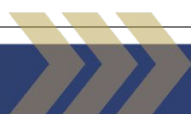


Inflation dynamics and monetary policy in the euro area and the US



EGOV
MONETARY POLICY

External authors:

Manuela MOSCHELLA

Davide ROMELLI



Inflation dynamics and monetary policy in the Euro area and the US

Abstract

This paper compares the inflation dynamics and the monetary policy stance in the euro area and the United States. The paper also discusses the challenges that monetary authorities confront on the two sides of the Atlantic, also considering the uncertainties brought about by the ongoing crisis in the Middle East.

This document was provided by the Economic Governance and EMU Scrutiny Unit at the request of the Committee on Economic and Monetary Affairs (ECON) ahead of the Monetary Dialogue with the ECB President on 27 November 2023.

This document was requested by the European Parliament's Committee on Economic and Monetary Affairs.

AUTHORS

Manuela MOSCHELLA, CASE – Center for Social and Economic Research (Warsaw, Poland) and Scuola Normale Superiore

Davide ROMELLI, Trinity College Dublin, CASE – Center for Social and Economic Research (Warsaw, Poland)

ADMINISTRATOR RESPONSIBLE

Giacomo LOI

Drazen RAKIC

Maja SABOL

EDITORIAL ASSISTANT

Adriana HECSEK

LINGUISTIC VERSIONS

Original: EN

ABOUT THE EDITOR

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To contact Economic Governance and EMU Scrutiny Unit or to subscribe to its newsletter please write to:

Economic Governance and EMU Scrutiny Unit

European Parliament

B-1047 Brussels

E-mail: egov@ep.europa.eu

Manuscript completed in November 2023

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This document was prepared as part of a series on “Comparative analysis of monetary policy and inflation dynamics in the euro area and the United States”, available on the internet at:

<https://www.europarl.europa.eu/committees/en/econ/econ-policies/monetary-dialogue>

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CONTENTS

LIST OF ABBREVIATIONS	6
LIST OF FIGURES	7
EXECUTIVE SUMMARY	8
1. INTRODUCTION	9
2. INFLATION DYNAMICS IN THE EURO AREA AND IN THE UNITED STATES	11
2.1. Euro area	11
2.2. United States	14
3. THE DRIVERS OF INFLATION	18
3.1. Euro area	18
3.2. United States	19
4. THE MONETARY POLICY STANCE	21
4.1. Euro area	21
4.2. United States	23
5. CONCLUSION	26
REFERENCES	28

LIST OF ABBREVIATIONS

APP	Asset purchase programme
CPI	Consumer Price Index
ECB	European Central Bank
EP	European Parliament
EU	European Union
GDP	Gross domestic product
HICP	Harmonised index of consumer prices
LTRO	Longer-term refinancing operations
PCE	Personal Consumption Expenditures
PEPP	Pandemic emergency purchase programme
TLTRO	Targeted longer-term refinancing operations
TPI	Transmission protection instrument
USD	US dollar

LIST OF FIGURES

Figure 1: Inflation rates among G7 countries	9
Figure 2: Euro area headline and core inflation	11
Figure 3: Headline and core inflation differences across euro area countries	13
Figure 4: Headline and core inflation forecasts	14
Figure 5: United States headline and core inflation, in %	15
Figure 6: Projections for the 10-year annual-average rate of CPI inflation	16
Figure 7: FOMC Summary of Economic Projections - Personal Consumption Expenditures (PCE) medians, central tendencies, and ranges of economic projections	17
Figure 8: Decomposition of headline inflation in the euro area, in %	19
Figure 9: Decomposition of headline inflation in the United States	20
Figure 10: Cumulative changes of ECB policy rate	21
Figure 11: Eurosystem balance sheet assets (Jan 2019 - Sept 2023)	22
Figure 11: Cumulative changes of the Fed's policy rate	24
Figure 13: Fed balance sheet assets (Jan 2019 - Oct 2023)	24

EXECUTIVE SUMMARY

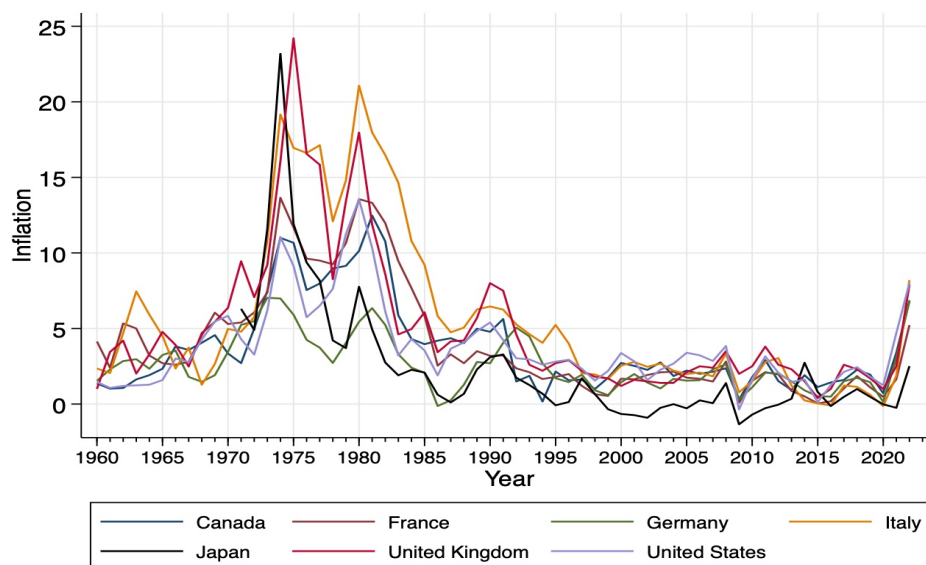
- **Inflation dynamics in the euro area and the United States present important similarities but also key differences.**
- **In both the euro area and the United States rising inflation since mid-2021 reflects global trends** that originated from the post-COVID pandemic recovery and the energy and food shocks, which were amplified by Russia's invasion of Ukraine.
- **Despite these commonalities, inflation dynamics have distinctive origins in the euro area and in the United States.** In the euro area, higher energy prices were the main driver of the inflationary surge. Energy prices continue to affect price developments in the euro area, directly and indirectly. In the United States, in contrast, rising prices are less supply- than demand-driven.
- **Similar to the inflation dynamics, the monetary policy stance in the euro area and the United States present important similarities but also key differences.**
- **Both the ECB and the US Fed have reacted strongly to the surge in inflation by raising interest rates and accelerating the normalisation of their large balance sheets.** In both economies, inflation expectations appear to be largely anchored.
- **However, the monetary policy stance in the euro area and the United States has translated into distinctive economic trajectories that raise different sets of challenges for the two central banks.** Financing conditions have tightened much more markedly in the euro area than in the United States. Furthermore, the ECB monetary policy has so far translated into high heterogeneity in inflation levels across euro area Member States.
- **The euro area and the US economies have also reacted differently to the restrictive monetary stance.** While the US economy has surprised observers to the upside, the growth prospects for the euro area are less rosy, and labour market conditions are weaker.
- **The different impact of a similarly restrictive monetary policy stance largely reflects the characteristics of the supply-driven inflation dynamics in the euro area as compared to the United States,** a scenario in which monetary policy has only imperfect tools to contain prices.
- **As a result, distinctive challenges lie ahead for monetary authorities on the two sides of the Atlantic.** In the United States, the challenge is to ensure that the restrictive monetary stance is sufficiently high to moderate aggregate demand while minimising damage to economic activity and financial stability. In the euro area, the challenge is to ensure that the restrictive monetary stance does not inflict too much damage on economic activity and financial stability in an environment where supply shocks continue to dominate inflation developments.
- **The tragic war between Israel and Hamas adds further uncertainties to the economic outlook but could also reinforce the challenges the euro area confronts.** An escalation of the war in the Middle East could have significant effects on energy prices, a further price shock that is likely to weigh on the euro area inflation dynamics much more strongly than it would be the case for the US.

