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Czech National Bank —— Central Bank Monitoring —— IV/2021

CNB CZECH NATIONAL BANK

In this issue

Most central banks are facing the question of whether the current inflation pressures are temporary or permanent. This distinction is crucial for assessing whether, when and by how much central banks should be reducing their current monetary policy stimuli. The central banks we monitor can be divided into two groups based on the monetary policy steps they have already taken. Those in the first group have already started raising their policy rates and have been using unconventional measures to a minimal extent or not at all (NBP, CNB, RBNZ, Norges Bank). Those in the second are keeping rates very low for now and are tapering their asset purchase programmes to various extents (Fed, ECB, BoC, Riksbank). The BoE and the MNB are somewhere between the two groups.

The current *Spotlight* focuses on inflation expectations, their current evolution and the response of central banks to the risk of them becoming de-anchored. In our *Selected Speech*, the outgoing President of the German Bundesbank Jens Weidmann places the recent developments in ECB monetary policy in the overall picture and describes the existing problems and long-term challenges.

This publication aims to provide economists and other specialists with information on the latest 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 file containing a list of all the thematic articles and speeches.

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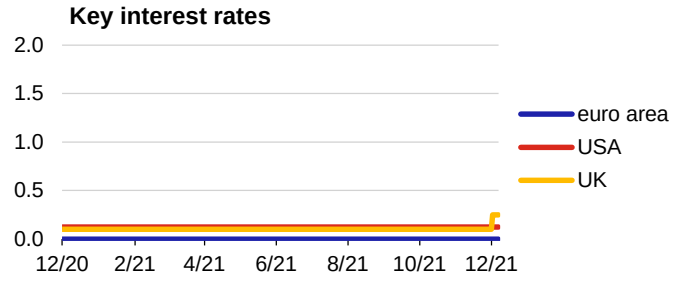
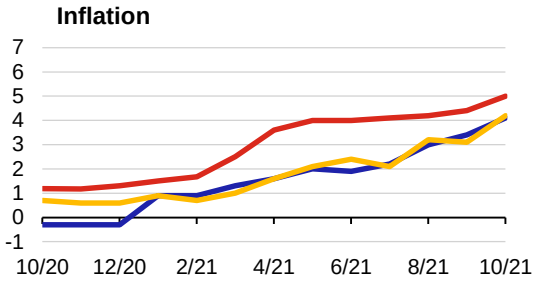
I. LATEST MONETARY POLICY DEVELOPMENTS AT SELECTED CENTRAL BANKS

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

	Euro area (ECB)	USA (Fed)	United Kingdom (BoE)
Inflation target	2%[1]	2%[2]	2%
MP meetings (rate changes)	28 Oct (0.00);(0.00)[3] 16 Dec (0.00);(0.00)[3]	21–22 Sep (0.00) 2–3 Nov (0.00) 14–15 Dec (0.00)	23 Sep (0.00) 4 Nov (0.00) 16 Dec (+0.15)
Current basic rate	0.00%; -0.50%[3]	0–0.25%[4]	0.25%
Latest inflation	4.9% (Nov 2021)[5]	5% (Oct 2021)[6]	5.1% (Nov 2021)
Expected MP meetings	3 Feb 10 Mar	25–26 Jan 15–16 Mar[7]	3 Feb 17 Mar
Other expected events	10 Mar: publication of forecast	2 Mar: publication of Beige Book	3 Feb: publication of Monetary Policy Report
Expected rate movements[8]	→	↑	→

Note: [1] ECB's new symmetric inflation target of 2%, adopted in July 2021; [2] long-term average (August 2020 definition); [3] deposit rate; [4] chart shows centre of band; [5] flash estimate; [6] Consumer Price Index for All Urban Consumers (CPI-U); [7]meeting associated with summary of FOMC economic forecasts; [8] direction of expected change in rates in next three months taken from Consensus Forecasts.





