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In this issue

In June, the ECB cut interest rates for the first time since 2019. Canada's BoC, Sweden's Riksbank and the Swiss National Bank took the same step, and the MNB and the CNB also continued to lower rates. Other central banks, headed by the US Fed, have kept their rates unchanged in recent months, but the Fed slowed the pace of quantitative tightening. Japan was the last country in the world to abandon negative interest rates. A review of the Bank of England's forecasting process, prepared by former Fed Chair Ben Bernanke, was completed. The ECB adjusted its framework for the implementation of monetary policy.

The Spotlight section focuses on comparing the market outlooks for euro area interest rates with the ECB's communications. The article discusses the gap at the start of this year, when financial markets had expected relatively sharp rate cuts in the euro area, whereas the ECB repeatedly opposed such an outlook in its statements. In our Selected Speech, Governor of the French BdF François Villeroy de Galhau discusses the current decline in inflation, the concepts for a smooth landing of the economy and the last mile in disinflation, and discusses the question of the level at which interest rates are going to stabilise.

This publication aims to familiarise experts with recent monetary policy developments, strategies and communications at selected central banks.

Current and past issues can be downloaded free from the *Monetary Policy* section of the CNB website: https://www.cnb.cz/en/monetary-policy/monitoring/, where you can also download a list of all thematic articles and speeches.

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Contents

I. THE LATEST MONETARY POLICY DEVELOPMENTS AT SELECTED CENTRAL BANKS 4

I.1 Key central banks in the Euro-Atlantic area 4

I.2 Selected non-EU central banks with inflation-targeting regimes 5

I.3 Selected central banks of inflation-targeting EU countries 6

II. NEWS OVER THE LAST THREE MONTHS 7

III. SPOTLIGHT: ECB AND FINANCIAL MARKETS: NOT ALWAYS ON THE SAME WAVELENGTH 10

IV. SELECTED SPEECH: FRANÇOIS VILLEROY DE GALHAU: RELEASING THE SCREW? MONETARY POLICY AT A CROSSROAD 16

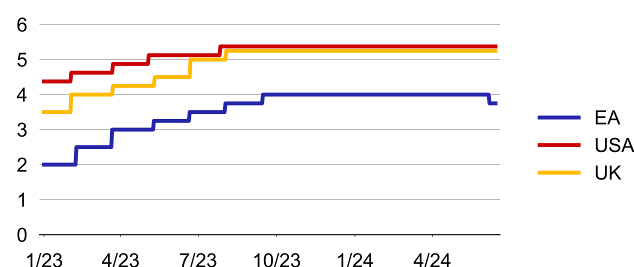
I. THE LATEST MONETARY POLICY DEVELOPMENTS AT SELECTED CENTRAL BANKS

I.1 KEY CENTRAL BANKS IN THE EURO-ATLANTIC AREA

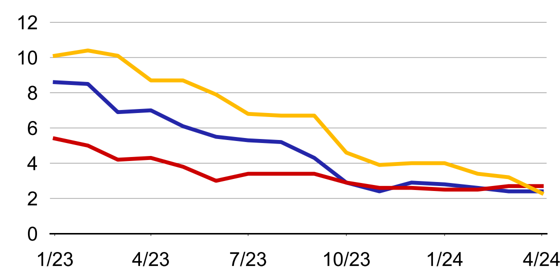
	euro area (ECB)	**USA** (Fed)	**Great Britain** (BoE)
Inflation target	2% (HICP)	2% (PCE)[2]	2% (CPI)
Latest inflation	**2.6%** (5/2024, flash)	**2.7%** (4/2024)[2]	**2.3%** (4/2024)
Current basic rate	**3.75%**[1]	**5.25–5.50%**[3]	**5.25%**
Publication of MP decision (rate changes)	11 Apr (0.00) 6 June (-0.25)	20 March (0.00) 1 May (0.00)	21 March (0.00) 9 May (0.00)
Expected MP decisions	18 July 12 Sep	11–12 June 30–31 July	20 June 1 Aug

Note: [1] In connection with the recent revision of the implementation of the ECB's monetary policy (see News over the last three months) we are starting to give the deposit rate instead of the rate for the main refinancing transactions in the table and in the chart; [2] PCE (Personal Consumption Expenditures) index; [3] the centre of the band is shown in the chart.

Key interest rates (%)



Inflation (y-o-y, %)



The **ECB** decreased its interest rates by 25 bp in June to 3.75% in the case of the deposit rate (which is currently the key rate, see also News over the last three months), and it will maintain sufficiently restrictive interest rates as long as necessary to achieve its inflation target. Dampening the demand and arranging the fixed anchoring of inflation expectations was an important contribution to decreasing inflation. Despite improvements in recent quarters, however, domestic price pressures remain strong, since wage growth is elevated and inflation will most likely remain above the target next year as well. Forecasts for the overall and core inflation for this year and the next were revised upwards compared to March. Headline inflation will reach an average of 2.5% this year, 2.2% next year and 1.9% in 2026. Economic growth should intensify to 0.9% this year and should hover around 1.5% in the coming years. In June, the ECB also confirmed that during the course of the second half of the year it will reduce its holdings of Eurosystem securities under the pandemic programme (PEPP) by an average of EUR 7.5 billion per month (it is currently reinvesting the payments of principal on maturing securities in full, and will end the reinvestment at the end of this year).

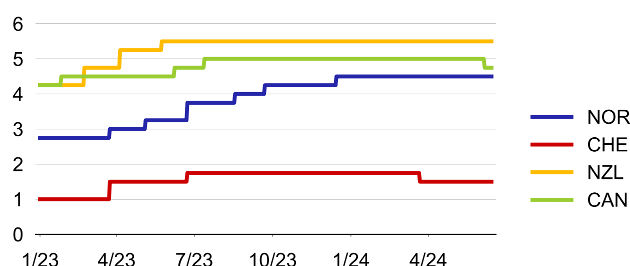
At the last two meetings, **the Fed** left its main interest rate range at 5.25%–5.50% and does not expect it to be appropriate to lower the target range until it becomes more certain that inflation is on a sustained path towards 2%. The Fed is also continuing its quantitative tightening, but in June it reduced the maximum monthly decline in Treasuries holdings from the current USD 60 billion to USD 25 billion. The reduction in holdings of MBS and agency bonds remain capped at USD 35 billion. Overall, the Fed's balance sheet has so far been reduced by around USD 1.7 trillion to USD 7.3 trillion. The growth of economic activity in the USA continues to be solid. Job growth remains high and the unemployment rate is low. Annual inflation has been broadly flat in recent months. According to the FOMC's March forecast, real GDP will grow by 2.1% this year; core and headline PCE inflation will be 2.6% and 2.4% respectively this year.

