

April 2023

Monetary policy and the return of inflation: Questions, charts and tentative answers

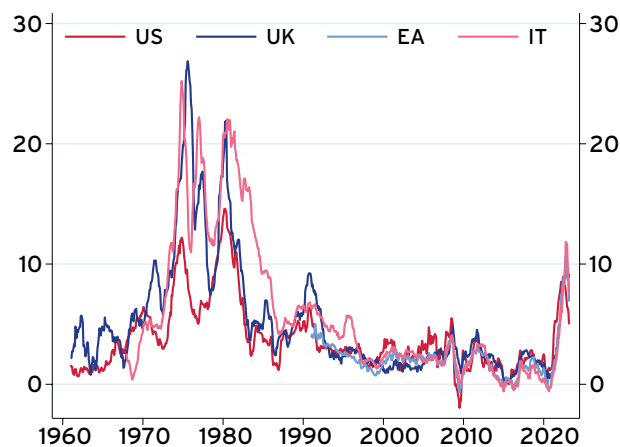
Ignazio Visco¹

Governor, Bank of Italy

1 INTRODUCTION AND SOME TENTATIVE CONCLUSIONS

After at least three decades of moderate consumer price changes in advanced countries, inflation has returned to levels that are severely affecting the lives of all citizens (Figure 1). A series of key issues that are central to the current macroeconomic debate will be briefly discussed in this note. They are related to the different nature of inflation across economies and to the recent conduct, possible errors and perspectives on monetary policy in the euro area.

Figure 1 The return of inflation
Monthly data; annual percentage changes



Source: Eurostat, Istat, UK Office for National Statistics and US Bureau of Labor Statistics.

Note: EA denotes the euro area (changing composition after 1999 and weighted average of the 11 countries participating to the start of Third Stage of the Economic and Monetary Union prior to that date).

¹ This Policy Insight is partly based on the lectures given at the University of Warwick on 11 February 2023 (available here) and at the Frankfurt School of Finance & Management on 1 March 2023 (available here). I wish to thank Alessio De Vincenzo, Rebecca Kelly, Pietro Rizza, Massimo Sbracia and Alessandro Secchi for their useful contributions and suggestions. The views expressed in this Policy Insight are those of the author, and do not represent those of the European Central Bank.

In a nutshell, while demand factors have been the crucial element behind the acceleration of prices in the United States, the euro area has mostly been hit by a supply shock, whose effects continue to be the main driver of both headline and core inflation. The very easy monetary and financial conditions established in the years preceding the recent surge in prices were necessary to effectively counter severe deflationary risks. They may have made the process of normalisation a little more laborious, but I believe that, also given the state of extreme uncertainty caused by the pandemic, the policy response in the euro area has, overall, been sufficiently cautious. In any case, those conditions do not seem to have caused particularly strong demand-related price pressures.

Nevertheless, when discussing the high level of headline inflation reached in the euro area, there has sometimes been a tendency to point the finger at possible delays in the response of the ECB and sizeable errors in its inflation projections are sometimes emphasised. Forecasting errors, however, are in very large part due to the evolution of energy prices, and particularly those of natural gas. In this respect, the unpredicted Russian invasion of Ukraine has been the real watershed, triggering a sharp rise in volatility, pushing both current and expected gas prices to extremely high levels and fuelling inflation. The claim that the ECB responded too late to the acceleration in consumer prices, therefore, is disputable. When the invasion of Ukraine transformed what would likely have been a temporary shock, which had only become visible in the second half of 2021, into a persistent one, the monetary normalisation process was already underway (and correctly anticipated by market participants). In addition, the process accelerated during 2022, notwithstanding the very elevated uncertainty surrounding both the economic outlook and the medium-term price perspectives associated with the outbreak of the war.

The effectiveness of the monetary tightening is evident when we consider the marked increase in financing costs for households and firms as well as the sharp deceleration in money and credit. It is well known, and accepted, that monetary policy affects the real economy and inflation with somewhat 'long' (and perhaps 'variable') lags. Thus, most of the economic impact of the rate hikes implemented so far is likely to be felt in the coming months. This may in itself suggest that a degree of prudence is necessary when determining the future path of monetary policy.

The ECB's monetary stance must continue to be defined in a way that ensures that the temporary rise in inflation caused by the supply shock does not give rise to a more persistent phenomenon sustained by demand factors. It is essential that we strike the right balance between the risk of a too-gradual recalibration, which could cause inflation to become entrenched in expectations and in wage-setting processes, and that of an excessive tightening, resulting in significant repercussions for economic activity, financial stability and, ultimately, medium-term price developments. In line with our symmetrical price stability objective, equal weight should be given to both risks. In this perspective, a data-dependent approach to future policy rate decisions plays a crucial role, also in light of the elevated level of economic and financial uncertainty.

Risks to financial stability, in particular, should not be underestimated. The unprecedented and simultaneous tightening of monetary conditions across many countries could create unexpected spillover effects that, although difficult to quantify, may be non-negligible. Even if the euro area banking system is in better shape today than it was before the global financial crisis, there is no reason to be complacent and close monitoring of the risks of adverse financial amplification effects is as necessary as ever.

Central banks have the tools to deal with potential stress in the financial system without deviating from the objective of bringing inflation back to target; claims that monetary policy is subject to financial dominance, therefore, are misplaced. However, recent economic history shows that financial tensions can prove to be more frequent, more sudden and more costly than previously thought, jeopardising macroeconomic and price stability. In order to avoid them, it is of utmost importance to remain on the straight and narrow path of the necessary tightening of financing conditions, keeping a distance from both an excessively aggressive and an excessively lax one.

The ongoing decline of inflation towards its medium-term objective is not without obstacles. In this process – as well as when risks to price stability were on the downside – monetary policy should not be the only game in town. Indeed, the return to price stability and the anchoring of inflation expectations will, above all, greatly benefit from fiscal policies, negotiations between workers and firms, and business pricing policies operating in the same direction as monetary policy. This would also ensure lower costs of the supply shock to the real economy.

The energy shock is effectively a tax on the euro area economy. It cannot be circumvented through a fruitless race between wages and prices, nor through an excessive and permanent increase in public debts. At the same time, the pricing strategies of businesses, and in particular firms' mark-ups reflecting the most recent declines in energy prices, will play a central role in achieving a lasting reduction in underlying inflation.

So far, a strong wage–price spiral in the euro area is not discernible and overall price expectations appear to be well-anchored. However, in the absence of responsible behaviour by all economic agents, with the possible triggering of second-round effects, the achievement of price stability would become more difficult and costly, as it may require some further tightening of the monetary stance.

2. WHY DID INFLATION TAKE OFF AT THE GLOBAL LEVEL? ARE THE SOURCES OF INFLATION THE SAME OR ARE THERE DIFFERENCES BETWEEN THE TWO MAIN ADVANCED ECONOMIES?