The **ECB** left key rates unchanged at its December meeting. It also decided to conduct asset purchases under the PEPP in 2022 Q1 at a lower pace than in the previous quarter and to discontinue purchases under the PEPP at the end of March 2022. By contrast, monthly net purchases under the APP will temporarily be doubled to EUR 40 billion in 2022 Q2 and lowered to EUR 30 billion in Q3. From October 2022 onwards, the monthly pace will be kept at EUR 20 billion. Net asset purchases will end shortly before the ECB starts raising key interest rates. The ECB will also assess the appropriate calibration of its two-tier system for reserve remuneration so that the negative interest rate policy does not limit banks' intermediation capacity in an environment of ample excess liquidity. The ECB projects real GDP growth in the euro area of 5.1% this year (previously 5.0%), 4.2% in 2022 (4.6%) and 2.9% in 2023 (2.1%). The euro area inflation outlook has been raised to 2.6% for 2021 (2.2%), 3.2% for 2022 (1.7%) and 1.8% for 2023 (1.5%).

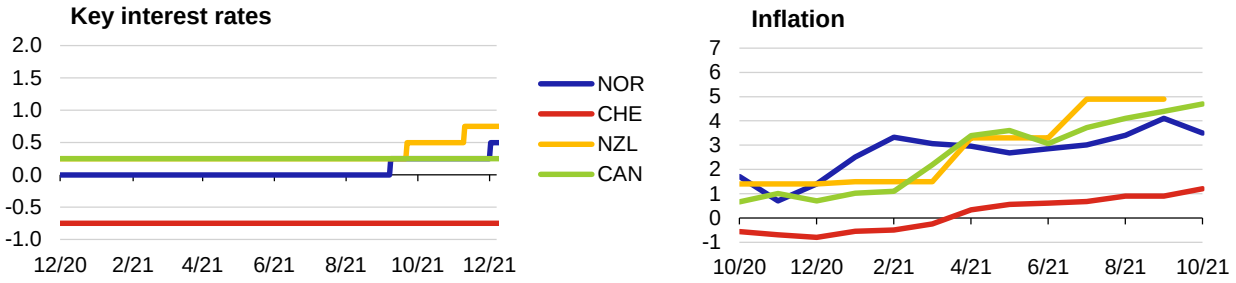
The **Fed** kept the target range for its federal funds rate at 0–0.25% but changed the interest rate outlook and expects three hikes of 25 basis points in 2022. In light of inflation developments and the further improvement in the labour market, the FOMC decided to further reduce the monthly pace of its net asset purchases in January 2022 – by USD 20 billion for Treasury securities and USD 10 billion for MBSs (i.e. double the pace of tapering announced in November; see *News*). Reductions in the pace of purchases will remain possible and the FOMC will adjust the pace based on the economic outlook. The median projections of the FOMC members point to real GDP growth of 5.5% in 2021, 4.0% in 2022, 2.2% in 2023 and 2.0% in 2024. The FOMC expects an unemployment rate of 4.3% this year and 3.5% in each of the next three years. According to the median projections, PCE inflation will be 5.3% this year, 2.6% in 2022, 2.3% in 2023 and 2.1% in 2024. The interest rate (the midpoint of the range) is forecasted at 0.9% next year, 1.6% in 2023 and 2.1% in 2024.

The **BoE** surprisingly raised its key interest rate by 15 basis points to 0.25% in December in order to return inflation sustainably to the 2% target. The BoE's outlook expects some further modest tightening of monetary policy. The total target stock of asset purchases remains unchanged at GBP 895 billion. A review of the November forecast for the December meeting indicates lower GDP growth and higher inflation. Indicators of cost and price pressures have remained at historically elevated levels recently. The BoE expects prices to rise further next year, driven in large part by pay and energy costs. Inflation will be around 5% in the winter period and will peak at around 6% in April 2022 and then fall back. The MPC will take into account the risks of the Omicron variant in the February forecast. In addition, the BoE increased the countercyclical capital buffer rate to 1% with effect from 13 December 2022.