1. INTRODUCTION

Since mid-2021, many high-income economies have experienced headline inflation rates not seen in decades. Although headline inflation is moderating slowly, core inflation has generally proved to be more resilient than expected (Pereira da Silva, 2023).

The resurgence of inflation has been a particularly noteworthy development because it comes after an extended period of price stability known as the Great Moderation, spanning from the mid-1980s to 2007, followed by a decade of low inflation and occasional deflation since the onset of the 2008 Global Financial Crisis (GFC) and continuing into 2020 (see Moschella, 2024). As Figure 1 shows, whereas inflation had been brought firmly under control during the Great Moderation period, the crises that started in 2008 and 2020 fundamentally challenged the achievement of price stability in high-income countries. In particular, the economic crisis that followed the collapse of the financial sector in 2008 and the confinement measures that governments around the world adopted to contain the spread of COVID-19 in 2020 unleashed recessionary and deflationary forces. For instance, ten years after the start of the 2008 GFC, output losses were still persistent in several countries, especially among those that also experienced banking crises, and inflation had declined in all major economies, including the United States (US), the euro area, the United Kingdom and Japan (IMF, 2018). Secular stagnation — a situation of sluggish economic growth, low interest rates and feeble inflation — so became a buzzword in policy circles (Summers, 2014). The COVID-19 pandemic deepened these ongoing trends, at least initially. The contraction in global output was far worse than the one experienced in the wake of the GFC of 2008 (Gopinath, 2020). Consequently, by the end of 2020, inflation was still well below the target in all high-income countries.

Figure 1: Inflation rates among G7 countries



Source: authors' calculations based on OECD data.

By mid-2021, however, there was a shift from a regime of low inflation to one of high inflation (BIS, 2022). In particular, inflation rates started to rise after the post-pandemic recovery, in a context characterised by severe disruptions in global supply chains. Price increases accelerated further in the wake of Russia's unjustified invasion of Ukraine, with food and energy prices driving inflation dynamics. These trends are clearly visible in the inflation developments in both the euro area and the United States: in both economies, headline and core inflation quickly accelerated and monetary authorities

embarked on a largely synchronised interest rate tightening cycle, accompanied by a shrinkage in their large balance sheets. Despite the similarities, however, the origins and the trajectory of inflation dynamics in the euro area and the United States display significant differences that pose distinctive challenges to their respective central banks.

This paper examines the inflation dynamics and monetary policy responses in the euro area and the United States. In particular, the analysis is organised as follows. In Section 2, we examine and compare the evolution of inflation in the two jurisdictions, focusing on the evolution of headline and core inflation as well as the trends in inflation expectations. In Section 3, the paper discusses the commonalities and differences in the factors driving inflation dynamics in the euro area and the United States. In particular, the paper delves into the debate on whether supply or demand factors caused the resurgence of inflation and continued influencing price dynamics. Third, the paper examines and compares the timing and conduct of monetary policy responses to rising inflation on the two sides of the Atlantic. Finally, we discuss the challenges that the European Central Bank (ECB) and the Federal Reserve (Fed) confront, also in light of the uncertainties brought about by the ongoing crisis in the Middle East.

2. INFLATION DYNAMICS IN THE EURO AREA AND IN THE UNITED STATES

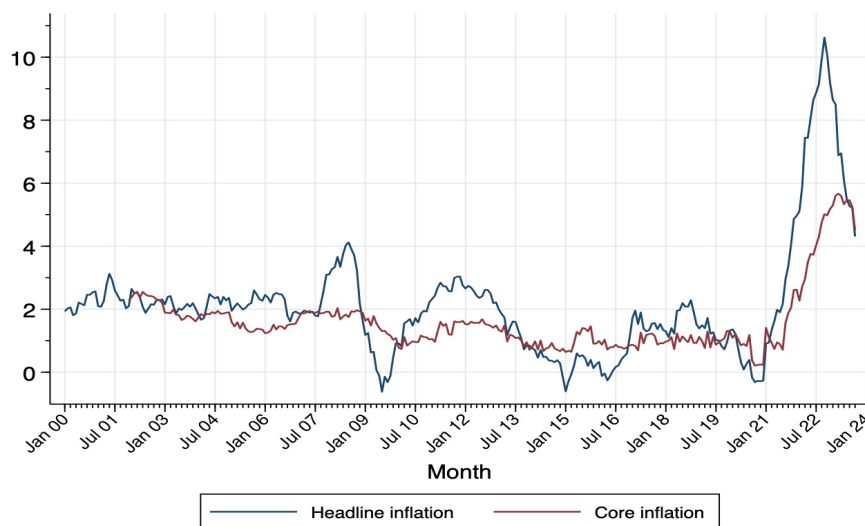
This section discusses the evolution of headline and core inflation dynamics as well as the trends of inflation expectations in the euro area and the United States. In the case of the euro area, we also discuss the heterogeneity of inflation across euro area countries.

2.1. Euro area

The latest Eurostat data on inflation, suggest that euro area annual headline inflation is expected to be 2.9% in October 2023, down from 4.3% in September, while core inflation, which excludes the direct effects of energy and food, is still running at 4.2% but lower than the all-time high of 5.8% reached in March 2023. Despite the slowdown in inflationary pressures, which brings headline inflation closer to the ECB's 2% target over the medium run, large differences across euro area countries persist. For instance, expected inflation for October 2023 is estimated to reach -1.7% and -1% in Belgium and the Netherlands, respectively, while in countries like Croatia, Slovenia and Slovakia it is expected to reach 6.7%, 6.6% and 7.8%, respectively.

In what follows, we first focus on the dynamic of aggregated euro area inflation. Then, we zoom in on the inflation heterogeneities among euro area countries.

