

Inflation and monetary policy across the Atlantic: A comparison



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Abstract

Under the stress test of the inflation process, the two central banks' stances across the Atlantic share similarities but show also significant differences. Similarities and differences are reflected also in inflation dynamics in the US and the euro area. Differences are mainly due to the mix of factors that originated the take-off of inflation, some structural features of the economies, the institutional contexts and associated fiscal stances.

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AUTHORS

Luigi BONATTI, University of Trento
Andrea FRACASSO, University of Trento
Roberto TAMBORINI, University of Trento

ADMINISTRATOR RESPONSIBLE

Giacomo LOI
Drazen RAKIC
Maja SABOL

EDITORIAL ASSISTANT

Adriana HECSEK

LINGUISTIC VERSIONS

Original: EN

ABOUT THE EDITOR

The Economic Governance and EMU Scrutiny Unit provides in-house and external expertise to support EP committees and other parliamentary bodies in shaping legislation and exercising democratic scrutiny over EU internal policies.

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

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LIST OF ABBREVIATIONS

EA	Euro area
ECB	European Central Bank
Fed	Federal Reserve
GDP	Gross domestic product
HICP	Harmonised index of consumer prices
IMF	International Monetary Fund
ITZ	Inflation targeting zone
US	United States

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EXECUTIVE SUMMARY

- The US Fed and the ECB share the basic general principles of modern central banking, namely independence, autonomy, and "inflation targeting" as the blueprint of best implementation of the mandate of price stability. The recent reformulation of the policy strategy of the two central banks can be interpreted as moving closer to **inflation-targeting zone**.
- Under the stress test of inflation, the central banks' stances across the Atlantic **share similarities but show also significant differences**.
- Differences are mainly due to the **mix of factors** that originated the take-off of inflation, some **structural features** of the economies, the **institutional contexts**, and the associated **fiscal stances**.
- In the largest euro area countries, there was a delay compared to the United States both in the reopening of the economy after the lockdowns due to the COVID-19 pandemic, which delayed the return to the pre-COVID level of economic activity, and then in the beginning of the series of interest rate increases by the respective central banks. **This time lag somehow affected the subsequent disinflationary process in both areas**.
- **The euro area is a large net importer of gas and oil**, unlike the US, which has recently become a net exporter of fossil energy. Therefore, the cost-push shock from the raise in gas and oil prices, strongly accentuated by the Russian invasion of Ukraine, led to a **fall in real income in the euro area, which did not happen in the US**.
- **Fiscal support during the COVID-19 pandemic was more massive in the US than in the euro area**. This difference in the weight of fiscal policy between the two sides of the Atlantic has become very accentuated in during 2023, with a government budget deficit that will not greatly exceed 3% of euro area's GDP, whereas in the US it is expected to soar to almost 7.5% of the GDP.
- **The different functioning of the labour market has obvious consequences on how the euro area and US economies react to shocks**. In the US, where the labour market is more competitive and wages respond more promptly to changes in supply and demand, wages will adjust more rapidly to demand and supply shocks, as well as to shifts in inflation expectations. In Europe, where collective bargaining has more weight, wages tend to react more slowly both downwards and upwards. **The disinflation process is necessarily affected by these different modalities of wage adjustment**.
- **The ECB has to be concerned about the highly diverging trends emerged across the member states** as persistent and large differences can lead to serious trade imbalances (through changes in the real exchange rates) and to differences in the real interest rates.
- Finally, the ECB must consider **the risks of adverse economic and financial dynamics spurred by a long-lasting increase in public debt service** and unfavourable housing market developments, that may severely affect growth and price stability in the euro area.

1. INTRODUCTION

After a long, unprecedented sequence of policy rate hikes, both the European Central Bank (ECB) and the Federal Reserve (Fed) recently decided to pause hiking policy rates. Indeed, the ECB started increasing the rate on the deposit facility in July 2022, which at the time was still at zero, bringing it with a continuous series of gradual increases to 4.5% in September 2023; in turn the Fed began to increase the Federal Funds rate in March 2022, also starting from zero, bringing it to target of 5.25-5.5% in July 2023 and leaving it unchanged to date. Whether it will only be a pause, after which one or the other of the two central banks—or perhaps both—will begin to increase interest rates again, or whether instead a plateau has been reached from which rates can only fall, will depend on whether the disinflation process underway on both sides of the Atlantic will continue at the pace desired by the respective central banks, as well as on geopolitical risks that have been more pronounced recently and which can have further effects on energy prices/restoring price stability in next months

In fact, headline inflation in the euro area was in September at an annual rate of 4.3%, more than halved from the peak of 10.6% reached in October 2022. According to Eurostat's flash estimate, in October inflation fell to 2.9%. Even core inflation, which excludes volatile prices of food and energy, fell in the euro area to 4.5% in September (estimated 4.2% in October). Equivalent figures for the United States (US) in September were 3.7% for headline inflation (as gauged by the Consumer Price Index (CPI)), down from a peak of 9.1% reached in June 2022, and 4.1% for core inflation (see Figure 1). The successes obtained so far by the central banks in reducing inflation have reinforced the beliefs of the majority of operators, whose expectations look well anchored, since they are not significantly departing from the path that the central banks have indicated to return to their 2% inflation target.

However, if the disinflation process today appears to be proceeding in a similar way in the US and in the euro area, the performances of the two areas appear to differ in terms of growth. In the second quarter of 2023, real GDP grew 0.1% year-on-year in the euro area and 2.1% in the US, and in the third quarter of 2023, GDP was estimated to decrease by 0.1% in the euro area and to grow at a surprisingly high rate of 4.9% in the US. Although the strong difference in terms of GDP growth between the euro area and the United States which occurred in the two central quarters of the current year is destined to reduce due to the expected cooling of US growth, the projections of future GDP growth appear to confirm a growth differential in favour of the United States even in the medium term (for example, the International Monetary Fund (IMF) attributes annual growth of 1.5% to the US and 1.2% to the euro area for 2024). The ability of the US economy to maintain a more than decent growth rate so far despite the long sequence of interest rate increases has surprised most commentators, some of whom are convinced that at this point it is possible for the US economy to complete the disinflation process without incurring a recession. This optimism, however, is more of a minority view concerning the euro area. In fact, many are convinced that the latter can return to an inflation rate close to 2% in a reasonably short time only by going through a period of negative growth.

This paper will focus on some of the features that differentiate the way in which the euro area and the US are reacting to the disinflationary policies undertaken by their respective central banks. Particular attention should be given to the following.

First, there was a delay in the largest euro area countries compared to the US both in reopening the economy after the lockdowns due to the COVID-19 pandemic, which resulted in their delay also in returning to the pre-COVID level of economic activity (see Milesi-Ferretti, 2021), and then in the start of interest rate increases by the respective central banks. This time lag somehow affected the subsequent disinflationary process of the two areas.

Second, the euro area is a strong net importer of gas and oil, unlike the US, which has recently become a net exporter of energy of fossil origin. Therefore, the shock due to the increase in the price of gas and oil, strongly accentuated by the Russian invasion of Ukraine, led to a fall in real income for the euro area, which did not happen for the US (see Bonatti et al., 2023). The subsequent drop in this price was then equivalent for the euro area countries to an increase in their real income, an effect which was obviously absent in the US. This different incidence of changes in the price of fossil energy in the euro area and in the US should be kept in mind in the assessment of the implications for the two areas of a possible widening of the ongoing conflict between Hamas and Israel, with the foreseeable increases in the price of oil and gas that it would entail.

Third, fiscal intervention to support the economy during the COVID-19 pandemic was more massive in the US than in the euro area. This difference in the weight of fiscal policy between the two sides of the Atlantic has become very accentuated in the current year, with a government budget deficit that will not greatly exceed 3% of the area's GDP in the euro area, whereas in the US it is expected to soar to almost 7.5% of the GDP.

Fourth, the slowdown in international trade due to COVID-19, the redefinition of supply chains with the reshoring of some production operations, the green transition with the prospective decline of some industries and the development of others, together with the ongoing slowdown of the Chinese economy, are impacting very differently on Germany and the euro area, an area whose growth has always been export-led and based on traditional manufacturing industries, compared to how they are impacting the US, an economy whose growth is typically driven by domestic demand and more based on advanced technology sectors.

Fifth, the different functioning of the labour market has obvious consequences on how the euro area and US economies react to shocks. In the US, the labour market is more competitive and wages respond more promptly to changes in supply and demand, as well as to shifts in inflation expectations. In Europe, where collective bargaining has more weight, wages tend to react more slowly both downwards and upwards. The disinflationary process is necessarily affected by these different modalities of wage adjustment.

The rest of this paper is organised as follows. Section 2 compares the evolution of headline and core inflation in the euro area and in the US, Section 3 discusses analogies and differences emerging in the policy strategies, and the "philosophies", of the Fed and the ECB, Section 4 assesses the prospects of the euro area and the US with respect to the ongoing disinflation process and the risk of recession that both areas are facing. Section 5 concludes.

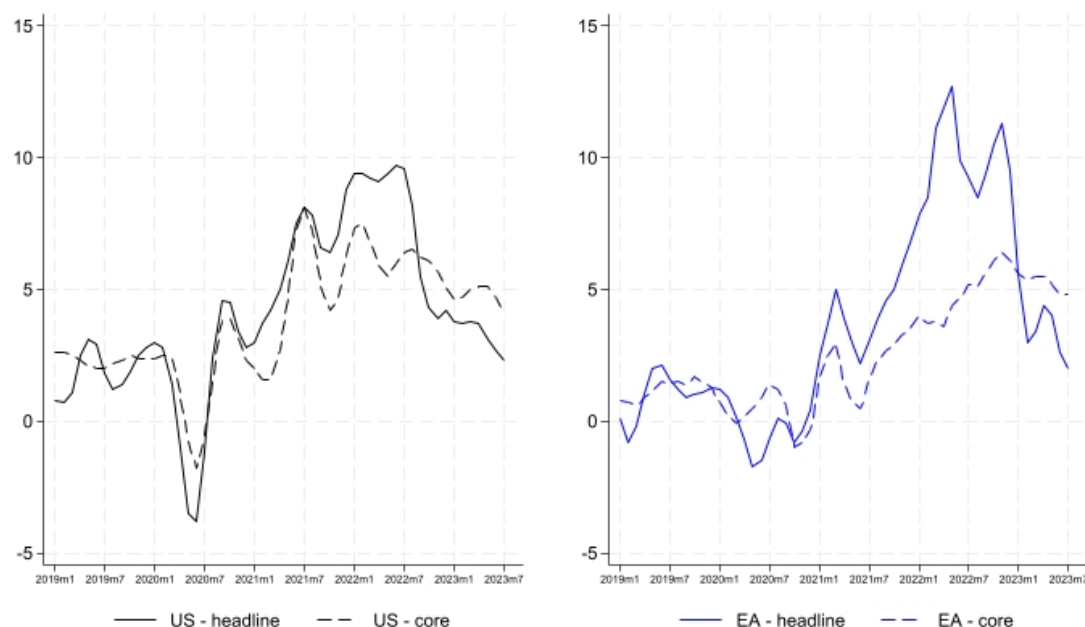
2. COMPARING THE EVOLUTION OF HEADLINE AND CORE INFLATION

To compare the evolution of headline and core inflation in the euro area and in the US, we employ the data provided by the IMF in its flagship publication, the World Economic Outlook, issued in October 2023. The two main measures of headline and core¹ inflation are provided: the Harmonised Index of Consumer Prices (HICP) for the euro area and the Consumer Price Index (CPI) for the US.