The **BoE** left its base interest rate unchanged at 5.25% in both March and May. Seven Committee members voted in favour of keeping the interest rate unchanged, two preferred to reduce the rate by 25 bp. The restrictive monetary policy is slowing activity in the real economy, easing the tension on the labour market and dampening inflationary pressures. The key indicators of inflation persistence are moderating in line with expectations, although they remain elevated. Inflation continued to fall, mainly because of energy price trends. However, prices of services continued to rise apace. According to the BoE's May forecast, inflation will be close to the 2% target in the near future, but will rise slightly to around 2.5% in the second half of this year as a result of the unwinding of the base effect associated with energy prices. According to the forecast, inflation will reach 1.9% in two years and 1.6% in three years.

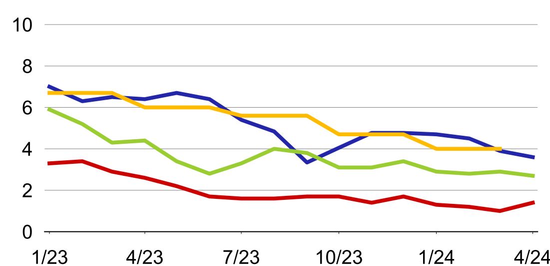
I.2 SELECTED NON-EU CENTRAL BANKS WITH INFLATION-TARGETING REGIMES

	Norway (NB)	Switzerland (SNB)	New Zealand (RBNZ)	Canada (BoC)
Inflation target	2% (CPI)	0-2% (CPI)	2% (CPI)	2% (CPI)
Latest inflation	**3.6%** (4/2024)	**1.4%** (4/2024)	**4.0%** (Q1 2024)	**2.7%** (4/2024)
Current basic rate	**4.50%**	**1.5%**	**5.50%**	**4.75%**
Publication of MP decision (rate changes)	21 March (0.00) 3 May (0.00)	21 March (-0.25)	10 April (0.00) 22 May (0.00)	10 Apr (0.00) 5 June (-0.25)
Expected MP decisions	20 June 15 Aug	20 June	10 Jul 14 Aug	24 Jul 4 Sep

Key interest rates (%)



Inflation (y-o-y, %)



The **NB** left interest rates unchanged at 4.5%. According to the March forecast, rates should stay at this level until this autumn and then be gradually lowered. Market outlooks indicate a decrease in base interest rates in December. According to the NB forecast, unemployment will rise, while inflation will continue to decline gradually, reaching 2% by the end of 2027. In recent months, the decline in headline inflation has slowed somewhat and services inflation has remained elevated. Growth in the Norwegian economy is low. Housing construction activity remains low, and the weak data on housing starts may suggest lower-than-expected investment in housing this year. At the same time, prices in the secondary housing market have been rising more than expected in recent months.

At its March meeting, the **SNB** unexpectedly lowered its key interest rate by 0.25 pp to 1.5%. If necessary, the SNB remains willing to be active in the foreign exchange market. In its March decision, the SNB took into account reduced inflationary pressures, weak external demand and also the real appreciation of the Swiss franc in the last year. The current (March) inflation forecast is markedly lower than the December forecast. In the short term, this is due mainly to the fact that price growth in some categories of goods slowed more than expected in December. In the medium term, lower second-round effects are leading to a downward revision of inflation. According to the SNB forecast, inflation will be just above 1% this year and in the near future. According to the forecast, Swiss GDP will increase by around 1% this year. In this environment, unemployment will continue to rise gradually and production capacity utilisation will continue to fall slightly.

The **RBNZ** left its base interest rate at 5.5% and will keep it at a restrictive level to ensure that inflation returns to the 1–3% target band, which, according to the RBNZ, should occur at the end of this year. According to the minutes of the May meeting, the option of raising rates was also in play. The RBNZ increased its assumption of long-term neutral nominal interest rates by 25 bp to 2.75%, but this step is reflected mainly in the more distant part of the forecast horizon. The observed decline in inflation partly reflects lower inflation in the case of import prices. While weaker economic capacity pressures and an easing of the labour market are reducing domestic inflation, this decline is being dampened by sectors of the economy that are less sensitive to interest rates. They include, for example, higher rents for flats, insurance costs and growth in prices of other domestic services. According to the RBNZ, the slow decline in domestic inflation poses a risk to inflation expectations.

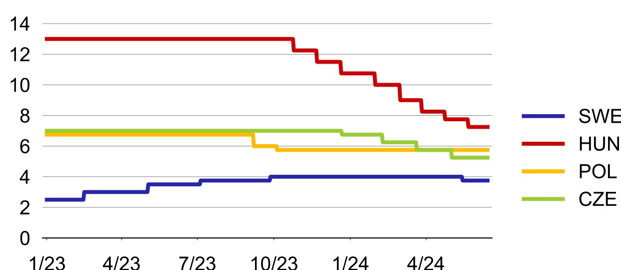
The **BoC** lowered its base interest rate by 25 bp in June to 4.75% and continues in its quantitative tightening. GDP growth reached 1.7% in Q1 and was slower than the BoC's April forecast. Activity was dampened by weaker investment in inventories. There was solid consumption growth of approximately 3%, business investment also picked up, as did activity in the area of housing. Wage pressures persist, but are gradually easing. Inflation continued to decrease to 2.7% in April. The bank's preferred indicator of core inflation also slowed and the three-month indicator indicates continuing downward dynamics. If inflation continues to decrease and the BoC's confidence that inflation is heading sustainably towards the 2% target continues to rise, a further reduction in the base interest rate can be expected.

I.3 SELECTED CENTRAL BANKS OF INFLATION-TARGETING EU COUNTRIES

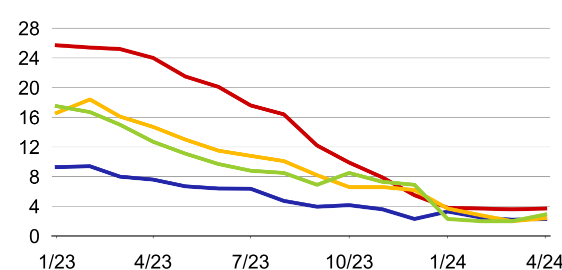
	Sweden (Riksbank)	**Hungary** (MNB)	**Poland** (NBP)	**Czech Republic** (CNB)
Inflation target	2% (CPIF)[1]	3% (CPI)	2.5% (CPI)	2% (CPI)
Latest inflation	**2.3%** (4/2024) [1]	**3.7%** (4/2024)	**2.5%** (5/2024, flash)	**2.9%** (4/2024)
Current basic rate	**3.75%**	**7.25%**	**5.75%**	**5.25%**
Publication of MP decision (rate changes)	27 March (0.00) 8 May (-0.25)	26 March (-0.75) 23 April (-0.50) 21 May (-0.50)	4 Apr (0.00) 9 May (0.00) 5 June (0.00)	20 March (-0.50) 2 May (-0.50)
expected MP decisions	27 June 20 Aug	18 June 23 Jul 27 Aug	2-3 Jul 3-4 Sep	27 June 1 Aug

Note: [1] CPIF (Consumer Price Index with a Fixed Interest Rate).