Figure 2: Euro area headline and core inflation

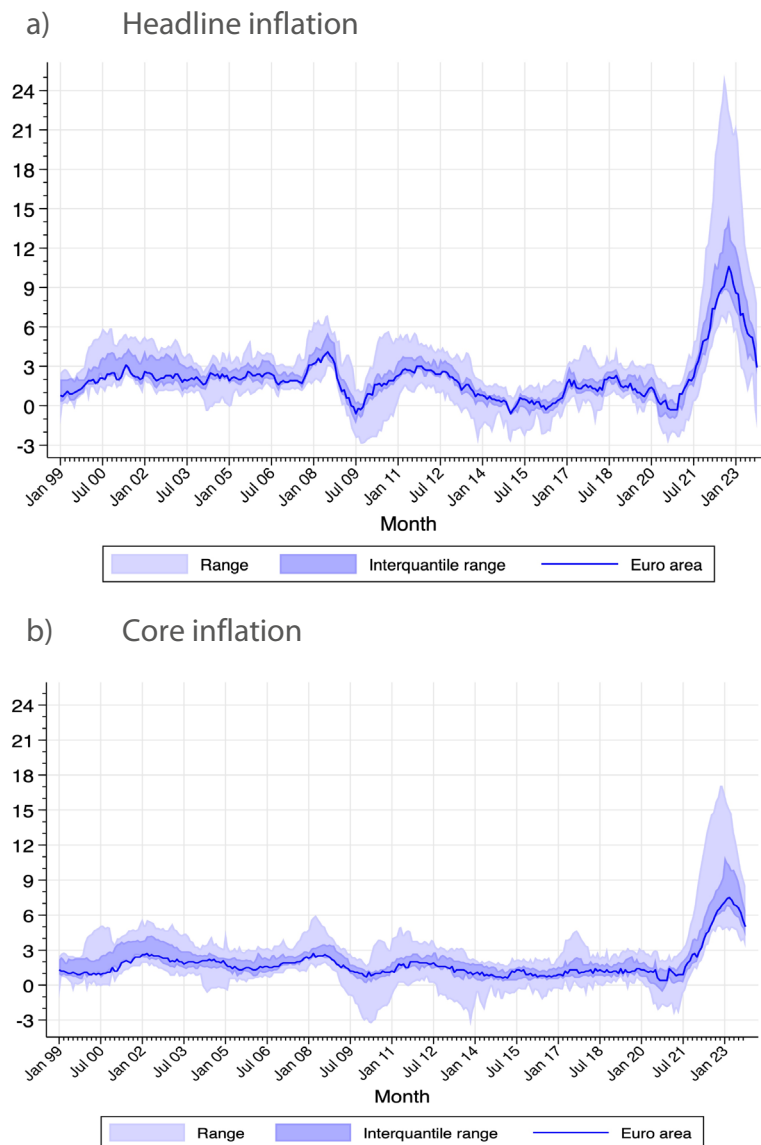


Source: authors' calculations based on Eurostat data.

Since the introduction of the euro in 1999, the euro area has experienced varying inflation cycles (see Figure 2). Up until mid-2007, both headline and core inflation remained close to the 2% target, also reflecting the credibility the ECB has nurtured since its creation (Arnone and Romelli, 2013). Headline inflation faced upward pressures in the immediate aftermath of the 2008 GFC, mainly due to the recovery in oil prices, but it quickly turned to the downside. Indeed, the financial crisis ignited severe recessionary and deflationary pressures, which proved particularly prolonged. The 2008-2020 period was indeed characterised by a relatively muted recovery and a long stretch of modest growth and low inflation. In particular, a decade after the onset of the sovereign debt crisis and immediately before the COVID-19 shock, the real GDP stagnated in the euro area, especially in its periphery. The average annual growth in the 2010-2019 period was almost one percentage point below that of the US. Although in March 2020, the unemployment rate returned to that found in the pre-crisis period, the average

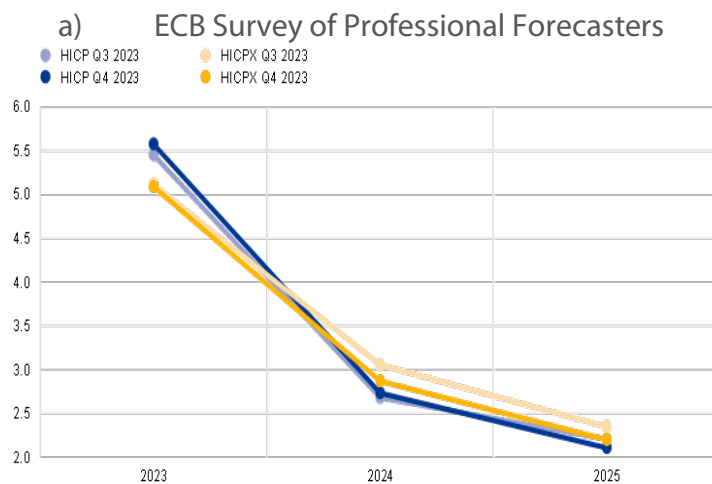
unemployment rate from 2008 and 2020 hovered at approximately 10%. Furthermore, from January 2013 onward, inflation continued to be well below the ECB's target of 2%, despite the large array of traditional and unconventional monetary policy easings that the ECB used, similar to what had been done by other central banks (Moschella, 2024). In December 2014, the euro area annual inflation rate fell into negative territory for the first time since the launch of the single currency. Deflationary pressures were not fully dispelled until the COVID-19 pandemic. Indeed, it was only in the wake of the post-pandemic recovery and the Russian invasion of Ukraine, which triggered a marked increase in energy prices, that headline inflation reached a historical peak of 10.6% in October 2022, while core inflation reached its historical record of 5.7% in March 2023.

The events of the past three years, i.e., COVID-19 and the post-pandemic recovery as well as Russia's invasion of Ukraine, contributed to the increase in inflation across all euro area Member States. At the same time, however, the dispersion of inflation across member states has also increased (see Figure 3), thereby suggesting that the effects of the energy shocks, potentially due to differing energy production and consumption profiles, had differential impacts on national prices. For example, the maximum difference in inflation recorded among euro area countries before the recent spikes in inflation was reached in May 2010, when Ireland recorded an inflation rate of -1.9% and Greece a level of 5.3% (7.2 percentage-point difference). Between December 2021 and August 2022, this difference recorded a series of historical records, reaching a maximum divergence of 18.8 percentage points in August 2022, when France registered a 6.2% inflation, while Estonia reached a value of 24.1%. Thanks to the recent reductions in the inflation rate, these differences have been reduced by almost 50%, but the distance between the country experiencing the lowest level of inflation (Belgium, at -1.7%) and the one characterised by the highest one (Slovakia with an inflation of 7.8%) remains at 9.5 percentage points.

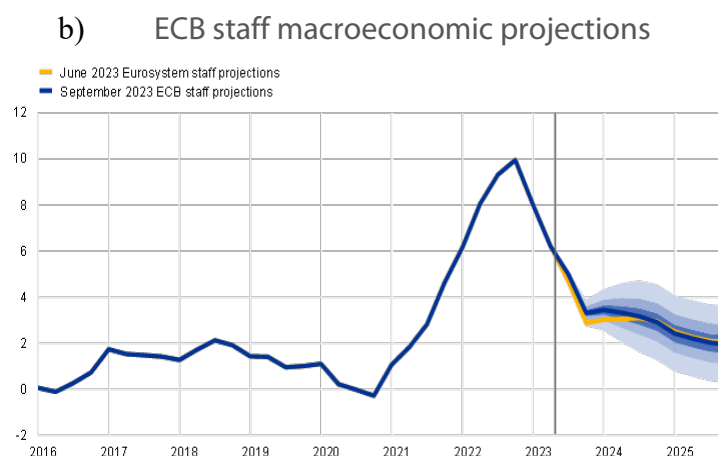
Figure 3: Headline and core inflation differences across euro area countries

Source: authors' calculations based on Eurostat data.

The latest ECB's Survey of Professional Forecasters for Q4 2023, released on 27 October 2023, suggests that, despite the recent surges in inflation, market expectations are that the headline Harmonised Index of Consumer Prices (HICP) inflation will be close to the ECB target by 2024, with projections at 2.7% in 2024, and 2.1% in 2025 (see Figure 4, panel a). These figures are in line with those released by ECB staff in September 2023 and seem to suggest confidence in the ability of the ECB to bring inflation within its 2% target over the next 12 to 18 months (see Figure 4, panel b).