In both areas the headline inflation has fallen remarkably since mid-2022, mainly due to a fall in energy and food prices, as well as imported products. However, some differences distinguishing the dynamics of headline inflation on the two sides of the Atlantic have emerged: the reduction has been larger in the euro area but from a higher level, where prices did increase the most in 2021 and 2022.

Core inflation has slowed down more gradually than headline inflation in both areas, but some differences among them can be easily observed: while the reduction of core inflation in the US has occurred steadily along a downward trend started in mid-2021, in the euro area the contraction of core inflation emerged only recently. It must be noticed, however, that core inflation passed 5% in early 2021 in the US, whereas it remained below this value until the second half of 2022 in the euro area.

Figure 1: Headline and core inflation rates in the euro area and in the US (1:2019-7:2023), in %



Source: IMF WEO (October 2023).

The IMF distinguishes the sources of variation in the headline inflation rates. First, there are headline inflation shocks (i.e., the deviations from core inflation) that are typically driven by relative price changes in particular industries (such as energy, food, and the like). Second, core inflation dynamics reflect three components: the slack or tightness in labour markets, the changes in long-term inflation expectations, and the pass-through of past headline shocks to core inflation (see Ball et al., 2022; Dao et al., 2023).

¹ Excluding prices for food and energy and, only for the euro area also alcohol and tobacco.

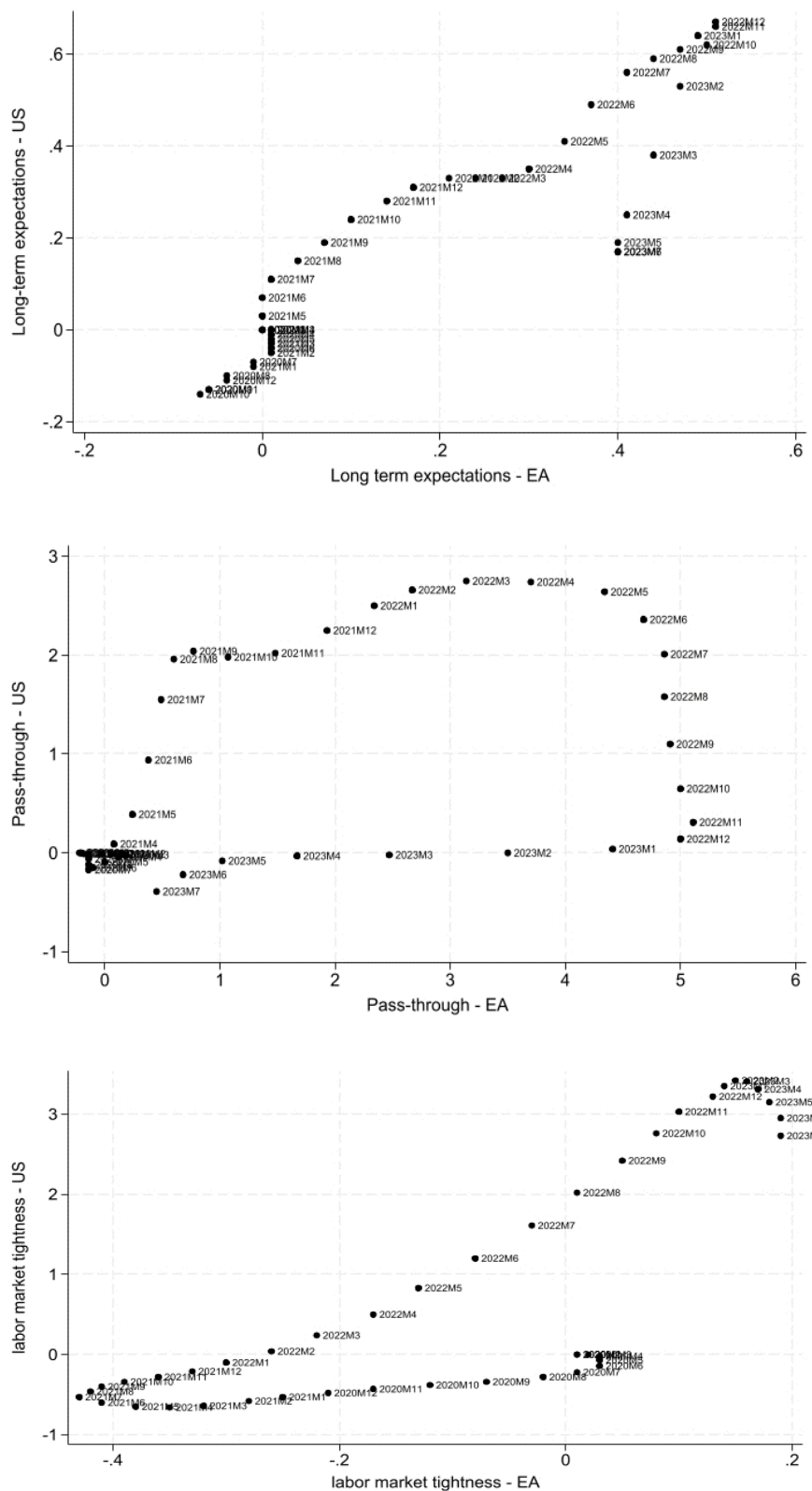
Considering the deviations of three-month annualised inflation from December 2019, the IMF produced estimates of these distinct channels for the US and the euro area (IMF, 2023). The IMF decomposition reveals that much of the past increase in core inflation in the euro area can be traced back to the pass-through of large headline inflation shocks; in the United States, instead, domestic overheating and labour market tightness were responsible for the observed dynamics. In both areas, long-term inflation expectations have remained fairly stable over the period. As discussed in Bonatti et al. (2022), such differences in the fundamental drivers of inflationary shocks affected the stance of monetary policy across the Atlantic, with a more restrictive approach adopted in the US. It is worth noticing that in 2023 the euro area and the US continue to exhibit different underlying conditions.

We report in the panels of Figure 2 below the three effects, and we plot the values estimated for the US against those for the euro area during the period between January 2020 (1:2020) and July 2023 (7:2023). Longer-term inflation expectations have remained well anchored in both areas and they added little to recent movements in core inflation (panel a). If the adjustment in long-term inflation expectations has been almost identical across the Atlantic until the end of 2022, a faster absorption of these effects can be seen more recently in the US. Panel b reports the pass-through of past headline shocks into core inflation: the euro area exhibits values that are far larger than the US since March 2022 onwards. These effects have not been entirely re-absorbed yet. This is in line with additional evidence on the long-lasting impact of the abrupt increase in energy and food prices on euro area inflation. Panel c regards labour-market related pressures. These have been remarkably large in the US since mid-2022 and reached a peak in early 2023; although moving in the same direction of the US ones, labour-market related effects in the euro area turned positive again only in August 2022 (in February 2022 in the US) and remained one tenth of those estimated for the US.²

Long-lasting price dynamics owe to the relationship between changes in wages and prices. Changes in profits appear very large in both areas in the period 2020 and 2021, whereas since 2022 the US have seen an important increase in labour costs. As profit-related inflation can be due to temporary imbalances in demand and supply before wages can adjust, the relevance of profits inflation during the pandemic period is consistent with the bottlenecks in international production caused by the virus and the restrictive policy measures. Probably due to the consequences of the Russian invasion of Ukraine, bottlenecks in production have remained relatively more stringent in the euro area and labour costs have remained more stable than in the US. While it could be argued that firms have gained some space to accommodate rising wages without increasing their prices further, thereby making profits a buffer, whether this will be enough to prevent the inception of a wage-price spiral is early to say. Most likely, to the moderation of wages in the euro area will contribute the contraction in global and local demand.

² It is worth noticing that part of these differences is due to the methodology adopted by the IMF. Labor market tightness is measured on the basis of on the unemployment gap in the euro area and on the basis of the ratio of job vacancies to unemployed in the US. This difference is due to a shift in the Beveridge curve in the US after Covid19.

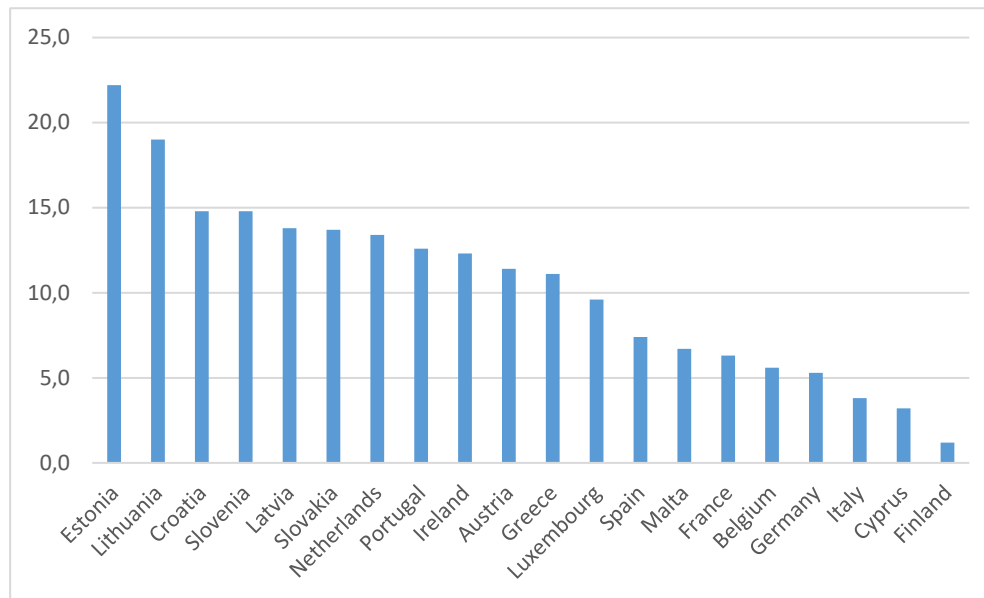
Figure 2: Drivers of core inflation in the euro area and in the US (1:2020-7:2023). Panel a: long term inflation expectations (percentage points). Panel b: pass-through of headline shocks (percentage points). Panel c: index of labour market tightness.