Key interest rates (%)



Inflation (y-o-y, %)



The **Riksbank** lowered its key interest rate by 0.25 pp to 3.75% in May. The Riksbank's monetary policy and fading supply shocks contributed to inflation falling. New information suggests that inflation measured by the CPIF may temporarily slightly undershoot the inflation target this year, but the headline inflation outlook for the coming years is unchanged. Two cuts to the main interest rate in the second half of this year are consistent with this outlook. Inflation expectations are firmly anchored and wage growth moderate. GDP growth is weak (down by 0.2% in 2023 as a whole), but is expected to recover gradually. Following a long period of weak consumption, there are signs of rising optimism among households. Firms also expect stronger economic activity going forward.

The **MNB** continued to cut its key interest rates by 1.75 pp overall to 7.25%. GDP grew by 1.1% year on year in 2024 Q1, driven mainly by market services, but the fall in value added in industry hindered the economy's performance. According to the MNB's forecast, GDP will grow by 2–3% this year. Inflation has been within the tolerance band since the start of the year. Inflation will rise temporarily in mid-2024 as a result of backward-looking price-setting in market services and base effects. According to the MNB, anchoring inflation expectations, preserving financial market stability and disciplined monetary policy are key for a sustained return of inflation to the tolerance band from next year onwards.

The **NBP** left the base interest rate unchanged at 5.75%. According to the preliminary estimate, GDP increased by 2% year on year in Q1 2024. GDP growth was positively influenced by a recovery in consumption, while the year-on-year increase in investment declined significantly. Wage growth remains high. The year-on-year decrease in producer prices remained significant in April, confirming the abatement of most external supply shocks. Despite the observed economic recovery, according to the NBP, demand and supply pressures remain low in the Polish economy, which limits domestic inflation amid weakened economic conditions and lower inflation pressures. As a result, inflation in Q2 will be in line with the NBP's corresponding inflation target. This will be accompanied by lower inflation adjusted for food and energy than in the previous quarters, though it will remain above headline inflation as a result of increased growth in services prices.

The **CNB** lowered the 2W repo rate by a total of 100 bp to 5.25% in March and May. The baseline scenario for the CNB's spring forecast implies a further decline in interest rates. The model rate trajectory is appreciably higher in this and the coming quarters compared to the winter forecast. It thus moved closer to the levels communicated by the Bank Board in previous months. The forecast expected a slight increase in inflation in 2024 Q2 owing to higher fuel prices and a more moderate decline in food prices. For the rest of this year and beyond, however, inflation will be close to the 2% target; according to the forecast, it will reach 2.3% on average for this year as a whole and 2% next year. Core inflation is expected to be slightly elevated this year, averaging 2.6%. According to the forecast, GDP will grow by 1.4% this year and economic growth will pick up to 2.7% next year. The forecast expects household consumption to rise gradually, remaining far below the pre-Covid level.

II. NEWS OVER THE LAST THREE MONTHS

The Bank of England published the results of a review of its forecasting processes conducted by B. Bernanke

The results of the Bank of England's monetary policy review were published in April. The review was announced in June last year, it focused on forecasting and related processes during times of significant uncertainty, and it was led by former US Fed chair and economics Nobel laureate Ben Bernanke. The review's conclusions document states that, while there has been a significant deterioration in forecast accuracy at the Bank of England in recent years, the extent of this deterioration is comparable with other central banks and other UK forecasters. Recent years have been characterised by a series of large shocks that have been inherently difficult to forecast, and the BoE's unusually large forecasting errors were therefore probably inevitable. Nevertheless, it is important for the BoE to analyse this period and learn from it.

The review resulted in a total of 12 recommendations. Their first part concerns the forecasting infrastructure. The document identifies as a priority the modernisation of data processing software, which it identifies as outdated and leading to the inefficient use of Bank staff time. Work on improvements in this area was already under way during the preparation of the review. Sufficient time should be also devoted to model development and, over the longer term, the review recommends that the BoE should revise its forecasting framework and replace or at least thoroughly revamp its core model COMPASS.

The document also warns against an overly incremental approach (i.e. basing new forecasts on previous forecasts, with only marginal adjustments to the assumptions) and recommends a more systematic analysis of past forecast errors and their sources (i.e. whether structural changes, misspecified models or faulty expert judgements were responsible). The BoE should make more effective use of researchers with a PhD in economics, especially in the area of long-term model development. Another recommendation is to regularly augment the central forecast by preparing alternative scenarios (the BoE currently prepares an alternative scenario based on constant interest rates, but in some situations it may be more useful to prepare different alternative scenarios).

Another set of recommendations links the forecast to central bank communication. Selected alternative scenarios should be published to enable the public to better understand the monetary policy decisions adopted, the risks of the forecast and the MPC's reaction function. As the BoE's central forecast is based on the market outlook for interest rates, which may not be consistent with the MPC's view, the review recommends that the MPC should de-emphasise the central forecast in its communication and it should be clear in situations where the MPC considers the forecast assumptions to be inconsistent with its own outlook. The document also discusses the possible replacement of the use of the market interest rate outlook by the BoE's own forecast, but notes that this step would be highly consequential and leaves it for future deliberations – it is therefore not included among the recommendations of the review. In line with the lower emphasis placed on the central forecast, the MPC should cut back its detailed quantitative description in its Monetary Policy Summary in favour of a shorter and more qualitative description of the economy. The document also recommends to eliminate the use of fan charts and the publication of mean forecasts[1] and to communicate risks and uncertainties in different ways.

The final recommendation is to implement the individual adjustments gradually – many of the proposed changes in the area of monetary policy decision-making and communication are based on the sufficient capacity and flexibility of the forecasting infrastructure. Thus, the BoE should initially focus on this area (see the first set of recommendations) and then it should gradually implement the other recommendations.

In parallel with the conclusions of the review, the BoE issued its own response, welcoming the review, expressing its intention to take action on all 12 recommendations and setting out the direction it now intends to take. In line with the last recommendation, it expects to implement changes in a phased approach. The Bank will provide more detailed information on the implementation of the proposed changes by the end of the year.

The ECB revised its monetary policy operational framework

In March, the ECB published the results of a review[2] of its operational framework for implementing monetary policy. The review has been conducted since the end of 2022 and has been prepared in the context of the current liquidity surplus, which is, however, gradually decreasing given the ongoing quantitative tightening.