I.2 SELECTED INFLATION-TARGETING NON-EU COUNTRIES

	Norway (NB)	Switzerland (SNB)	New Zealand (RBNZ)	Canada (BoC)
Inflation target	2%	0–2%	2%	2%
MP meetings (rate changes)	23 Sep (+0.25) 4 Nov (0.00) 16 Dec (+0.25)	23 Sep (0.00) 16 Dec (0.00)	6 Oct (+0.25) 24 Nov (+0.25)	27 Oct (0.00) 8 Dec (0.00)
Current basic rate	0.5%	-0.75%	0.75%	0.25%
Latest inflation	3.5% (Oct 2021)	1.2% (Oct 2021)	4.9% (2021 Q3)	4.7% (Oct 2021)
Expected MP meetings	20 Jan 24 Mar	24 Mar	23 Feb	26 Jan[2] 2 Mar
Other expected events	24 Mar: publication of Monetary Policy Report	30 Mar: publication of Quarterly Bulletin	23 Feb: publication of Monetary Policy Statement	26 Jan: publication of Monetary Policy Report
Expected rate movements[1]	↑	→	↑	→

Note: [1] direction of expected change in rates in next three months is taken from Consensus Forecasts or, in the case of New Zealand, from RBNZ survey, and, in the case of Norges Bank, from forecast. [2] publication of new forecast.



The **NB** raised its policy rate by 25 basis points in both September and December, to 0.5%. The next hike can be expected in March 2022. According to the central bank's forecast, the policy rate will rise to 1.7% by the end of 2024. The NB says this growth will also help to counter a build-up of financial imbalances. The NB also decided to raise the countercyclical capital buffer rate from 1.5% to 2.0%, effective from 31 December 2022. However, Governor Olsen expects the rate to be raised further in the first half of 2022, taking effect one year later. The NB forecast projects inflation of 3.5% this year, 2.7% in 2022 and 1.5% in 2023. GDP growth will be 4.2% this year, rising to 4.3% in 2022 and slowing to 2.5% in 2023.

The **SNB** kept its interest rate at -0.75% and reiterated its willingness to intervene in the foreign exchange market against appreciation of the Swiss franc. Compared with the September forecast, the SNB's December forecast expects slightly higher inflation this year and the next (0.6% and 1.0% respectively). This is primarily due to higher import prices, above all for oil products and for goods affected by global supply bottlenecks. The SNB expects inflation of 0.6% in 2023. According to the SNB, GDP will grow by around 3.5% this year and 3% in 2022. Mortgage lending and residential property prices have continued to rise strongly in recent quarters. The SNB regularly reassesses the need for the sector-specific capital buffer to be reactivated but has so far left the buffer rate at 0%.

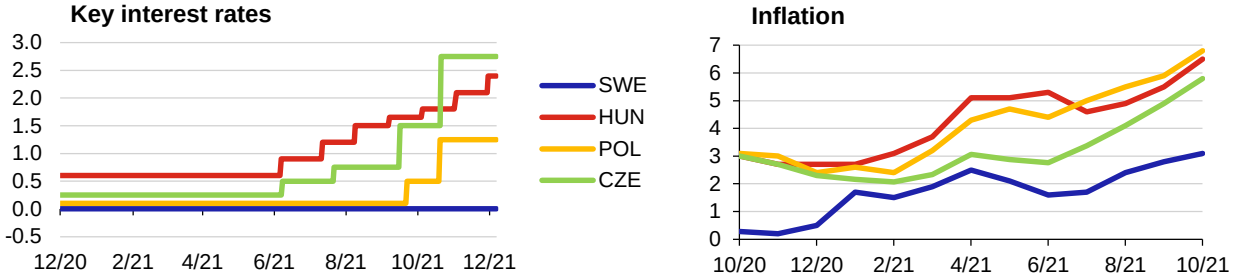
The **RBNZ** increased its key interest rate twice in a row (by 25 basis points each time) to 0.75%. Back in July it halted the LSAP asset purchase programme and reduced monetary stimulus, and it is now gradually tightening. Global supply chain disruptions are causing both cost pressures and constraints on production, at a time when consumer demand remains strong. Employment is above its maximum sustainable level and headline inflation is above target. The RBNZ expects inflation to measure above 5% in the near term before returning towards 2% over the next two years. The near-term rise in inflation is accentuated by higher oil prices, rising transport costs and supply shortfalls. According to the RBNZ, these price shocks risk generating more generalised price rises given the current domestic capacity constraints.