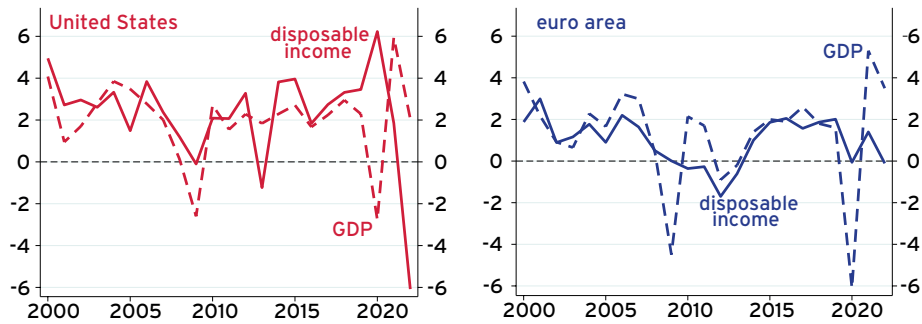
Even though inflation has recently affected many economies in an apparently similar manner, its underlying sources are different across countries. This is especially true if we compare the United States, where demand factors have been crucial in triggering the acceleration of prices, with the euro area, which has been hit mostly by a supply shock.²

First, while fiscal policies were expansionary everywhere during the acute phase of the Covid-19 pandemic, in the United States they were especially bold: the public debt-to-GDP ratio rose by 25 percentage points in 2020-21, to over 130%. In the euro area, instead, the increase was limited to 15 percentage points, to slightly less than 100%, despite a much deeper decline of nominal GDP in 2020 and a slower recovery in 2021. The exceptional support provided to US households is particularly evident when comparing the dynamics of GDP and disposable income (Figure 2). In 2020, just as GDP recorded its sharpest collapse in real terms in the entire post-World War II period (of about 3%), real disposable personal income grew by over 6%, the largest rise since the mid-1980s. In the euro area, instead, household real disposable income did not increase, even in the presence of a much larger reduction of GDP.

² A similar view on the different sources of inflation in the United States and in the euro area is expressed by Blanchard (2022).

Figure 2 Disposable income and GDP

Annual data; percentage changes

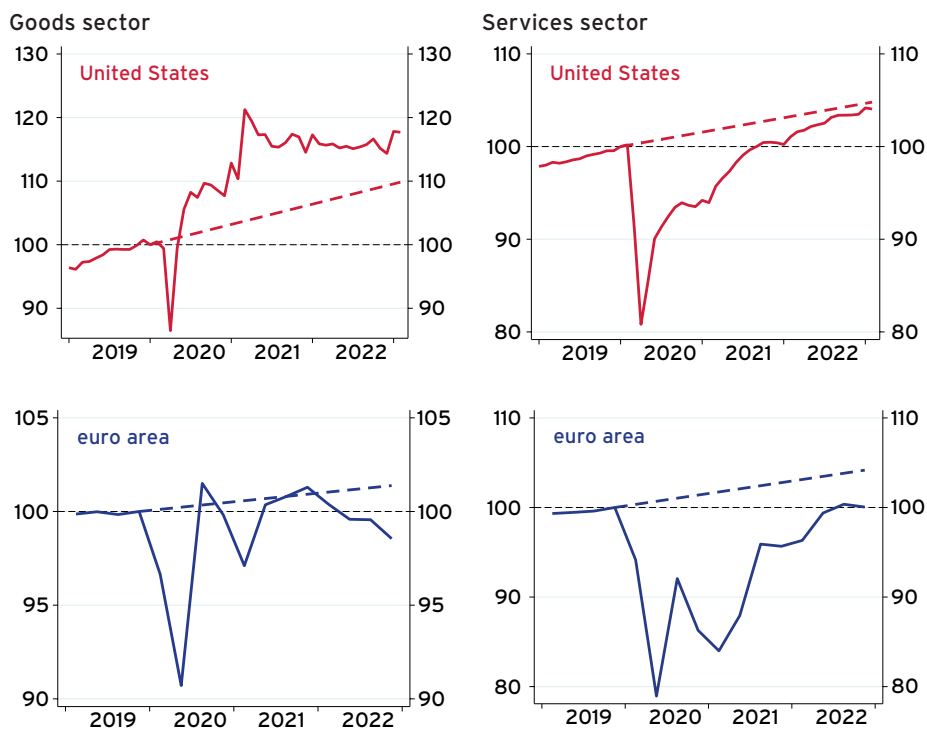


Source: Eurostat and US Bureau of Economic Analysis.

Second, the different dynamics of household disposable income across the two economies translated into different effects on demand. In the United States, GDP returned to its pre-crisis trend at the end of 2021, but aggregate data hid a large heterogeneity between sectors: while demand in the services sector was restrained by pandemic-related factors, the goods sector increasingly showed signs of overheating (Figure 3). In the spring of 2021, for example, personal consumption expenditure in the durable goods sector was already more than 30% higher than its pre-crisis level. The fast recovery in US demand, in a phase in which global supply was still constrained due to the waves of the pandemic, caused bottlenecks in international value chains, which drove up the prices of intermediate goods everywhere. In the euro area, instead, in the second half of last year, the demand for both goods and services was still below the pre-pandemic trends.

Figure 3 Demand in the goods and services sectors

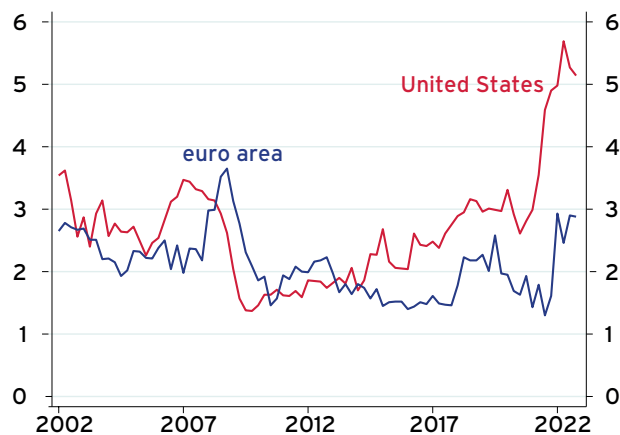
Monthly and quarterly data; indices: Jan. 2020 / 2019 Q4 = 100



Source: US Bureau of Economic Analysis and estimates based on Eurostat.
Note: dashed lines show pre-pandemic trends.

Third, the labour market has been much tighter in the United States than in the euro area. The US unemployment rate still stands at just 3.5%, a value last seen only in the late 1960s and about half the level of the euro area (6.6%). The difference between the number of vacancies in the US non-farm sector and the number of people who are unemployed is still around 4 million today, i.e. there are many more jobs available than people looking for them, while in the euro area the opposite is true, with the number of unemployed exceeding job vacancies by over 6 million. Unsurprisingly, the annual change of US nominal wages (measured by the employment cost index) surpassed 4% as early as in the third quarter of 2021, approached 6% in early 2022, and still stands above 5% today, a level that is difficult to reconcile with an inflation target of 2% (Figure 4). In the euro area, on the other hand, in spite of current requests for sizeable wage increases in some countries where labour markets are particularly tight, wage growth has so far remained moderate on average, at around 3%, and overall there are no clear signs of a wage-price spiral.

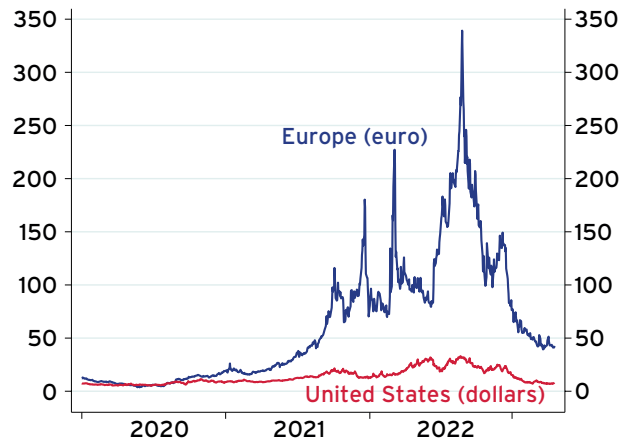
Figure 4 Nominal wage growth
Quarterly data; annual percentage changes



Source: ECB and US Bureau of Labor Statistics.