Figure 4: Headline and core inflation forecasts

Source: The ECB Survey of Professional Forecasters - Fourth quarter of 2023.



Source: ECB staff macroeconomic projections for the euro area, September 2023.

2.2. United States

Between the 1990s and the start of the global financial crisis, the US economy grew steadily and has been capable of navigating major economic and financial shocks. For instance, although the United States experienced two recessions, namely, one in 1990–1991 and the other in 2001, both lasted less than one year; furthermore, in both cases, the decline in output was negligible.¹ The economic success of this period, which is commonly referred to as the period of the Great Moderation, has been largely attributed to the conduct of monetary policy and, in particular, to the improved control of inflation. In particular, the hallmark of the Great Moderation was persistently stable core inflation levels.

Similar to what has been noted for the euro area, the start of the global financial crisis was a critical turning point. In particular, the economic consequences of the financial crisis were not only severe but also quite persistent. For instance, six years after the start of the crisis, US output was still far short of where its potential was expected to be as of 2007. Importantly, unemployment was still higher than at

¹ US real GDP contracted by 0.91% in Q4 1990 and by 0.32% in Q1 2001. Source of data: U.S. Bureau of Economic Analysis, Real Gross Domestic Product [GDP1], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/GDP1>, November 5, 2023.

the beginning of the crisis period, while inflation levels had not fully recovered even before the start of the COVID-19 pandemic.

Following the pandemic, however, US inflation began to increase around six months prior to the euro area, i.e., in early 2021. In particular, US headline Consumer Price Index (CPI) jumped from 1.7% to 4.1% between February and April 2021 and reached a peak of 8.9% in June 2022. The core inflation dynamic has been less abrupt, reaching a peak of 6.5% in September 2022. Despite the lowest peak, US core inflation looks more persistent than in the euro area: US core CPI inflation has been higher than headline inflation since March 2023. Since its peak in June 2022, headline inflation has now declined to 3.7% in September 2023, a value similar to the August 2023 figures, which was above economists' expectations.

Figure 5: United States headline and core inflation, in %



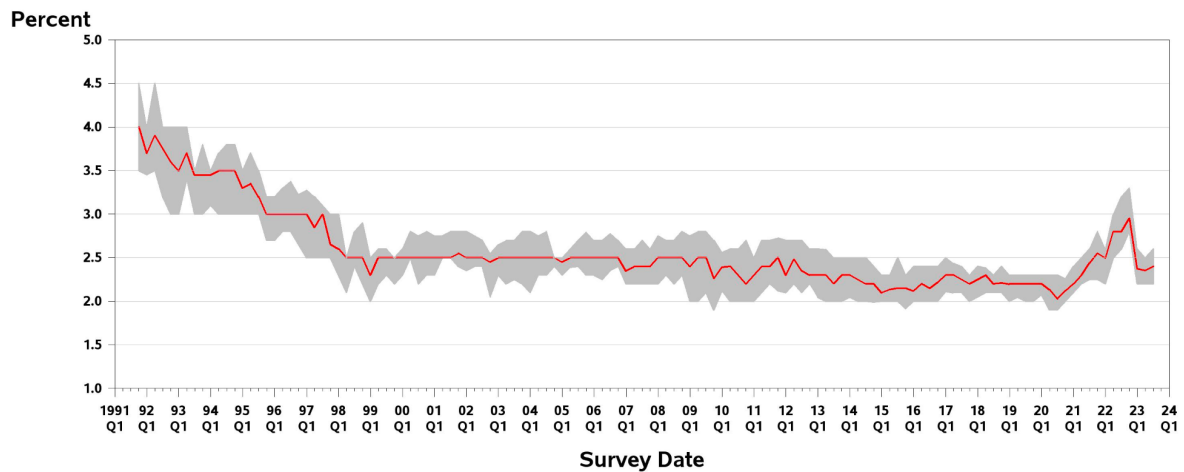
Source: authors' calculation on Fred - Federal Reserve Bank of St. Louis data.

The high levels of inflation recorded in the US could be associated with the resilience and growth of its economy from 2021 through October 2023. In the third quarter of 2023, GDP grew at an annual rate of 4.9%, up from 2.1% in the preceding quarter, partially thanks to higher wages from a tight labour market which spurred consumer spending.

The labour market's strength (unemployment rate was 3.9% in October 2023) and consumer spending played pivotal roles in helping the US economy grow at a pace that was not only robust but also faster than was expected, especially given the rise in interest rates adopted by the Fed earlier in the year (See discussion in section 4.2). In 2023 the US economy is prone to outperform expectations in terms of economic output growth, labour market resilience, and slowing inflation. However, the OECD (2023) projected a moderation in private consumption and investment growth for 2023, due to tightening in monetary and financial conditions and depletion of savings, which would lead to a decrease in demand and subsequent fall in employment.

Focusing on inflation expectations, short-run inflation expectations for the US tend to be higher than the euro area ones. For example, the September Survey of Consumer Expectations run by the Federal Reserve Bank of New York indicates that median inflation expectations rose slightly to 3.7% and to 3.0% for the one- and three-year-ahead horizons, respectively. Inflation expectations dipped marginally to 2.8% for the five-year-ahead horizon instead. Similarly, the results of the Third Quarter 2023 Survey of Professional Forecasters published in August 2023 indicate that forecasters expected headline CPI inflation at 3.1% in 2023, and at around 2.4% over the next 10 years, namely the period 2023-2032 (See Figure 6).

Figure 6: Projections for the 10-year annual-average rate of CPI inflation
(Median and Interquartile Range)

