mix in the Euro Area: Challenges at the Zero Lower Bound (europa.eu);

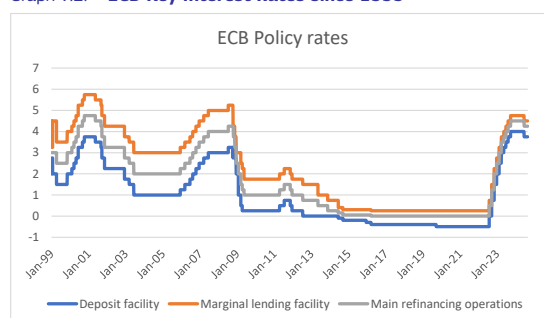
https://economy-finance.ec.europa.eu/system/files/2017-07/dp_060_en.pdf

⁽³¹⁾ K. Bańkowski, K. Christoffel and T. Faria (2021), "Assessing the fiscal-monetary policy mix in the euro area", ECB Working Paper Series, n.2623 available at <https://www.ecb.europa.eu/pub/pdf/scpwp/ ECB.wp2623-662f104fa9.en.pdf>.

experiencing stress in sovereign debt markets due to the limited ability of their banking sectors to provide affordable credit.

Re-denomination risk, fuelled by the absence of proper banking and capital market unions, led to a fragmentation of euro area financial markets across national borders. Mario Draghi’s famous statement in July 2012, that ‘within our mandate, the ECB is ready to do whatever it takes to preserve the euro’, and the subsequent announcement of a new ECB (unconventional) instrument of ‘outright monetary transactions’ (OMT), were essential for restoring confidence in the euro project and improving the transmission of accommodative monetary conditions across the entire euro area.

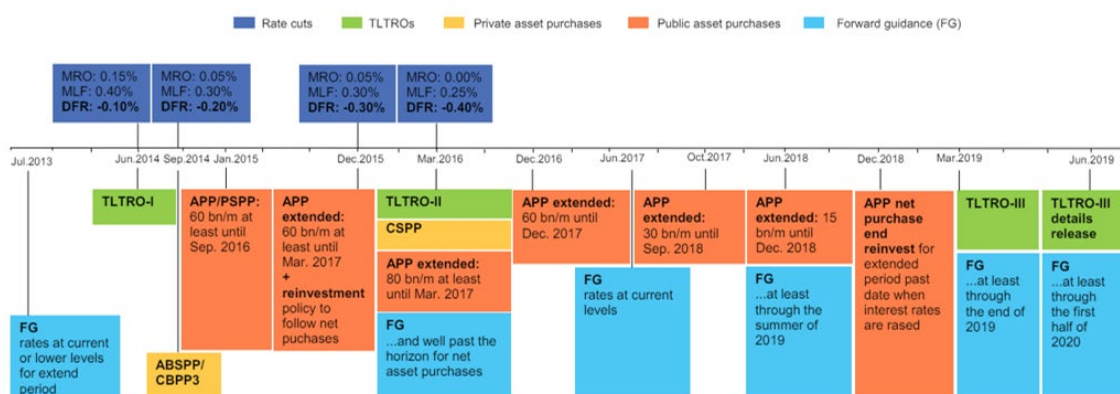
Graph V.2: ECB Key Interest Rates since 1999



Source: ECB.

In the 6 years before the COVID-19 pandemic, the euro area fiscal stance was broadly neutral/slightly expansionary, while the ECB adopted a broad set of unconventional measures to fight deflationary risks. During this period, the euro area aggregate fiscal policy stance was broadly neutral/slightly expansionary, with a sound fiscal position achieved in several Member States for which EDPs had been abrogated and whose structural budget balance was close to, or had already reached, the medium-term objective (MTO).

Graph V.3: ECB’s action from July 2013 to June 2019



Note: ABSPP: Asset-Backed Securities Purchase Program; APP: Asset Purchase Program; CBPP: Covered Bonds Purchase Program; CSPP: Corporate Sector Purchase Program; DFR: Deposit Facility Rate; MLF: Marginal Lending Facility (rate); MRO: Main Refinancing Operation (rate); PSPP: Public Sector Purchase Program; TLTRO: Targeted Long-Term Refinancing Operations.

Source: Schumacher (2019).

However, the geographical composition of the fiscal stance was far from optimal. In an environment of persistently low (negative) real interest rates, Member States with available fiscal space could have used it in this period, in particular to address public investment gaps and support the ECB’s fight against deflationary risks. Highly indebted countries could also have taken advantage of the favourable financing conditions to build up fiscal buffers. The ECB expanded its toolkit of unconventional measures by adopting forward guidance, a new series of long-term refinancing operations, a negative interest rate policy and massive asset purchases under the Eurosystem’s Asset Purchase Programme (APP). The ECB first adopted a negative interest rate policy in June 2014, when it cut its deposit facility rate to 0.1%. It also launched its first series of targeted long-term refinancing operations (TLTRO-I) in June 2014 and the Eurosystem started private sector asset purchases in October 2014. From 2015 to 2019, the ECB expanded its unconventional measures. It gradually decreased its deposit facility rate to 0.5% in September 2009 and expanded its quantitative easing policy, notably by including public sector bonds in its asset purchases and by raising the amounts of monthly purchases. Overall, from October 2014 to December 2019, the Eurosystem’s cumulative net asset purchases in its Asset Purchase Programme amounted to EUR 2.7 trillion.

V.2.3. The policy-mix during the COVID-19 pandemic (2020-2021)

The COVID-19 pandemic resulted in a significant and sudden decline in economic activity in the euro area. The impact was felt on both supply and demand, but differed across countries and sectors.⁽³²⁾ The impact on individual sectors was largely determined by the capacity to telework (Canton et al., 2021),⁽³³⁾ with contact-intensive services – such as retail, hospitality, transportation, the arts and entertainment – taking the worst hit from containment measures.

The activation of the general escape clause of the SGP enabled Member States to ensure an adequate fiscal response. The Commission stated in its Communication of 20 March 2020 that the economic conditions warranted the activation of the general escape clause of the SGP.⁽³⁴⁾ This enabled Member States to adopt discretionary fiscal measures rather than just relying on automatic stabilisers. The temporary fiscal measures Member States adopted mainly consisted of additional spending (on healthcare costs, short-time work schemes, sick pay extensions and unemployment benefits, subsidies for firms). At the euro area aggregate level, temporary fiscal measures corresponded to 3.3% of GDP in both 2020 and 2021, and 0.7% in 2022, mostly on the expenditure side (Table in annex).

In response to the COVID-19 crisis, vertical coordination (between national and EU policies) was added to horizontal coordination (between national policies). This was in sharp contrast to the less coordinated response to the GFC (Buti and Messori, 2021).⁽³⁵⁾ In addition to accommodative monetary policy and a strong national fiscal responses, the EU intervened with direct policy support through unprecedented instruments such as the temporary Support to Mitigate Unemployment Risks in an Emergency (SURE) and NextGenerationEU/the RRF. These initiatives gave reassurance to financial markets that the EU would support the most vulnerable Member States and citizens during the COVID-19 crisis.

For the first time, the Commission issued social bonds to fund SURE, giving EUR 98.4 billion in loans to 19 EU Member States.⁽³⁶⁾ These Member States could benefit from cheap loans at a time of financial market distress. By helping to preserve the link between workers and their employers, through short-time work schemes, SURE protected the productive capacity of the economy.⁽³⁷⁾ Almost half of total public expenditure backed by SURE loans was allocated to short-time work schemes. Almost one third was allocated to similar measures for self-employed people. The remainder of public expenditure was allocated to wage subsidy measures – akin to short-time work schemes, albeit not based on hours worked – and health-related measures, with health-related expenditure representing 5% of total expenditure.

⁽³²⁾ ‘... different countries experienced very different contractions in economic activity, which can be explained by a combination of factors. First, countries differed in the severity of the pandemic, the depth and persistence of the epidemiological waves and the measures they took to mitigate the impact of the crisis. While countries like Spain and Italy imposed a full lockdown during the first wave, other Member States (e.g., Finland) could resort to less stringent measures to contain the propagation of the virus. Second, the sectoral structure of the economy, and the relative weight of some of the hardest hit sectors like tourism, exacerbated the economic contraction in some Member States. Finally, other factors such as the health of the corporate sector, the strength of the government’s monetary and fiscal policy response, and institutional differences played an important role in mitigating the impact of the shock’, footnote 2 in E. Canton, F. Colasanti, J. Durán, M. Garrone, A. Hobza, W. Simons, and A. Vandeplas (2021), “The Sectoral Impact of the COVID-19 Crisis: An Unprecedented and Atypical Crisis,” Economic Brief 069 at https://commission.europa.eu/document/download/7f23673e-5392-43d1-ba9a-f416187cf436_en?filename=eb069_en.pdf.

⁽³³⁾ *Op. cit.*

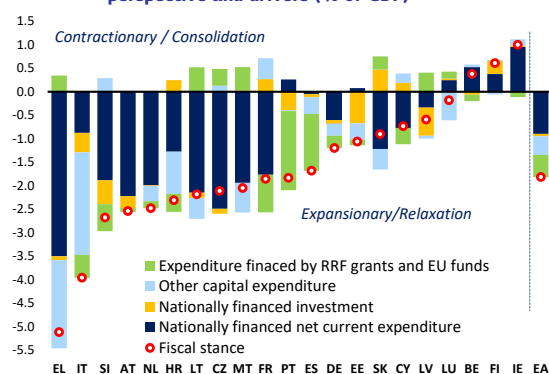
⁽³⁴⁾ See: Communication from the Commission to the Council on the activation of the general escape clause of the Stability and Growth Pact. The general escape clause was introduced in 2011: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0123>.

⁽³⁵⁾ M. Buti and M. Messori (2021), “Euro area policy mix: From horizontal to vertical coordination”, CEPR Policy Insight No 113 available at <https://cepr.org/publications/policy-insight-113-euro-area-policy-mix-horizontal-vertical-coordination>.

⁽³⁶⁾ SURE – European Commission (europa.eu); https://economy-finance.ec.europa.eu/eu-financial-assistance/sure_en#eu-sure-social-bond.

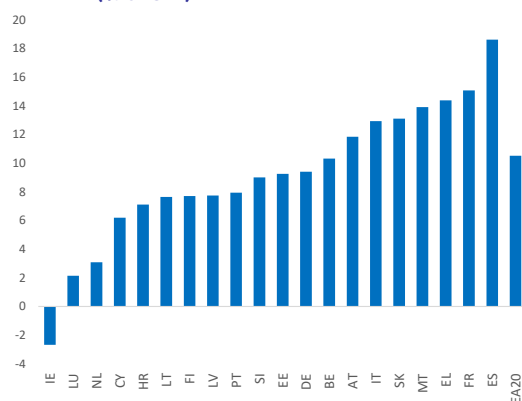
⁽³⁷⁾ Less than a month following their request, Member States got their first payment. At the height of the pandemic in 2020, the policy support measures that were implemented successfully averted an estimated 1.2 million individuals from losing their jobs. Based on simulations, most of this projected impact was probably attributable to short-term work schemes sponsored by SURE.

Graph V.4: Cumulative fiscal stance in 2020-2021, country perspective and drivers (% of GDP)



Source: European Commission 2024 spring forecast.

Graph V.5: Public debt developments by country: 2021 vs 2019 (% of GDP)



Source: European Commission 2024 spring forecast.