The **BoC** left its key interest rate unchanged at 0.25% and will hold it there until the 2% inflation target is sustainably achieved (in 2022 Q2–Q3 according to the October projection). The BoC ended its government bond purchases in October. Canadian GDP grew by 5.2% in 2021 Q3. The BoC projection expects GDP growth of 5% this year, 4.25% next year and 3.75% in 2023. The BoC expects inflation to be elevated in 2022 and ease back towards the 2% target by the end of next year. Elevated energy prices and pandemic-related price increases on the supply side (linked with global supply constraints) seem stronger and more persistent than in July.

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

	Sweden (Riksbank)	Hungary (MNB)	Poland (NBP)	Czech Republic (CNB)
Inflation target	2%[1]	3%	2.5%	2%
MP meetings (rate changes)	20 Sep (0.00) 24 Nov (0.00)	21 Sep (+0.15) 19 Oct (+0.15) 16 Nov (+0.30) 14 Dec (+0.30)	6 Oct (+0.40) 3 Nov (+0.75) 8 Dec (+0.50)	30 Sep (+0.75) 4 Nov (+1.25)
Current basic rate	0%; -0.1%[2]	2.4%	1.75%	2.75%
Latest inflation	3.1% (Oct 2021)	7.4% (Nov 2021)	7.7% (Nov 2021)[3]	6.0% (Nov 2021)
Expected MP meetings	9 Feb	25 Jan 22 Feb 22 Mar[4]	12 Jan 8 Feb 8 Mar	22 Dec 3 Feb[4]
Other expected events	10 Feb: publication of Monetary Policy Report	22 Mar: publication of Inflation Report	15 Mar: publication of Inflation Report	10 Feb: publication of Monetary Policy Report
Expected rate movements[5]	→	↑	↑	↑

Note: [1] CPIF – consumer price index including fixed interest rate; [2] deposit rate; [3] flash estimate; [4] publication of new forecast; [5] direction of expected change in rates in next three months taken from Consensus Forecasts or, in the case of the CNB, from central bank's forecast.



The **Riksbank** left its key rate at 0% and its deposit rate at -0.1%. The Riksbank expects the policy rate to be raised in the latter part of 2024. The asset purchase programme will expire on 31 December 2021. Bond holdings will be approximately unchanged in 2022, with only the principal of maturing bonds being reinvested (to the tune of around SEK 37 billion in 2022 Q1), and will decrease gradually in 2023. The November forecast is almost unchanged from the September one, expecting GDP growth of 4.7% this year, 3.8% in 2022 and 2.0% in 2023. The inflation outlook (CPIF) is 2.3% for this year, 2.2% for next year and 1.8% for 2023.

The **MNB** has increased its key interest rate at all four meetings since September (by 90 basis points overall to 2.4%). The O/N deposit rate is now at the same level and the secured lending rate (lombard) is 4.4%. This asymmetrical corridor towards higher rates is contributing to monetary policy tightening. At the meeting in December, the MNB decided to close the Bond Funding for Growth Scheme and to stop purchasing government bonds. The MNB will hold securities purchased until maturity. Hungarian GDP grew by 6.1% in Q3. The MNB expects GDP growth of 6.3–6.5% and 4.0–5.0% in 2022. Inflation was 7.4% in November and is expected to start falling gradually in December. The MNB expects inflation of 4.7–5.1% in 2022.

The **NBP** increased its key interest rate three times in a row (by 165 basis points overall to 1.75%). This series of hikes is aimed at reducing inflation back to the NBP's target in the medium term and at curbing inflation expectations. According to a preliminary estimate, annual GDP growth in 2021 Q3 stood at 5.3%, accompanied by a significant acceleration in investment. According to the November forecast, Poland's GDP will grow by 5.3% this year and just under 5% in 2022 and 2023. The current forecast expects inflation of 4.9% this year, 5.8% in 2022 and 3.6% in 2023.