Fourth, the energy shock played a very different role on the two sides of the Atlantic. Since the second half of 2020, oil prices rose gradually in both the United States and the euro area. The price of the natural gas delivered in the United States increased much more markedly, rising from around \$10 per megawatt hour before the pandemic to a peak of over \$30 last summer, before sliding back below \$10 (Figure 5). However, it was the price of the natural gas delivered in Europe that recorded the most extraordinary dynamics, dwarfing even the 1973 four-fold oil price increase: from slightly above €10 per megawatt hour in early 2020, it rocketed to €180 before the war, soaring to a peak of €350 last summer and then falling sharply, hovering around €40 in the last weeks. This extreme volatility of gas prices was also the result of a 'bullwhip effect', which is the response of demand to uncertain supply, consisting of ordering more, ordering earlier and replenishing gas stocks.

Figure 5 Natural gas prices
Daily data



Source: Refinitiv.

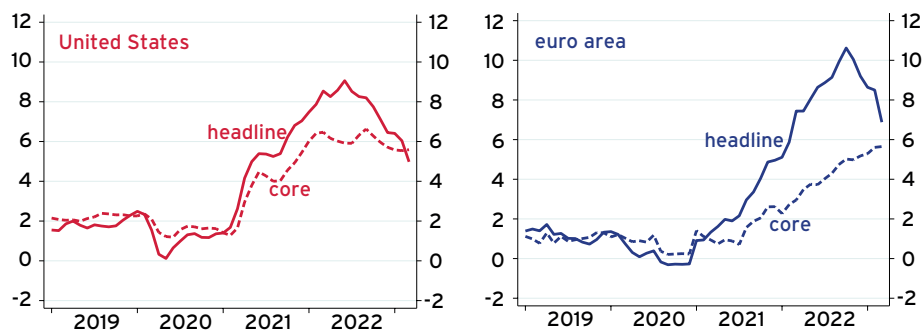
Note: Title Transfer Facility (TTF) quotations for European gas and Henry Hub for US gas.

3. WHAT IS THE CURRENT SITUATION? ARE DEMAND PRESSURES ALSO MOUNTING IN THE EURO AREA?

After peaking towards the end of last year, euro area headline inflation started to decline, reflecting the sharp drop in the energy component: still at around 2% in mid-2021, it reached a peak of 10.6% in October 2022, before falling to less than 7% in March 2023. By contrast, core inflation (i.e. net of energy and food products) has continued to climb since mid-2021, reaching an all-time high of 5.7% in March 2023 (Figure 6). US consumer price inflation instead increased from below 2% in February 2021 to a peak of over 9% last June, before declining to 5.0% in March 2023. Core inflation took the lion's share of the rise, with a peak of 6.6% last September, and in March was higher than headline inflation, at 5.6%.

Several factors lie behind the dynamics of euro area prices. Some of these are still related to supply-side disturbances, such as bottlenecks and the gradual pass-through of the exceptional past surge in energy prices; others originate on the demand side, fuelled by household savings accumulated during the pandemic and by the fiscal impulse. Assessing the relative importance of supply as opposed to demand shocks is crucial to gauge the risks for price stability and, in turn, define the appropriate monetary policy stance.

Figure 6 Headline and core inflation
Monthly data; percentage changes



Source: Eurostat and US Bureau of Labor Statistics.

While the post-pandemic expansion has weakened, the euro area economy is proving more resilient than expected. This resilience is leading to a certain degree of over-emphasising, including in policy debates, the role of demand factors as drivers of the current inflation cycle. However, overall there is still scant evidence of excess demand.

A closer look reveals, in fact, that despite the pandemic-related monetary support and the fiscal impulse, which have helped to absorb the distributional effects of the sequence of adverse shocks, euro area GDP still stands below pre-Covid trends. Private consumption has also remained below trend and has even weakened recently, due in good part to the limited pass-through of inflation to wages. Indeed, in both the third and fourth quarters of 2022, euro area contractual earnings increased by 2.9% on an annual basis and the renewals signed at the beginning of 2023 are still well below price developments. However, in some countries increasing wage trends have been somewhat more accentuated since late last year, also reflecting some wage drift. In Germany and the Netherlands, minimum wages were increased, while in France they rose due to their automatic indexation to prices, a mechanism that is also still applied in Belgium to all wages. So far, however, the risks of a wage-price spiral have been averted in the euro area as a whole.

A variety of empirical approaches points to a more prominent role of supply-side shocks in steering inflation dynamics. In particular, increases in energy prices have been and still are having relevant effects on the underlying price dynamics (e.g. Neri et al. 2023). Similarly, out of the 5.7% core inflation in the euro area in March, the energy component alone accounted for 2.1 percentage points (Corsello and Tagliabracci 2023). A plurality of factors, driven by both demand and non-energy supply shocks, accounts for the remaining 3.6 percentage points. The latter most likely originate from supply bottlenecks, increases in the prices of non-energy raw materials and changes in labour supply. The relative contribution of these drivers is difficult to quantify; however, in line with the persistent weakness in consumption, excess demand is unlikely to prove to have played a predominant role.

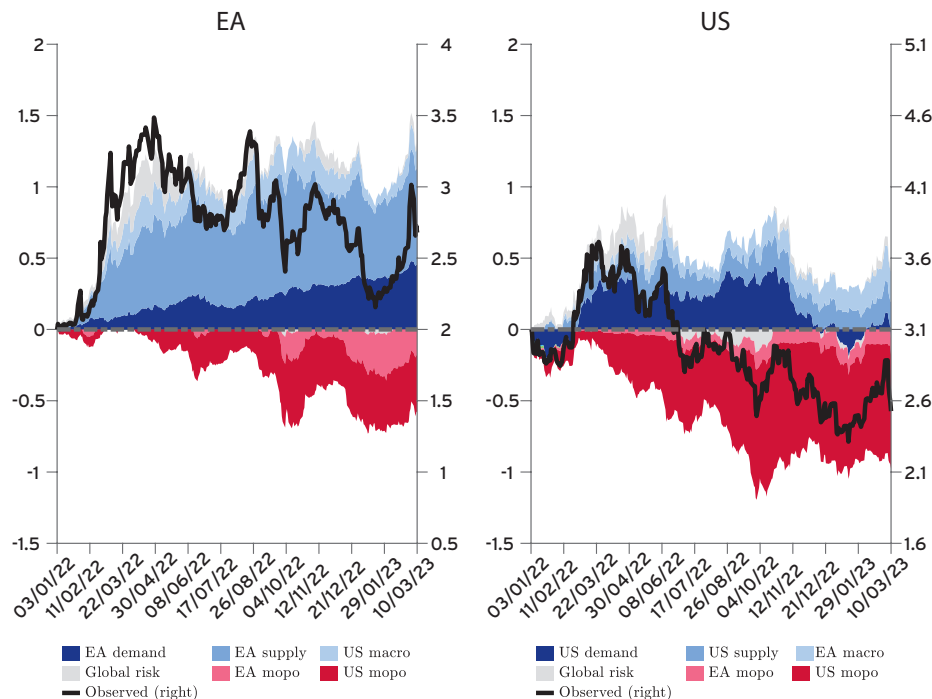
The impact of energy shocks on core inflation has gradually been increasing since the first quarter of 2022. The transmission of rising production costs along the price formation chain takes time, depending on how long price setters expect the shock to endure. Until late 2021, the price of natural gas futures suggested that the energy shock was expected to be temporary, lasting only until the end of the cold season; its perceived persistence, however, increased in 2022. It is therefore hardly surprising that, while the direct contribution of energy to headline inflation is waning as the energy shock peters out, its indirect impact via the core and food components continues to grow.