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[1] The Bank of England publishes asymmetric fan charts in an attempt to capture the balance of risks and uncertainties of the forecast. The baseline scenario is a modal forecast (a prediction of the most likely outcome, the mode), but the Bank also publishes a mean forecast, which differs from the modal forecast when risks and uncertainties are skewed to one side or the other.

[2] In addition to the statement by the Governing Council of the ECB, see also, for example, a speech by Member of the Executive Board of the ECB Isabel Schnabel.

The ECB stated as part of the results release that it would continue to steer the monetary policy stance by adjusting the deposit facility rate. The review thus basically formalised the use of the deposit facility rate as the key rate at which the central bank withdraws liquidity and thus sets monetary policy conditions – given the excess liquidity resulting from past asset purchase and liquidity provision programmes, it was the deposit facility rate that had been the ECB's de facto most important rate in previous years, although the main refinancing operations (MRO) rate remained the official base rate.

The ECB has also announced that as of 18 September this year, it will reduce the spread between the two rates from the current 50 bp to 15 bp by adjusting the MRO rate. The marginal lending facility (MLF) rate will be adjusted to the same extent so that its spread to the MRO rate is maintained at 25 bp. These adjustments, however, do not represent a change in the ECB's current monetary policy stance. They are intended to ensure that short-term market rates move close to the deposit rate without excessive volatility.

Liquidity will be provided through a broad mix of instruments, including short-term credit operations (MROs), three-month longer-term refinancing operations (LTROs) and, at a later stage, structural longer-term credit operations and a structural portfolio of securities. The introduction of the latter two instruments should only take place once the Eurosystem balance sheet begins to grow again. MRO and LTRO operations will continue to be conducted through fixed-rate tender procedures with full allotment. Despite discussions on a possible adjustment of the reserve requirement parameters, there has been no change in this area – the reserve requirement rate has remained at 1%, and the reserves are not remunerated (or, formally, they are remunerated at 0%). The ECB will review the key parameters of its operational framework again in 2026, and is prepared to make adjustments earlier if necessary.

Japan abandoned negative rates…

At its March meeting, the Bank of Japan decided to adjust its monetary policy by ceasing the use of several of its instruments. The bank, which has a history of fighting deflation for several decades, now assessed that the 2% inflation target should be met in a sustainable and stable manner over the forecast horizon, allowing it to reduce the degree of monetary policy accommodation. It therefore raised its main monetary policy rate from -0.1% to a range of 0–0.1%. This is the first change in this rate since 2016 and the first increase since 2007. At the same time, this move marks the exit from negative interest rates from a global perspective, as the BoJ was the last central bank still using this policy.

In addition to negative interest rates, the BoJ has also abandoned the yield curve control policy, but it will continue with government bond purchases in broadly the same amount as before (about JPY 6 trillion, i.e. about USD 40 billion per month) and it is ready to respond in case of a rapid rise in long-term rates. A yield curve control has been used by the Japanese central bank just as negative interest rates since 2016, and the exit from this instrument was signalled by the multiple loosening of its parameters in recent months. The BoJ also discontinued purchases of ETFs and real estate investment trusts in March. It will also gradually reduce the amount of corporate bond purchases and expects to discontinue these purchases in about one year.

The steps taken, however, do not represent a fundamental change in the overall monetary policy stance that should signal a shift to tight monetary policy – the BoJ still expects to maintain an accommodative monetary policy. In line with this, the outcome of the next monetary policy meeting in April did not bring any further change.

…and the BoJ intervened in the foreign exchange market

Japan has been facing a prolonged trend of yen depreciation in recent years (roughly 50% against the US dollar from the beginning of 2021). In an attempt to dampen this trend, the BoJ already intervened in autumn 2022. The depreciation trend has been successfully disrupted, but not stopped. At the end of April and beginning of May this year – close to the JPY/USD 160 level – other interventions were thus reportedly made. In Japan, interventions are carried out by the BoJ, but they are decided upon by the Ministry of Finance. These authorities have not directly confirmed the interventions officially, but retrospectively published data from the Ministry of Finance show that the size of the interventions amounted to almost JPY 10 trillion, i.e. about USD 62 billion.

Riksbank asked for capital injection

In April, the Swedish central bank made a submission to the Swedish Parliament with a proposal for a capital injection of SEK 43.7 billion. This would bring the Riksbank's equity to the statutory base level of SEK 41.7 billion (the Riksbank currently operates with negative equity). The requirement stems from a law effective from the beginning of 2023. The Riksbank's request for a capital injection was announced previously; for more detailed information, see News over the last three months in Central Bank Monitoring IV/2023.

The SNB increases reserve requirements

The Swiss central bank increased the reserve requirement ratio from 2.5% to 4% of the banks' liabilities subject to reserve requirements as of 1 June. In addition, it has revoked the exception for certain types of liabilities, where previously only 20% of these liabilities were counted in the calculation of the reserve requirement – they will now be included in full. According to the SNB, this move will not affect the current monetary policy stance, it should ensure the effective implementation of monetary policy and it should reduce the central bank's interest costs, as the SNB has not been remunerating the reserves held to meet the reserve requirement since last December.

III. SPOTLIGHT: ECB AND FINANCIAL MARKETS: NOT ALWAYS ON THE SAME WAVELENGTH

The ECB cut its interest rates for the first time since the pandemic in June. This step was largely expected by financial markets. However, at the start of 2024, financial markets were still expecting the ECB to take this step in April and to continue the commenced rate cuts at a strong pace until the end of the year. The market outlook for the main interest rate, derived from implied market rates, thus deviated appreciably from the ECB's official communication regarding its future monetary policy.[3] In this article, we will examine the circumstances that may be behind such a situation. Our analysis indicates that financial markets, when predicting the ECB's monetary policy steps, try to anticipate "tail-risk" scenarios in which the ECB could be surprised by economic trends in the euro area, which could lead to a subsequent rapid and substantial monetary policy adjustment. A key moment for the divergence of views seems to be a situation where new data do not support the ECB's outlook–especially the short-term outlook. Financial markets respond quickly to current economic data. Unlike the ECB, they revise their outlook immediately after new data are released and may place an excessive emphasis on negative news. However, this approach was also supported by the communications of the ECB's Governing Council, which, in particular over the past two years, has emphasised the importance of current data in its decision-making process.