The pandemic caused a sizeable rise in the aggregate euro area public debt-to-GDP ratio. Between 2019 and 2021, the aggregate euro area public debt-to-GDP ratio rose by more than 10 percentage points (pps) (Graph V.5),⁽⁴⁰⁾ with the largest increases recorded in some of the countries that had high public debt-to-GDP ratios before the pandemic. COVID-19 temporary emergency fiscal measures, together with an expansionary fiscal stance, resulted in an accumulation of public debt of around 9% of GDP for the euro area in the 2020-21 period. Arguably, a lack of such support would have had a greater impact on the euro area public debt-to-GDP ratio, given the likely counterfactual of the destruction of productive capital – including human capital – and a protracted recession, giving rise to lower potential output growth, lower nominal GDP (reducing the denominator of the public debt-to-GDP ratio) and lower tax revenues (increasing the numerator).

During the pandemic, monetary policy contributed to more effective transmission of fiscal policy by preserving financial stability and maintaining favourable financing conditions in all euro area countries. With policy interest rates already very low, the ECB acted immediately and forcefully, notably by launching the Pandemic Emergency Purchase Programme (PEPP) in 2020. Overall, the ECB adopted a broad range of complementary monetary policy measures to mitigate the adverse economic effects of the COVID-19 pandemic.⁽⁴¹⁾ These measures can be put into these three broad categories:

To boost post-pandemic recovery, the Commission and the Council adopted a package containing a strengthened Multiannual Financial Framework 2021-27 topped up by NextGenerationEU.⁽³⁸⁾ The RRF, the centrepiece of NextGenerationEU, provides grants and loans to support reforms and investments in Member States.⁽³⁹⁾ It represents a temporary centralised fiscal capacity, to preserve EU cohesion by channelling more support to the countries most affected by the COVID-19 pandemic. National recovery and resilience plans (RRPs) are being used to implement the RRF. This process started in the second half of 2021 and will last until 2026.

As a result of national and EU policies, the fiscal stance was expansionary in most euro area countries in 2020-21. In several countries, a sizeable expansionary contribution was made by expenditure financed by RRF grants and other EU funds (Graph V.4). However, in some Member States, the absorption of RRF grants has taken more time to materialise. Support for public and private investment provided by national budgets was also remarkable for a period of crisis, although in some countries net current permanent spending financed by national budgets was the main source of fiscal support, contrary to the Council recommendations calling for temporary measures.

The pandemic caused a sizeable rise in the aggregate euro area public debt-to-GDP ratio. Between 2019 and 2021, the aggregate euro area public debt-to-GDP ratio rose by more than 10 percentage points (pps) (Graph V.5),⁽⁴⁰⁾ with the largest increases recorded in some of the countries that had high public debt-to-GDP ratios before the pandemic. COVID-19 temporary emergency fiscal measures, together with an expansionary fiscal stance, resulted in an accumulation of public debt of around 9% of GDP for the euro area in the 2020-21 period. Arguably, a lack of such support would have had a greater impact on the euro area public debt-to-GDP ratio, given the likely counterfactual of the destruction of productive capital – including human capital – and a protracted recession, giving rise to lower potential output growth, lower nominal GDP (reducing the denominator of the public debt-to-GDP ratio) and lower tax revenues (increasing the numerator).

⁽³⁸⁾ Recovery plan for Europe - European Commission (europa.eu): https://commission.europa.eu/strategy-and-policy/recovery-plan-europe_en.

⁽³⁹⁾ New common debt to be repaid in the long term (by 2058) was created to fund NextGenerationEU. See European Commission (2022), "The EU as an issuer: the NextGenerationEU transformation, EU budget policy brief", available: <https://op.europa.eu/en/publication-detail/-/publication/accacf66-0966-11ed-b11c-01aa75ed71a1/language-en/format-PDF>.

⁽⁴⁰⁾ By end-2023, this rise was 4 pps., with the aggregate euro area public debt ratio at 90% of GDP vs 86% in 2019. Consolidation for inter-government loans, the ratio was slightly lower at the end of 2023, at 88.6% of GDP. Conversely, considering the EU-issued supranational debt related to RRF grants would increase the 2023 euro area public debt ratio, by around 1.5 pps.

⁽⁴¹⁾ For more details see: Our response to the coronavirus pandemic (europa.eu):

1. Provision of additional liquidity to banks. The aim of operations to provide additional liquidity was to maintain the banking sector's capacity to issue loans during the crisis. They included targeted (conditional on achieving lending benchmarks) operations with long maturities (TLTRO III) and non-targeted, operations (pandemic emergency longer-term refinancing operations-PELTRO).
2. Easing of collateral requirements. The collateral easing measures improved banks' access to ECB liquidity, by expanding the pool of assets banks could pledge with the Eurosystem in return for central bank loans and reducing the haircuts applied to this collateral. These measures reduced the risk that collateral shortages would make it hard for banks to get central bank loans.
3. Significant additional purchases of public and private sector assets. Asset purchase programmes aimed to dampen excess volatility in key segments of the euro area financial markets, while further easing the overall monetary policy stance in response to the downward effect of the pandemic on the euro area inflation outlook. In addition to the APP, the ECB introduced the PEPP (with cumulative net purchases of EUR 1.718 billion) to mitigate the direct effects of the pandemic on price stability by stabilising financial markets and softening the monetary policy stance, thereby supporting the operation of the monetary policy transmission mechanism (Böninghausen et al. 2022).⁽⁴²⁾

The supervisory authorities complemented these actions by counter-cyclically relaxing regulatory requirements on banks. These bank supervision measures provided temporary capital and operational relief for euro area banks, which could be used to absorb losses or provide loans for the real economy. Overall, the ECB's decisive action was crucial for preserving financial stability and safeguarding the transmission of the monetary policy stance, supporting credit for firms and households and ensuring that financing conditions would remain favourable despite the adverse economic shock.

A supportive policy mix was successful at supporting economic activity, preserving to a significant degree the euro area's potential growth capacity and protecting businesses and workers during the COVID-19 pandemic. Active fiscal policy was particularly useful for supporting macroeconomic stabilisation in the short term and monetary policy increased the fiscal space by maintaining interest rates at low levels (Graph V.6). Given weak demand and disrupted supply, accommodative monetary policy also needed to be complemented by a supportive fiscal stance in the euro area, and fiscal policy measures, such as government loan guarantees, helped transmit the accommodative monetary policy stance to the real economy. In this context, the support provided by new EU tools was instrumental in increasing the fiscal space available to Member States, especially for investment in the green and digital transitions. The introduction of new (or rarely used) tools at national level, such as credit guarantees and labour retention measures, also helped mitigate the risks posed by the pandemic without using a great deal of available fiscal space.

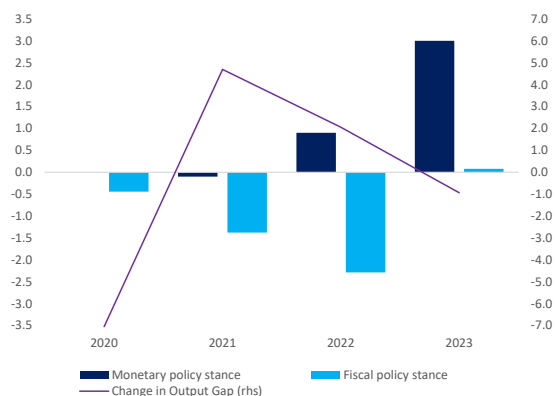
<https://www.ecb.europa.eu/home/search/coronavirus/html/index.en.html>

⁽⁴²⁾ B. Böninghausen, L.F. Brennan, L. McCabe and J. Schumacher (2022), "The pandemic emergency purchase programme – an initial review," ECB Economic Bulletin, Issue 8/2022.

V.2.4. The policy mix in response to high inflation (2022-2023)

The rebound in global demand, coupled with supply bottlenecks, led to an increase in energy and commodity prices in the second half of 2021. ⁽⁴³⁾ The surge in energy prices was exacerbated by Russia's war of aggression against Ukraine, triggering an extraordinary rise in gas prices, especially in Europe. In response, Member States introduced temporary energy support measures to cushion the effects on households and firms. These measures mainly consisted of price policy measures in the form of indirect taxation cuts, with less than one third of the measures consisting of income policies (transfers to households). Overall, they had a budgetary cost for the euro area of 1.3% in 2022 (Table V.3 in annex). The war also gave rise to costs – of around 0.1% of GDP for the euro area in 2022 – to support people fleeing the conflict, who were given temporary protection by the European Council. ⁽⁴⁴⁾

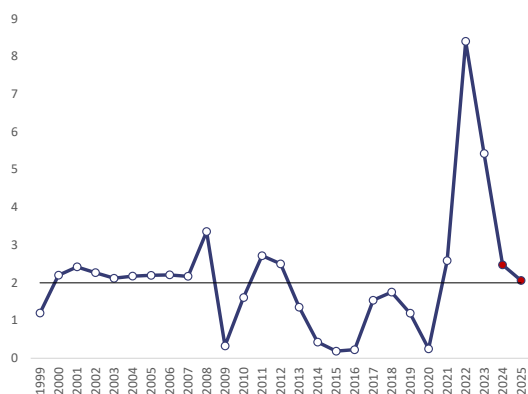
Graph V.6: Euro area policy mix during the COVID-19 and the energy crises



Note: A positive (negative) sign indicates a contractionary (expansionary) fiscal stance (in % of GDP) and an increase (decrease) in short-term interest rates. The fiscal stance profile in 2020-2023 does not include the temporary impact of COVID-19 emergency measures.

Source: European Commission 2024 spring forecast.

Graph V.7: HICP annual inflation, euro area 1999-2024



Red bullets represent forecast data.

Source: European Commission 2024 spring forecast.

of fiscal policy during a period of very high inflation. However, Dao et al. (2023) ⁽⁴⁵⁾ have suggested that energy support measures helped to contain the 2022 inflation surge in the euro area thanks to the transitory nature of the energy shock and the fact that European economies were not strongly overheated. ⁽⁴⁶⁾ Therefore, even if the fiscal and monetary policy stances diverged in 2022, they were effective at achieving their objectives. For the ECB, it was essential to prevent the temporary inflationary shock from having long-term consequences on prices and wages and therefore to keep inflation

⁽⁴³⁾ See for instance P. Canofari, G. Di Bartolomeo and M. Messori (2022), "Dancing on the edge of stagflation", Monetary dialogue papers, European Parliament, available at <https://op.europa.eu/en/publication-detail/-/publication/338a838e-3ae9-11ed-9c68-01aa75ed71a1/language-en>.

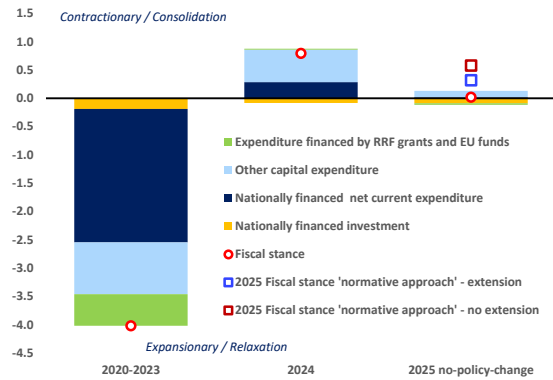
⁽⁴⁴⁾ People receiving protection are entitled to rights regarding residence, labour market access, housing, medical assistance, social welfare to cover subsistence needs, and education for children, as shown in European Commission (2022b), "The 2022 Stability and Convergence Programmes. An Overview, with an Assessment of the Euro Area Fiscal Stance," Institutional Paper 182.