The **CNB** raised its key rate at its two autumn monetary policy meetings (by 75 basis points in September and by 125 basis points in November to 2.75%) in response to exceptionally strong price pressures from the foreign and domestic economies. The rise in rates will limit the pass-through of these pressures into prices in the longer term, ensuring the return of inflation towards the 2% target at the monetary policy horizon, i.e. in 12–18 months' time. The Czech economy will grow by just under 2% overall this year and gain pace visibly over the next two years (3.5% in 2022 and 3.8% in 2023). Consumer price inflation will rise significantly further at the close of this year and approach 7% during the winter. Next year, inflation will ease gradually, aided markedly by both components of the monetary conditions (5.6% in 2022 and 2.1% in 2023).

II. NEWS OVER THE LAST THREE MONTHS

Fed starts tapering

At the start of November, the FOMC began the long-awaited tapering of its USD 120 billion-a-month asset purchase programme. At its November meeting, it decided unanimously to reduce its Treasury securities purchases by USD 10 billion per month and its agency mortgage-backed securities (MBS) purchases by USD 5 billion per month. At the December meeting, it decided to double the pace of pace of tapering beginning in January 2022, i.e. to reduce the monthly pace of its net asset purchases by USD 20 billion for Treasury securities and by USD 20 billion for MBSs. This pace suggests the stimulus programme will end as early as March 2022.

RBA drops yield curve control

The Reserve Bank of Australia (RBA) abandoned its yield target at the beginning of November, a few days after bond yields surged above the central bank's target. Under yield curve control (YCC), the RBA had promised in November last year to buy as many three-year government bonds as needed to keep their yield at 0.1%, the same as its overnight rate. Analysts now expect the RBA to begin raising rates already in the fourth quarter of 2022, instead of holding rates until late 2023 as previously expected.

Bank of Canada renews monetary policy framework for next five years

In December 2021, the BoC jointly with the Government of Canada renewed its flexible inflation targeting framework for the next five years, i.e. until the end of 2026. The inflation target will continue to be the 2% mid-point of the 1–3% inflation-control range. The targeted variable will continue to be defined in terms of the 12-month rate of change in the total consumer price index. The BoC emphasised maintaining low, stable inflation over time as the primary objective of monetary policy, but added that policy should also aim for maximum stable employment.

During its review, the BoC conducted a systematic comparison of other frameworks (including the existing flexible inflation targeting, average inflation targeting, price level targeting, a dual mandate and nominal growth targeting). In order to evaluate them, the bank ran simulations and experiments, and reached out to the public for views (just as the ECB and the Fed have done in their recent reviews). According to the BoC's summary, only price level targeting beat the current flexible inflation targeting framework, but only on a single metric, that price level targeting could generate greater price stability. However, the BoC said the evaluation found it to be substantially worse in every other criterion. It stated flexible inflation targeting could achieve the benefits of other frameworks without the drawbacks associated with them, such as communication issues.

Norges Bank adopts monetary policy strategy

The Norges Bank (NB) Monetary Policy and Financial Stability Committee, which was appointed in January 2020 (see the March 2020 CBM), in December 2021 adopted a monetary policy strategy. The strategy is based on the mandate laid down in the Central Bank Act and the Regulation on Monetary Policy and provides a framework for the conduct of monetary policy. It will be developed over time. The primary objective of monetary policy is low and stable inflation, specified as annual consumer price inflation of close to 2%. The NB's inflation targeting is forward-looking and flexible so that it can contribute to high and stable output and employment consistent with price stability over time, and to counteracting the build-up of financial imbalances.

RBNZ tightens macroprudential policy in field of property market lending

Following consultations announced in the summer (see the September CBM), the RBNZ decided to introduce stricter loan-to-value ratio (LVR) limits. From this November onwards, no more than 10% of bank lending (previously 20%) to owner-occupiers can be at LVRs of more than 80%.

Jerome Powell nominated for second term as Fed chair…

At the end of November, US President Joe Biden nominated Jerome H. Powell as chair of the Fed for a second four-year term. The president nominated Lael Brainard to serve as Fed vice chair. Her name was also discussed as a possible candidate for the post of Fed chair. Their terms are expected to begin in February next year. Both nominations are yet to be confirmed by the US Senate. Also in November, Randall K. Quarles resigned from the Board of Governors, effective at the end of the year, after his term as vice chair for supervision expired in October.