Percentage points; three-month annualized inflation; deviation from December 2019. Source: Authors elaboration based on IMF, WEO October 2023.

Differences in inflation dynamics across the Atlantic reflect also with divergent patterns in housing markets. Given the differences in the methodologies used by the statistical offices in the euro area and the US to include rents and housing services in their price index (see Bonatti et al., 2022), it is difficult to quantify precisely the relative importance of this channel. What is certain is that differences have been extremely marked across euro area countries: the rates of change in annual deflated house prices in 2022 (as calculated by Eurostat) vary in a range of values that goes from +1.2% in Finland to +22.2% in Estonia (Figure 3). A large dispersion in house price developments holds also in the US, with house prices still increasing in 2023 in the South Atlantic Census Division and contracting in the Pacific Census Division (Figure 4).³

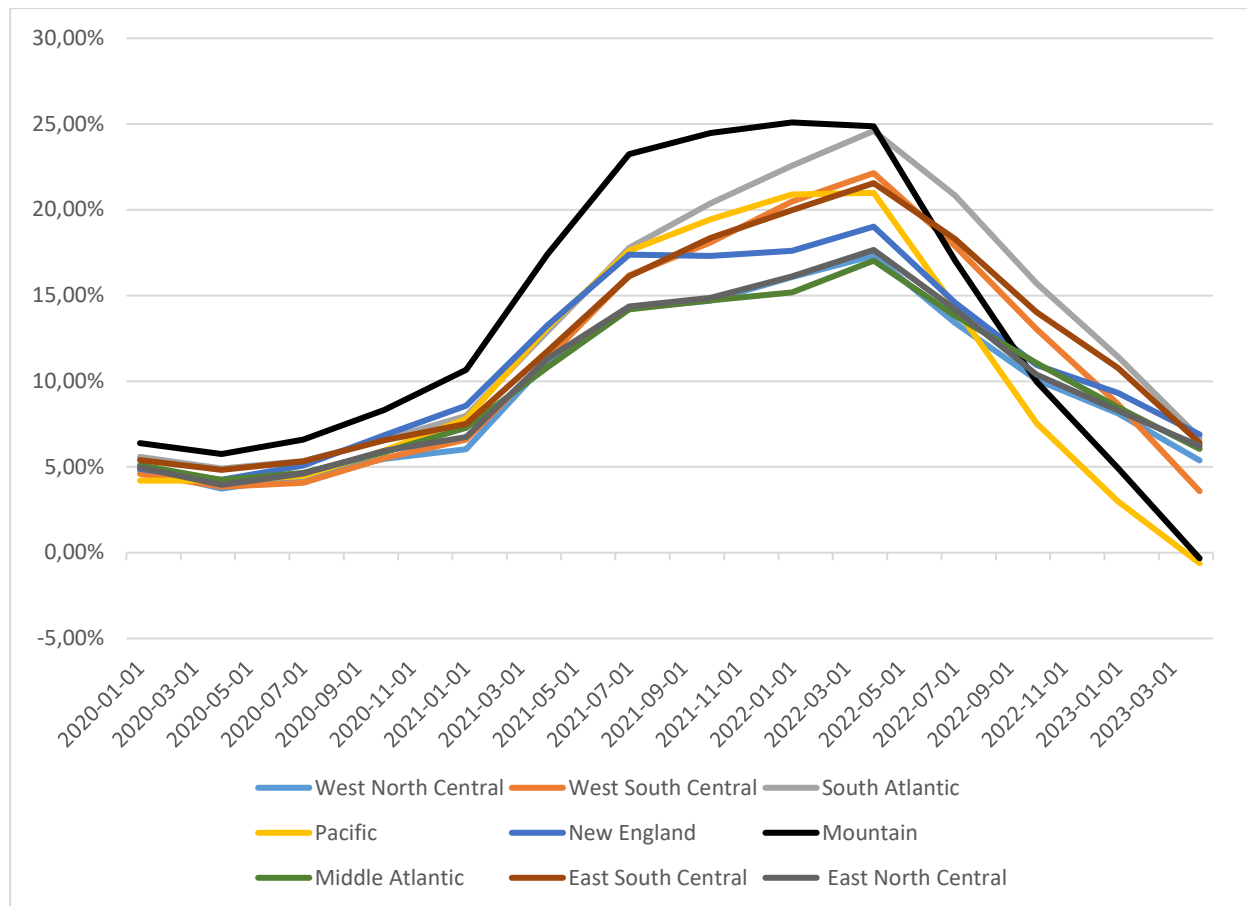
Figure 3: Annual % change in house prices in euro area Member States, 2022



Source: Eurostat (data code: prc_hpi_q_custom_8432284).

³ The US Census divisions are: New England and Middle Atlantic (North East Region), East North Central and West North Central (Midwest Region), South Atlantic, East South Central and West South Central (South Region), Mountain and Pacific (West Region). The South Atlantic Division includes the following states: (Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, Washington, D.C., and West Virginia). The Pacific division includes Alaska, California, Hawaii, Oregon, and Washington.

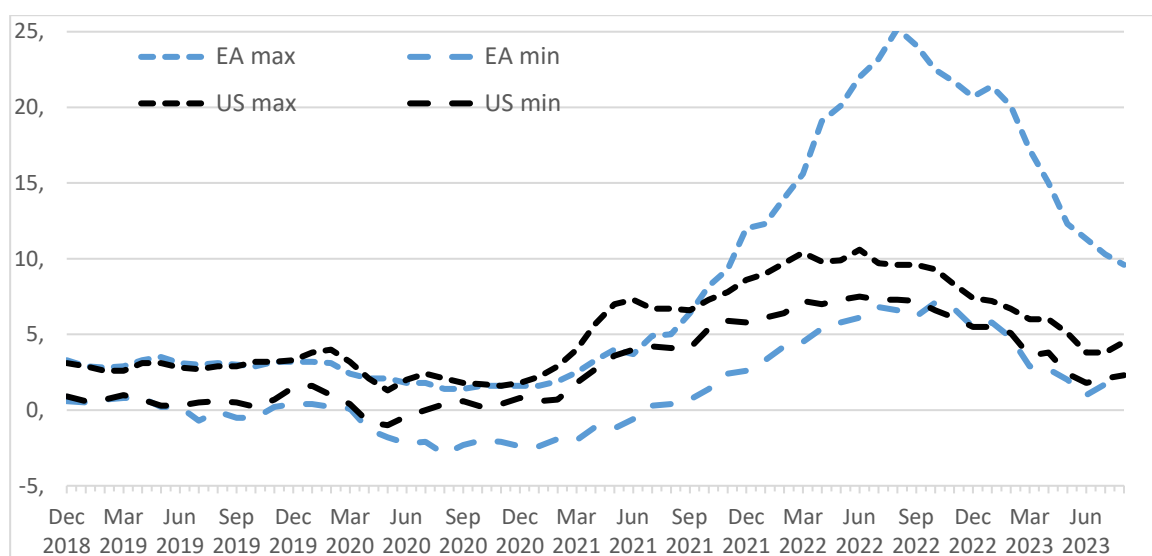
Figure 4: Year-on-variations in all-transactions house price index for several US Census Divisions. Source: U.S. Federal Housing Finance Agency



Source: retrieved from FRED on 10 November 2023.

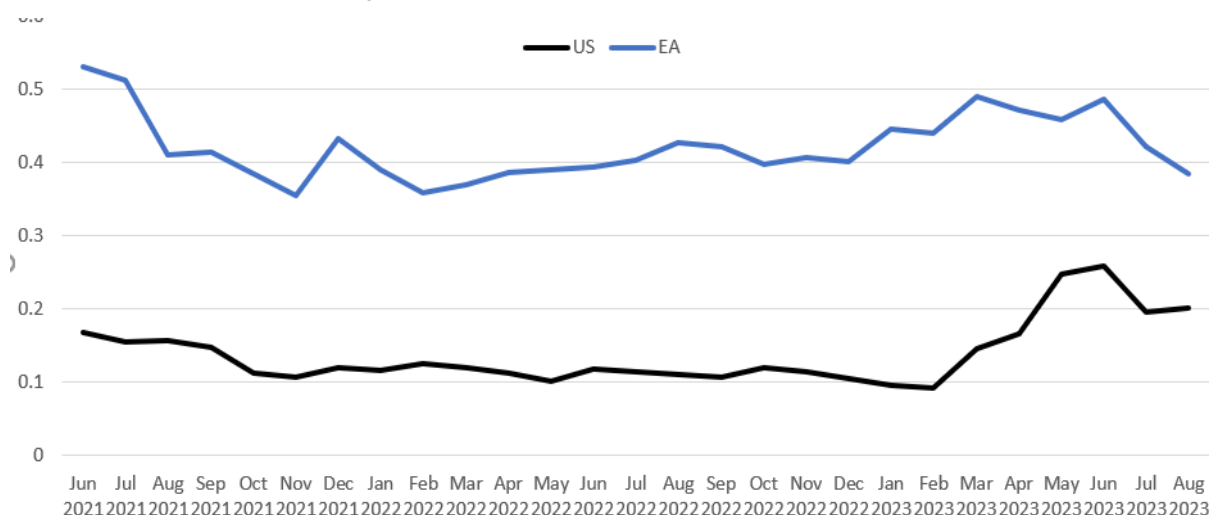
These findings **suggest that the dispersion of inflation rates within the euro area and within the US should be considered**. The first way to compare the dispersion of annual price changes is to consider the maximum and minimum values recorded in each area. In the case of the euro area, we consider the HICP for each euro area Member State; in the case of the US, we resort to the “Consumer Price Index for All Urban Consumers” calculated for nine Census Divisions.⁴ Figure 5 shows that, since 2022, the dispersion is always much larger in the euro area than in the US. This is due to the very high inflation rates recorded in Latvia and Estonia in 2022 (and in Slovakia since June 2023), probably because of the typically large shares of energy in the HICP baskets of Baltic and Eastern European countries. Even when excluding these countries, important differences can be found across the other euro area countries. This scale of heterogeneity is a relatively new phenomenon: until 2019 inflation differentials were relatively small across the euro area Member States.

⁴ The divisions are New England and Middle Atlantic (North East Region), East North Central and West North Central (Midwest Region), South Atlantic, East South Central and West South Central (South Region), Mountain and Pacific (West Region).