⁽⁴⁵⁾ A. Dao, M. Chi, A. Dizioli, C. Jackson, P. Gourinchas, and D. Leigh (2023), "Unconventional Fiscal Policy in Times of High Inflation," WP/23/178, available at <https://www.imf.org/-/media/Files/Publications/WP/2023/English/wpia2023178-print-pdf.ashx>.

⁽⁴⁶⁾ The Commission, in its regular assessments of Member States' compliance with EU fiscal rules, also expressed concern at the lack of sufficient targeting of these measures, which was not in line with the prevailing advice of institutions such as the IMF and made the measures more costly than they needed to be.

expectations anchored. For governments, it was necessary to protect households and firms from the impact of temporarily higher energy prices.

Graph V.8: Euro area fiscal stance in 2020-2025 and its drivers (% of GDP)



Note: the fiscal stance for 2020-2023 is cumulative.

Source: European Commission 2024 spring forecast and authors' calculations.

The successful rollout of targeted fiscal measures during the COVID-19 and energy crises demonstrated that such measures can usefully contribute to the macroeconomic policy response. As described above, temporary and targeted fiscal measures, at both EU and national levels, were a key part of the policy response to these two recent crises, proving that it was a good idea to include them in the macroeconomic toolkit. The use of targeted measures has three key benefits. First, they expand the macroeconomic toolkit and increase policymakers' options when responding to economic shocks. Second, they limit the fiscal cost of the policy response, particularly important in the context of high public debt-to-GDP ratios. Third, they enable the policy response to be geared towards specific sectors. This was particularly important during the COVID-19 crisis, when some sectors were affected worse than others.

In 2023, fiscal policy turned broadly neutral in the euro area while monetary policy was tightened further (Graph V.8). In addition to increasing interest rates, the ECB adopted a series of policy normalisation measures, including: i) the end of net asset purchases under the PEPP and the APP in 2022, followed by a continued reduction in securities holdings since March 2023; and ii) a revision of the conditions governing the remaining targeted long-term refinancing operations (TLTRO III) to improve the transmission of monetary policy to bank lending. The euro area fiscal stance was broadly neutral in 2023, so it did not fuel further inflationary pressures. This neutral fiscal stance was consistent with the need to preserve long-term debt sustainability and macro-financial stability in the euro area, considering the impact of higher interest rates.

V.3. WILL THE NEW EU FISCAL FRAMEWORK IMPACT THE ROLE OF FISCAL POLICY IN THE EURO AREA?

V.3.1. A risk-based approach centred on a medium-term net expenditure path

Legislation setting out a revised EU economic governance framework was adopted in April 2024. (47) The Commission published its review of the EU economic governance framework in February 2020. Following a broad public debate, in April 2023 it tabled legislative proposals to develop an economic governance framework fit for the challenges ahead. The new EU fiscal rules take into account the importance of ensuring debt sustainability while boosting economic growth and ensuring the green and digital transitions go smoothly. Member States with fiscal adjustment needs – based on the Commission's Debt Sustainability Analysis – can opt for an extended adjustment period if they commit to relevant investments and reforms. The main features of the new framework and first steps for implementing it are described in Box.

Under the new framework, Member States' fiscal policies will be shaped by a medium-term path for net expenditure, with a positive impact on fiscal policy's macroeconomic stabilisation role. The new framework will enhance fiscal policy's macroeconomic stabilisation role in two ways. First, it uses a net expenditure rule as the sole operational indicator of medium-term fiscal planning and surveillance. (48)

(47) For further details see: https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/new-economic-governance-framework_en.

(48) The net expenditure aggregate corresponds to total general government expenditure net of interest expenditure, expenditure on EU programmes fully matched by revenue from EU funds, national expenditure on the co-financing of programmes funded by the EU, cyclical components of unemployment benefit expenditure, and one-off expenditures. The impact of (permanent)

Box V.1: The new EU economic governance framework

The main objectives of the reformed framework are to strengthen Member States' debt sustainability and promote sustainable and inclusive growth and resilience in all Member States through growth-enhancing reforms and priority investments. The reformed framework will help make the EU more competitive and better prepared for future challenges by supporting progress towards a green, digital, inclusive and resilient economy. The reform also promotes national ownership within a robust common framework. The main features of the reformed framework are as follow:

National medium-term fiscal-structural plans proposed by Member States, embedded in a common EU framework. The plans will bring together each Member State's fiscal, reform and investment policies in a common EU framework. The plans will cover 4 to 5 years, depending on the national electoral cycle.

A country-specific net expenditure path as the main operational fiscal indicator. Focusing EU fiscal surveillance on a single operational indicator will simplify the framework and enhance the counter-cyclical properties of national fiscal policies. Net expenditure paths will be calibrated to ensure that public debt converges to prudent levels in the medium term and that the deficit is brought to, and maintained below, the 3% of GDP Treaty reference value. The paths will be the basis for annual fiscal surveillance.

A differentiated, country-specific pace of fiscal adjustment, adapted to countries' levels of debt sustainability risk and with common numerical safeguards. The new framework differentiates between countries by taking into account their debt sustainability challenges. Common numerical safeguards will apply to ensure *ex ante* a minimum level of fiscal adjustment and debt reduction by Member States that breach the Treaty's deficit and debt reference values.

Extension of the adjustment period from 4 to up to 7 years, underpinned by reforms and investments. Member States will be able to benefit from a more gradual fiscal adjustment path by putting forward a specific set of reform and investment commitments that fulfil certain criteria. Other incentives for reforms and investment consist of excluding national co-financing of EU programmes from the net expenditure indicator and taking Member States' RRF commitments into account for extensions under the first vintage of the plans.

General and country-specific escape clauses for extraordinary situations. These clauses will enable the Council to grant Member States a deviation from the endorsed net expenditure paths, provided this does not endanger medium-term fiscal sustainability.

Stricter enforcement to ensure Member States deliver on their commitments. The new framework has a number of elements to strengthen enforcement of EU fiscal rules, including a control account to record deviations from the endorsed net expenditure path and a clear process for opening debt-based excessive deficit procedures (EDPs). Simpler, more transparent and more predictable fiscal rules will also tarnish the fiscal reputation of the Member States that deviate from them.

Implementation of the first national medium-term fiscal-structural plans will start in 2025. The legislation requires the first plans to be submitted by 20 September 2024. The timely submission of the first plans will allow the Commission and Council to assess the plans before the end of 2024. Following their endorsement by the Council, the first year of implementation for the medium-term fiscal-structural plans will be 2025.

discretionary revenue measures is also excluded to obtain the net expenditure aggregate defined in Article 2(2) of Regulation (EU) 2024/1263.

This will enhance the role of automatic stabilisers, allowing revenues to fluctuate freely along the economic cycle, even beyond the semi-elasticity impact of the old framework's structural balance-focused approach. It will also help to build fiscal buffers in good times, and Member States with deficit and debt ratios not exceeding the Maastricht Treaty's reference values (3% and 60% of GDP respectively) will have more freedom in implementing counter-cyclical fiscal policies. Second, the new framework contains robust escape clauses to address exceptional situations where the endorsed fiscal adjustment path cannot realistically be adhered to. The general escape clause is maintained and can be activated in case of a severe economic downturn in the EU and/or the euro area. A national escape clause will also apply for exceptional circumstances outside a Member State's control that have a major impact on public finances. These clauses will enable the Council to grant Member States a deviation from the endorsed net expenditure paths as long as this does not endanger medium-term fiscal sustainability.

The reform will also make the EU fiscal framework more credible, thereby enhancing its contribution to the policy mix. Better enforcement tools under the new framework, such as the use of numerical thresholds to trigger the preparation of a report under Article 126(3) leading to the possible opening of a debt-based excessive deficit procedure (EDP), will help make the framework more credible in its ultimate goal of achieving public debt sustainability. This will be beneficial for the euro area monetary policy framework, for example as the fiscal authorities will provide a credible backstop for central banks in times of financial loss.

V.3.2. Fiscal policy in 2024, a year of transition

Fiscal policy is set to turn contractionary in the euro area in 2024, as energy support measures are phased out, while the monetary policy stance has started to be eased. The fiscal recommendations for 2024 that the Council adopted in July 2023 tried to anticipate, as much as possible, the new EU fiscal framework by focusing on net expenditure growth, while keeping the fiscal requirements fully consistent with the old rules still in force at the time. The contractionary stance in 2024 – estimated at $\frac{3}{4}\%$ of GDP (Graph V.8) – can be considered appropriate, given the need to start improving the sustainability of public debt in some Member States as economic activity is set to accelerate. This fiscal contraction in 2024 would follow a cumulative expansion of around 4% of GDP over the 2020-23 period. Importantly, contrary to the fiscal adjustment that occurred in the euro area in the wake of the 2010 sovereign debt crisis, the fiscal contraction projected for 2024 is not due to government cuts in public investment financed by national budgets. Moreover, the RRF continues to support investment and other growth-enhancing spending in the euro area. The contractionary stance helps to dampen demand, thereby helping the ECB reach its 2% inflation target.

Under a no-policy-change assumption, the euro area fiscal stance is expected to be broadly neutral in 2025. According to the Commission Spring 2024 Economic Forecast, public investment financed by national budgets is expected to continue to be marginally expansionary in 2025, while expenditure financed by RRF grants and other EU funds is expected to be neutral, with the level remaining broadly stable after the increase recorded in previous years.

Following a 'normative approach', the euro area fiscal stance can be expected to be contractionary in 2025, ranging from around $\frac{1}{4}\%$ to around $\frac{1}{2}\%$ of GDP. Illustrative calculations can be used to estimate the possible range of the euro area fiscal stance in 2025, assuming that Member States will implement a fiscal adjustment that is consistent with the new EU fiscal framework. Under this scenario, the euro area fiscal stance is expected to be contractionary (Graph V.8), depending on the length of the adjustment period Member States choose. The range is estimated using two scenarios:

- Member States with adjustment needs opt for four-year adjustment paths; and
- Member States with adjustment needs opt for seven-year adjustment paths.

In both cases, it is assumed that Member States without adjustment needs implement a neutral fiscal stance. In the first scenario, the euro area fiscal stance would be contractionary, at around $\frac{1}{2}\%$ of GDP. In the second scenario, the contractionary fiscal stance would be around $\frac{1}{4}\%$ of GDP.

A contractionary fiscal stance is expected to be broadly appropriate for the euro area in 2025, from both a fiscal and a macroeconomic point of view. A contractionary euro area fiscal stance – in a range between $\frac{1}{4}\%$ and $\frac{1}{2}\%$ of GDP – would be consistent with the need to improve public debt sustainability,

underpinning Member States' commitment to debt sustainability, and support monetary policy in bringing inflation back to the ECB target. The short-term economic impact of the necessary consolidation can be minimised through a careful choice of deficit-reducing measures. In particular, a contractionary fiscal stance in 2025 can be achieved while preserving or increasing public investment. The more gradual consolidation under an extension of the adjustment period can provide incentives for this. The new EU fiscal framework, along with the continued implementation of Member States' RRP, will facilitate progress towards the twin transition. Besides ensuring an appropriate policy mix, continuing efforts to improve the effectiveness, quality and composition of public spending will remain essential for increasing economic resilience.