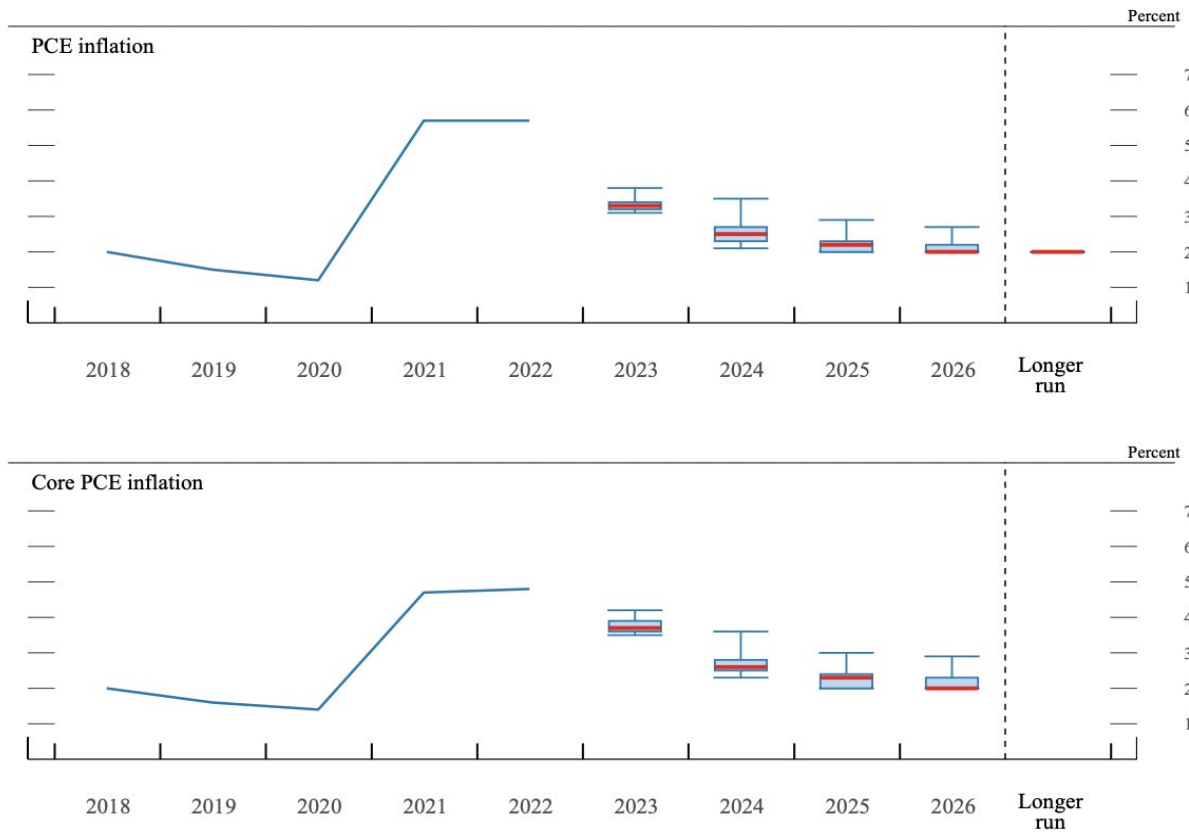


Source: Third Quarter 2023 Survey of Professional Forecasters.

Finally, the Summary of Economic Projections, which was released following the Federal Open Market Committee (FOMC) meeting held on 19-20 September 2023, seem to suggest that FOMC members are confident on their ability to bring down PCE inflation to the 2% target over the medium term by 2025 (see Figure 7).²

² The Summary of Economic Projections reports the projections of the most likely outcomes for PCE inflation and other macroeconomic variables for each year from 2023 to 2026 and over the longer run provided by each FOMC member during Federal Reserve Bank Federal Open Market Committee meetings. See U.S. Bureau of Labor Statistics (2011) for a discussion on the differences between the CPI and PCE price indices.

Figure 7: FOMC Summary of Economic Projections - Personal Consumption Expenditures (PCE) medians, central tendencies, and ranges of economic projections



Source: Summary of Economic Projections, 20 September 2023.

3. THE DRIVERS OF INFLATION

This section discusses the commonalities and differences in the factors driving inflation dynamics in the euro area and the United States. In particular, we discuss the relative importance of supply versus demand factors with the view to assessing the monetary policy stance across the two sides of the Atlantic.

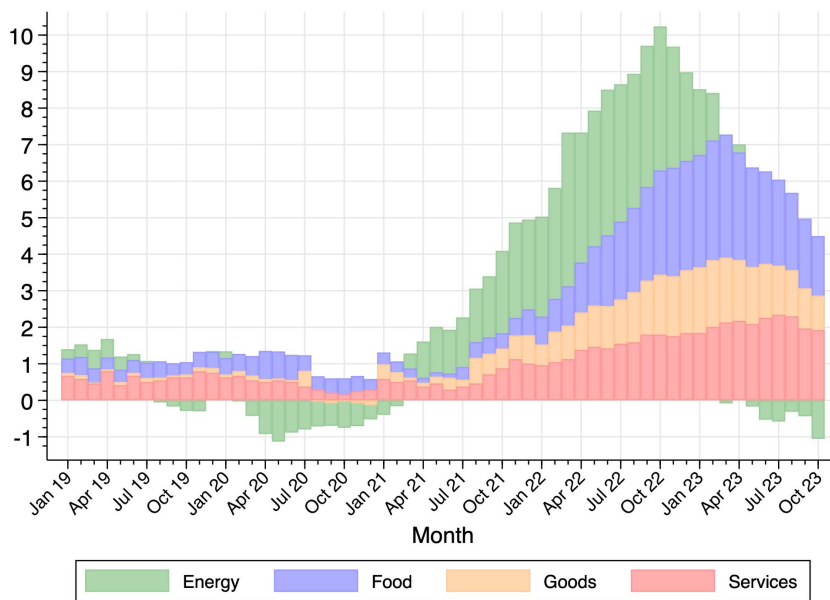
3.1. Euro area

Figure 9 below shows the contribution of the four components of headline inflation, i.e., energy, food, goods and services. The Figure shows the key role played by energy prices in explaining the dynamics of headline inflation for the euro area, much more so than in the United States, as discussed below.

Indeed, both oil and gas prices shot up from the historical minimum reached during the pandemic, exposing the inflationary risks of euro area countries' dependencies on energy imports. As for oil prices, the increased oil demand that was boosted by the post-pandemic recovery in 2021 was not compensated by a symmetric increase in production, as oil suppliers had to drain inventories to meet renewed demand (Gaffen, 2022). At the same time, demand for gas increased substantially due to the re-opening of economies, adverse weather conditions and the acceleration of substitution of coal with gas in China. In 2022, Russia's invasion of Ukraine added further pressure on both oil and gas prices. After having reached a historical minimum of USD 9.12 per barrel on 21 April 2020, Brent prices peaked at USD 133.19 a barrel in less than a month after Russia's invasion, on 8 March 2022, a level which was only reached in 2008, i.e., at the onset of the global financial crisis. The surge in gas prices has been even more marked. After hovering around EUR 20 per megawatt hour in early 2021, gas prices peaked at EUR 350 in the summer of 2022, when all European countries were trying to fill their storage facilities in preparation for the winter season.

Neri et al. (2023) try to quantify the role of the surge in energy prices for inflation in the euro area. Their study suggests that energy-related shocks contributed to roughly 60% of headline inflation, on average, in 2022, with the highest impact reached in the final quarter of the year, where energy shocks indirectly accounted for nearly half of the 5.1% level reached by core inflation. Importantly, *"the increases in commodity prices have gradually passed through to the prices of other goods and services. More than three quarters of the growth in the overall consumer price index seems to be directly or indirectly attributable to the higher prices of energy and of food products"* (Visco, 2023).³

³ In addition to the energy price shock, euro area inflation has also been driven, albeit to a lesser extent, by the disruptions in the global supply of intermediate goods, which have contributed to the increase in production costs.

Figure 8: Decomposition of headline inflation in the euro area, in %

Source: authors' calculations on Eurostat data.

The continuing importance of supply factors in explaining euro area inflation is also reflected in the overall price surges across euro area countries despite significant differences in output gaps and weak wage dynamics including in more peripheral countries (Baudchon, 2023).

To shed light on the role of wages as compared to the one played by energy prices in driving inflation in the euro area, ECB chief economist Philip Lane has recently suggested distinguishing between three types of core inflation: “energy-sensitive”, “wage-sensitive”, and “not energy-sensitive” (Lane, 2023a). The data shows that “energy-sensitive” core inflation continues remaining significantly higher than “wage-sensitive” core inflation (as of April 2023). At the same time, “not energy sensitive” core inflation is lower than both “energy-sensitive” and “wage-sensitive”. In short, wage-price spiral risks, i.e., the risks of both price and nominal wage accelerations, appear very contained, also because of the limited presence of automatic wage indexation mechanisms across the euro area and the weakened bargaining power of trade unions as compared to past inflationary episodes, most notably the one that started in the 1970s.