A disaggregated analysis of the recent price dynamics suggests that high core inflation could last for some time. The core items in the consumption basket that have registered the largest price growth increases since 2021, and contributed to around half of the core inflation recorded in 2022, are, in fact, also characterised by a relatively higher degree of persistence. These components are related, in particular, to the automotive sector, the goods and services associated with housing, and the sectors mostly connected with leisure, such as restaurants and personal care. The historically high persistence of price dynamics in these sectors suggests that the future decline of core inflation may be rather gradual. Historical regularities, however, could break down and favour a faster fall of core inflation, as the drop in energy prices, especially the quotations of natural gas, has been unprecedented, just as its previous rise was. A faster-than-expected drop may also be led by the items that usually have a larger elasticity to higher interest rates; there are, indeed, early signs that the inflation rate of these items, in particular durable goods, might have peaked.

Supply factors also continue to exert a dominant role in the expected dynamics of consumer prices in the euro area, even if the contribution of demand factors is gaining weight. This is confirmed by a quantification of the structural drivers of inflation expectations, as measured by inflation-linked swap (ILS) rates, obtained by breaking down their daily fluctuations into domestic and global shocks.³ Results show that, since the start of the war in Ukraine, the inflation rate predicted over a five-year horizon has increased mostly in response to supply shocks (Figure 7). The much smaller contribution of demand shocks rose progressively over the course of 2022, reflecting improved business cycle conditions. Over the last year, expectations seem to have been contained mostly by the spillover effects of US monetary policy on euro area inflation expectations. Since the second half of 2022, however, the ECB's monetary policy tightening is having the desired effects.

Figure 7 Drivers of inflation expectations

Daily data; percentage changes and per cent



Source: Hoyneck and Rossi (2023).

Note: 5-year ILS rates; changes in the contribution of the drivers with respect to 3 January 2022 (left axis) and ILS levels (right axis).

4. DID THE ECB MAKE POLICY MISTAKES OR FORECASTING ERRORS? AND IF SO, WHY?

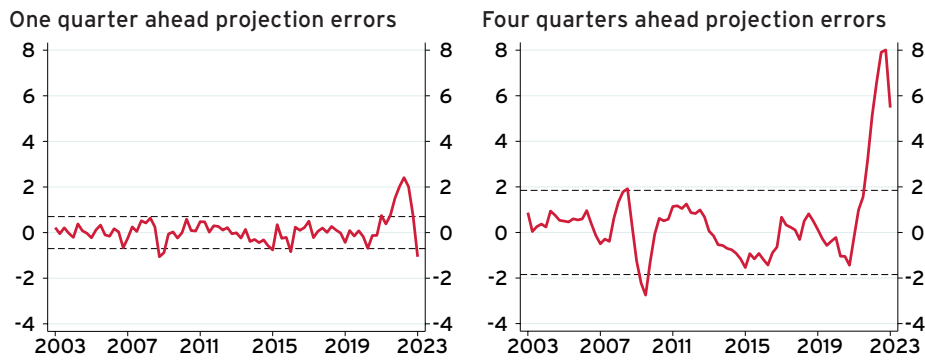
When discussing the high level of headline inflation reached in the euro area, some commentators have paid less attention to the sudden occurrence of the energy shock, its size and its persistence, pointing the finger instead at the delays of the central bank in initiating its monetary tightening.⁴ Critics citing this hypothetical mistake have also highlighted the large errors in the inflation projections made by the ECB/Eurosystem staff since early 2022 (Figure 8).

³ See Hoyneck and Rossi (2023), who decompose the fluctuations of ILS rates for both the euro area and the United States by means of two Bayesian VAR models disentangling the effects of six shocks in each economy: domestic demand and supply, domestic and foreign monetary policy, a foreign macroeconomic shock and a global risk shock.

⁴ An important example, which focuses not only on the ECB but, especially, on the Federal Reserve, is Reis (2022).

Figure 8 ECB/Eurosystem projections errors for euro area headline inflation

Quarterly data; percentage points



Source: Bank of Italy and ECB.

Note: dashed lines denote an interval around zero of plus/minus two standard deviations of projection errors realized in 2003-2020; data for 2023 Q1 are preliminary.

The forecast errors in predicting consumer price changes over the last year were indeed sizeable and much larger than in the past. Some have even argued that these substantial errors call into question the very credibility of the ECB, although other international institutions and private forecasters have made similarly large mistakes.

While the observed size of the errors may understandably cast doubt on the reliability of the models used for the projections, in the case of Italy the effects of energy prices – the most important exogenous variables in the forecasting model, whose changes are usually inferred from the market price of futures contracts – appear to explain, directly and indirectly (i.e. via their effects on production costs), 70% of the overall error made in forecasting inflation in 2022 (Delle Monache and Pacella 2023). This share rises to 80% when the effects of food prices, the other volatile component of the consumer price index, are also taken into account. Similar results are found in the analysis conducted by the ECB on the forecasts for the euro area as a whole (Chahad et al. 2023).

This suggests that, although all models should be (and are) subject to continuous checks and improvements, the functioning of the economy has not changed dramatically over the last year. The large forecast errors do draw our attention, however, to the quality of some of the assumptions for the inputs in the projections.

It must be recognised that the effects of global supply bottlenecks were underestimated, although demand in the euro area did not contribute greatly to them in any case. The key problem, however, was the generalised underestimation of the consequences of the increasing geopolitical tensions. The sharp drop in gas supplies from Russia observed since early 2021 was in fact (probably mistakenly) attributed at first to the effects of a particularly cold winter in Russia and subsequently to the political pressure from the Russian government to accelerate the opening of the Nord Stream 2 gas pipeline. The new shock caused by the Russian invasion of Ukraine in February 2022 dramatically changed this picture, triggering a sharp rise in volatility and pushing both current and expected gas prices to extremely high levels, fuelling inflation.

It may indeed be argued that an earlier rise in key interest rates might have reduced the uncertainty regarding inflation dynamics and might have more effectively managed the initial rise in inflation expectations. On one hand, this claim is debatable, since it fails to consider the negative consequences for the economic outlook and, in turn, for the medium-term inflation perspectives of the uncertainty generated by the Russian invasion, which also needed to be properly evaluated and addressed. On the other, even assuming that tighter monetary conditions could have reduced the uncertainty around

inflation dynamics, it remains highly questionable that a few months' anticipation in the actual implementation of the decision to halt asset purchases and start raising official interest rates would have had substantial consequences on the evolution of consumer prices in the euro area. Indeed, as mentioned, they mostly reflected the increased costs of energy and food.

5. DID THE ECB RESPOND TOO LATE TO THE ACCELERATION IN CONSUMER PRICES?

The Governing Council of the ECB began the process of monetary 'normalisation' at the end of 2021, when it judged that the progress in economic recovery and towards the medium-term inflation target was sufficient to allow for the start of a step-by-step reduction in the pace of asset purchases. Why did we not start earlier? And why did we not begin to raise official rates before July 2022?