V.4. CONCLUSION

Since the creation of the euro, and in particular since the GFC, it has become increasingly clear that fiscal and monetary policies in the euro area sometimes need to act in a congruent and complementary way, in particular in response to large economic shocks. ⁽⁴⁹⁾ According to the ECB (2021), the macroeconomic policy framework set out in the Maastricht Treaty is most effective *'when recessionary disturbances are at most moderate, nominal interest rates are sufficiently far away from their lower bound, and financial markets function smoothly'*. However, in the presence of significant economic shocks, monetary and fiscal policies can no longer be seen as substitutes; rather, they become complementary and mutually reinforcing. Congruent monetary and fiscal policies also avoid the risk of overstressing any individual instrument and of *'generating imbalances that progressively erode both fiscal and/or monetary space, limiting the overall stabilisation capacity of macroeconomic policy'* (Bartsch et al., 2020). ⁽⁵⁰⁾ Financial stability considerations have also entered the picture, as discussed at length in Chapter IV.

Both in the euro area and more broadly, policymakers and academics have also become more cognisant of the role activist fiscal policy can play, in particular when monetary policy is constrained. ⁽⁵¹⁾ Through automatic stabilisers, fiscal policy can function alongside monetary policy to achieve macroeconomic stability, mitigating the effects of normal economic cycles without requiring overt policy adjustments. In a more activist way, contractionary fiscal policy, for example, can help support demand when monetary policy is constrained by the effective lower bound, ⁽⁵²⁾ or help reduce high inflation in times of excessive demand. Fiscal policy can also help transmit monetary policy to specific actors. Ruiz (2021), ⁽⁵³⁾ for example, highlights how fiscal policy affects income inequality and therefore the effectiveness of monetary policy.

⁽⁴⁹⁾ The early years of the euro also highlighted the dangers of pro-cyclical fiscal policies and a failure to build fiscal buffers in good economic times. Buti and Messori (2021) have highlighted the inherent asymmetry of the Maastricht Treaty and the SGP, which advocate avoiding excessive government deficits without constraining budget surpluses. Given this asymmetry, a fiscal stance that is suitable at aggregate level is not necessarily suitable at country level.

⁽⁵⁰⁾ Observers have highlighted the need for fiscal and monetary policies to create policy space for each other, while preserving credible commitments to long-term goals. See for example X. Debrun, A. Bénassy-Quéré, G. Corsetti and E. Bartsch (2020), "Stronger together? The policy mix strikes back," available: <https://cepr.org/voxeu/columns/stronger-together-policy-mix-strikes-back>.

⁽⁵¹⁾ See, for example: L.Christiano, M. Eichenbaum, and S. Rebelo (2011), "When is the government spending multiplier large?," *Journal of Political Economy* 119 (1), 78–121; C. J. Erceg, and J. Lindé (2013), "Fiscal consolidation in a currency union: Spending cuts vs. tax hikes," *Journal of Economic Dynamics and Control*, 37 (2), 422–445; V. A. Ramey, (2019), "Ten years after the financial crisis: What have we learned from the renaissance in fiscal research?," *Journal of Economic Perspectives* 33 (2), 89–114; and M. Klein, and R. Winkler (2021), "The government spending multiplier at the zero lower bound: International evidence from historical data." *Journal of Applied Econometrics*, 36(6), 744–759.

⁽⁵²⁾ Although empirical studies seem to agree on the effectiveness of discretionary fiscal policy when monetary policy is constrained by the effective lower bound of interest rates (for a survey see Pappa, (2020), "Fiscal Rules, Policy and Macroeconomic Stabilization in the Euro Area", ECB), the use of fiscal policy for stabilisation purposes should always follow a careful assessment of the impact on public debt sustainability, as indicated by O. J. Blanchard, (2019), "Public debt and low interest rates," *American Economic Review*, Vol. 109, No.4, pp. 1197–1229. It can be argued that even when monetary policy is unconstrained, the synchronisation of fiscal and monetary policies may have benefits, in particular in a monetary union, see R. Beyer, R. Dutttagupta, A. Fotiou, K. Honjo, M. Horton, Z. Jakab, J. Linde, V. Nguyen, R. Portillo, N. Suphaphiphat, and L. Zeng (2023) "Shared Problem, Shared Solution: Benefits from Fiscal-Monetary Interactions in the Euro Area," IMF WP/23/149, available: <https://www.imf.org/-/media/Files/Publications/WP/2023/English/wpiea2023149-print-pdf.ashx>.

⁽⁵³⁾ D.A. Ruiz, (2021), "The effect of Fiscal Policy on the Transmission of Monetary Policy through Income Inequality", Documento CEDE No. 49, Available at SSRN: <https://ssrn.com/abstract=3919812>.

The euro area policy response to the COVID-19 pandemic demonstrated how a rapid, targeted and congruent policy response can mitigate macroeconomic and financial stability risks, confirming the positive role activist fiscal policy can play in response to a large economic shock. It also showed how the rapid introduction of new, targeted fiscal instruments can deal effectively with a crisis. As Deb et al. (2021) ⁽⁵⁴⁾ have observed, emergency fiscal measures adopted in response to the COVID-19 pandemic helped support the economy during this period. The policy response to the pandemic also crystallised the idea, which had already been gaining traction in the academic literature, that fiscal and monetary policies can be strongly complementary in the case of large shocks, not least by creating additional space for each other.

In certain situations, fiscal and monetary policies in the euro area may nevertheless sometimes need to work towards different goals. A congruent policy mix is not always the best response, in particular in the case of large supply shocks, such as the recent energy crisis. Fiscal policy can in this case be effective at addressing specific supply constraints and supporting vulnerable households and firms (providing further evidence of the benefits of rapidly developing new, targeted instruments), while monetary policy can help keep inflation expectation well anchored. As Bartsch et al. (2020) ⁽⁵⁵⁾ say *'the desirable monetary-fiscal mix depends on circumstances, and there is a priori no universal ranking according to which a congruent mix would be always and everywhere better than a divergent mix or vice versa'*.

⁽⁵⁴⁾ P. Deb, D. Furceri, J.D. Ostry, N. Tawk, and N. Yang (2021), "The Effects of Fiscal Measures During COVID-19," IMF WP/21/262, available: <https://www.imf.org/-/media/Files/Publications/WP/2021/English/wpiea2021262-print-pdf.ashx>.

⁽⁵⁵⁾ *Op. cit.*

Annex

Table V.1: The ECB's non standard measures

Policy tool	Acronym	Timeline	Definition
Fixed-rate tender full allotment		during the financial crisis and then after 2010	A fixed-rate full allotment tender procedure was adopted for all refinancing operations. <i>Cour-Thimann and Winkler, 2013</i>
Currency swap agreements			The Eurosystem temporarily provided liquidity in foreign currencies, at various maturities, and against euro-denominated collateral. <i>Cour-Thimann and Winkler, 2013</i>
Covered bond purchase programme	CBPP	June 2009 and June 2010	The Eurosystem committed to purchasing covered bonds denominated in euro and issued in the euro area for a total value of €60 billion. <i>Cour-Thimann and Winkler, 2013</i>
Securities market programme	SMP	May 2010 to September 2012	Intervention by the ECB in public and private debt securities markets to ensure depth and liquidity in malfunctioning segments of the debt securities markets and to restore an appropriate functioning of the monetary policy transmission mechanism. No injection of liquidity as fully sterilised by selling other bonds or bills. <i>ECB, 2010</i>
Outright monetary transactions	OMTs	September 2012	Commitment by the ECB to buy risky sovereign debt in stressed secondary sovereign bond markets of bonds issued by euro-area countries under certain conditions. No injection of liquidity as fully sterilised by selling other bonds or bills. <i>ECB, 2012</i>
Forward guidance	FG	July 2013–2019	ECB provides guidance about their expectation for future policy rates based on its assessment of the outlook for price stability to safeguard appropriate monetary policy transmission. <i>ECB, 2014a, b</i>
Negative interest rate policy	NIRP	June 2014–2019	ECB introduces negative ECB deposit facility rate (DFR) to incentivise bank lending to real economy. <i>ECB, 2014a, b</i>
Targeted long-term refinancing operations	TLTROs	June 2014–2019	ECB offers longer-term loans to banks at favourable costs and encourages them to lend to businesses and consumers in the euro area. <i>ECB, 2021</i>
Asset purchase programmes	APPs	October 2014–2019	The ECB purchases private and public sector assets from investors such as pension funds and banks. This compress yields across several markets and across the entire yield curve, increases asset values and makes lending more attractive for banks. Liquidity injection. <i>ECB, 2016</i>

Source: ECB and European Commission Staff.

Table V.2: **COVID-19 temporary emergency measures (% GDP)**

	2020		2021		2022	
	EXP	REV	EXP	REV	EXP	REV
BE	4.0	-0.5	2.6	-0.3	0.4	0.0
DE	2.2	-0.4	3.9	-0.3	0.8	0.0
EE	1.1	0.0	2.3	0.0	0.0	0.0
IE	3.7	0.0	2.8	0.0	0.7	0.0
EL	5.8	-1.7	5.5	-1.0	1.0	-0.4
ES	4.0	0.8	3.2	0.1	0.5	0.0
FR	3.3	0.0	2.6	0.0	0.5	0.0
HR	2.1	0.0	1.3	0.0	0.1	0.0
IT	3.9	-0.4	3.4	0.0	1.1	0.0
CY	2.9	-0.7	2.6	-0.3	0.3	0.0
LV	2.2	-0.5	4.9	-0.1	1.2	0.0
LT	1.4	-0.1	0.4	-0.1	0.2	-0.2
LU	2.0	-0.4	0.7	0.0	0.1	0.0
MT	5.2	-0.6	3.1	-0.2	0.9	0.0
NL	2.4	0.0	1.8	0.0	0.3	0.0
AT	4.0	-0.7	3.6	-0.7	0.5	-0.3
PT	1.9	0.0	2.0	0.0	0.7	0.0
SI	4.8	0.0	4.1	0.0	1.0	0.0
SK	2.2	-0.1	3.2	0.0	0.8	0.0
FI	2.3	-0.4	2.0	0.0	0.2	0.0
EA	3.1	-0.2	3.2	-0.1	0.7	0.0

Source: European Commission 2024 spring forecast.

Table V.3: **Energy support measures**

	Budgetary cost (levels in % GDP)				
	2021	2022	2023	2024	2025
BE	0.0	0.8	0.4	0.0	0.0
DE	0.0	1.2	1.2	0.1	0.0
EE	0.1	0.7	0.3	0.0	0.0
IE	0.0	0.5	0.4	0.1	0.0
EL	0.5	2.8	0.0	0.1	0.1
ES	0.1	1.6	0.9	0.2	-0.1
FR	0.1	0.9	0.9	0.2	0.0
HR	0.0	1.8	1.9	0.6	0.0
IT	0.3	2.4	1.0	0.0	0.0
CY	0.1	0.6	0.4	0.3	0.0
LV	0.0	1.6	1.0	0.0	0.0
LT	0.0	1.2	0.3	0.0	0.0
LU	0.0	0.7	0.9	0.5	0.3
MT	0.5	2.3	1.7	2.0	1.0
NL	0.0	0.7	1.0	0.1	0.0
AT	0.0	1.3	1.4	0.4	0.1
PT	0.0	2.0	0.9	0.6	0.5
SI	0.0	1.0	1.4	0.1	0.0
SK	0.0	0.2	2.1	0.4	0.0
FI	0.0	0.1	0.2	0.0	0.0
EA	0.1	1.3	1.0	0.1	0.0

Source: European Commission 2024 spring forecast.