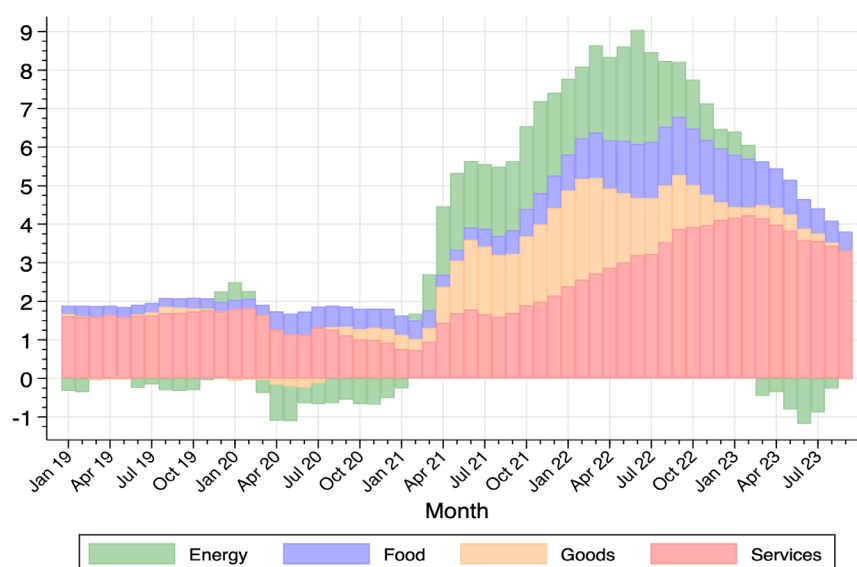
These conclusions are also in line with international experience. As the International Monetary Fund (IMF) recently observed, only a few historical episodes with dynamics similar to those recorded in advanced economies during the post-pandemic recovery were followed by wage-price spirals. In most cases, nominal wages caught up while inflation decelerated over several quarters, allowing inflation-adjusted wages to gradually recover (Alvarez et al., 2022).

3.2. United States

Both supply and demand factors have been identified as the key drivers of US inflation. On the one hand, some scholars have drawn attention to supply-centric factors like labour shortages (Barnichon and Shapiro, 2022) and distortions in product markets along with sectoral price increases (Bernanke and Blanchard, 2023). On the other hand, other scholars have emphasized the impact of increased aggregate demand resulting from the pandemic era fiscal and monetary boosts, especially in an already tight labour market (Summers, 2021; Blanchard, 2021; Barnichon et al., 2021; Jordà et al., 2022).

As compared to the euro area, however, the energy shock has been a far less important determinant of inflation developments in the United States. For example, comparing the differences between headline and core inflation, headline inflation has reached a higher peak in the euro area (10.6% vs 8.9%), while core inflation, which omits the volatile energy and food components and thus offers a better gauge of demand-driven inflation, reached higher values for the US (6.5% vs 5.8%). Figure 9 further helps highlight the differences in the drivers of inflation dynamics in the euro area and the United States: while in 2022 energy and food inflation made up around two-thirds of headline inflation in the euro area, energy and food prices accounted for around forty percent of headline inflation in the United States.

Figure 9: Decomposition of headline inflation in the United States



Source: authors' calculation on Fred - Federal Reserve Bank of St. Louis data.

Differences in headline inflation developments between the US and the euro area can be largely explained in light of the different trajectories with which the two economies recovered from the pandemic. According to an ECB study, for instance, “[r]eal GDP in the United States returned to its pre-pandemic level about two quarters ahead of euro area real GDP, primarily as a result of stronger recoveries in US private consumption and investment. In particular, private consumption of both goods and services has only very recently returned to the level recorded in the fourth quarter of 2019 in the euro area, whereas it had already surpassed its pre-pandemic level in the United States in early 2021. Stronger consumer spending together with a faster easing of supply bottlenecks in the United States also supported a return of US private non-residential investment to its pre-pandemic level in the first half of 2021. By contrast, such investment in the euro area, adjusted for particularly volatile intangible investment, only surpassed its pre-pandemic level in late 2021” (Koester et al., 2023). It is also interesting to note that the resilience of the US economy has continued despite the most aggressive campaign by the US Fed to tighten monetary policy in decades (see Section 4.2), defying expectations of a recession – at least, thus far.

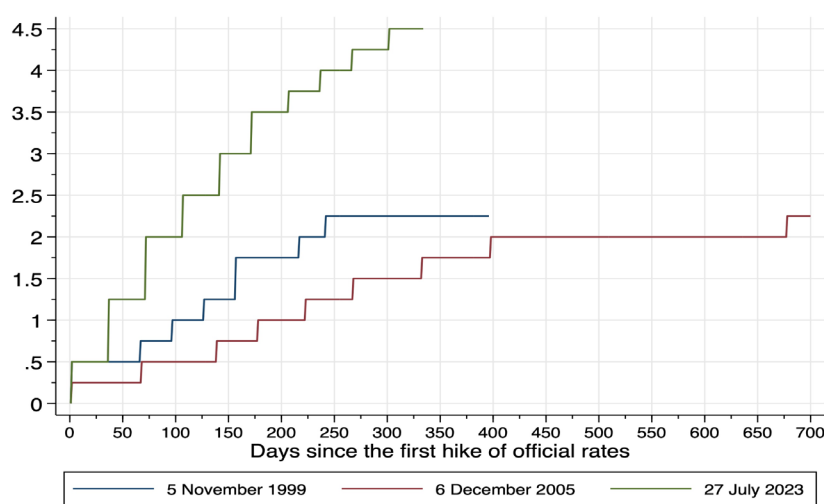
4. THE MONETARY POLICY STANCE

This section discusses the monetary policy responses adopted by the ECB and the US Federal Reserve following the recovery from the COVID-19 pandemic.

4.1. Euro area

The ECB reacted to the surge in inflation with an unprecedented cycle of interest rate hikes. Figure 10 shows that, as compared to previous policy rate tightening cycles, the one that started in July 2022 has been particularly steep. Specifically, in 10 months, the cumulative policy rate increase reached 450 bps.

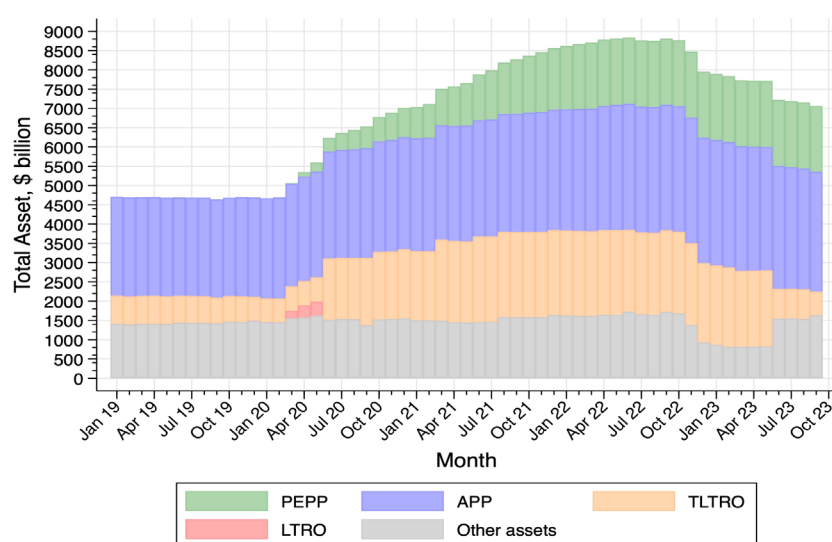
Figure 10: Cumulative changes of ECB policy rate



Source: authors' calculation on ECB data.