Monetary policy surprises or how financial markets guess what central banks will do

Financial markets cannot always predict what a central bank will do and may be surprised by a change in monetary policy. For example, an IMF study (IMF, 2002) confirmed that financial markets were not able to correctly predict the ECB's interest rate decisions, especially in the case of significant interest rate movements. The surprise in monetary policy, i.e. the market response to unexpected central bank actions, has gradually gained great attention in literature. Various studies highlight various reasons for their creation or strength – financial market uncertainty, monetary policy uncertainty and central banks' credibility and communication. Sekandary and Bask (2023), for example, examined the effects of monetary policy surprises on stock returns at various levels of monetary policy uncertainty, identifying a more pronounced negative impact in the event of higher uncertainty. Oliveira and Simon (2023) focused on the role of a central bank's credibility in interpreting monetary policy surprises. According to their results, high credibility leads to lower inflation expectations, while low credibility conversely leads to increased expectations. Benchimol et al. (2023) showed that financial uncertainty amplifies the stock market's response to monetary policy surprises, with a stronger impact on shocks towards monetary policy easing. Finally, Gapen and Krane (2021) found that monetary policy surprises increased stock market volatility, especially in periods of high economic uncertainty, suggesting that central banks need to take prevailing market conditions into account in their policy actions. Kaminska et al. (2023) documented the impact of monetary policy surprises on term premiums and hence on the structure of interest rates. Monetary policy surprises therefore play an important role in the transmission of monetary policy and are closely monitored by central banks.

According to the latest literature, monetary policy surprises are also linked to information on the state of the economy. In this interpretation, monetary policy surprises can be a purely monetary policy shock, but they can also contain information shocks. In Jarociński and Karadi (2020), information shocks are unexpected parts of monetary policy announcements that provide new information on economic fundamentals, not just indications of changes in the policy stance. Such shocks occur when a central bank's announcement reveals information about the state of the economy that was previously unknown to the market. For example, an announcement that includes an unexpected increase in interest rates may be interpreted not only as a tightening of monetary policy, but also as a signal that the central bank has new information about inflationary pressures or economic growth. The study emphasises that such information shocks differ from purely monetary policy shocks, which are unexpected changes in interest rates or other policy tools that do not provide new information on economic fundamentals. A proper distinction between these types of shocks is key to understanding the actual impact of monetary policy announcements on financial markets and the wider economy.

Studies focusing explicitly on different opinions of financial markets and central banks are currently lacking in the literature to a greater extent. One exception is Sastry (2022), according to which the gap is due to a disagreement between markets and a central bank regarding the accuracy of public data (asymmetric confidence in data). Markets are also more pessimistic in the event of an economic downturn and tend to overestimate trends in interest rates (meaning a decline here). A slightly different approach, but with the same message, can be found in Sinha et al. (2023). The paper examines the dispersion of expectations regarding future trends in the base rate, pointing to different macroeconomic

[3] The potential discord also affects the CNB's forecast, based on the market outlook for interest rates in the euro area. The foreign rate outlook is noticeably reflected in the forecast for the domestic monetary policy stance through the interest rate differential channel.

outlooks for participants as the main factor behind the widening of this dispersion. The hypothesis that market participants implicitly rely on different perceptions of the central bank's reactions as defined by the variable Taylor rules has not been confirmed in empirical analyses.

However, information shocks, defined in Jarociński and Karadi (2020), can also be interpreted as a manifestation of the gap between the opinions of financial markets and the central bank, not necessarily as a sign of a better information base for the monetary policy authority. The shock then emerges when the financial markets' opinions change. Let's illustrate such a situation on a simple example. New data on inflation, which are lower than the central bank's expectations, arrive in an environment of strongly negative sentiment about the growth conditions in the economy. Markets may thus be convinced that the central bank will decrease interest rates in reaction to this. The central bank does not lower rates at the meeting, but its communication moves in a more dovish direction. Paradoxically, this may lead to a rise in market rates after the central bank meeting. The monetary conditions are therefore tightened autonomously in response to the central bank's communication, though it is moving towards an easing. The central bank's communication would seem to have failed here, but in reality, there has only been a greater alignment of opinions. In the eyes of financial market participants, the central bank took into account the latest data and thereby reduced the likelihood of a future monetary policy error. The reaction of market rates cannot be easily explained without knowing the future economic story financial markets are working with. However, the outlook is not clearly defined (i.e. it is not sufficient to just use the analysts' surveys[4]) and to a large extent it reflects financial market sentiment. If, in this situation, the central bank's communication also places too much emphasis on current data and therefore unwillingly suppresses the information content of the forecast, it may conversely increase monetary policy uncertainty markedly.

ECB forecasts over the past three years[5]

Economic forecasting was challenging after the Covid pandemic. An analysis of the European Central Bank's outlooks, illustrated in Charts 1 and 2, reveals shifts in the forecasts from 2022 to March 2024.[6] The analysis shows, for example, that the ECB's March 2022 forecast did not fully reflect Russia's invasion of Ukraine. This discrepancy is due to considerable lags in the ECB's forecasting process. For example, the basis for the March forecast is set in mid-February (the "cut-off date"). The process is further complicated by the fact that, twice a year, the forecasts for the individual countries are created in the Eurosystem national central banks. Although no detailed information is available on the ECB's handling of new data after a forecast has been finalised, statements made at press conferences show caution and a tendency to postpone statements until a thorough discussion among experts has taken place. In turbulent times, ECB forecasts thus suggest that they do not reflect current events. In these situations, their communication is more concentrated on the debate about risks and alternative scenarios, but this may not be fully perceived by all financial market participants.

For example, since mid-2022 the European Central Bank's forecasts predicted an acceleration in euro area growth, but the recovery keeps being postponed. As Charts 1 and 2 demonstrate, since the autumn of 2022, the picture for inflation had appeared stable at the one-year horizon, but the economic recovery was still not happening and the euro area stagnated. Nevertheless, the ECB nevertheless expected the weakness of the euro area to be overcome quickly. For comparison, the ECB's GDP growth forecasts for 2007–2018 were met, but inflation forecasts lagged behind. Note that most of the forecasts for quarterly GDP growth point to between 0.3% and 0.5%, implying GDP growth in the range of 1.3%–2% in annualised terms.[7] We find a relatively similar picture for inflation – its forecast trend at the fourth quarter horizon in 2011–2013 was around 1.6%, then roughly in the 1.2–1.6% band until 2020. Inflation forecasts have been heading towards the 2% target in recent years.

Discrepancies between financial market expectations and the ECB's predictions are becoming particularly visible at times of growing concerns about a recession in the euro area. To better understand this phenomenon, we regularly follow an indicator of the probability of recession in the euro area, which is compiled by Bloomberg on the basis of a survey among analysts.[8] Chart 3 illustrates the comparison of expected economic growth at the one-year horizon according to the

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[4] A whole range of surveys among financial market analysts are available – the Survey of Professional Forecasters, Consensus Economics and Bloomberg. However, comments on financial markets can also be used to better capture sentiment.