…and had to deal with trading scandal shortly before his nomination

In late October, the Fed announced a set of rules banning regional Reserve Bank presidents, as well as members of the Board of Governors and senior Fed staff, from trading in most securities. The decision came in response to a trading scandal that led to the resignation of two regional Fed presidents (Eric Rosengren, the president of the Federal Reserve Bank of Boston, and Robert Kaplan, the president of the Dallas Fed).

Jens Weidmann to step down as Bundesbank president

After more than ten years leading the German central bank, Jens Weidmann has decided to step down as president of the Deutsche Bundesbank at the end of 2021. In an October statement he cited “personal reasons”. His announcement came as a major surprise, as he had been reappointed for a second eight-year term in April 2019.

Turkey’s central bank losing fight against inflation

The Central Bank of Turkey (CBRT), under the leadership of Governor Sahap Cavcioglu, cut interest rates by a total of 500 basis points (from 19% to 14%) between September and December, despite rising inflation (which exceeded 21% in November) and a tumbling Turkish lira. At its November meeting, the CBRT said it would “consider” ending the rate reduction process in December, but it continued to lower rates in December. Analysts say the CBRT is losing its independence and is bowing to pressure from President Erdogan, who wants to boost economic growth with lower borrowing costs. In October, the president dismissed two CBRT deputy governors and appointed several new senior bank officials. At the beginning of December, the CBRT started to intervene in the FX market in an attempt to steady the domestic currency. Shortly afterwards, the Turkish finance minister Lufti Elvan resigned and was replaced by Nureddin Nebati, a supporter of the Turkish president’s economic visions.