Following the latest Governing Council monetary decision (26 October 2023), which left interest rates unchanged, the interest rate on the deposit facility, the main refinancing operations and marginal lending facility now stand at 4.00%, 4.50% and 4.75%, respectively.

In addition to the interest rate increases, the ECB tightened its policy stance by shrinking its balance sheet. In December 2021, the ECB announced that it would start normalising monetary policy by reducing the pace of net asset purchases. In particular, the Governing Council decided to lower the pace of asset purchases under the Pandemic Emergency Purchase Program (PEPP) (see the Governing Council decision of 16 December 2021), followed by the announcement to discontinue these purchases (Governing Council decision of 10 March 2022). Furthermore, in order to support the monetary policy stance, the Governing Council decided to recalibrate the net monthly purchases under the Asset Purchase Program (APP) (Governing Council decision of 10 March 2022) and to discontinue these purchases entirely starting from July 2022 (Governing Council decision of 9 June 2022). The slowdown and subsequent discontinuation of asset purchases and, more importantly, the repayments under the Targeted Longer-Term Refinancing Operations (TLTRO) III reduced the Eurosystem's balance sheet by EUR 1.8 trillion between June 2022 and October 2023. This corresponds to a reduction of the total assets of the ECB of around 20%, which has moved from a peak of EUR 8.8 trillion in June 2022 to EUR 7 trillion during the last week of October 2023 (See Figure 11).

Figure 11: Eurosystem balance sheet assets (Jan 2019 - Sept 2023)

Source: authors' calculation on ECB data.

Policy rate increases and the draining of liquidity associated with the slowdown and discontinuation of asset purchases, along with the phasing out of the TLTRO-III introduced during the pandemic, has increased banks' funding costs. As a result of the changed policy stance, financing conditions tightened markedly.⁴

Higher funding costs for banks, in turn, translated into significantly higher rates on new loans for households and firms. For instance, interest rates for business loans and mortgages have been rising steadily, reaching 5% and 3.9% respectively in August (ECB Monetary policy statement of 26 October 2023).

Against this background, credit dynamics have weakened significantly. Throughout 2023, loans to households remained subdued, with the growth rate slowing to 1% in August and 0.8% in September. Similarly, the annual growth rate of loans to firms has dropped sharply, from 2.2% in July to 0.7% in August and 0.2% in September (ECB, 2023). Overall, "the weakening in credit has been stronger than in past hiking cycles and, while this is partly driven by the unprecedented pace of policy tightening, [ECB simulations] confirms that loan volumes turned around faster than what would have been expected based on historical regularities, given the path of monetary policy hikes since December 2021" (Lane 2023b).

The results of the most recent euro area bank lending survey (Euro area Bank Lending Survey October 2023) reveal a continuation of these trends. In particular, the survey findings reveal that credit standards continued tightening for both households and firms. As for lending volumes, the net decrease in demand for housing loans remained strong in the third quarter of 2023 – albeit lower than the one recorded earlier this year. As for lending to firms, after having reached an all-time low in the second quarter of 2023, firms' net demand for loans continued to decrease substantially in the third quarter of 2023 (net percentage of -36%, after -42% in the second quarter of 2023).

⁴ Initially announced and launched in 2019, TLTRO-III conditions were eased in April 2020 to ensure sufficient liquidity for the banking sector in the midst of the pandemic-induced crisis. See the ECB press release of [7 April 2020](#), in which the ECB announces a package of temporary collateral easing measures, and of [30 April 2020](#) on the recalibration of TLTRO III.

Since the post-pandemic period, the labour market in the euro area showed a pattern of recovery from the heights of the pandemic, with the seasonally adjusted unemployment rate falling from 7.7% in 2021 to a record low of 6.4% in August 2023, the lowest level recorded since the start of the euro, although it experienced a slight uptick to 6.5% by September 2023. Job creation within the euro area, however, started to slow down, with fewer new jobs being created by 2023, especially in the services sector, suggesting a gradual cooling of the economy (de Guindos, 2023).

The growth prospects of the euro area economy are quite cautious at the moment, with projections indicating sluggish growth for the remainder of 2023 due to tighter financing conditions and weak foreign demand. In this context, the ECB's monetary policy tightening could indeed dampen economic growth. The September 2023 ECB staff macroeconomic projections suggest a gradual recovery rather than a contraction, with growth rates slowly picking up in the following years. Even assuming that these predictions are correct, the slow economic expansion, albeit combined with the expected decline in inflation, is indicative of the difficult balancing act between curbing inflation and supporting economic growth that the ECB confronts.

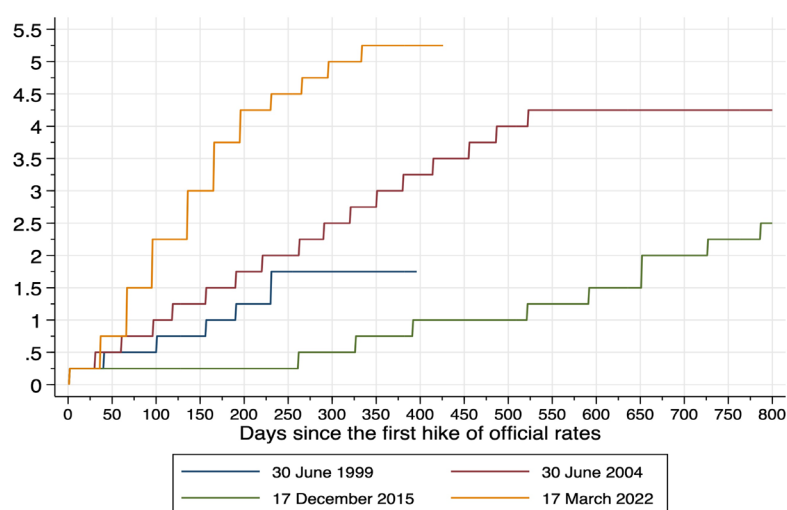
4.2. United States

Similar to the ECB Governing Council, the Federal Open Market Committee (FOMC), the body responsible for setting the monetary policy stance in the United States, responded to the surge in inflation by increasing interest rates and reducing its securities holdings – i.e., normalising its balance sheet. In particular, the FOMC started raising the policy rate in March 2022, the first increase since December 2018. Since then, the Fed has raised the target range of the federal funds rate eleven times, from 0-0.25% in March 2022 to the range to 5.25 to 5.5% at the time of writing.

Reflecting the different inflation dynamics discussed above (Sections 3.1 and 3.2), the Fed started its policy rate tightening cycle earlier than the ECB. Similar to the ECB, the current tightening cycle in the US is one of the most aggressive on historical record. In particular, the magnitude of the current tightening cycle is larger than the cumulative increases in the other six tightening episodes since the 1980s (Kliesen, 2023). As Figure 12 shows, even by stripping away the tightening cycles of the 1980s, the current monetary restriction stands as the quickest and the largest by historical comparison.