[5] The macroeconomic forecast is a key input into the central bank's monetary policy decisions. The ECB forecast is produced by the ECB's and national central banks' specialist departments and is referred to as the "Staff Forecast" in ECB communications. However, the Governing Council is consulted about it, so we will talk about the "ECB forecast" in our analysis. In the ECB's case, the forecast is conditional on the market outlook for interest rates. For more details see, for example, ECB (2016) or Spotlight in Central Bank Monitoring III/2023.

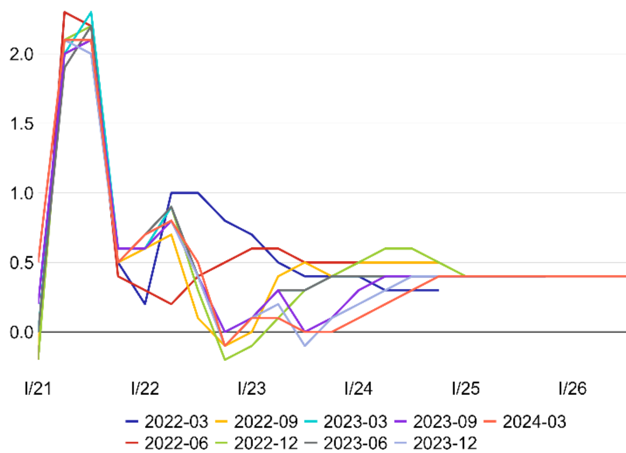
[6] The newly published June forecast is not taken into account in the analysis.

[7] A closer look at 2011–2019, except for the main crisis, reveals only one forecast (winter 2013), where quarterly GDP growth was not within this range at the one-year horizon. This tendency is common among the analysts using structural forecasting models and is not limited to central banks. The formula is also repeated in the forecasts from mid-2022, where the GDP growth target over the 1-year horizon remains stable at 0.4%.

[8] In our historical experience, this indicator better captures changes in financial market sentiment than a standard survey of the outlook for macroeconomic variables among analysts, where there is a tendency to monitor the central bank's behaviour and communications more closely and they may not send early signals of a coming recession.

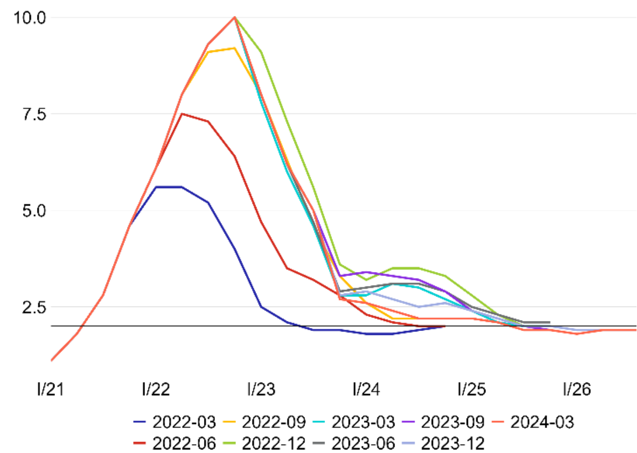
ECB and the probability of recession represented by the colour span from red (high probability) to green (low probability). The diversity of opinions was particularly pronounced during the recession in the euro area in 2012 and the ECB's expectations of a rapid revival, and also since 2022. At the start of 2024, the markets still predicted the onset of a recession in the euro area in the next year (orange) with a probability of more than 65%, whereas the ECB expected GDP growth to accelerate to 0.4% over the same timeframe. This discrepancy indicates that financial markets perceived weak performance of the euro area more negatively than the ECB and expected lower growth in the short term.

Chart 1: ECB forecasts for GDP after 2021



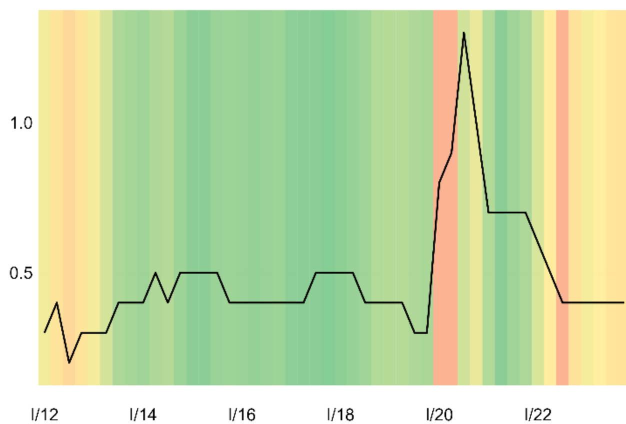
Note: Q-o-q GDP growth in %. The caption shows the month of the forecast, i.e. 2022-03 is March 2022 (ECB winter forecast).
Source: ECB.

Chart 2: ECB forecasts for inflation after 2021



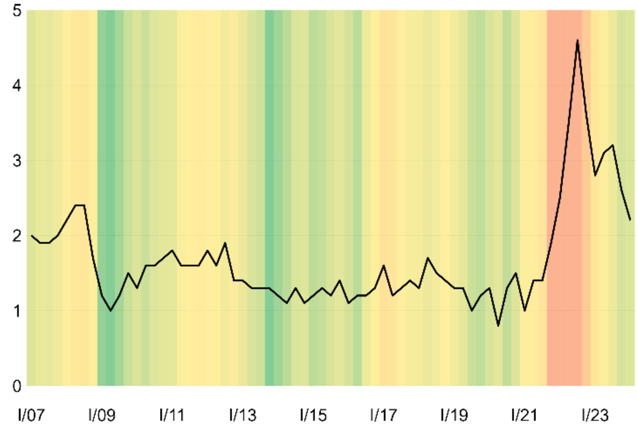
Note: Y-o-y HICP inflation in %. The caption shows the month of the forecast, i.e. 2022-03 is March 2022 (ECB winter forecast).
Source: ECB.

Chart 3: ECB GDP forecasts at the one-year horizon



Note: Q-o-q real GDP growth in % in the timeframe of one year; the probability of recession in the background; green is a low probability of recession; red is a high probability of recession. The latest ECB forecast included is from March 2024.
Source: ECB, Bloomberg.

Chart 4: ECB inflation forecasts at the one-year horizon



Note: Y-o-y HICP growth in % in the timeframe of one year; surprise in inflation according to CITI; green is disinflationary/deflationary surprise; red is inflationary surprise. The latest ECB forecast included is from March 2024.
Source: ECB.