To answer these questions, it is useful to recall what the inflation situation was in June 2021, when we were about to conclude the ECB strategy review. While in the United States headline inflation was already above 5% and core inflation was 4.5%, pushed by the demand factors discussed above, in the euro area, despite already higher gas prices, headline inflation was still below 2% and core inflation was less than 1%. High inflation, therefore, seemed to be a phenomenon mostly concentrated in the United States. The main problem the Governing Council was facing in that period was still how to increase the dynamics of consumer prices durably and sustain a rapid re-anchoring of inflation expectations from excessively low levels.

The situation began changing in September 2021, when gas prices went from the already high level of €50 per megawatt hour to about €100 (a 'supply shock'). At that time, however, futures quotes predicted gas prices would remain at around that level during the winter season and then decline very sharply, to well below €50 by June 2022. The prediction of declining gas prices implicit in futures contracts remained more or less unchanged until late December 2021 (Figure 9). With such a steep fall in gas prices in sight, inflation could not stay at high levels for long and indeed was projected to return swiftly to 2% and below, also in line with the results of the ECB Survey of Monetary Analysts (Figure 10).

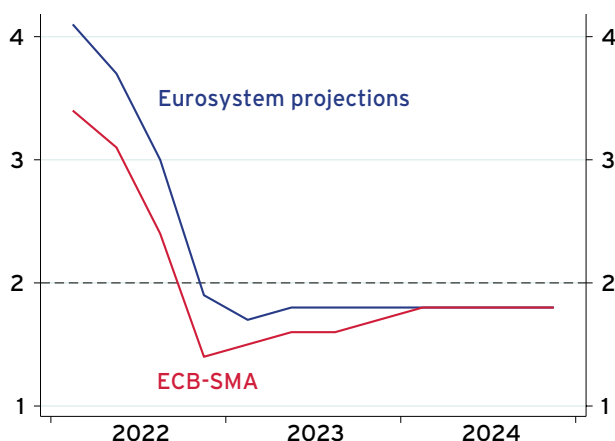
Figure 9 Market expectations of natural gas price developments
Euro



Source: Refinitiv.
Note: Profiles of Title Transfer Facility (TTF) futures quotations.

Figure 10 Inflation: Eurosystem projections and analysts expectations in December 2021

Quarterly data; per cent



Source: ECB and ECB Survey of Monetary Analysts (ECB-SMA).

Note: median expectations in ECB-SMA and central values in Eurosystem staff macroeconomic projections for the euro area.

As it turned out, instead of declining by more than 50% as expected at the end of September 2021, gas prices increased by almost 100%, averaging an unprecedented level of €200 during the summer of 2022 and leading also to a sharp upward revision in the prices implicit in future contracts. The Russian invasion of Ukraine had transformed a temporary shock into a persistent one, warranting an acceleration of the monetary normalisation.

In the early part of 2022, in fact, the process gained speed. However, we managed to avoid the potentially dangerous cliff effects of too sharp a swing in our stance, not least in view of the major uncertainty caused by the conflict in Ukraine. The end of our purchases was anticipated to 1 July 2022 and, shortly after, we started raising our key official interest rates by a significant size, with the aim of frontloading the exit from their highly accommodative, indeed still negative, levels.

6. HAS THE ECB'S MONETARY POLICY BEEN INEFFECTIVE SO FAR?

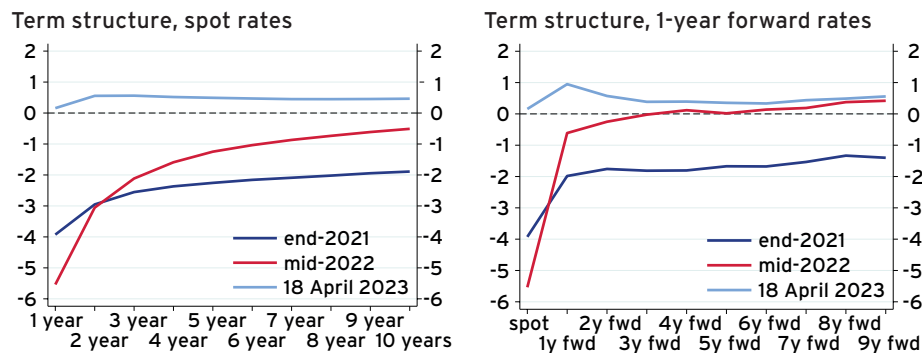
It has been argued that, other than responding too late, the ECB's monetary policy has not been sufficiently effective. According to a survey conducted by Bloomberg among monetary experts in mid-October 2022, the ECB was believed to be 'behind the curve' by 70% of the participants. In March 2023, the same quota was significantly reduced, but still remained around 50%.

However, it is widely agreed that monetary policy affects the real economy, and inflation, with 'long' and possibly 'variable' lags. While monetary actions and communications tend to affect financial markets' interest rates and asset prices almost immediately, their transmission to the financing conditions of households and businesses and, subsequently, to consumer prices tends to be much more gradual as economic agents revise their decisions to consume and to invest slowly and, in some cases, infrequently. The initial conditions of the economy – including the level of debt, the degree of economic uncertainty and many other domestic and global factors – also have important consequences for the distribution over time of the effects of a change in the monetary stance on inflation and growth.

Empirical evidence for the euro area shows that, on average, a change in key rates exerts its largest impact on GDP growth after about 18 months and its maximum effect on inflation after one to two years.⁵ Therefore, most of the economic impact of the rate hikes that have been implemented so far is yet to be felt, suggesting that a degree of prudence is warranted, as their full results are about to be seen.

In fact, the initial effects of our policy measures are already discernible. Following the March 2023 monetary policy decision, the overall increase of official rates since July 2022 has reached 350 basis points and has been transmitted fully and smoothly to market interest rates. From the start of the reduction of monetary accommodation at the beginning of 2022 until mid-April 2023, one-year risk-free rates (measured by overnight index swaps) have picked up from negative levels to 3.7%, while ten-year rates have increased from barely positive values to 3.0%. In real terms, using the rate of inflation implicit in the ILS contracts as a deflator, they currently stand at about 0.2% and 0.5%, respectively, from around -4% and -2% at the end of 2021 (Figure 11).

Figure 11 Real interest rates in the euro area
Per cent



Source: Bloomberg and Refinitiv.

Note: nominal OIS interest rates deflated by the corresponding ILS rates.

Long-term interest rates started increasing well before our first key rate hike. This should not come as a surprise as it is indeed proof of the credibility of our actions and our commitment to guaranteeing price stability. This evidence also supports my claim as to the possibly limited effects of initiating the rise in interest rates a few months earlier, notwithstanding the uncertainties linked to the war.