VI. THE EURO: CHARTING THE NEXT DECADE AHEAD

By Alessio Terzi

Abstract: *Since it was created over a quarter of a century ago, the euro has served Europeans well, promoting trade and investment, and by and large guaranteeing price stability. It has proven resilient to shocks, including a global financial crisis, the euro area crisis, a global pandemic and an energy crisis. As a result, it remains an attractive currency used today by 20 Member States, up from the 11 initial Member States in 1999. Looking ahead over the next decade, the euro will need to navigate several mega trends. They include rising geopolitical tensions, climate change, the digital/AI revolution and population ageing. This chapter aims to sketch out how these mega trends could affect the EU's economic and monetary union and its institutions and to distil some high-level policy implications for the years to come. ⁽¹⁾*

VI.1. INTRODUCTION

The euro is a comparatively young currency, now entering its mid-20s. For over a quarter of a century, the euro has served Europeans well, promoting trade and investment, and more fundamentally guaranteeing price stability even in the face of very large shocks. These included the global financial crisis, the euro area crisis, a global pandemic and an energy crisis. Over the quarter of a century, the common currency has preserved its attractiveness, going from 11 initial Member States in 1999 to 20 today, with the latest member – Croatia – joining in 2023. More members are likely to join over the coming decade. Public opinion in the euro area also remains supportive of the single currency. ⁽²⁾

Is the remarkable resilience of the euro discussed in detail in the previous chapters of this publication here to stay, or will it prove once again to be a fleeting period of exuberance? What challenges and opportunities is the euro likely to encounter over the next 10 years, as it becomes a mature currency, and what will they imply? Going back to the famous categorisation by US Secretary of Defence Donald Rumsfeld, ⁽³⁾ there are plenty of unknown unknowns – idiosyncratic shocks that will take place but that cannot be credibly foreseen – but also several known unknowns – mega trends that we know are at play and will certainly affect the euro area.

This chapter delves into a set of known mega trends, discussing each in turn and what they might imply for the euro area, the EU and for economic policies over the next 10 years. The trends include increasing geopolitical tensions (Section VI.2), climate change (Section VI.3), the digital revolution and artificial intelligence (Section VI.4), and an ageing population (Section VI.5). Section VI.6 sets out some concluding remarks. ⁽⁴⁾ The chapter draws on existing literature and expert judgement, in line with modern foresight practices. ⁽⁵⁾ It should therefore not be read as a forecast but rather as a set of considerations on possible scenarios ahead. Nonetheless, this chapter aims to sow some seeds for a debate on the broad European economic policy agenda for the decade to come. After all, to quote Benjamin Franklin, 'By failing to prepare, one is preparing to fail'.

VI.2. INCREASINGLY TENSE GEOPOLITICAL ENVIRONMENT

Just like national politics, geopolitical developments are incredibly hard to predict. However, it is worth starting off from the geo-economic trends that are very likely to continue over the next decade. This includes a further shift in the economic centre of gravity towards the East, notably China and India, and a

⁽¹⁾ This section represents the author's views and not necessarily those of the European Commission. Box VI.1 was drafted by Nikolay Gertchev.

⁽²⁾ Eurobarometer, 'Flash Eurobarometer 538 The Euro Area – October 2023' (Brussels, 2023): <https://doi.org/10.2765/40322>.

⁽³⁾ US Department of Defence News Briefing – Secretary Rumsfeld and Gen. Myers News Transcript, 12 February 2002.

⁽⁴⁾ While rising levels of public debt can arguably be considered another mega trend at play, both in Europe and the wider world, it is not discussed in a separate section, given it received significant attention in Chapter V of this report.

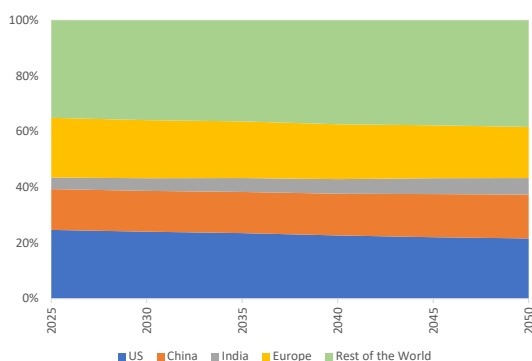
⁽⁵⁾ European Commission, 'Strategic Foresight Report 2023' (Brussels, 2023), 2023 Strategic Foresight Report – European Commission: https://commission.europa.eu/strategy-and-policy/strategic-foresight/2023-strategic-foresight-report_en.

further relative decline of the West's share of global GDP.⁽⁶⁾ Nonetheless, most available long-term projections suggest the Chinese economy will not surpass the US in monetary terms over the foreseeable future, suggesting that America's economic and geopolitical influence will remain strong.⁽⁷⁾

As displayed in Graph VI.1, instead of seeing the rise of a single economic hegemon, the world is likely to be edging towards a multipolar setup, with at least three large economic blocs: the US, China and Europe.⁽⁸⁾ Aside from this, there will be strong economic powers in individual regions of the world, capable of acting as a local regional power. Based on current long-term macroeconomic projections, these could include Brazil in Latin America, Turkey, Saudi Arabia, the United Arab Emirates and Iran in the Middle East, India and Indonesia in South-East Asia, and Nigeria in Africa.⁽⁹⁾

Europe's geopolitical landscape is likely to continue evolving with changes to global trade patterns, fluctuating alliances, and the relative decline of traditional powers. All this could lead to a reevaluation of trade agreements, defence policies and diplomatic strategies, particularly in response to rising powers such as China and changing relationships with the United States on one side and Russia on the other.⁽¹⁰⁾

Graph VI.1: Share of global GDP, 2025-2050



Note: Estimates are based on real GDP in 2017 dollars. Projections are taken from the Shared Socioeconomic Pathways under SSP3. Europe is composed of the EU27 and the United Kingdom.

Source: Author, based on OECD data.

In this context, with the US no longer capable or willing to dedicate substantial financial and military resources to have a superiority in all regions, conflictual situations with state and non-state actors are more likely to emerge, including at Europe's borders. Russia's 2022 invasion of Ukraine has served as a powerful reminder that European countries must start spending more on defence and invest in their national security, to guarantee a degree of strategic autonomy. Crucially for Europe, there is a bipartisan belief in Washington that the US should continue its strategic pivot to Asia to focus on the perceived competition from China.⁽¹¹⁾ This trend is very likely to extend into the coming decade and require an increasing amount of defence spending for Europe.

The challenge of allowing defence spending to rise while maintaining prudent fiscal policy is likely to test the new European fiscal rules over the coming years, as the new rules take into account the need for increased defence spending, but only to some extent. At European level, should there be a decision to jointly finance public goods to a larger extent,⁽¹²⁾ defence would be a prime candidate.⁽¹³⁾ At any rate, the euro will need to safeguard a smooth access to financial markets for sovereigns and the EU.

Another important element relates to industrial policy and strategic autonomy. In a world where supply chains can be weaponised, a strong argument can be made in favour of industrial policy aimed at

⁽⁶⁾ D. Quah "The Global Economy's Shifting Centre of Gravity," *Global Policy* 2, No 1 (2011): 3-9, <https://doi.org/10.1111/j.1758-5899.2010.00066.x>; R. Baldwin, *The Great Convergence*, First (Cambridge, Massachusetts: Harvard University Press, 2016).

⁽⁷⁾ The Economist, "Is Chinese Power about to Peak?," *The Economist*, 11 May 2023, available at: <https://www.economist.com/leaders/2023/05/11/is-chinese-power-about-to-peak>

⁽⁸⁾ M. Pierini, "Adapting to a Multipolar World", *Carnegie Endowment for International Peace*, 23 January 2024, available at: <https://carnegieendowment.org/middle-east/diwan/2024/01/adapting-to-a-multipolar-world?lang=en>.

⁽⁹⁾ National Intelligence Council, "Global Trends 2040: A More Contested World," vol. 36 (Washington D.C., 2022), Office of the Director of National Intelligence - Global Trends, <https://www.dni.gov/index.php/gt2040-home>.

⁽¹⁰⁾ G. Allison, *Destined for War: Can America and China Escape Thucydides's Trap?* (Boston: Houghton Mifflin Harcourt, 2017).

⁽¹¹⁾ R. D. Blackwill and R. Fontaine, "How the United States Can Effectively Pivot to Asia," Council on Foreign Relations, 2024, 1-6: <https://www.cfr.org/expert-brief/how-united-states-can-effectively-pivot-asia>.

⁽¹²⁾ M. Buti and G. Papaconstantinou, "European Public Goods: How Can We Supply More?," LUISS Policy Brief 3 (2022), Microsoft Word - Buti - Papaconstantinou EU public goods 21022022.docx: <https://leap.luiss.it/wp-content/uploads/2022/06/PB3.22-European-Public-Goods-How-can-we-supply-more.pdf>.

⁽¹³⁾ A. Steinbach and G. Wolff, "Debt Financing European Air Defence," Bruegel Analysis, 27 June 2024: <https://www.bruegel.org/analysis/debt-financing-european-air-defence>.

securing that sectors considered strategic are either reshored or friend-shored.⁽¹⁴⁾ In that context, it is also of primary geostrategic importance to ensure that Europe remains at the technological frontier, favouring not only research and innovation, but also the conversion of such knowhow into marketable products.⁽¹⁵⁾ To this end, as illustrated in Chapter IV, completing the capital markets union has implications for strategic autonomy, and it helps strengthen the single market and the euro area architecture.⁽¹⁶⁾ Likewise, creating a digital euro reduces the risk that the threat of sanctions through the financial payment architecture reduces Europe's strategic autonomy.

Other implications of the multipolar scenario sketched out above are that use of the dollar and the euro could decline as a share of all currencies used in the international monetary system. Over one quarter of a century, the euro has preserved its attractiveness, used initially by 11 Member States in 1999 and growing to 20 in 2023, with the membership of Croatia (see Box 1). More members are likely to join over the coming decade. Indeed, public opinion in the euro area is also very supportive, as a very strong majority (79%) feels that adopting the euro has been positive both for the EU and for their own country (69%).⁽¹⁷⁾

However, the weaponisation of trade and financial linkages in an increasingly tense geopolitical environment could increase the international use of other currencies, including the Chinese renminbi. At the same time, although the international role of the euro might be diminished at global level, it could be deepened within Europe's economic orbit, in an increasingly fragmented world trade order. 'Friend-shoring' could in other words call for a deeper regional role of the euro, potentially with more fixed-exchange rate regimes pegged to the euro or the need for more swap lines. The open question at this stage is evidently which countries will fall within the 'European economic orbit'.