Market participants can have different expectations about inflation trends, especially if new inflation data are a surprise. During the autumn of 2023, speculation about the possibility of an early easing of the ECB's monetary policy intensified, motivated by the unexpected dampening of euro area inflation trends. As Chart 4 shows, in the period when the development of inflation is surprising in a downward direction (a disinflation/deflation surprise), the inflation outlook from the ECB's pen also moves lower. This was not different at the end of 2023, though according to the December forecasts, the ECB's annual outlook was still relatively high. The y-o-y growth in the HICP was projected to hover above 2.5% in the course of this year, falling below 2% only in mid-2025. By contrast, some financial market analysts – as indicated by the comments – were expecting euro area inflation to reach the 2% target in late Q1 or early Q2.

It is not easy to determine whether financial markets were more surprised by trends in the real economy or inflation in the past. However, some indications can be provided by a regular Bloomberg survey among analysts held before each ECB meeting. This survey includes questions about changes in the ECB's macroeconomic forecasts expected

by analysts. Table 1 reveals the ratio of analysts expecting a downward revision to GDP and core inflation. Downward revisions were expected for GDP from June last year onwards, so the analysts perceived a conflict regarding the GDP forecast and actual trends. However, a remarkable jump can be seen in the outlook for core inflation ahead of the ECB's December meeting, which may reflect an unexpected decline in euro area inflation in November 2023. The vision of the euro area economy, as formulated by the ECB, no longer seems fully consistent with the incoming data for financial markets. This raises the question of whether financial markets have worked with different scenarios for the euro area economy this year.

Table 1: Responses from analysts as a part of a Bloomberg survey to the question "How do you expect the ECB to revise its macroeconomic forecasts" prior to an ECB meeting?

Share of "downwards" responses for the GDP outlook

	2023	2024	2025
March 2023	3%	40%	14%
June 2023	43%	70%	3%
September 2023	92%	84%	4%
December 2023	76%	79%	15%
March 2024		67%	40%

Share of "downwards" responses for the core inflation outlook

	2023	2024	2025
March 23	4%	18%	25%
June 23	18%	25%	19%
September 23	13%	50%	46%
December 23	71%	71%	45%
March 2024		63%	29%

Note: The month in the first column indicates the month of the survey and the columns indicate the years about which the survey was directed.

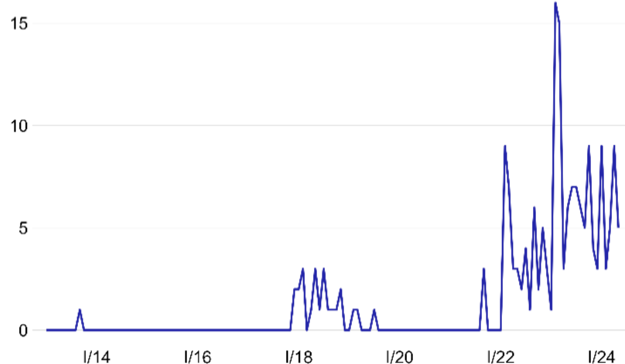
Economic trends in the euro area thus indicated possible future developments which could differ substantially from the macroeconomic outlook presented by the ECB.[9] This can be illustrated by the wage outlook, the importance of which was repeatedly stressed by the ECB. If financial markets considered (albeit only technical) recessions likely in the euro area, they did not have to have confidence in robust growth in demand or in wages either. Moreover, the slowdown in wage growth was also confirmed by high-frequency indicators – e.g. the Indeed Wage Tracker (IWT), which tracks wage growth in advertisements on the Indeed portal. The IWT usually anticipates actual wage growth by six months and clearly indicated a slowdown in wage growth at the beginning of the year. Wage bargaining in Germany was also moderate. As in the last two years, any improvements for employees were channelled into bonuses. Financial markets were also able to assess risks differently or assess other assumptions associated with a forecast. The factors that might have entered the analysts' considerations include a further sizeable fall in exchange prices for energy (gas in particular) at the start of the year, the abating effect of problems in container transport and limited profitability of corporations amid weaker demand.

Surprises in ECB monetary policy and communication

One further interpretation may be that financial markets tried to prepare for a possible sharp reversal in the ECB's monetary policy or had a different view of the central bank's reaction function. Investors could draw on historical experience – when the ECB is surprised by the macroeconomic situation and starts cutting rates later, they do so more sharply. We do not have a specific rate trajectory with which the members of the ECB's Governing Council would agree so that we can compare it with market expectations. However, some ECB representatives clearly signalled the first rate cut in the past only in the summer. Following the expected fall in June, four meetings of the Governing Council (July, September, October and December) remain until the end of the year. A new forecast, which usually serves as a basis for changing the monetary policy stance, will only be presented at two of them (September and December). In the January market outlook with 5–6 standard rate reductions by the end of 2024, this suggests that the market outlooks expected rates to be cut earlier and/or more aggressively than just 0.25 percentage point at some meeting. Inflation would have to fall below 2% and the outlook for economic activity would have to deteriorate significantly in order for the ECB to consider such dramatic monetary policy easing as foreseen by the market outlook.

[9] As the ECB outlined in the December forecast, the assumptions about household consumption and inflation were crucial: "Moreover, declining inflation and rising wages, in the context of a still tight labour market, should support households' purchasing power around the turn of the year," and "Stronger wage growth also implies that losses in purchasing power incurred since the surge in inflation are expected to be recovered by the end of 2024, which is slightly earlier than expected in the September projections".

Chart 5: Importance of recent data in ECB communications



Note: The number of uses of the term *"data-dependent"* per month in speeches and interviews by Governing Council members or at ECB press conferences. Source: ECB website.

In addition, central bankers' communications emphasised the importance of the latest economic data. This is apparent, for example, from the frequent use of the term "incoming data-dependent decision",[10] which has become increasingly included in their statements since the start of 2022, as shown in Chart 5. Following the January ECB meeting, for example, the Croatian governor emphasised that market rate changes of 0.25 percentage point were considered to be a smoother way of implementing monetary policy, but that greater intervention was not ruled out if the current data supported this. This approach may have increased market concerns about surprise changes, which may have led to a greater willingness to hedge against such scenarios, especially if new data indicated a higher probability. Central bankers can also make markets uncertain about their confidence in official forecasts in this way. Although the adjustment of monetary policy actions in response to newly available data is a natural part of monetary policy, an excessive emphasis on a "data-dependent" approach may thus lead financial markets to over-sensitivity to new data. Nevertheless, the governors' cautious approach is understandable as the euro area economy has faced more structural difficulties or cost shocks than in a traditional business cycle in recent years.

However, the central bank's credibility was not fundamentally impaired. Though the ECB was criticised – especially in 2021 – for the insufficient anticipation of the pick-up and persistence of inflation. In the January 2023 survey mentioned in Table 1, more than half of the analysts reported that the ECB was "behind the curve," i.e. reacting late. However, the results of a Financial Times survey from December 2023 showed that more than half of the respondents do not think that the ECB's credibility was seriously undermined by the late reaction, while one-third feel that its reputation was damaged.