Figure 5: Dispersion of monthly inflation rates (%) across euro area Member States and US Census Divisions

Sources: Eurostat (euro area) and US Bureau of Labor Statistics (BLS) (US).

If we were to consider a statistical measure of dispersion that accounts for all values of inflation in the regions in the euro area and in the US, and not only the extremes, we would reach similar conclusions. Figure 6 plots the coefficient of variation of inflation rates in the euro area and the US between June 2021 and August 2023. **The dispersion across the euro area is always larger than in the US, and the distance has recently diminished due to the increase within the US.**

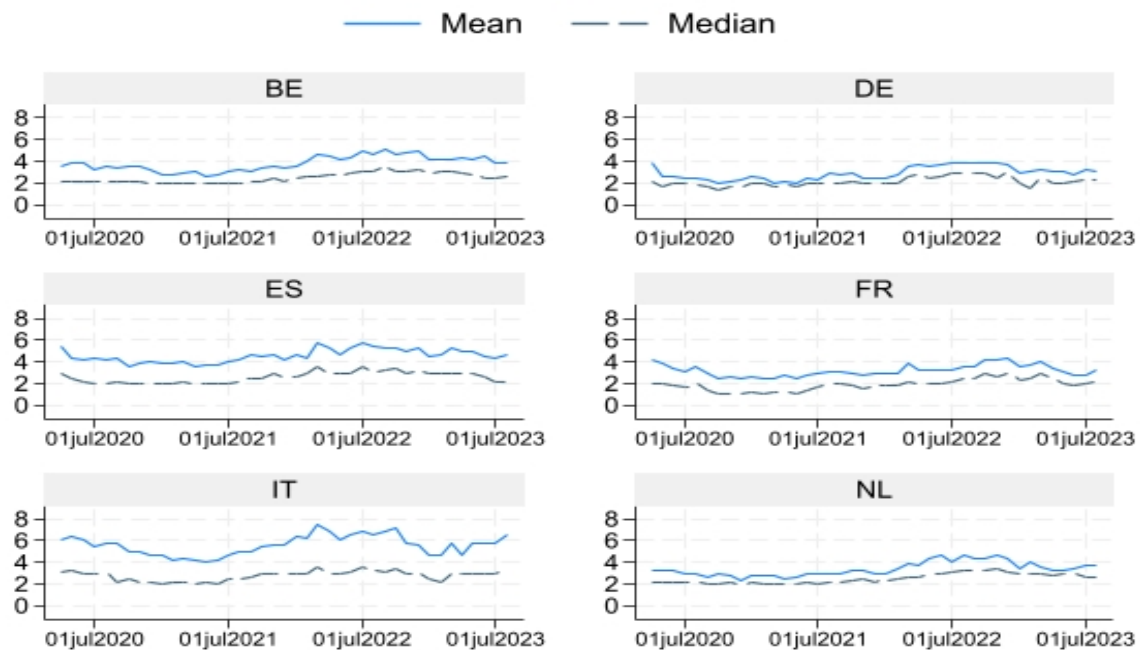
Figure 6: Coefficient of variation for regional inflation rates (euro area: Member States; US: Census Divisions) over the period 6:2021-8:2023

Sources: Eurostat (euro area) and BLS (US).

The heterogeneity in annual inflation rates has a potential impact on the appropriateness of the policy rates set by the ECB for the entire euro area. The importance of this potential problem, in fact, depends on the degree of anchoring of inflation expectations because the long-term real interest rates depend on inflation expectations, not on current inflation. Moreover, inflation differences may become more entrenched if expectations diverge: second-round effects depend on the size and persistence of the underlying shocks and on how wage and prices are set, but also on the expectations informing wage

and price negotiations. Using homogeneous data from consumer surveys, we report in Figure 7 the main aggregate indicators from the Consumer Expectations Survey (CES) related to inflation so as to gauge the developments in inflation expectations. Unfortunately, these measures are available only for six countries (BE, DE, ES, FR, IT and NL).

Figure 7: Median and mean inflation expectations 3-year ahead, in %



Source: ECB Consumer Expectations Survey (CES).

While this does not allow us to assess the situation in those euro area countries that have suffered most of high inflation rates, it permits to appreciate three stylized facts: first, the mean and median values of 3-year ahead inflation expectations have been relatively stable over time; second, the mean value of future inflation is always higher than the median value, and the difference is large where inflation is higher; third, some non-negligible heterogeneity in the mean value of inflation expectations is present across these countries.⁵

⁵ Market-based measures of inflation expectations are available for a larger number of countries, but they reflect both actual inflation expectations and inflation risk premia.

3. NEW STRATEGIES UNDER THE INFLATION STRESS TEST

So far we have examined comparatively how the Fed and the ECB have reacted to the insurgence of inflation, which took off across the advanced economies roughly at the same time in the course of 2021. In the US, headline inflation first surpassed the 2% threshold in April 2021, in the euro area in August (core inflation in May 2021 in the US and in November in the euro area). As said, the Fed begun its series of increases of the policy rate in March 2022, the ECB did so four months later.

We have also pointed out the existence, and the role of, differences in the origin of inflation (imported energy prices relative to domestic boosters) as well as in the institutional environment of the two central banks (namely labour market institutions and, above all, the multi-country multi-government nature of the euro area; more on this point in section 4). Both central banks have accompanied their "conventional" policy of higher interest rates with the downsizing of their balance sheet, and yet this operation is more complex and critical for the ECB in consideration of different sovereign debt exposures. Not least, the US economy is proving to be more resilient to the monetary tightening than the euro area, which shows a widespread stagnation.

These elements may account for the differences between the two central banks in the timing and implementation of policy decisions as well as in the style of communication and "forward guidance". Looking at a more general level, and further into the future, in this section **we address the issue whether deeper differences are emerging in the policy strategies, the "philosophies" of the two major central banks among the advanced economies.**

To begin with, it is worth recalling that **the Fed and the ECB share the basic general principles** that have been reshaping modern central banking, namely independence, autonomy, and "inflation targeting" as the blueprint of best implementation of the mandate of price stability.

The Fed officially adopted inflation targeting in 2012, with a target set at 2% annual increase in the consumer price index⁶ (Reifschneider and Wilcox, 2021), although other authors argue that this adoption was only implicit (Famiglietti and Garriga, 2021). In August 2020, the Fed clarified that its target should be understood as an average value measured over the medium term (Board of Governors of the Federal Reserve, 2020).

"In order to anchor longer-term inflation expectations at this level, the Committee seeks to achieve inflation that averages 2 percent over time, and therefore judges that, following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time."

In July 2021 the ECB, too, announced its long-awaited revision of policy strategy. The relevant documents (ECB 2021a, 2021b) cover a number of issues, but the kernel of the revised strategy, namely the operational (re)definition of "price stability", can be summarised in two points (ECB 2021a):

- *"the Harmonised Index of Consumer Prices (HICP) remains the appropriate price measure for assessing the achievement of the price stability objective" (p. 1), with the intention to recalibrate the index with the inclusion of the costs of the owner-occupied housing, and to downgrade the weight of the most volatile components such as energy prices;*
- *"price stability is best maintained by aiming for two per cent inflation over the medium term" (p. 2), with "symmetric commitment" to this target. "Symmetry means that the Governing Council considers negative and positive deviations from this target as equally undesirable" (p. 2).*

⁶ The Fed's preferred measure of inflation is the Personal Consumption Expenditure (PCE).

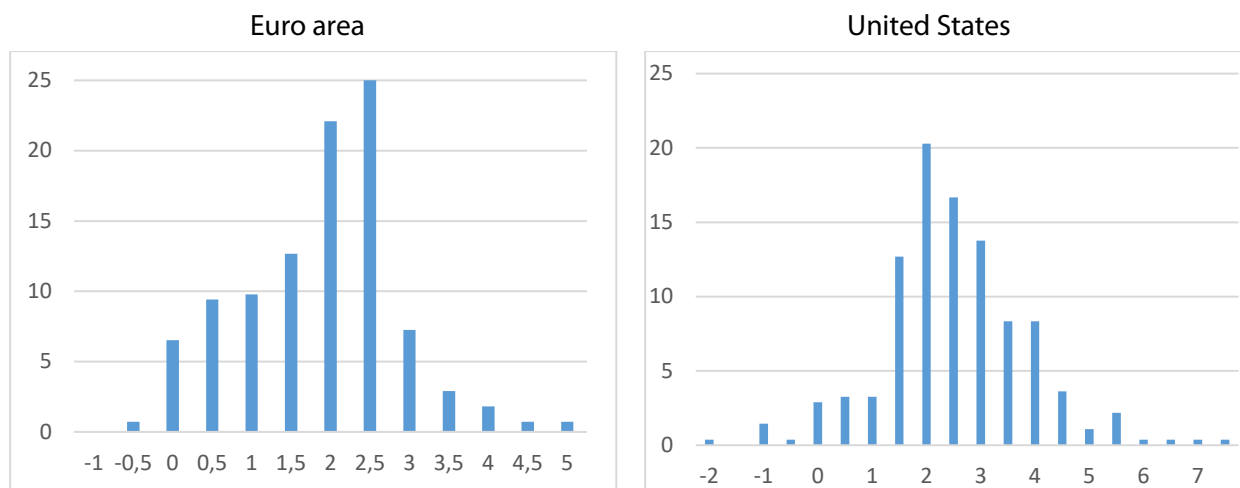
The second point introduces the most apparent modification with respect to the previous definition of price stability as a year-on-year increase of the HICP "below but close to 2%" dating back to 2003. In order to provide an appropriate background, Table 1 and Figure 8 summarise the essential statistical evidence of the past record of the monthly observations of the year rates of change of the consumer price indexes in the euro area and the US from 1999 up to the end of the immediate emergency phase of the COVID-19 pandemic in 2021.

Table 1: Monthly observations of the year rates of change of the consumer price index, 1999:1-2021:12

	Euro area	United States
Mean	1.67%	2.24%
Min., Max	-0.6%, 5.0%	-2.0%, 7.0%
Variance	0.98	1.82
Obs. < 2%	61.2%	44.6%
Obs. <1%, 3%>	77.2%	66.7%
Obs. <0.5%, 3.5%>	89.5%	78.7%

Source: Elaborations on ECB, Statistic Warehouse, HICP series; FRED, Consumer Price Index, All Items.

Figure 8: Distribution of the monthly observations of the yearly rates of change of the consumer price index, 1999:1-2021:12, in %



Source: Elaborations on ECB, Statistic Warehouse, HICP series; FRED, Consumer Price Index, All Items.