It is also worth highlighting that, all other things being equal, a push to re-shoring or friend-shoring will lead to some degree of inflationary pressure, in a way reversing some of the previous benefits of globalisation.⁽¹⁸⁾ As such, the euro and its institutions, starting from the ECB, will have to fight structural supply-side-driven inflationary pressure over the coming years as a result of the new geopolitical environment.⁽¹⁹⁾

⁽¹⁴⁾ A. Terzi, A. Singh, and M. Sherwood, "Industrial Policy for the 21st Century: Lessons from the Past," *European Economy*, vol. 157 (Brussels, 2022): <https://doi.org/10.2765/538421> - R. Cherif and F. Hasanov, "The Return of the Policy That Shall Not Be Named: Principles of Industrial Policy," *IMF Working Papers* 19, No 74 (2019): 1: <https://doi.org/10.5089/9781498305402.001>; M. Draghi, "The Future of European Competitiveness" (Brussels, 2024): https://commission.europa.eu/topics/strengthening-european-competitiveness/eu-competitiveness-looking-ahead_en.

⁽¹⁵⁾ European Commission, "Science, Research and Innovation Performance of the EU 2024: A Competitive Europe for a Sustainable Future," (Brussels, 2024): <https://doi.org/10.2777/965670>.

⁽¹⁶⁾ E. Letta, "Much More than a Market - Speed, Security, Solidarity," (Brussels, 2024): https://single-market-economy.ec.europa.eu/news/enrico-lettas-report-future-single-market-2024-04-10_en.

⁽¹⁷⁾ Eurobarometer, 'Flash Eurobarometer 538 The Euro Area – October 2023.'

⁽¹⁸⁾ A. Terzi, "Green Industrial Policy: The Necessary Evil to Avoid a Climate Catastrophe," in *Sparking Europe's New Industrial Revolution: A Policy for Net Zero, Growth and Resilience*, ed. Simone Tagliapietra and Reinhilde Veugelers (Brussels: Bruegel Blueprint, 2023), 106-21: <https://www.bruegel.org/book/sparking-europes-new-industrial-revolution-policy-net-zero-growth-and-resilience>

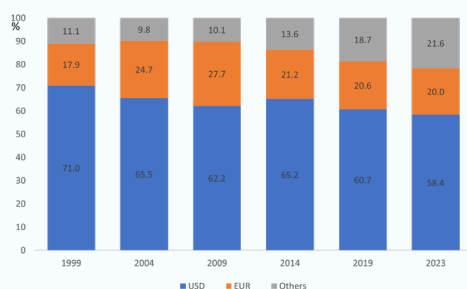
⁽¹⁹⁾ M. Draghi, "Economic Policy in a Changing World," *Business Economics* 59, No 2 (2024): 73-77: <https://doi.org/10.1057/s11369-024-00357-3>.

Box VI.1: The International Role of the Euro in Retrospect

by N. Gertchev

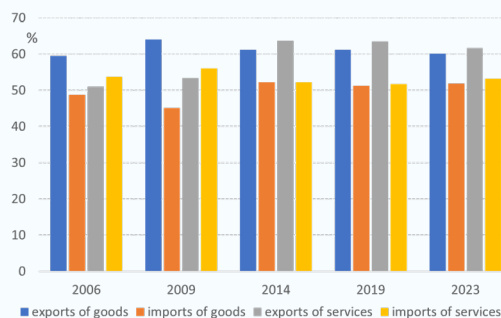
Ever since Jacques Rueff wittily referred to the US dollar having a ‘deficit without tears’ privilege under the gold-exchange standard, economists and policymakers have increasingly turned their gaze to the international role of currencies.⁽¹⁾ Indeed, currencies with a strong international role bring various benefits to their users, including lower transaction costs in trade and lower funding costs in finance. More broadly, widespread acceptability of a currency helps reduce economic uncertainty for all users and improves the efficiency of resource allocation. Although some costs may not be negligible, notably in terms of central banks’ reduced policy autonomy due to the increasing influence of external factors, overall a strong international role of a currency is considered a benefit, in part due to the more prestigious standing the role confers in foreign diplomacy. The European Central Bank has monitored the international role of the euro closely since the creation of the single currency, including through the annual publication of a report providing extensive data and analysis.⁽²⁾ This box gives a retrospective overview of how the euro has evolved internationally, notably as an official reserve asset, a means of payment in trade and a vehicle currency in finance.⁽³⁾

Graph 1: Official foreign exchange reserves, currency %



Note: All data are at the current exchange rates.
Source: IMF, own calculations

Graph 2: Invoicing share in extra-euro area transactions



Source: International Monetary Fund

At least two factors have been at play. First, the simultaneous though less extensive decline in the share of the US dollar suggests a broader trend to diversify currencies in official reserve holdings. Second, the twin euro-area banking and sovereign debt crises in the aftermath of the 2007-2009 global financial crisis (GFC) dented investor confidence in the euro. Despite notable advances in banking regulation and supervision and in crisis management since 2014, the share of the euro has continued to decline, suggesting that the scars from the GFC on the single currency might be permanent. Nonetheless, despite the current geo-political context of heightened uncertainty and economic fragmentation, the euro has managed to maintain its international standing. This is an undeniable sign of resilience also considering that, over the last 10 years, the euro’s share has eroded at a much slower rate than the erosion of the dollar’s share in foreign reserves.

- (1) Rueff coined the catchy term in 1961 to summarise the main feature, and weakness, of the gold-exchange standard. He de facto predicted that system’s implosion 10 years ahead of the major events that led to the current monetary regime of multiple national fiat currencies with various degrees of international acceptability.
- (2) The 2024 issue of that report, which appears to be significantly reduced in both scope and content, can be found here <https://www.ecb.europa.eu/pub/pdf/ire/ecb.ire202406-0b56ba4f71.en.pdf>.
- (3) These three aspects of the international role of the euro embody the three generally admitted main monetary functions, i.e. store of value (reserve asset), unit of account (vehicle currency in finance) and medium of exchange (means of payment in trade).

(Continued on the next page)

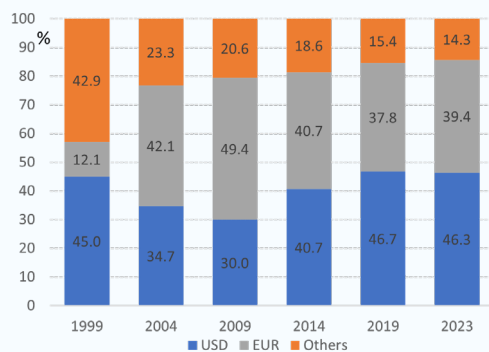
Box (continued)

The euro has consolidated its role as a trusted means of payment in international trade. Since 2023, over 60% of euro-area exports of goods and services with the rest of the world are invoiced in euro. While the share of exports of goods in euro fell slightly from 64.1% in 2009 to 60.2% in 2023, the share of exports of services rose from 53.4% to 61.7% over the same period (see Graph 2). However, the euro's shares of invoicing extra-euro-area trade in imported goods and services are almost 10 pp. lower, at 51.9% and 53.2% respectively in 2023 since the early 2000s.

Although the euro has not succeeded in significantly increasing its take-up as an international trade currency, it has shown remarkable stability against the backdrop of other blocks' aspirations to global prominence. Moreover, the wider use of the euro in exports than in imports (even if partly due to the fact that the euro area is a net energy importer and energy trade is still predominantly invoiced in US dollars) suggests that the single currency has played a major role in fostering the euro area's export performance. The euro has maintained broad regional outreach as the de facto currency in Kosovo and Montenegro, and as the ultimate anchor currency for the 14 central and western African countries and the Comoros that are members of the former French franc zone.

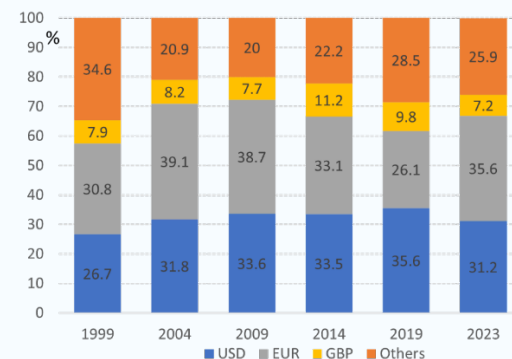
Since its creation, the euro has made great progress as a vehicle currency for accessing international debt finance. The share of international debt securities denominated in euro has increased remarkably from 12.1% in 1999 to almost 50% in 2009 (see Graph 3). During its first 10 years, the euro outpaced all other currencies, including the dominant US dollar. However, in the aftermath of the GFC, the share of the euro fell by almost 10 pp. and has remained stable at about 40% since then. Meanwhile, the US dollar has recovered its dominant position in international debt markets, first outcompeting the euro by 2014 and then replacing other currencies since 2014. Nevertheless, in retrospect, the euro successfully consolidated its standing as the second most preferred currency for issuing debt. As a consequence, the level of euro-related interest rate risks in the market have helped expand the euro segment of derivative markets. With a share of between 30% and 40% of over-the-counter interest-rate derivatives, the euro has consistently battled for first place with the US dollar since it was created (see Graph 4).

Graph 3: Breakdown of international debt securities by currency



Source: Bank for International Settlements

Graph 4: Breakdown of over-the-counter interest-rate derivatives by currency



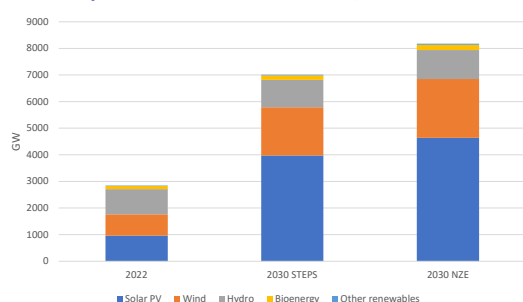
Source: Bank for International Settlements

This retrospective overview of the international role of the euro shows that the single currency has achieved a good standing and overall stability over its 25-year history. The international appeal of the euro increased notably over its first decade, before quickly receding in the aftermath of the global financial crisis. Today, however, from all angles, the international role of the euro appears stronger, albeit only marginally in some areas, than when it was created. Needless to say, currencies make only slow and difficult gains in their international standing as this essentially depends on preferences, habits, risk perceptions and network effects that are intrinsically difficult to change.

VI.3. CLIMATE CHANGE

Among the known mega trends, climate change is the one that will most probably dominate the first half of the 21st century. ⁽²⁰⁾ Over the next decade, Europe’s commitment to reaching net zero by 2050 will demand an increased shift to renewable energy sources, electrification and phasing out fossil fuels.⁽²¹⁾ As Graph VI.2 indicates, this energy transition will be underpinned by significant investment in renewable energy infrastructure such as wind, solar and hydroelectric power, improvements in battery technology and greater electric vehicle (EV) usage. ⁽²²⁾ This implies that new sectors will emerge and thrive, such as battery production, EVs and electrolyzers, while others will lag behind, dwindle and progressively be phased out. ⁽²³⁾ This is highly likely to have an asymmetric effect across euro area countries, depending on their current industrial specialisation and their capacity to manage the transition successfully.

Graph VI.2: **Installed renewables capacity by technology in advanced economies and China in the stated policies and net zero scenarios, 2022-2030**



Note: STEPS indicates stated policies.
Source: International Energy Agency.