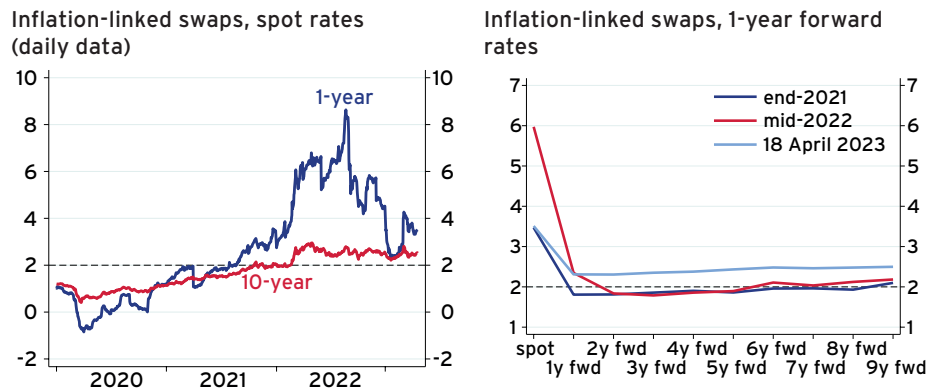
Further signs of the effectiveness of the Governing Council's actions are visible in the evolution of inflation expectations, whose levels are an important anchor for wage dynamics and actual inflation. In the euro area, short-term inflation expectations derived from financial market prices are falling sharply. ILS rates indicate that in mid-April 2023 the expected inflation rate 12 months ahead stood at 3.5%, down from a peak of almost 9% recorded in late August 2022 (Figure 12). The initial signs of a decline in inflation expectations are also broadly confirmed by surveys of firms and households.⁶

⁵ For a discussion of the uncertainty surrounding model-based quantification of the impact of interest rate policy in the euro area, see Lane (2022).

⁶ On the role and evolution of inflation expectations, see also Visco (2023).

Figure 12 Market-based inflation expectations

Per cent

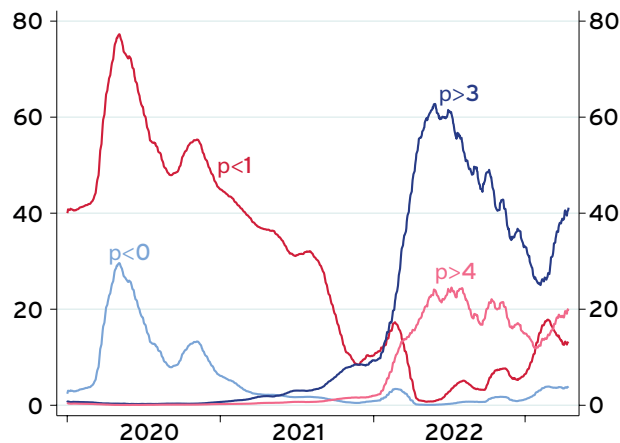


Source: Bloomberg.

At the same time, longer-term expectations, net of risk premia, remain at levels consistent with our 2% price stability target, and tail-risks of excessive inflation have receded from the peaks of mid-2022 (Figure 13). The anchoring of long-term inflation expectations is also supported by the results of the March ECB Survey of Monetary Analysts.

Figure 13 Inflation tail risks in the euro area

Daily data; per cent



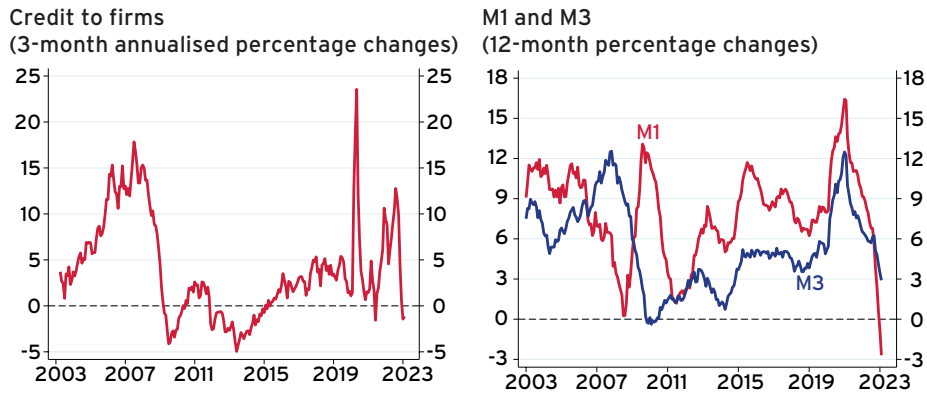
Source: Bloomberg.

Note: probabilities inferred from inflation options; $\pi < 0$ ($\pi < 1$) is the probability of inflation being smaller than 0 (1) on average in the next 5 years; $\pi > 3$ ($\pi > 4$) is the probability of inflation being larger than 3 (4) on average in the next 5 years; 50-days moving averages.

The effectiveness of the monetary tightening is also visible by looking at the impact on credit and money dynamics (Figure 14). On the one hand, the three-month (annualised) growth of loans to firms in the euro area became negative in January 2023 (-1.1% in February), from a peak of almost 13% in August 2022, while loans to households also continued to decelerate. On the other hand, M3 is slowing down markedly (2.9% in February 2023 on an annual basis, from 6.3% in September 2022) and the rate of change of M1 turned negative in January 2023 (-2.7% in February, a historical minimum). When assessed in real terms, the dynamics of both aggregates are in deeply negative territory and at unprecedented lows.

Figure 14 Credit and money growth in the euro area

Monthly data



Source: ECB.

Overall, this evidence suggests that monetary policy has already started to exert its impact. In the absence of further shocks, the progressive unfolding of its lagged effects will further contribute to bringing inflation back in line with the medium-term definition of price stability.

7. SHOULD THE ECB OPT FOR RUNNING THE RISK OF DOING TOO MUCH RATHER THAN DOING TOO LITTLE?

There is no question that the ECB's monetary stance must continue to be defined so as to ensure that a temporary rise in inflation caused by a supply shock does not become a more persistent phenomenon sustained by demand factors. We must observe, however, that, with risks to medium-term price stability increasing sharply in 2022, the pace and scale of the adjustment of the official interest rates has been unprecedented.

The pace of any further rate hike will continue to be decided on the basis of incoming data and their impact on the inflation outlook. The ECB Governing Council will then need to find the right balance between two risks: that of a too-gradual recalibration (*doing too little*), which could cause inflation to become entrenched in expectations and in wage-setting processes, and that of an excessive tightening (*doing too much*), which would result in significant repercussions for economic activity, financial stability and, ultimately, medium-term price developments. Consistently with our symmetrical price stability objective, equal weight should be given to both risks.

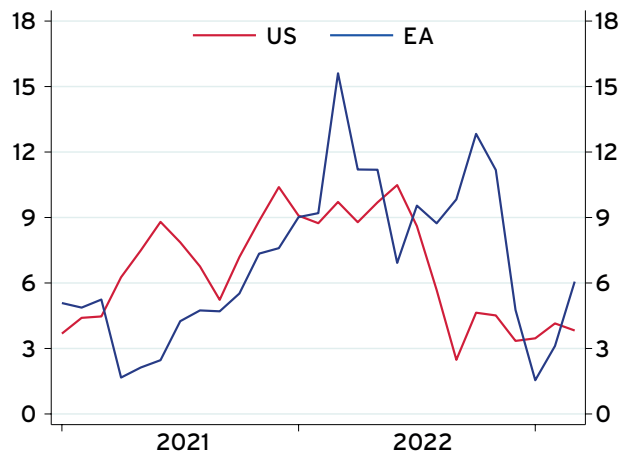
On the one hand, 'doing too little' would come at a cost for the economy if this were to lead to the need for a stronger and more prolonged restriction of monetary policy in the future. On the other hand, the costs associated to the opposite risk may be relevant if 'doing too much' were to determine an undershooting of the target and possibly even lead to serious debt-deflation phenomena, triggering nonlinear perilous amplifications. In the face of both of these risks, the central bank decisions should continue to be characterised by wisdom and guided by careful quantitative evaluations of incoming data. As testimony to its belief in this view, the Governing Council at its March meeting reiterated the importance of a data-dependent approach to future policy rate decisions, taking into account the elevated level of economic uncertainty, recently heightened by financial market tensions.