As far as the euro area is concerned, at first glance, an average yearly inflation of 1.67% seems consistent with the definition of "below but close to 2%". Comparatively, the US fared slightly above 2%. Nonetheless, 61.2% of observations below 2% in the euro area, *vis-à-vis* 44.6% in the US provide clear evidence of a downward bias. This corresponds, as is well known, to the twelve years (2009-20) between the Great Recession and the COVID-19 pandemic, when inflation remained systematically below 2%. On the other hand, the US display a few more extreme events (during the Great Recession on the negative tail, and during the post-pandemic rebound on the positive tail), resulting in a larger overall variance.

Several commentators have welcomed the new definition of price stability of the ECB, with a clear-cut target value of 2%, as an improvement in view of a more consistent and transparent application of inflation targeting as a general framework for monetary policy conduct and communication (e.g. Wyplosz, 2021; Demertzis, 2021; Darvas and Martins, 2021; Blot et al., 2021). The new definition of price

stability "is now symmetric and it allows for temporary overshooting as needed" (Wyplosz, 2021, p. 6). This interpretation rests on the two statements reported above: that upward and downward deviations are equally undesirable, *and* that the 2% target is to be achieved over the medium term, implying that deviations will not be corrected immediately.

There are also differences in the policy strategies announced by the two central banks which have been matter of accurate exegesis (see e.g. Darvas and Martins, 2021) but which fall beyond the scope of this paper. An important one to be mentioned is that, unlike the Fed, the ECB does not refer to 2% as an average. This different wording, if taken at face value, may imply that in the face of an upward (downward) deviation of inflation from 2%, the Fed might feel allowed to let inflation deviate downward (upward) by the same and symmetric amount, whereas the ECB might feel committed to driving inflation back just to 2%.

Overall, there remain also non-trivial margins of ambiguity, which are being brought to the fore by the rapid inflationary evolution of the post-pandemic scenario. With early assessments of the two strategy revisions being under way (e.g. Wyplosz, 2021; Darvas and Martins, 2021; Blot et al., 2021), they were suddenly put under test by the upsurge of inflation in the course of 2021.

In this perspective, the reformulation of the policy strategy of the two central banks can be interpreted as moving closer to the **inflation-targeting zone** (see, for example, Chung et al., 2020, and Demertzis, 2021) because the reference to 2% as a medium-term target implies, first, that inflation may be subject to fluctuations that will not be systematically offset, and second, that these fluctuations will still be contained around the target.

Targeting zones (TZs) are generally associated with exchange rate systems, where they may also be set officially, as was the case with the European Monetary System. Less common is the association of TZs to monetary policy. Across different uses and meanings, a typical feature of an inflation targeting zone (ITZ) is that the central bank is **committed to keeping inflation within a range of values**. As a consequence, the central bank **has to intervene** when inflation is expected to breach either the floor or the ceiling of the range, but it **may decide not to intervene** as long as inflation is expected to fluctuate within the range.

While no central bank has an official ITZ, reference to ranges of values around a point inflation rate is common practice, known as **thick inflation targeting** (Castelnuovo et al., 2003; Chung et al., 2020). This may have different characterisations, for which Chung et al. (2020) provide the following useful taxonomy: (i) *uncertainty ranges*, "that acknowledge uncertainty about inflation outcomes", (ii) *operational ranges*, "that define the scope for intentional deviations of inflation from its target"; (iii) *indifference ranges*, "over which monetary policy will not react to inflation deviations" (p. 1).

Considering Chung et al. (2020) comparative analysis of central banks' practices, one may conclude that uncertainty ranges are the most common, operational ranges are the least common, and indifference ranges rest somewhere in between (with a few conceptual as well as practical overlaps with uncertainty ranges). The kind of (implicit) ITZs adopted by the Fed and the ECB seem close to the definition of operational ranges.

ITZs share the common notion that inflation is a volatile phenomenon which can hardly be pinpointed at its target value all the time, a *caveat* that central banks also wish to communicate to the public. Implicitly, the idea is that no matter how great the benefits may be in keeping inflation at bay, there are also costs to be borne, ranging from frequent or volatile use of the appropriate instrument(s) to side effects on particular sectors of the economy as a whole. The width of the ITZ is the result of the trade-off between the benefit of intervening on inflation and the cost of the spillovers of the intervention (Orphanides and Wieland, 2000; Della Posta and Tamborini, 2023).

The second, related, rationale for an ITZ is that policy decisions are taken in the light of the current state of the relevant variables (i.e. data driven policymaking) as well as their projections. Yet projections are subject to errors. The risk of undershooting the policy rate should be assessed against the risk of overshooting it and of implementing quick reversals of the policy rate: this concern typically results in a "smoothing" of the manoeuvre of the policy rate (Sack and Wieland, 2000; Lei and Tseng, 2019).

Besides denting central bank's credibility and predictability, the main negative by-product of the policy-rate volatility induced by point inflation targeting arises in the context of flexible inflation targeting, i.e. when the central bank attaches some value to output stability in addition to price stability. A further source of concern relates to financial stability. After the earlier consensus that price stability was a necessary and sufficient condition for financial stability collapsed with the global financial crisis, central bankers' conventional wisdom seems now turned upside down. The ECB pedagogy about its various asset purchases programmes hinges on financial stability as a precondition for price stability (Lane, 2020; Schnabel, 2021). By the same token, inflation-targeting activism may run counter financial stability, triggering "financial fragmentation" as it is now dubbed in the ECB vocabulary (Wyplosz, 2021; Schnabel, 2021).

Does the adoption of an ITZ ease or hamper price stability? As suggested by Ehrmann (2021), the assessment of ITZs can be organised around two alternative hypotheses.⁷ One, which can be traced back to Stein (1989), is the **flexibility hypothesis**. In the face of uncertainty and weak commitment, central banks may have appetite for flexibility. The objection is that the adoption of an ITZ can be interpreted *ex-ante* as a relaxation of the commitment to stay on target resulting in the de-anchoring of expectations, and *ex-post* as a curtain that obscures central bank accountability. By contrast, the **credibility-enhancement hypothesis** (e.g. Bernanke, 1999; Mishkin, 2000) argues that for the central bank's credibility it is better to deliver more likely on the promise to keep inflation within a thick band than to fail almost surely to keep inflation on the point target. Yet this argumentation raises the question of what the consequence may be of trespassing even the thick band.

Ehrmann (2021) tests on a dataset of 20 economies (half advanced and half emerging) the two alternative hypotheses mentioned above, namely whether "targets with intervals (i) lead to less anchoring, e.g. because they provide more flexibility to the central bank, or (ii) better anchoring, because they are missed less often, leading to an enhanced credibility" (p. 1). He finds support for the latter hypothesis, though no variant outperforms the others systematically. The focus on the role of ITZs in anchoring expectations distinguishes this study from others, which is a point particularly relevant as will be seen subsequently.

Overall, if the judgement in the empirical literature is mixed as to whether ITZs bring better result in terms of inflation control, no evidence is found that it determines worse results systematically.⁸

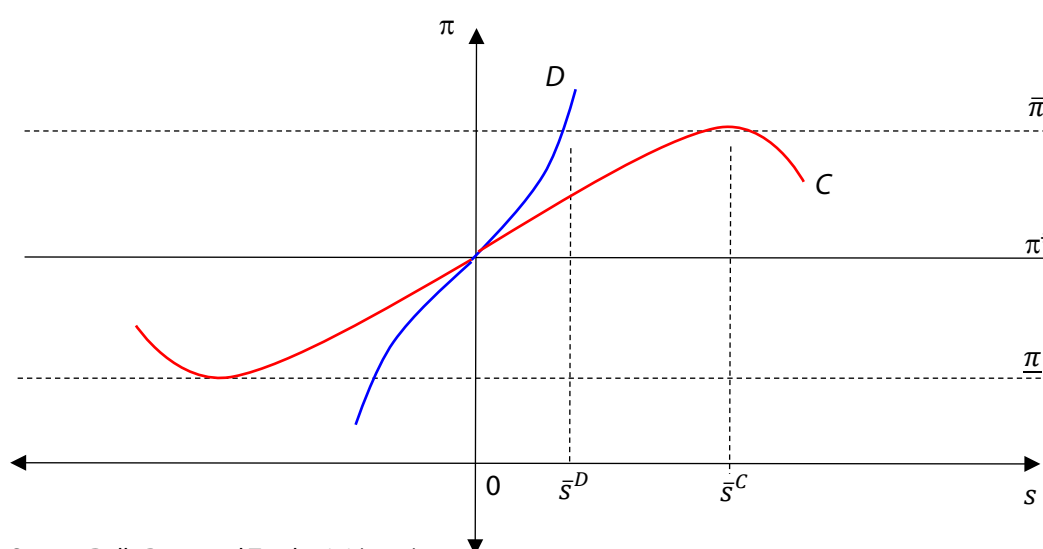
⁷ To begin with, the empirical evidence on the performance of inflation targeting (IT) is mixed. One reason being that the performance may be assessed under different dimensions. While some authors claim that IT did not work because the inflation performance of OECD countries was not affected by its adoption (Ball and Sheridan, 2005), Gonçalves and Salles (2008) show that it implied a systematic reduction of inflation rates in developing countries. Bhalla et al. (2023), distinguish between early adopters (pre-2000) who experienced a success in reducing inflation, and late adopters, exhibiting mixed results. The specific effect of ITZs is not easily discernible. Castelnovo et al. (2003) extend their skeptical assessment of IT to countries that adopt ITZs in the form of allowed ranges of deviation from the target (Norway, Sweden, Canada) as opposed to "thick targeting" (Australia, New Zealand). Some studies examine the behavior of inflation at the upper and at the lower bound of the band of tolerance, also known as "asymmetric ITZs" (Ruge-Murcia, 2003; Martin and Milas, 2004; Naraidoo and Raputsoane, 2011; Akdoğan, 2015): the persistence of inflation at the upper bound seems lower than at the lower bound. Naraidoo and Raputsoane (2011), however, find that central banks remain passive as long as inflation is within the band whereas they become increasingly aggressive when it deviates from the band.

⁸ It should also be considered a limit of these empirical studies, namely that they assess the performance of ITZs relative to some statistics of the inflation process alone whereas the aim of ITZs is to minimize the negative spillovers of inflation control onto other policy-relevant variables. Hence a complete assessment should also include the extent to which this aim has been achieved.