At the same time, despite Europe’s best efforts, climate change will continue to cause effects in the form of a higher frequency of extreme weather events and frequent wildfires over the next decade. ⁽²⁴⁾ From an economic policy perspective, due to frequent extreme weather events, desertification, or diversified exposure to flooding, euro area countries will effectively be more exposed to exogenous asynchronous shocks. As a result, significant investments in adaptation will be needed, to ensure climate resilience. ⁽²⁵⁾

In this context, there is a stronger argument for greater centralised European burden sharing, from a risk sharing perspective. ⁽²⁶⁾ A diversified exposure to climate-related events will also have an uneven effect on national public finances ⁽²⁷⁾ and consequently the perceived sovereign risk of different euro area members.⁽²⁸⁾ Against this background, once again, there is a growing argument in favour of completing the economic and monetary union over the coming decade in order to avoid the repetition of the risk contagion and fragmentation dynamics observed during the 2010 sovereign debt crisis.

The effects of climate change are likely to affect a broad set of prices, but so are the policies aimed at mitigating or adapting to climate change. This is particularly true for food and energy prices, ⁽²⁹⁾ and will originate in a temporary mismatch between demand and supply of certain goods. For instance, in the

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⁽²⁰⁾ A. Terzi, *Growth for Good: Reshaping Capitalism to Save Humanity from Climate Catastrophe* (Cambridge, Massachusetts: Harvard University Press, 2022); Pisani-Ferry J., “Climate Policy Is Macroeconomic Policy, and the Implications Will Be Significant,” PIIE Policy Brief, 2021, 1-15.

⁽²¹⁾ Systemiq, ‘The Paris Effect’ (London, 2020): https://www.systemiq.earth/wp-content/uploads/2020/12/The-Paris-Effect_SYSTEMIQ_Full-Report_December-2020.pdf.

⁽²²⁾ International Energy Agency, ‘Net Zero by 2050: A Roadmap for the Global Energy Sector’ (Paris, 2021): <https://www.iea.org/reports/net-zero-by-2050>.

⁽²³⁾ A. Terzi and R. Fouquet, “The Green Industrial Revolution: Lessons from the History of Past Energy Transitions,” *EconPol Forum* 24, No 6 (2023): 16-22.

⁽²⁴⁾ M. E. Mann, *The New Climate War: The Fight to Take Back Our Planet* (New York: PublicAffairs, 2021); P. Wadhams, *A Farewell to Ice: A Report from the Arctic* (London: Allen Lane, 2017); IPCC, “Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change,” 2021: <https://www.ipcc.ch/report/ar6/wg1/>.

⁽²⁵⁾ M. E. Kahn, *Adapting to Climate Change: Markets and the Management of an Uncertain Future* (New Haven, Connecticut: Yale University Press, 2021).

⁽²⁶⁾ K. Lenaerts, S. Tagliapietra, and G. Wolff, “How Can the European Union Adapt to Climate Change While Avoiding a New Fault Line?,” Bruegel Policy Contribution, No 11/22 (2022): <https://op.europa.eu/en/publication-detail/-/publication/c683268c-3cdc-11ef-ab8f-01aa75ed71a1/language-en>.

⁽²⁷⁾ N. Gagliardi, P. Arévalo, and S. Pamies, “The Fiscal Impact of Extreme Weather and Climate Events: Evidence for EU Countries,” *European Economy Discussion Papers* 8022, no. July (2022): <https://doi.org/10.2765/867213>.

⁽²⁸⁾ P. Klusak, M. Agarwala, M. Burke, M. Kraemer, K. Mohaddes, “Rising Temperatures, Falling Ratings: The Effect of Climate Change on Sovereign Creditworthiness,” *Management Science* 69, No 12 (2023): 7468-91: <https://doi.org/10.1287/mnsc.2023.4869>.

⁽²⁹⁾ C. Buelens, (2023) “Climate Change and Its Impact on Prices and Inflation,” *Quarterly Report on the Euro Area* 23, No 1, 23-40.

short and medium term, higher demand for green energy might run into temporary supply constraints associated with green minerals, producing what is termed ‘greenflation’.⁽³⁰⁾ Focusing on euro area economic policy, inflation is likely to become harder to interpret and forecast. This may in turn affect inflation expectations and create more uncertainty in macroeconomic policymaking. Over the medium to long term, the green transition is expected to lower prices,⁽³¹⁾ not least since renewable energy is set to become ‘the cheapest electricity source in history’.⁽³²⁾

Beyond Europe’s borders, similar developments will be at play. Smaller countries and weaker economies will be less prepared to deal with the heterogeneous shocks associated with climate change, leading to more frequent fiscal, monetary or balance of payment crises.⁽³³⁾ In light of this, it is not impossible to rule out that small nations in Europe’s proximity will try to stabilise their currency by pegging it to the euro, establishing currency boards or even taking the step of unilaterally adopting the euro altogether. In countries that do not have the means to invest heavily in adaptation, we can expect migration to increase, including towards Europe’s borders,⁽³⁴⁾ with significant economic and political consequences.

A challenge for the euro will also stem from climate-related financial risks. For instance, the green transition will be associated with the rapid depreciation of fossil-related investments and significant consequent write-downs on euro area balance sheets.⁽³⁵⁾ At the same time, the preliminary empirical evidence suggests that the economic system is flexible enough to minimise the risk of stranded assets becoming a major concern.⁽³⁶⁾ At any rate, the key is to provide transparency at an early stage. Recent stress-testing exercises run by the European Banking Authority, the Single Supervisory Mechanism and the ECB aim to highlight climate vulnerabilities, giving financial institutions the time to act early and avoid sudden write-offs, which would trigger turbulence in the euro area financial system.

VI.4. THE DIGITAL REVOLUTION AND ARTIFICIAL INTELLIGENCE

Digitalisation is likely to accelerate over the coming decade, also thanks to the roll-out of generative artificial intelligence (AI) across a range of industries. This trend will draw on the application of large language models, and evidently extends also to big data analytics and the internet of things. A debate is still ongoing on the likely impact of AI on productivity growth and GDP. Goldman Sachs,⁽³⁷⁾ for instance, predicts that generative AI will boost global GDP by 7% over the next decade. In an IMF analysis, Cazzaniga et al. (2024)⁽³⁸⁾ expect that, in advanced economies, about 60% of jobs will be impacted by AI. Roughly half of these affected jobs may benefit from AI integration, enhancing productivity.

Others are more cautious, estimating that AI will increase total factor productivity by only 0.66% over 10 years because the share of jobs affected will be smaller than expected. Nonetheless, irrespective of the aggregate numbers, AI is not expected to spread its benefits evenly.⁽³⁹⁾ For instance, Cazzaniga et al.⁽⁴⁰⁾

⁽³⁰⁾ Speech by Isabel Schnabel, Member of the Executive Board of the ECB, at a panel on ‘Monetary Policy and Climate Change’ at The ECB and its Watchers XXII Conference, Frankfurt am Main, 17 March 2022.

⁽³¹⁾ A. Terzi, ‘The Green Industrial Revolution: Consequences and Policies’ (Cambridge, United Kingdom, 2024): <https://www.bennettinstitute.cam.ac.uk/publications/green-industrial-revolution-consequences-and-policies/>.

⁽³²⁾ International Energy Agency, ‘Renewables 2020’ (Paris, 2020).

⁽³³⁾ I. Noy, T. Okubo, E. Strobl and T. Tveit., ‘The Fiscal Costs of Earthquakes in Japan,’ *International Tax and Public Finance* 30, No 5 (31 October 2023): 1225-50: <https://doi.org/10.1007/s10797-022-09747-9>.

⁽³⁴⁾ G. Vince, *Nomad Century: How to Survive the Climate Upheaval* (New York: Allen Lane, 2022).

⁽³⁵⁾ G. Semieniuk, P.B. Holden, J. Mercure, P. Salas, H. Pollitt, K. Jobson, P. Vercoulen, U. Chewpreecha, N.R. Edwards and J.E. Viñuales., ‘Stranded Fossil-Fuel Assets Translate to Major Losses for Investors in Advanced Economies,’ *Nature Climate Change* 12, No 6 (2022): 532-38: <https://doi.org/10.1038/s41558-022-01356-y>.

⁽³⁶⁾ H. Hong, J. Kubik, and E. Shore, ‘The Cost of Climate Policy to Capital: Evidence from Renewable Portfolio Standards,’ NBER Working Paper, 2023: <https://www.nber.org/papers/w31960>

⁽³⁷⁾ Goldman Sachs (2023), ‘Generative AI Could Raise Global GDP by 7%,’ *Insights*, 5 April 2023: <https://www.goldmansachs.com/insights/articles/generative-ai-could-raise-global-gdp-by-7-per-cent.html>.

⁽³⁸⁾ M. Cazzaniga, F. Jaumotte, L. Li, G. Melina, A. J. Panton, C. Pizzinelli, E. J. Rockall, and M. Mendes Tavares (2024), ‘Gen-AI: Artificial Intelligence and the Future of Work,’ IMF Staff Discussion Note: <https://doi.org/10.1017/9781788216258.021>.

⁽³⁹⁾ M. Spence, ‘AI’S Promise for the Global Economy,’ *Finance and Development* (Washington D.C., September 2024): <https://www.imf.org/en/Publications/fandd/issues/2024/09/AIs-promise-for-the-global-economy-Michael-Spence>.

conclude that AI applications may be able to carry out some key tasks currently performed by humans, which could lower labour demand for those professions, driving down wages and reducing hiring. In the most extreme cases, some of these jobs may disappear.

In the euro area, the challenges and opportunities stemming from the digital revolution and AI should be apparent. While some countries and sectors might benefit, others could end up on the losing end. According to preliminary analyses, richer and more educated countries are set to benefit the most from a roll-out of AI. ⁽⁴¹⁾ By contrast, job losses could be concentrated in specific regions, countries and sectors, leading to short-term unemployment increases, requiring significant re-skilling and up-skilling. All in all, AI could increase disparities within the euro area and become a common shock with uneven outcomes. This would clearly be a concern within a monetary union. Given that richer Member States are expected to reap the most benefits, AI could promote agglomeration effects and could also increase divergence within the EU.

On the upside, a high degree of automation and digitalisation over the coming decade could contribute to significant cost reductions and lower prices for a variety of products and services. In other words, digitalisation could represent a disinflationary shock for the euro area, akin to what was seen during the zenith of globalisation. Evidently, this is something that monetary authorities in Europe and beyond will be monitoring. In an ageing continent, AI and robotisation could also help cushion the blow of a fall in the working-age population.

Finally, as our economy becomes more digitalised, new vulnerabilities will emerge. This became apparent during the COVID-19 pandemic, when a dearth of microchips proved to be a wake-up call to realise how central digitalisation is to a host of crucial activities and production lines across Europe. Cyber-attacks will also become a potential source of macroeconomic shocks, suggesting that euro area resilience will also require monitoring these vulnerabilities from an economic policy perspective. The rationale for common investments on cyber security is akin to common defence expenditure, as discussed in Section VI.2, or to the rationale for setting up a Single Supervisory Mechanism, given the strong potential for intra-EU spillovers. This also applies specifically to the financial system.

To conclude, and to echo the pattern illustrated in the geopolitical section above, there are strong reasons to suspect that economic policy shocks over the next decade will stem more from the supply than from the demand side, ⁽⁴²⁾ at least more so than in the first 25 years of the euro. They are therefore likely to require different policy reactions by the policy makers.