The opinions of the ECB and financial markets have gradually become aligned, with the market outlook for interest rates shifting upwards, bringing it closer to the ECB's communication. Euro area inflation trends since February 2024 have not confirmed the fears of financial markets concerning a disinflationary recession, but signs of a recovery in the euro area were conversely stronger. Sentiment in business remained negative, but activity in industry emerged from the decline. According to the indicator mentioned above, the probability of recession in the following year even decreased to 40%. Even Bloomberg's March survey among analysts confirmed that the expectations of further corrections in the ECB forecast (both inflation and GDP) are decreasing (the last line of Table 1). At its April meeting, the ECB left rates unchanged, but in its communication (in line with market expectations), it repeated its readiness to lower rates in June, which it subsequently did. However, the aggressiveness of further ECB interest rate cuts in the rest of this year is also uncertain with regard to future trends in inflation. A more cautious approach, with the ECB not rushing to further rate cuts, now seems likely, to which financial markets responded by adjusting the rate outlook upwards.

Conclusion

To sum up, the ideal situation is that a central bank's actions and communications are in line with financial market expectations. It is important for a central bank to monitor market expectations. A gap regarding interest rates between them may lead to an autonomous tightening or easing of monetary policy, which may not be desirable from a central bank's perspective. Moreover, unexpected monetary policy decisions will often lead to increased market volatility. However, at times of high uncertainty, there may be different perceptions of the macroeconomic situation between markets and a central bank, and some gaps in expectations about future trends in interest rates may be inevitable in such a situation. A central bank must then take account of this gap, but should not be bound by it. Its task is to set monetary policy in such a way as to fulfil its mandate, not so that it does not surprise financial markets (though it is ideally the same). Over time, markets and the central bank see how the economy continues to develop, which may lead to gradual convergence of their positions.

[10] Using webscraping, we analysed speeches, interviews and other official statements of the Governing Council members, as presented on the ECB's website.

This, after all, also explains the fading discrepancies between market expectations and the ECB's communications so far this year.

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IV. SELECTED SPEECH: François Villeroy de Galhau: Releasing the screw? Monetary policy at a crossroad

In his April speech to the Economic Club of New York, François Villeroy de Galhau, Governor of the Banque de France speaks about the current decline in inflation and asks where interest rates are going to stabilise.

In the introduction of his speech, Governor Galhau refutes the perception that the ECB cannot or will not act unless the Fed does so. He cites the president of the ECB Christine Lagarde that the ECB is data-dependent, not Fed-dependent. At the same time, he points to important differences on the drivers of inflation during the last two years, which was due more to demand in the US, whereas in the euro area it was due more to supply constraints linked to greater dependence on imported energy. He also notes differences on the level of the natural interest rate (the so-called r*). However, Governor Galhau also expands on three dimensions that he believes are common for both banks.

Why have central banks succeeded so far with a soft landing?

Central banks achieve a soft landing if they can bring inflation back down to target at a low cost for employment. Part of the observed disinflation was due to the reversal of the supply factors that caused high inflation in the first place, such as energy prices. The resilience of employment might be supported by specific labour market factors, including its significant improvement in Europe, France included. But Governor Galhau focuses on the role of monetary policy in driving disinflation and emphasises one aspect that is at the centre of modern monetary policy – well-anchored inflation expectations.

A credible commitment to return inflation to target ensures that the public sees high inflation as temporary. Ultimately, this leads to price- and wage-setting being anchored at the values consistent with inflation targets, and avoiding a wage-price spiral. This is precisely the mechanism that played out during the inflation surge of 2022. As soon as the interest rate hikes began in mid-2022, the rise in inflation expectations reversed downward. According to the French Governor, this solid anchoring of expectations marks a difference with the 1970s. The credibility of central banks, high thanks to their independence and the success of inflation targeting, has been bolstered by their forceful reaction, thus obviating the need to raise real interest rates to levels as high as those seen in the past. Nevertheless, it is important to acknowledge two limitations. Central banks do not yet fully understand how households and businesses form expectations nor how this maps into their actions. Besides that, the expectations channel should not lead one to think that monetary policy works like a magical incantation. A central bank's credibility hinges on concrete actions and their impact on credit and demand.

Will central banks succeed in the end? The last mile challenge

Still, Governor Galhau notes that success is not ensured until a durable convergence to 2% inflation. Unexpected and exogenous shocks can arise and a number of observers have expressed concerns that the last mile of disinflation might be more arduous. Disinflation now needs to extend to the "price core", primarily to services. These observers therefore claim it will be different, harder, and with less tailwind from the effects of energy disinflation.

But as far as the euro area is concerned, there is no serious evidence to support this fear of the "last kilometre". Admittedly, services inflation remains higher at 4%, but it has been falling after peaking at 5.6% in July 2023. Historically, its average has generally exceeded the target of 2%, but it is still compatible with it because of slower trend growth in goods prices. Moreover, there are no signs of a wage-price spiral, which is important as wages are particularly relevant for services. On the contrary, growth of the average compensation per employee is slowing markedly.

Services disinflation can be slower, but not more arduous. The "last kilometre" could differ in pace, but not in nature. Moreover, accepting the fact that this last kilometre could naturally take longer may also provide protection against the risk of undershooting the inflation target, which could happen if monetary policy remained excessively tight. Therefore, Governor Galhau expressed a preference for a policy of pragmatic and agile gradualism. There will have to be gradual cuts this year and the next and their pace will be guided by the data.

Where could central banks end? Is the natural real rate (r*) helpful?

The economic profession gets divided about the use of the concept of the natural interest rate r* – the interest rate that balances aggregate supply and aggregate demand, and savings and investment as well. It is the dividing line between a restrictive and an accommodative monetary policy. If expected inflation is too high, real interest rates have to go above r* to curb aggregate demand, and conversely. But the challenge is that r* is not observable and needs to be estimated. For this reason, there is some doubt as to whether the concept is relevant. However, Governor Galhau is an "r* believer", and the ECB and the Banque de France ventured some estimates.

These estimates show that the pandemic marks a halt in the two-decade long downward drift in r* on the back of lower growth and population ageing. This might be good news for the economy and monetary policy. The risk of interest rates hitting the effective lower bound has slightly eased. Estimates from ECB and Banque de France suggest that in the euro area, the real neutral rate is now slightly positive, between 0% and 0.5%, and therefore the nominal neutral rate could be between 2% and 2.5%. In the United States, it could be around one percentage point higher, taking into account the surplus of investment over savings, more favourable demographic development and stronger productivity growth.

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