Whatever one's assessment of the past experiences of the various central banks, it is a fact that the confidence in high-precision inflation targeting gained during the years of the Great Moderation has been eroded in the past fifteen years. We live at a time of sharp increase in macroeconomic volatility, high sensitivity of expectations, and hence central banks' appetite for flexibility. In this perspective, according to Demertzis (2021), "the most important feature of a tolerance band [around the 2% target] is that it provides a very clear framework for evaluating central bank performance" (p. 4), while it dispenses with identifying the time horizon of deviations explicitly. "For as long as inflation is within the tolerance band, then it is also at 2% on average" (p. 3). This statement, however, is not warranted, since inflation might well remain within a band centred on 2% without averaging to 2% to the extent that it remains above or below most of the time (see Figure 7). As we shall explain later, a specific mechanism of reversion to the mean (possibly not reliant on benevolent features of shocks) is also necessary.

Della Posta and Tamborini (2023) show that an ITZ may or may not deliver the desired results depending on **the degree by which market agents are certain about its boundaries**. If this condition holds, the dynamic path of inflation after a shock is curbed so that the central bank can also accommodate larger shocks before intervening. However, the main shortcomings pointed out in current discussions of ITZs (such as larger, on average, deviations from target, de-anchoring and self-confirming fluctuations in expectations) do arise **in the case of uncertainty about the true boundaries of the ITZ**. The reason may be better understood by means of the following figure, which depicts the dynamic path of inflation π as a function of a shock s , and π^* is its target value, $\bar{\pi}$ the upper bound, and $\underline{\pi}$ the lower bound, of the ITZ.

Figure 9: The dynamic paths of inflation after a shock



Source: Della Posta and Tamborini (2023).

Curve C (convergence) shows the benefits of the ITZ in case of certainty, that in the TZ literature are dubbed **honeymoon effect**. The first is that, even in the presence of some de-anchoring of expectations after a shock, and the central bank not intervening but at the upper bound, the dynamic path of inflation is bent towards its target. In fact, each point along the curve indicates that for the corresponding shock of size s inflation decelerates. The reason lies in the expectation component. As the shock unravels, the anticipation for sure of the central bank's intervention at the upper bound pulls inflation down. This effect is stronger, the closer inflation is to the upper bound. The second beneficial effect is that, as a consequence, the central bank can also accommodate a larger shock \bar{s}^C .

before intervening. Finally, the upper bound operates as a "reflecting barrier", meaning that the inflation process is reflected towards the interior of the band.

By contrast, curve *D* (divergence), shows the reversal of the benefits of the ITZ when its boundaries are uncertain, that is the **divorce effect**. This may be the consequence of the public assigning a sufficiently high probability to an upper bound of the ITZ higher than the one the central bank has set to itself. Note that this may not only be due to the fact that the central bank has not announced the upper bound, but also to low credibility of the central bank's announcement. Therefore, as the shock unravels, the expectation component pushes inflation up and makes it accelerate. If the central bank does not intervene, inflation will actually trespass the boundary. The figure shows that, in order to prevent this from happening, the central bank should intervene earlier and with higher interest rate.

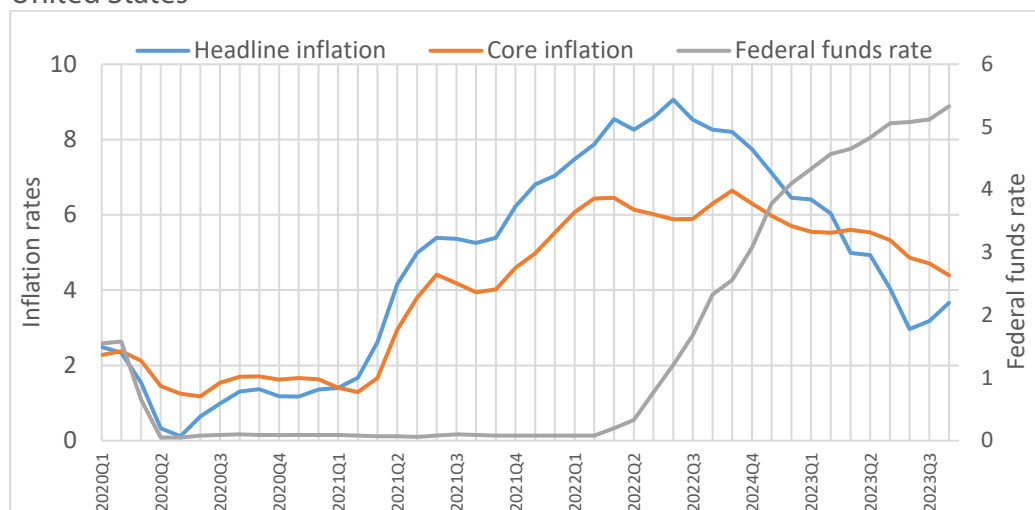
This theoretical discussion shows that it may be matter of concern that neither the Fed nor the ECB have stated the magnitude of tolerable fluctuations around the target, consistently with the general reluctance of central banks to tie their hands to a precise numerical definition of tolerance bands (Chung et al., 2020). The ECB new strategy "remains vague regarding the margin of tolerance and the time allowed for overshoot" (Wyplosz, 2021, p. 6). In the case of the ECB, past experience may suggest a tolerance band like 1-3% or 0.5-3.5% (see Table 1). The same ranges of values also seem to fit the US data, though, as already remarked, more tail events are present. Such reluctance, as argued, may backfire to the extent that it affects expectations.

Also because of the lack of official statements, mapping the actual decisions of central banks onto this theoretical framework is not straightforward. Nonetheless, the initial reaction to the upsurge of inflation (discussed in previous sections) and the latest decisions regarding the future path of interest rates may be read through the lenses of ITZs. Figure 10 provides the basic information regarding the track of the policy rate *vis-à-vis* headline and core inflation for the two central banks since 2020.

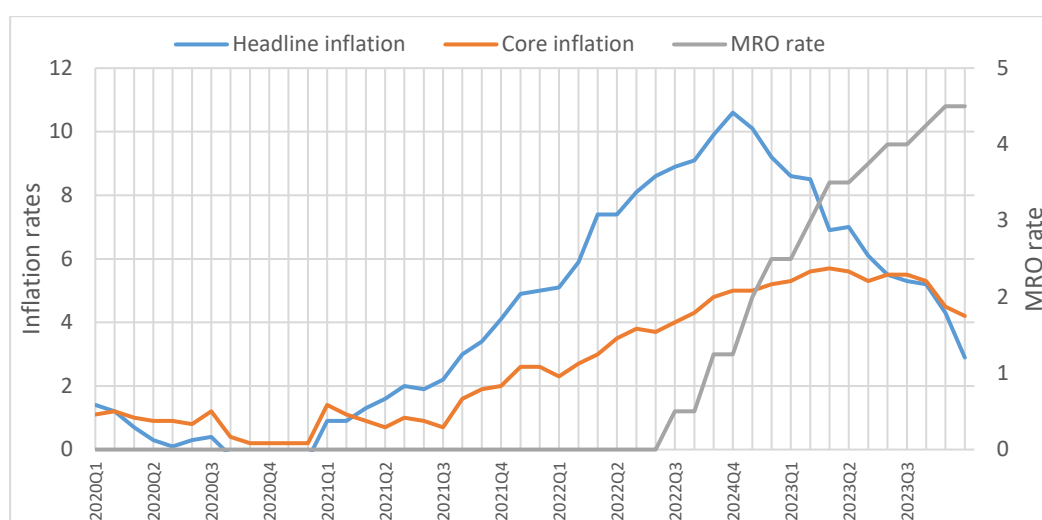
According to a widespread interpretation of inflation targeting, the prompt and determinate reaction of the central bank at the early stages of the inflation process is key to containing and curbing inflation, especially as a means of preventing the de-anchoring of expectations. Accordingly, the Fed, and to a greater extent the ECB, have been criticized for their delayed intervention. The first intervention of the Fed (March 2022) occurred with headline inflation at 8.5% and core inflation at 6.5%, in the case of the ECB (July 2022) headline inflation was at 8.9% and core inflation at 4%. The intervention trigger value of headline inflation was almost the same, while the ECB was more pre-emptive on the front of core inflation.

Figure 10: Headline inflation, core inflation and policy rates in the US (upper panel) and in the euro area (lower panel), in %

United States



Euro area



Source: ECB, Statistical Warehouse; FRED Database.

However, delayed reaction at the first stages of inflation acceleration may be seen part of an ITZ management, as long as inflation is projected to remain within the no intervention zone, rather than the consequence of undervaluation of inflation risk or excess dovish-ness. As a matter of fact, the ECB Governing Council on 21 July 2022 announced its first increase in the policy rate of 50 basis points, possibly followed by further 25-50 basis points later, as "*the new staff projections foresee annual inflation at 6.8% in 2022, before it is projected to decline to 3.5% in 2023 and 2.1% in 2024 – higher than in the March projections*" (ECB, 2022). These projections turned out to be wrong, but as explained above, uncertainty regarding the future development of inflation, and consequent possible mistakes in the policy stance, are indeed an element in the rationale for a no intervention zone or, more likely, a smoothed adjustment of the policy rate. This was particularly warranted in the euro area, where growth is expected to slow down at a faster rate and heterogeneity across jurisdictions risk jeopardising financial stability and the monetary transmission mechanism.

Coming to the latest decisions of the two central banks, in consideration of the downward trend of inflation both the ECB and the Fed announced that the respective policy rates will be kept constant as

long as necessary to consolidate the convergence of inflation towards the target.⁹ The expression *"policy rates will be set at sufficiently restrictive levels for as long as necessary"* used in the ECB statement on monetary policy decision, captures the current policy stance that is broadly in line with the management of an ITZ at the upper bound. As shown by Figure 8, at the upper bound the central bank raises the policy rate as much as necessary to keep inflation within the band and holds it as long as necessary to induce convergence to the target.

If this is the case, it may be argued that the turning point of the inflation process has materialised at the non-trivial level of about 10% of headline inflation both in the US and the euro area, possibly beyond what both central banks may regard as a fair upper bound. However, the point at which the policy rate begins biting inflation depends on a number of circumstances that fall beyond the central bank's control, so that where the "true" ceiling of the inflation process materialises is uncertain for the central bank too. On the other hand, recurrent monitoring of various sources of inflation expectations, from business to households, have not shown, and are not showing, strong evidence of de-anchoring or divorce effect, indicating that the two central banks' strategy is regarded as broadly credible over a medium-term perspective.

The stability of expectations does not only contribute to the reduction in inflation by reducing this pass-through component (as shown in section 2), but it also allows the central banks to carry out an ITZ policy that is data-driven and effective.