VI.5. AGEING POPULATION

Based on the latest demographic projections, Europe's population is expected to continue to grow until 2026 and then start to contract. ⁽⁴³⁾ This implies that the next 10 years of the euro will feature the beginning of demographic decline. Europe has one of the oldest populations in the world, a trend that is expected to deepen over the next decade. The EU's old-age dependency ratio (i.e. the number of people aged 65 or older per 100 people of working age) has risen about 29% in 2010 to 36% in 2022, and will rise further to 59% in 2070, with most of the increase expected by 2045. In other words, the EU will go from having nearly 30 people aged 20 to 64 for every 10 people aged over 65 years in 2022, to having less than 20 people by 2045.

On some level, an ageing population is a sign of success, as progress in medicine now enables people to live longer lives. However, the increasing number of elderly citizens will have a significant impact on elderly care, healthcare demand and on pension systems. It may also lead to labour market challenges, necessitating adjustments in migration policies, the retirement age and workforce training to maintain

⁽⁴⁰⁾ Op. Cit.

⁽⁴¹⁾ C. Alonso, A. Berg, S. Kothari, C. Papageorgiou, and S. Rehman (2020), "Will the AI Revolution Cause a Great Divergence?," IMF Working Paper 49734: <https://www.imf.org/en/Publications/WP/Issues/2020/09/11/Will-the-AI-Revolution-Cause-a-Great-Divergence-49734>.

⁽⁴²⁾ M. Draghi, 'Economic Policy in a Changing World.' Op. Cit.

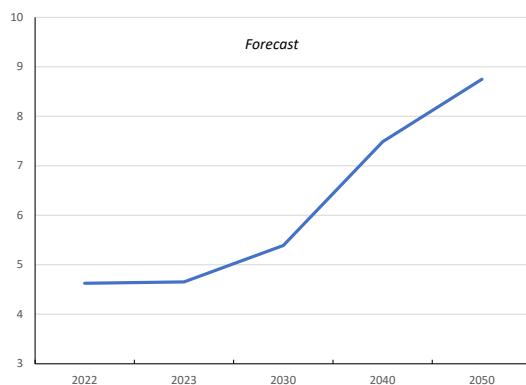
⁽⁴³⁾ European Commission, "2024 Ageing Report. Economic and Budgetary Projections for the EU Member States (2022-2070)," Institutional Paper 279, vol. 279 (Brussels, 2024): <https://doi.org/10.2765/022983>.

economic vitality, and more generally on the politics of each country. As things stand, the number of people in the labour force is projected to fall by 12% (25 million people) between 2022 and 2070 in the EU or by 0.3% a year. In several Member States, the labour force is set to shrink by more than a quarter by 2070.

All other things being equal, from an economic policy perspective, in the short term this will exert structural upward pressure on employment and wages that will require policy adjustments. This strengthens the recent argument by Goodhart and Pradhan, ⁽⁴⁴⁾ describing how an ageing population will de-save and contribute to inflationary pressure. Moreover, ageing will weigh on GDP growth, with labour making a negative contribution to GDP by the late 2020s.

These aspects will all represent a challenge for euro area policymakers, including both monetary and fiscal authorities. For the latter, a smaller labour force implies a lower income tax base, forcing governments to look for fresh revenue streams.⁽⁴⁵⁾ It is worth highlighting that the problem is augmented by the uneven pace at which ageing will take place across euro area countries (Graph VI.3). Italy for instance is expected to lose 5 percentage points in its share of working age population between 2022 and 2040, against only 0.6 percentage points in Ireland. Eastern European countries that are likely to adopt the euro in the near future, such as Bulgaria, have also been experiencing very fast population contractions.

Graph VI.3: **Standard deviation in old-age dependency ratios, euro area countries**



Notes: Old-age dependency ratio calculated as the ratio between population aged 65 and above over the population aged between 15-64.

Source: Author, based on Eurostat data.

What this implies is that ageing is a common but heterogeneous shock that will impact potential growth and political preferences across euro area Member States. In other words, ageing could contribute to economic divergence in the monetary union, increasingly so as euro area membership expands. Looking beyond EU borders, ageing could at least partially be offset by relaxing immigration rules into Europe. However, for this strategy to be successful, this would need to go hand in hand with a smart integration policy. Since this falls squarely within national prerogatives, extra-EU immigration is also highly likely to have mixed rates of success across euro area countries, potentially contributing to economic and political divergent dynamics within the euro area.

Ageing will also have significant indirect economic impacts. The clearest impact will be on public finances, as an ageing population will require greater public spending on healthcare and pensions, with repercussions on the debt-to-GDP ratio and fewer resources available for investment. The pace of ageing is such that past welfare promises made cannot be credibly maintained and will need substantial reforms,

leading most likely to protests⁽⁴⁶⁾ and making the political economy of structural reform tense over the decade to come.⁽⁴⁷⁾

For this reason, the success of the new EU fiscal rules will be measured not only in terms of promoting fiscal discipline, but also in terms of managing to promote (or at least does not hinder) the investments and structural reforms needed to modernise economies.

⁽⁴⁴⁾ C. Goodhart and M. Pradhan (2020), *The Great Demographic Reversal: Ageing Societies, Waning Inequality, and an Inflation Revival* (New York: Palgrave Macmillan).

⁽⁴⁵⁾ European Commission, 'Annual Report on Taxation' (Brussels, 2024): <https://doi.org/10.2778/10846>.

⁽⁴⁶⁾ W. Streeck, *How Will Capitalism End?: Essays on a Failing System* (London: Verso, 2016).

⁽⁴⁷⁾ A. Terzi, "The Political Conditions for Economic Reform in Europe's South," in *Economic Crisis and Structural Reforms in Southern Europe*, ed. P. Manasse and D. Katsikas (London: Routledge, 2017), 18.

Other, less discussed indirect impacts of an ageing population are a fall in dynamism in the economy, less risk-taking, and therefore a progressive brake on innovation and productivity growth.⁽⁴⁸⁾ This extends to skills, which become harder to develop with age, meaning that this could also curb the speed of technological adoption, particularly the digital transition.⁽⁴⁹⁾ Some early evidence already suggests that generative AI is being used proportionately less in Europe than in other parts of the world because of the older age profile of our continent.⁽⁵⁰⁾ All in all, ageing could reduce the upside for the digital transition discussed in Section VI.4, and it could increase the downside economic risks for the euro area.

VI.6. CONCLUSION

The euro has proved to be a solid currency. Over a quarter of a century of existence, it has served Europeans well, promoting trade and investment, and by and large guaranteeing price stability. As a result, the euro remains an attractive currency, used initially by 11 Member States and rising to 20 today. More members are likely to adopt the euro over the coming decade. The euro also has strong support from a large majority of Europeans. Importantly, this is not only true today, but also during times of crisis, when European leaders proved ready to do whatever was needed to safeguard the unity of the common currency, including crossing national red lines. This is a huge source of strength for the euro. Will it be sufficient for the single currency to thrive over the next 10 years?

This chapter has provided an overview of the mega trends the euro will need to face over the coming decade. They include challenges and opportunities stemming from geopolitics, climate change, digitalisation and ageing. All in all, there are reasons to expect that, compared with previous decades and the period known as the ‘Great Moderation’,⁽⁵¹⁾ inflation volatility may be on the rise, suggesting that monetary policy authorities may face a more difficult job. In the euro area, the mega trends suggest potential tensions arising from the fiscal rules and uses of the EU budget, including joint borrowing and spending (see Chapter V).

More broadly, one question is whether increasing tensions stemming from exogenous shocks with asymmetric effects such as geopolitics and climate change will lead to greater risk sharing at EU level, and a push towards a stronger Europeanisation of economic policy, including action to complete the banking and capital market union (see Chapter III). This would hinge on a heightened degree of trust between euro area Member States. The pandemic, which triggered the unprecedented step of setting up a Recovery and Resilience Facility, gives some grounds for optimism in answering this question. The alternative scenario could be that a set of recurrent negative shocks leads to a strong rise in populism, a retreat to national policymaking, which would make it harder for regional middle powers like the largest euro area countries to navigate mega trends. More fundamentally, an open question for the decade to come is whether the euro will help foster more political integration, as originally envisioned.⁽⁵²⁾

The euro may enjoy public trust in Europe, but will it be trusted as a currency by foreigners over the coming decade? Following an initial bout of enthusiasm, the euro’s trustworthiness was temporarily weakened by the eurozone crisis (see Box 1). In future, while the euro is solidly regaining international trust, several dynamics will be at play. As discussed above, we are likely to be entering a period marked

⁽⁴⁸⁾ A. Prskawetz, B. Mahlberg, V. Skirbekk, I. Freund, M. Winkler-Dworak, T. Lindh, B. Malmberg, A. Jans, O. Skans Nordström and F. Andersson. (2006), *The Impact of Population Ageing on Innovation and Productivity Growth in Europe*, Vienna Institute of Demography, Austrian Academy of Sciences (Vienna Institute of Demography, Austrian Academy of Sciences); The Economist, “It’s Not Just a Fiscal Fiasco: Greying Economies Also Innovate Less,” The Economist, 30 May 2023: <https://www.economist.com/briefing/2023/05/30/its-not-just-a-fiscal-fiasco-greying-economies-also-innovate-less>.

⁽⁴⁹⁾ B. Deboeck, (2023), “Prospects for Long-Term Productivity Growth,” Quarterly Report on the Euro Area 2, No 1: 31-42.

⁽⁵⁰⁾ R. Fletcher and R. K. Nielsen (2024), “What Does the Public in Six Countries Think of Generative AI in News?”: <https://doi.org/10.60625/risj-4zb8-cq87>.

⁽⁵¹⁾ The Great Moderation is a period in the United States starting from the mid-1980s until at least 2007 characterised by the reduction in the volatility of business cycle fluctuations, lower inflation, positive economic growth and broad macroeconomic stability in developed nations compared with the decades before.

⁽⁵²⁾ F. P. Mongelli, E. Dorrucchi, D. Ioannou and A. Terzi “Responses to the Euro Area Crisis: Measuring the Path of European Institutional Integration,” *Journal of European Integration* 37, No 7 (2015): 769-86: <https://doi.org/10.1080/07036337.2015.1079373>.

by an increase in the weaponisation of financial ties and therefore of currencies (together with other trade links). It is not clear that the euro will be increasingly used as a reserve currency around the globe.

A significant EU debt market issuance would help create a trusted liquid euro-denominated safe asset and spur greater use of the common currency across the world. ⁽⁵³⁾ At the same time, a world marked by increasing shocks, including climate shocks and geopolitical uncertainty might boost the main incumbent low-risk low-inflation currencies in the world, including the euro. Strong trading relations with like-minded partners will also lay the foundations for a greater use of the euro. The benefits of doing so are discussed in Box VI.1.

In conclusion, and in perspective, the euro and the euro area economy seem broadly well placed to navigate the known unknown shocks likely to emerge over the next decade, provided that it adapts to the evolving context without delay. The challenges arising from the end of the 'Great Moderation' will require advanced planning by economic policymakers who do not want to be caught unprepared as the trends materialise. They will also require crossing some long-standing red lines to complete the economic and monetary union, making the euro more agile and resilient, ready to be the trusted currency of Europeans also for the decade ahead.

⁽⁵³⁾ T. Bletzinger, W. Greif, and B. Schwaab, (2022), "Can EU Bonds Serve as Euro-Denominated Safe Assets?," *Journal of Risk and Financial Management* 15(11):530 DOI:10.3390/jrfm15110530 available at <https://www.mdpi.com/1911-8074/15/11/530>.

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