High uncertainty further strengthens the case for conducting monetary policy cautiously. Indeed, the time-honoured Brainard principle states that when the central bank is uncertain about the effects of its actions, it should move conservatively (Brainard 1967). An exception to this principle is the case of uncertainty around the persistence of inflation. When persistence is high, in fact, a strong monetary reaction may be

required to avoid high inflation becoming entrenched in agents' mindsets (Ferrero et al. 2019). While this possibility should be carefully monitored, data on market- and survey-based inflation expectations – including their recent decline at short horizons and their decreasing profile – call into question the persistence of inflation at high levels in the euro area, reinforcing the arguments in favour of gradual monetary tightening (and here I would like to emphasise the difference between a gradual and patient tightening of the monetary policy stance to fulfil the price stability mandate and a complacent approach with respect to the risk of second-round effects that may follow a prolonged supply shock).⁷ Similar indications come from the considerable, albeit volatile, deceleration of prices on a three-month annualised basis with respect to early 2022 (Figure 15).

Going forward, a gradual fading away of the effects of the past shocks as well as of the measures of underlying inflation will be crucial. In any case, when tackling high inflation, a recession is not always inevitable. Communicating a strong commitment to bringing inflation down to target in a speedy manner is fundamental, but doing so minimising the costs for the real economy is no less important.

Figure 15 Inflation (three-month annualised percentage changes)
Monthly data; 3-month annualised percentage changes



Source: ECB and US Bureau of Labor Statistics.
Note: EA denotes the euro area; seasonally adjusted data.

8. SHOULD THE ECB BE PARTICULARLY CONCERNED ABOUT RISKS TO FINANCIAL STABILITY? ARE THERE RISKS OF AN EXCESSIVE CONTRACTION OF CREDIT TO THE NON-FINANCIAL SECTOR?

The crisis episodes of the last two decades have clearly confirmed that macroeconomic and financial stability are closely intertwined. On the one hand, financial imbalances, if not identified and curbed in a timely manner, can end up jeopardising economic growth and price stability; on the other hand, macroeconomic stability is a necessary condition for the smooth functioning of the financial system.

For these reasons, although monetary authorities are usually assigned the sole objective of ensuring monetary and macroeconomic stability, when defining the boundaries of their activities they must also take account of the risk that large and persistent financial disruptions may endanger the achievement of their main objective. This is not financial dominance, but the awareness of the impact that financial stability may have on price stability.⁸

⁷ For what may be seen as a somewhat different view, see Brunnermeier (2023).

⁸ See also Visco (2014).

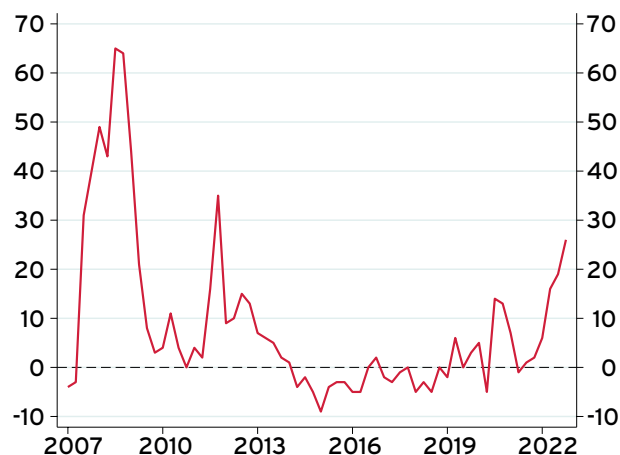
Particularly at the current juncture, risks to financial stability are not negligible and require a good dose of caution. Indeed, the unprecedented and simultaneous hikes of official rates in many countries could create unexpected spillover effects that, although difficult to quantify, may not be insignificant.

The cases of Silicon Valley Bank and Credit Suisse are clearly rooted in the poor management of the respective businesses; they show how important sound regulation and close monitoring of exposures are, especially when it comes to interest rates and liquidity risks. That said, the high tensions raised by the failure of these two banks are yet another confirmation of how quickly confidence in financial markets can weaken and, if not countered appropriately, how easily localised phenomena of financial instability can assume a global dimension. Blows to confidence may, in turn, be exacerbated by the high speed with which news, and not always trustworthy news, is spread, enabled by modern technology and social media. Importantly, these considerations apply not only to the banking system but also to non-bank financial institutions, which, compared to banks, are subject to less stringent regulatory and supervisory requirements and do not have access to central bank emergency liquidity assistance.

In the euro area, the banking system today is in better shape than it was before the global financial crisis. The reforms that have been introduced since then have been effective in strengthening their balance sheets and their ability to provide credit, even in a challenging macroeconomic environment. These considerations notwithstanding, a close monitoring of the risks of financial amplification effects is warranted.

As I already mentioned, credit and money dynamics have significantly weakened in the recent months. Although this is the natural (and desired) consequence of monetary normalisation, both the size and speed of these trends suggest we must move with caution. This observation is all the more relevant if we consider the lags of the monetary policy transmission process and take account of the significant tightening in credit supply conditions heralded by the last Bank Lending Survey (Figure 16).

Figure 16 Credit supply conditions in the euro area (Bank Lending Survey)
Quarterly data; percentage balance



Source: ECB Bank Lending Survey.

Note: net percentages of euro-area banks reporting a tightening of credit standards.

Against this background, a full-blown credit crunch – which, while originating outside the euro area, could be amplified by an increase in banks' funding costs as well as by fears about the sustainability of debt by households and businesses in the face of rising rates – should be avoided by any means. This concern is particularly relevant in the Economic and Monetary Union, whose incomplete architecture – especially

its decentralised fiscal policy and the delays in completing the banking and capital markets unions – exposes it to a possible fragmentation of financial markets along national borders.

Central banks have tools at their disposal to deal with potential stress in the financial system without substantially deviating from the objective of bringing inflation back to target. However, financial tensions always have unpredictable consequences. In order to prevent them, it is important to adopt a cautious approach, closely monitoring financial conditions and fine-tuning them to the needs of the economy, being careful to prevent both an excessive monetary tightening as well as an excessive loosening.

9. LOOKING FORWARD, WHAT COULD BE THE MAIN OBSTACLES TO ACHIEVING THE RETURN OF INFLATION TO ITS MEDIUM-TERM OBJECTIVE? WHAT VARIABLES COULD BE ESPECIALLY SIGNIFICANT?

So far, inflation expectations are well-anchored and the ECB forecasts point to a substantial achievement of the inflation target over the medium term. While the ECB Governing Council's commitment to bringing inflation back to its medium-term objective is unquestionable, it should also be recalled that the fight against inflation does not rely solely upon the implementation of appropriate monetary policies. In fact, monetary policy should not be, and nor should it be perceived as being, the only game in town. The return to price stability will, in particular, be swifter and less costly if fiscal policies, wage requests and firms' pricing strategies all operate in the same direction as monetary policy.