⁹ From the Federal Reserve, [FOMC Statetement 11-01-2023](#). "The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. In support of these goals, the Committee decided to maintain the target range for the federal funds rate at 5-1/4 to 5-1/2 percent. The Committee will continue to assess additional information and its implications for monetary policy". From the ECB, [Monetary policy decisions 26 October 2023](#) "The Governing Council today decided to keep the three key ECB interest rates unchanged. The incoming information has broadly confirmed its previous assessment of the medium-term inflation outlook (...) ased on its current assessment, the Governing Council considers that the key ECB interest rates are at levels that, maintained for a sufficiently long duration, will make a substantial contribution to this goal. The Governing Council's future decisions will ensure that its policy rates will be set at sufficiently restrictive levels for as long as necessary..

4. BETWEEN DISINFLATION AND RISK OF RECESSION

Having examined comparatively inflation developments, and the reactions of the Fed and the ECB in Section 2, and having discussed the extent to which these reactions can be traced back to the new policy strategies of the two central banks previously announced, we now turn to an assessment of their stance in the face of the challenge of disinflation *vis-à-vis* the risk of recession. As will be seen, the different institutional environment in which the two central banks operate is now at the centre of the stage.

The rapid increase in inflation that took place in the euro area and US was caused by the supply shocks that hit these two areas because of the disruptions in the production and logistics chains due to the COVID-19 pandemic. When, with the end of the lockdowns, the demand for goods and above all for services—forcibly repressed during the pandemic—quickly and lively recovered, bottlenecks and delays in restoring normal supply conditions pushed up the prices of commodities, manufactured goods and especially services. The Russian invasion of Ukraine in February 2022 then strongly exacerbated the already ongoing increase in food, gas and oil prices.

Although the major central banks were slow to realise that the inflation hike would not be quickly reabsorbed, the determination they then showed in implementing their path of monetary restrictions avoided the de-anchoring of longer-term inflation expectations to the upside, thus reducing the cost associated with the disinflationary process. This undoubted success of the strategy pursued by the monetary authorities allowed the rapid decline in headline inflation, which has accompanied the fall of fossil energy and food prices from the levels reached in the aftermath of the Russian invasion of Ukraine. Apparently, this validates the objection made to those commentators arguing that monetary tightening is not the appropriate cure for supply-shock driven inflation, according to which such tightening is still necessary, regardless of the initial source of the price hikes, in order to prevent persistently high headline inflation from de-anchor long-term inflation expectations.

To consolidate the results obtained so far and bring inflation back steadily to around 2% within two or three years without causing a deep recession, both the Fed and the ECB will have to be very careful in measuring their moves in light of the incoming macroeconomic data. In fact, they will have to avoid, on the one hand, unnecessarily depressing the economy with excessive monetary restrictions and, on the other, overheating the economy by allowing demand to expand at a pace incompatible with a return to their 2% target. The institutional and macroeconomic framework within which the two central banks find themselves operating is, however, quite different.

During the COVID-19 pandemic, policy makers implemented an aggressive fiscal stimulus on both sides of the Atlantic to finance health spending and support households and firms. However, the US did it much more massively than the fiscal authorities in the euro area. In fact, after having had a budget deficit of more than USD 3 trillion in 2020, equal to almost 15% of US GDP (whereas in that year the euro area's budget deficit was on average 7.2% of GDP), the US federal government reduced its deficit to just under 12% of GDP in 2021, twice as large the public deficit run by the euro area as a percentage of GDP in the same year (i.e., 5.3%). Once the pandemic was over, a fiscal consolidation effort was made in 2022 in both areas, with the budget deficit reduced to 3.6% of GDP in the euro area and to around 4.1% of GDP in the US.¹⁰ This effort has continued in the euro area, where a budget deficit of 3.2% of GDP is expected in 2023, but not in the United States, where the budget deficit will increase again in

¹⁰ Officially, the Federal deficit was \$1.375 trillion for the fiscal year that ended September 30, 2022. However, the actual deficit was approximately \$1.05 trillion, since President Biden's Federal student debt cancellation plan—which the Supreme Court struck down before it took effect as unconstitutional—should not be included.

2023, reaching around USD 2 trillion, or almost 7.5% of US GDP.¹¹ The expansionary fiscal policy that the US federal government is continuing to fuel growth driven by consumption: in the 3rd quarter of 2023, private consumption contributed to US GDP growth by 2.7%, growth which in turn has continued until now to increase the number of employed people. Projections for the public deficit as a percentage of GDP in 2024 are 6.0% in the US according to the Congressional Budget Office, and 2.8% in the euro area according to the Eurosystem Staff.¹²

The much more massive fiscal intervention that has characterised the US compared to the euro area implies that from the empirical analyses it emerges how aggregate demand shocks—such as those generated by an expansionary fiscal policy—have a much greater role in the US than in the euro area in explaining the rise in core inflation since 2021 (see Dao et al., 2023; Di Giovanni et al., 2022; Di Giovanni et al., 2023). As shown in section 2, in the euro area, unlike in the US, core inflation is primarily the result of pass-through from past headline shocks, such those concerning the prices of food and energy.

The fact that Europe, as a net importer of fossil energy, is particularly vulnerable to increases in the prices of gas and oil, as well as of some agricultural commodities that it imports, has led many European governments to intervene with deficit-financed measures aimed at reducing the impact on businesses and the population, especially the poorest groups, thereby also reducing their impact on inflation. These "unconventional" fiscal measures acted on headline inflation partly directly and partly indirectly through the lower pass-through to core inflation (Dao et al., 2023). Aside from their redistributive effects, these measures tend to smooth the path of inflation by spreading the impact of increases in energy or food prices over time. Thanks also to the fact that the shocks that pushed these prices up proved to be temporary, the inflation-controlling effect of these unconventional measures dominated the effect they exert on it through their expansionary impact on aggregate demand: Dao et al. (2023) estimate that together they reduced euro area inflation by 1 to 2 percentage points in 2022.

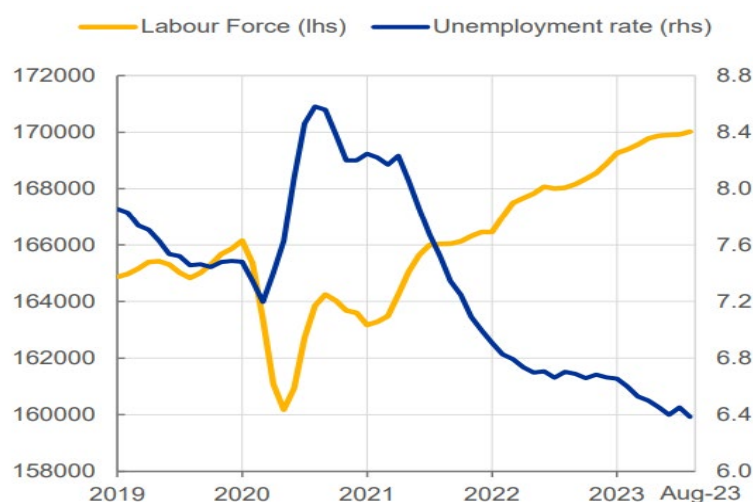
Furthermore, what is happening in the labour market is crucial in both the US and the euro area to understand if and how the disinflationary process will proceed. Beyond the rapid decline in unemployment that followed the economies' reopening at the end of the lockdowns, the euro area, as well as the US, has seen a strong recovery in the number of active workers over the past two years, after many of them had left the ranks of the workforce during the COVID-19 pandemic (see Figure 10).

This made it possible to alleviate those labour shortages which, under the pressure of the rapid increase in demand—concentrated above all in the service sectors—led to strong upward pressure on wages. This effect was particularly strong in the United States where wage determination responds more promptly than in Europe to the forces of supply and demand. It is also evident how an effective measure of labour market slack should account for the increasing share of direct transitions from inactivity to employment, which make indicators such as the unemployment rate and even the vacancy-unemployment ratio not always reliable measures on the cyclical state of the labour market. The importance of assessing how tight labour markets are is apparent in the light of recent studies that explain the surge of inflation in the 2020s as the result of a nonlinear Phillips curve that steepens as firms compete for increasingly scarce workers, thus pushing nominal wages up (Ball et al., 2022; Benigno and Eggertsson, 2023).

¹¹ The official US budget deficit for the fiscal year 2023 is projected to be approximately \$1.7 trillion, but the actual deficit is \$321 billion larger since the official deficit was reduced to account for the student debt cancellation plan that the Supreme Court struck down.

¹² For the US, see www.cbo.gov/publication/59096. For the euro area, see https://www.ecb.europa.eu/pub/projections/html/ecb.projections202309_ecbstaff~4eb3c5960e.en.html

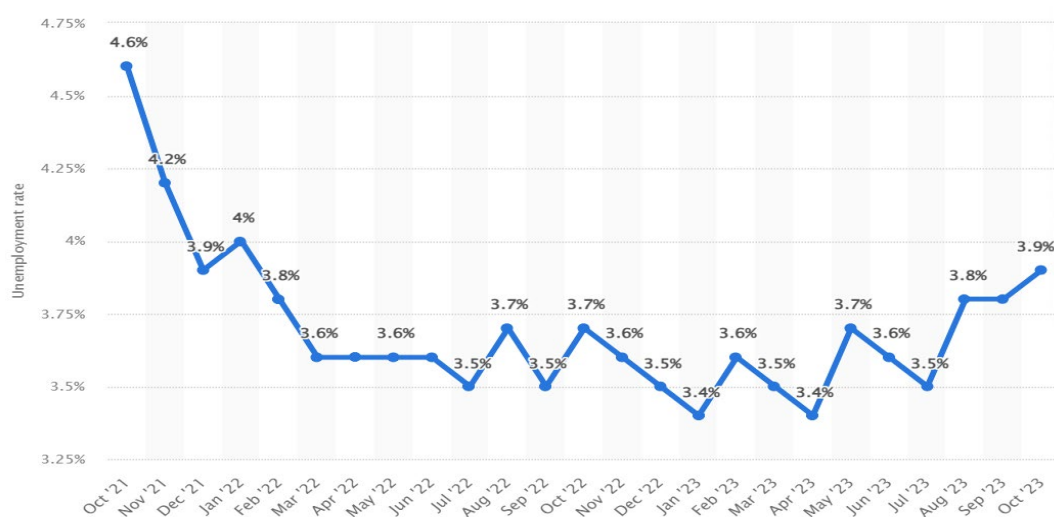
Figure 11: Unemployment rate and labour force in the euro area (lhs: thousands of persons; rhs: percentage of the labour force)



Source: ECB calculations based on Eurostat data.

The signals coming from the labour markets in the euro area and in the US point in opposite directions. While the euro-area labour market is gradually tightening (see Figure 11), the US data seem to indicate its progressive cooling over time (see Figure 12).