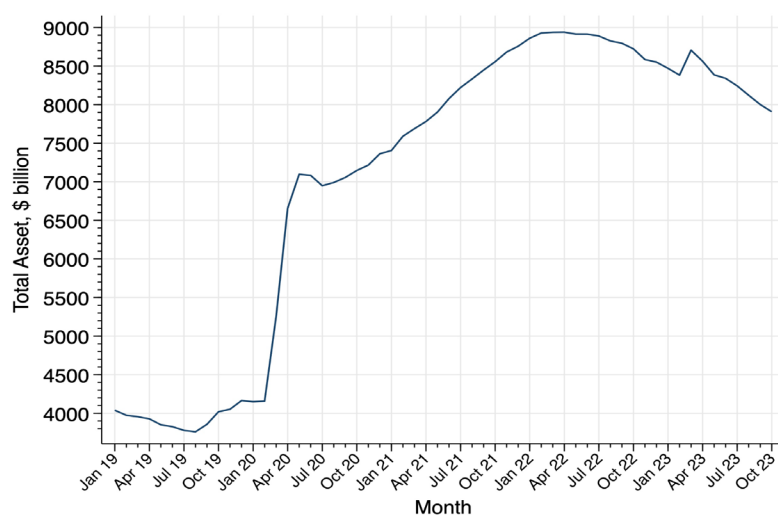
In addition to raising interest rates, the Federal Reserve also continued to reduce its holdings of Treasury and agency mortgage-backed securities. In particular, the FOMC agreed on a faster pace of balance sheet runoff than the one envisaged over the 2017-2019 period.⁵

⁵ For the details of how the reduction is taking place, see Plans for Reducing the Size of the Federal Reserve's Balance Sheet, 4 May 2022, available at <https://www.federalreserve.gov/newsevents/pressreleases/monetary20220504b.htm>.

Figure 12: Cumulative changes of the Fed's policy rate

Source: authors' calculation on Fed data.

As a result of these decisions, the Federal Reserve has reduced its assets by around USD 1.1 trillion between April 2022 and the first week of November 2023 (See Figure 13). The restrictive effect of the Fed's quantitative tightening on the liquidity in the US banking sector was partially offset by the liquidity support the Fed extended in March 2023, following the collapse of Silicon Valley Bank (SVB) and the attendant shockwaves through the banking sector.

Figure 13: Fed balance sheet assets (Jan 2019 - Oct 2023)

Source: authors' calculation on Fed data.

Similar to what has been happening in the euro area, rising interest rates, coupled with uncertainty about the economic outlook, have increased borrowing costs and tightened bank credit conditions in the United States since the second quarter of 2022. According to the latest Monetary Policy Report (Federal Open Market Committee of 16 June 2023): "Tighter credit standards and terms at banks are a normal part of the monetary policy tightening cycle, but the recent stress in the banking sector has reportedly led to additional tightening in credit conditions at some banks."

In addition to tighter standards, bank surveys such as the Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), indicate weaker demand for most loan categories, a slowdown trend that has been reported since the middle of 2022. Furthermore, in 2023, interest rates on bank loans

continued to increase, reflecting higher short-term rates. In early 2023, the average 30-year fixed-rate mortgage cooled from its 7.1% peak in 2022, but homebuyers were still priced out due to the limited supply and high home prices. This resulted in mortgage applications continuing to decline, reaching the lowest level since 1996 (Rothstein, 2023). At the same time, there was a soft demand for credit cards, automobile loans, and other credit forms, with banks showing a reduced willingness to offer consumer instalment loans. In the early months of 2023, credit conditions for US businesses and households continued to tighten, a trend captured by the SLOOS. The survey indicated that a net 46% of banks had tightened credit terms for business loans for medium and large businesses, with a slightly higher 46.7% for small firms (Schneider and Saphir, 2023).

As already anticipated (see Section 3.2), although the Fed's restrictive monetary stance is starting to bite, the US economy has proved remarkably resilient thus far, thereby adding to the uncertainties that the US central bank confronts in deciding the next steps in its monetary decisions. For instance, in his opening remarks to the announcement of the latest Fed monetary policy decision (1 November 2023), Fed Chair Jerome Powell said that the US activity had expanded at a "strong pace, and well above earlier expectations". The Fed also acknowledged that the job market remained healthy despite some moderation in job creation while nominal wage growth showed signs of easing. Overall, the unemployment rate remains low at 3.8%.

5. CONCLUSION

Inflation dynamics in the euro area and the United States present important similarities but also key differences.

In both the euro area and the United States rising inflation since mid-2021 reflects global trends that originated from the post-COVID pandemic recovery and associated global supply chain disruptions. The energy and food shocks, which were amplified by Russia's invasion of Ukraine, have further contributed to the generalised increase in the price level across the two sides of the Atlantic.

Despite these commonalities, inflation dynamics have distinctive origins in the euro area and in the United States. In the euro area, higher energy prices, especially natural gas prices, were the main driver of the inflationary surge. Energy prices continue to affect price developments in the euro area, directly and indirectly. In the United States, in contrast, rising prices are less supply than demand-driven, with the energy shock being a far less important determinant of US inflation developments than in the euro area.

Similar to the inflation dynamics, the monetary policy stance in the euro area and the United States present important similarities but also key differences.

Both the ECB and the US Fed have reacted strongly to the surge in inflation by raising interest rates and accelerating the normalisation of their large balance sheets. Even if the two economies started restricting the monetary stance at different times, with the US Federal Reserve starting a few months earlier also in reflection of the underlying characteristics of the US inflation, both the ECB and the US Fed have started one of the most aggressive tightening cycles on the historical record in their respective jurisdictions. In both economies, inflation expectations appear to be largely anchored. Finally, both central banks have recently decided to press the 'pause' button in their interest rate decisions, while keeping open the possibility for further monetary tightening in the future.

Despite these commonalities, the monetary policy stance in the euro area and the United States has translated into distinctive economic trajectories that raise different sets of challenges for the two central banks. Financing conditions have tightened much more markedly in the euro area than in the United States, where part of the quantitative tightening has also been offset by the liquidity support the Fed extended to the banking sector following the market stresses in March 2023. Furthermore, the ECB monetary policy has so far translated into high heterogeneity in inflation levels across euro area Member States.

The euro area and the US economies have also reacted differently to the restrictive monetary stance. While the US economy has proved quite strong and the job market resilient, the growth prospects for the euro area are less rosy, and labour market conditions are less favourable with unemployment hovering around 6.5% as compared to the 3.8% level recorded in the United States.

The different impact of a similarly restrictive monetary policy stance largely reflects the characteristics of the supply-driven inflation dynamics in the euro area as compared to the United States, a scenario in which monetary policy has only imperfect tools to contain prices.

These differences point to distinctive challenges and balancing acts for monetary authorities on the two sides of the Atlantic. In particular, in the United States, the challenge is to ensure that the restrictive monetary stance is sufficiently high to moderate aggregate demand while minimising damage to economic activity and financial stability, which is the traditional balancing act that central banks confront in the conduct of monetary policy (BIS, 2023). In the euro area, the challenge is to ensure that the restrictive monetary stance does not inflict too much damage on economic activity and financial stability in an environment where supply shocks continue to dominate inflation developments.

The tragic war between Israel and Hamas adds further uncertainties to the economic outlook and could also reinforce the challenges the euro area confronts. An escalation of the war in the Middle East could have significant effects on energy prices, a further price shock that is likely to weigh on the euro area inflation dynamics much more strongly than it would be the case for the US.

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This paper compares the inflation dynamics and the monetary policy stance in the euro area and the United States. The paper also discusses the challenges that monetary authorities confront on the two sides of the Atlantic, also considering the uncertainties brought about by the ongoing crisis in the Middle East.

This document was provided by the Economic Governance and EMU Scrutiny Unit at the request of the Committee on Economic and Monetary Affairs (ECON) ahead of the Monetary Dialogue with the ECB President on 27 November 2023.