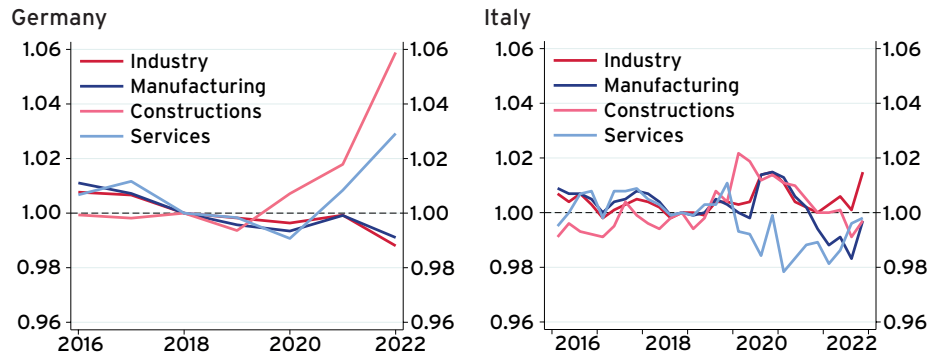
Looking forward, the main obstacles to inflation-reducing action in the euro area may derive from inappropriate behaviour of other actors involved, which could lead to second-round effects. From this perspective, wage negotiations should not go back in time to when they were purely backward-looking; any attempt to make wage dynamics catch up with those of consumer prices induced by higher energy costs will only result in a price–wage spiral. Making up for the loss of purchasing power must instead rely on achieving sustained productivity growth. As I pointed out earlier, in spite of requests for sizeable wage increases in some countries, so far wage growth remains, on average, relatively moderate.

At the same time, the pricing strategies of businesses will play a central role. In particular, we have to closely monitor whether the pass-through of the higher energy costs observed in 2022 will work in reverse, with producer prices reflecting the most recent cost declines, a key step to achieving a durable reduction of underlying inflation. This involves estimating firms' mark-ups, an extremely difficult task due to measurement problems. Many national statistical offices, for example, do not provide these variables at macro level, while timely and representative data on firm balance sheets are not usually available. These methodological limitations reinforce the need for a cautious approach.

Preliminary evidence for Italy indicates that, after some adjustment due to the pandemic, in the last quarter of 2022 profit margins had returned to their pre-pandemic levels in almost all sectors (Figure 17), suggesting that no particular price pressures should be expected from firms. Data from Germany, instead, show that profit margins in 2022, while remaining constant in manufacturing and in other industries, increased considerably in constructions and in some services (such as retail, accommodation, and transport). While these sectors account for a limited share of Germany's GDP (around 20% in total in 2019), this evidence may signal that price pressures may be building in non-tradeable sectors, which are mostly sheltered from international competition.

Figure 17 Estimates of mark-ups for Germany and Italy

Annual and quarterly data; 2018 and 2018Q4 = 1



Source: Destatis and Istat.

Note: industry includes energy; services include retail, accommodation and transportation.

Finally, although targeted and temporary fiscal measures to alleviate the burden on more severely hit households and firms should obviously continue if necessary, their financing should not put the progressive reduction of public debt at risk and should therefore avoid further increasing its burden on the future generations. This is crucial not only to restore the necessary conditions for robust and lasting growth, but also to guarantee a timely return to the price stability target, an outcome that would be more difficult and costly to achieve in the event of excessive government transfers.

With the appropriate contributions from workers, firms and national governments, monetary policy will succeed in bringing inflation down to the ECB's medium-term target, as currently envisaged. However, we must continue to closely monitor developments in all the variables that may trigger second-round effects. A meeting-by-meeting, data-dependent and cautious approach remains the best strategy.

REFERENCES

Blanchard, O (2022), "The United States and the Eurozone Face Different Challenges in Battling Inflation", Realtime Economics, Peterson Institute for International Economics, 11 October.

Brainard, W C (1967), "Uncertainty and the Effectiveness of Policy", *American Economic Review* 57(2): 411-425.

Brunnermeier, M (2023), "Rethinking Monetary Policy in a Changing World", *Finance and Development* 60(1): 4-9.

Chahad, M, A C Hofmann-Drahonsky, A Page and M Tirpák (2023), "An Updated Assessment of Short-Term Inflation Projections by Eurosystem and ECB Staff", ECB Economic Bulletin, Issue 1.

Corsello, F and A Tagliabracci (2023), "Assessing the Pass-Through of Energy Prices to Inflation in The Euro Area", Bank of Italy Occasional Paper No. 745.

Delle Monache, D and C Pacella (2023), "The Determinants of Italian Inflation in the Last Two Years", Bank of Italy Occasional Paper, forthcoming (in Italian, with an abstract in English).

Ferrero, G, M Pietrunti and A Tiseno (2019), "Benefits of Gradualism or Costs of Inaction? Monetary Policy in Times of Uncertainty", Bank of Italy Economic Working Paper No. 1205.

Hoynck, C and L Rossi (2023), “The Drivers of Market-Based Inflation Expectations in the Euro Area and in the US”, Bank of Italy Occasional Paper, forthcoming.

Lane, P R (2022), “The Transmission of Monetary Policy”, speech at the SUERF, CGEG, Columbia, SIPA, EIB and Société Générale conference on “EU and US Perspectives: New Directions for Economic Policy”, New York, 11 October.

Neri, S, F Busetti, C Conflitti, F Corsello, D Delle Monache and A Tagliabracchi (2023), “Energy Price Shocks and Inflation in the Euro Area”, Bank of Italy Occasional Paper, forthcoming.

Reis, R (2022), “The Burst of High Inflation in 2021-22: How and Why Did We Get Here?”, CEPR Discussion Paper No. 17514.

Visco, I (2014), “The Challenges for Central Banks”, *Central Banking* 25(1): 49-55.

Visco, I (2023), “Inflation Expectations and Monetary Policy in the Euro Area”, Robert Mundell Distinguished Address at the 95th International Atlantic Economic Conference, Rome, 23 March (forthcoming in the *Atlantic Economic Journal*).

ABOUT THE AUTHOR

IGNAZIO VISCO, Governor of the Bank of Italy since 2011, started his career at the Bank in 1972 and was appointed Head of the Research Department in 1990. From 1997 to 2002 he was Chief Economist and Director of the Economic Department of the Organisation for Economic Co-operation and Development. He has a Ph.D. in Economics from the University of Pennsylvania and is the author of various articles and books including: *Price Expectations in Rising Inflation*, North Holland, 1984; *Saving and the Accumulation of Wealth* (ed. with A. Ando and L. Guiso), Cambridge University Press, 1994; *L'economia italiana* (with L. F. Signorini), il Mulino, 2002; *Investire in conoscenza*, il Mulino, 2014; *Perché i tempi stanno cambiando*, il Mulino, 2015; *Anni difficili*, il Mulino, 2018; and *Inflazione e politica monetaria*, Laterza, forthcoming.

THE CENTRE FOR ECONOMIC POLICY RESEARCH

The Centre for Economic Policy Research (CEPR) is a network of over 1,600 research economists based mostly in European universities. The Centre's goal is twofold: to promote world-class research, and to get the policy-relevant results into the hands of key decision-makers. CEPR's guiding principle is 'Research excellence with policy relevance'.

A registered charity since it was founded in 1983, CEPR is independent of all public and private interest groups. It takes no institutional stand on economic policy matters and its core funding comes from its Institutional Members and sales of publications. Because it draws on such a large network of researchers, its output reflects a broad spectrum of individual viewpoints as well as perspectives drawn from civil society. CEPR research may include views on policy, but the Trustees of the Centre do not give prior review to its publications. The opinions expressed in this report are those of the authors and not those of CEPR.

Chair of the Board
Founder and Honorary President
President
Vice Presidents

Sir Charlie Bean
Richard Portes
Beatrice Weder di Mauro
Maristella Botticini
Philippe Martin
Ugo Panizza
Hélène Rey