Figure 12: Monthly unemployment rate in the United States (October 2021-October 2023)



Source: Statista 2023.

Wage growth has continued to slow gradually since March 2022, when annual price increases reached a peak close to 6%: in October 2023 average hourly earnings rose 4.1% from a year earlier, not so far from the 3% to 3.5% annual growth rate that is needed for inflation to return close to the 2% target, and down from 4.3% in the 3rd quarter and from 4.5% in the 2nd quarter of 2023. Furthermore, in October 2023 US unemployment rose to 3.9%, the highest rate since January, with the number of people working or looking for work that fell for the first time since April 2023.

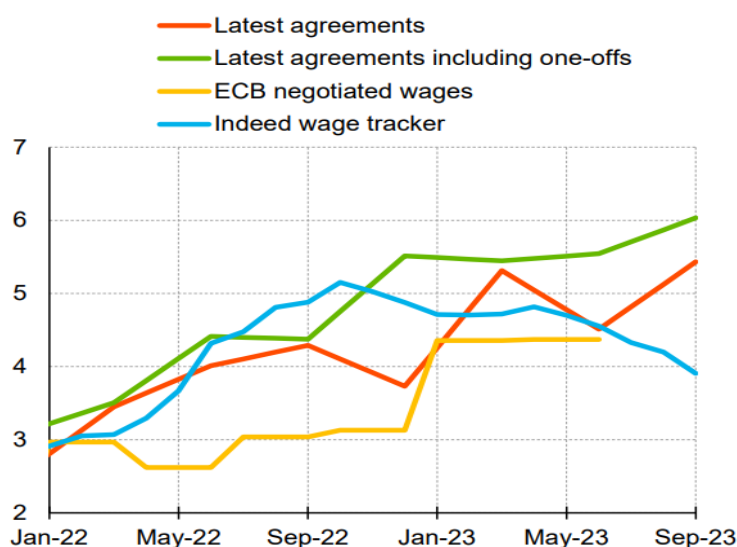
It follows that the most recent data regarding the US labour market appear compatible with a soft landing scenario, in which the medium-term return to 2% inflation is achieved by the Fed without subjecting the US economy to a severe recession, or even—in the best scenario—avoiding a recession altogether.

The scenario for the euro area is more pessimistic. Net of the possibility that the serious geopolitical crises taking place at the borders of the euro area could determine a new shock to food and energy prices, the euro area is now close to stagnation and exposed to the risk that the structural problems of some of its major Member States might translate into a prolonged period of stagflation for the entire area. If the sharp decline in euro area's headline inflation (which reached according to Eurostat flash estimate 2.9% in October 2023) benefited from a rather favourable base effect, given that just one year ago energy prices reached their maximum levels and then fell drastically in the following months, the euro area core inflation (according to Eurostat flash estimate 4.2% in October 2023) is still far from levels compatible with the 2% target. In order for it too to move on a path towards 2%, it becomes critical, as Isabel Schnabel pointed out in a recent speech (Schnabel, 2023), the demand channel of monetary policy, which has to steer wage- and price-setting along the "last mile" towards the ECB inflation target.

At this stage, this task is certainly not made easier by the functioning of the euro area labour market. Collective-bargaining agreements are covering a much higher fraction of workers in Europe than in the US (around 60% across the EU), with deals typically lasting one year or more. This implies that wages are less responsive to current economic conditions and take more time to adjust to them. Wage pressures do not immediately follow inflation hikes. When the latter occur, workers' real wages fall and firms' profits bloat. But after a while, especially if workers and their unions expect that inflation is going to stay high, they use their bargaining power to make up for their lost purchasing power, even if in the meantime economic conditions began to worsen. ECB officials are well aware of this situation, where in the euro area labour shortages remain near historic highs across sectors, particularly in the services sector (see Figure 13): *"Our indicators, especially those tracking recently signed wage agreements, point to continued strong wage growth at a time when inflation is already falling [...]. These are the slow-moving second-round effects of the adverse supply-side shocks that hit the euro area economy in previous years"* (Schnabel, 2023).

As anticipated in section 2, the ECB has to be concerned for the diverging trends emerged across jurisdictions. Not only the heterogeneity in the euro area is larger than in the US, but it has much larger implications for fiscal policy and financial stability.

Figure 13: Wage trackers (annual percentage change)



Source: ECB (2023).

Notwithstanding the new tools introduced to address excessive interest rate spreads among government bond yields, such as the Transmission Protection Instrument (TPI), the ECB has to consider the risk of bad dynamics spurred by a long-lasting increase in public debt service and unfavourable housing market development. On the one hand this calls for strong determination in reducing inflation towards the 2% quickly, so that long-term inflation expectations remain anchored to low levels. On the other hand, markets may price in too-high-for-too-long policy rates. Recent experience has shown that, in case of multiple equilibria, preventing the negative equilibrium is easier than exiting from it.

5. CONCLUSION

The ECB and the Fed have recently paused their prolonged sequence of policy rate hikes started in 2022. Although inflation rates remain above the desired targets, both central banks decided to take a pause in light of the contrasting incoming data from the real economy and of the potential risks ahead.

Despite these common features, both the inflation dynamics and the paths of policy rates across the Atlantic show non-negligible differences. Even allowing for the statistical differences in the price indices used as reference in the two currency areas, the evolution of both headline and core inflation has followed different patterns. Similar considerations apply to policy rates.

At the theoretical level, such differences can be explained either by differences in the monetary policy stance (and in its effectiveness) or by differences in the economic environments. **In this paper we have argued that the second dimension has been the most relevant one in the past and we maintain that it will remain so in the future.**

As regards the past, much of the increase in core inflation in the euro area can be traced back to the pass-through of large headline inflation shocks, while domestic overheating and labour market tightness were the main drivers of inflation dynamics in the US. Several distinctive factors characterising the euro area can be seen as responsible: the delayed reopening of the economy after the COVID-19 lockdowns in the euro area, the euro area's net importing position of gas and oil and its greater exposure to the inflationary consequences of the Russian invasion of Ukraine, the different patterns of fiscal interventions to support the economy, the greater exposure of the euro area to the redefinition of international supply chains (due to the export-led and manufacturing-based growth model), the divergent developments in the domestic housing markets, and, finally, the different functioning of labour markets.

On the contrary, **the strategies adopted by the two central banks seem to be characterised by similar features**, with a relatively "conventional" policy of higher interest rates accompanying the downsizing of the balance sheet. The "philosophies" of the two central banks do not differ too much and can be explained by the so-called **inflation targeting zone approach** (whereby inflation may be subject to fluctuations that are actively contained around the 2% target but not systematically offset by the central bank over subsequent periods), which was introduced with the revisions of the monetary policy strategies adopted in the recent years.

Inflation targeting zone policies allow central banks to reduce the unpleasant consequences of the erratic/excessive policy responses that result from point inflation targeting. Frequent changes in the policy rates risk having negative side effects on banks and the financial system, as well as on the most exposed economic sectors; moreover, the inflation projections used to make policy decisions are subject to considerable error, especially in times of high macroeconomic and geopolitical volatility. In addition, frequent policy reversals risk undermining the credibility and predictability of central bank, thereby weakening the anchoring of inflation expectations. In the euro area, in particular, excessive inflation-targeting activism may run counter financial stability, triggering financial fragmentation. Indeed, the delayed monetary policy reactions in the first stages of inflation acceleration can be explained by the implementation of an ITZ regime, where inflation was projected to remain within the no intervention zone. Similarly, the "higher-for-longer interest rate environment" that both monetary authorities have decided to create is also broadly consistent with the management of an ITZ at the upper bound.

The stability of inflation expectations observed on both sides of the Atlantic suggests that the policy stances adopted on the basis of this new monetary strategy were well received by the

financial operators and the general public. The stability of expectations contributed greatly to the reduction in inflation by reducing the pass-through component of inflation shocks, but it also allowed the central banks to pursue an ITZ policy appropriate to the high level of uncertainty. In turn, the successes obtained in reducing inflation from its peak have reinforced the beliefs of the majority of the operators, thereby contributing to keep inflation expectations well anchored.

In order to consolidate the disinflationary results achieved so far and to reach the 2% target within two or three years without causing a deep recession, the Fed and the ECB will be very careful to avoid both excessive monetary tightening and uncontrolled overheating of the economy. We believe that the likely differences in the policy decisions made by the Fed and the ECB in the future will continue to reflect the differences in the two economic environments rather than the central banks' philosophies.

First, the expansionary fiscal policy run by the US federal government has supported consumption-led growth and strong employment, and there are no clear signs of a reversal of the fiscal stance. In the euro area, instead, the **reactivation of the Stability and Growth Pact and the growing pressure of higher interest rates on debt service are likely to limit GDP growth.** On the other hand, being the euro area a net importer of fossil energy, thus vulnerable to increases in the prices of gas and oil, European governments have intervened with deficit-financed measures aimed at reducing the impact of higher costs on firms and households: these "unconventional" fiscal measures have lowered the pass-through of headline inflation shocks to core inflation and smoothed the impact of inflation shocks over time. Should the euro area governments decide to reduce the size of deficit-financed redistributive interventions to offset commodity-related shocks, euro area monetary authorities may be forced to intervene more intensively. The disinflationary process in the US and in the euro area, moreover, will be strongly affected by the developments in domestic labour markets, which in turn are influenced by the specific functioning of wage bargaining and industrial relations. While US labour market conditions seem compatible with a soft-landing scenario, in which the Fed achieves a return to 2% inflation in the medium term without subjecting the US economy to a severe recession, stronger pressures from wage bargaining in the euro area seem highly plausible due to their lower responsiveness to worsening of economic conditions.

Moreover, unlike the US, the monetary authority of the euro cannot help but be concerned about the very diverging trends that have emerged across the euro area Member States. Although it is a platitude to state that one monetary policy does not fit equally all countries in the currency area, the divergence in inflation rates observed in the euro area is remarkable. This is problematic as persistent and large differences can lead to serious trade imbalances (through changes in the real exchange rates) and to differences in the real interest rates.

Finally, the ECB must eventually take into account that undesirable economic and financial dynamics fuelled by a prolonged increase in public debt service and adverse developments in the housing markets may severely affect the euro area. European authorities have learned from the painful experience of the sovereign debt crisis the negative consequences of adverse feedback loops associated with banks holding large shares of the debt of their own countries.

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Under the stress test of inflation, the two central banks' stances across the Atlantic share similarities but show also significant differences. Similarities and differences are reflected also in inflation dynamics in the US and the euro area. Differences are mainly due to the mix of factors that originated the take-off of inflation, some structural features of the economies, the institutional contexts, the concomitant fiscal stances.

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