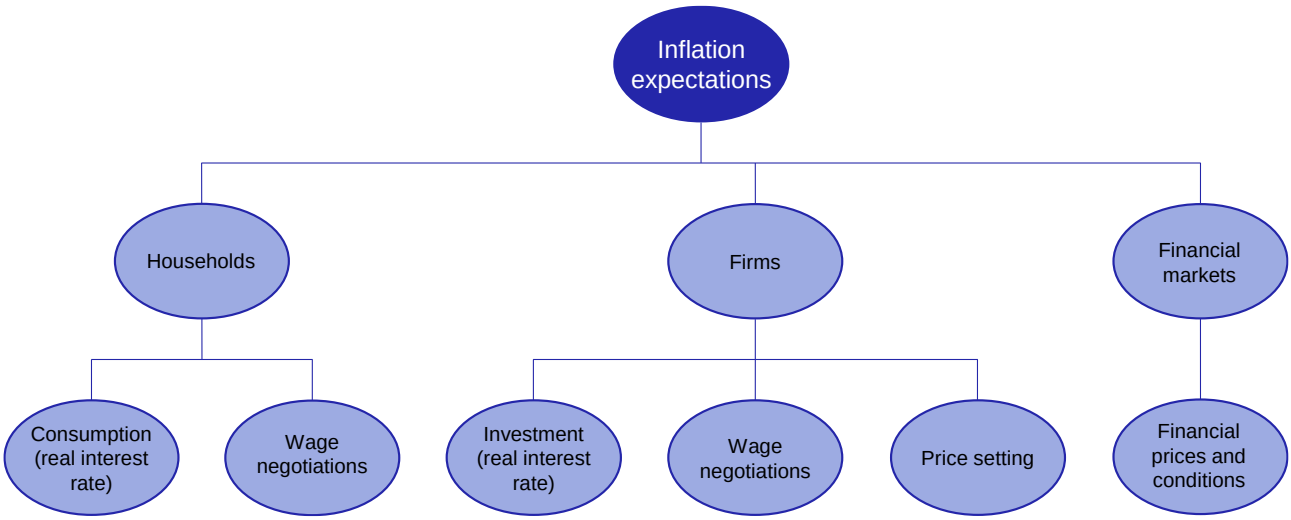
III. SPOTLIGHT: INFLATION EXPECTATIONS

The inflation expectations of households, firms and financial markets fundamentally affect their actions and decisions and hence also the overall economy and the actual rate of inflation. As expectations are largely self-fulfilling, it is important for central banks to monitor inflation expectations and to shape them in the desired manner through their activities and communications. Expectations can be measured in several ways, none of which is perfect. Taken together, however, they provide valuable information about economic agents' views of future economic developments. The importance of inflation expectations is also demonstrated by the academic literature. In the current conditions of rising inflation, many countries are facing increased inflation expectations. This, along with other factors, is leading numerous central banks to take radical monetary policy measures to anchor expectations close to the inflation target. In other countries, by contrast, there is no risk of inflation expectations easing significantly and the relevant central banks are thus holding off tightening monetary policy. This article explains the importance of inflation expectations and describes the latest developments in this area in the countries we regularly monitor.

The importance of inflation expectations

Inflation expectations are a key factor affecting the future price level, as economic agents' behaviour is determined not only by the current economic situation, but also by their expectations about its future development. There are many mechanisms through which inflation expectations affect the inflation rate. If households or firms can borrow or save at a particular nominal interest rate, their inflation expectations determine the real interest rate expected ex ante and hence the expected benefits of lending or saving. This in turn affects their consumption and investment decisions. Inflation expectations are also an input to wage negotiations between households (employees) and firms (employers), as they affect both employees' wage demands and firms' willingness to accept them. Based on expected inflation, firms can also set the prices of their goods and services in advance. In addition, the expected inflation rate affects trading on financial markets.

Schematic overview of the transmission of inflation expectations



Based on ECB (2021).

Inflation expectations are thus largely self-fulfilling. If firms and household expect inflation to be high, they adjust their behaviour accordingly, and this can result in inflation actually being higher. The same naturally applies in the opposite case, i.e. when economic agents expect low or even negative inflation (deflation).

For this reason, inflation expectations are also an important factor for central banks and the success of their monetary policies. Fluctuations in the inflation rate are a natural part of the economic cycle. However, it is much easier for central banks to smooth these fluctuations with monetary policy (or not to respond to them in some cases) and to achieve their targets in the long run if long-term inflation expectations remain anchored close to the inflation target.[1] By contrast, the

[1] The effort to anchor inflation expectations at low and stable levels through an explicitly declared numerical target is one of the main reasons why inflation targeting has been introduced in many countries.

threat of an increase in inflation expectations requires an appropriate monetary policy response in order to dampen expectations: if expectations really were to deviate from the inflation target markedly and persistently (i.e. if the inflation target were *de facto* to lose its credibility), the target could not be successfully achieved without a particularly strong monetary policy response, which would inevitably have a strong negative impact on economic performance.[2]

Measuring expected inflation

All this implies that it is important for central banks to monitor inflation expectations. A significant role is played by the time horizon monitored. Short-term expectations are typically measured at a horizon of one year and long-term expectations at a horizon of several years (often three, five or ten). A deviation of short-term expectations from the target may signal a risk for monetary policy but is not a major problem in itself. If economic agents view the expected deviation of inflation from the target as temporary, their behaviour will be little affected. However, a problem would arise if a short-term deviation of inflation expectations were to spill over into long-term expectations, as a result, for example, of persistent failure to hit the target due to an insufficient central bank response.

Inflation expectations are not straightforward to measure. There are several possible approaches, none of which is perfect. One option is to survey the opinions of households and firms. The disadvantages of survey-based measures are that the results are quite sensitive to the specific formulation of the questions asked, the responses often contain outliers and the declared expectations may not match households' and firms' actual behaviour. Some surveys are qualitative; rather than giving specific numerical values of expected inflation, the respondents merely say whether they are expecting prices to rise significantly, to rise moderately, to stay unchanged and so on. The second way of measuring expectations is to canvas the opinions of financial analysts. Professional forecasters usually have a better knowledge of the economy than the general public. However, their replies may show some rigidity. Inflation expectations can also be estimated from inflation-indexed financial instruments. The evolution of these instruments is a relatively reliable indicator, as it is the result of how traders actually behave with their own money. On the other hand, suitable metrics are either not available or not sufficiently liquid for every country or every maturity, and measurement is complicated by the need to estimate risk and liquidity premia. Moreover, this approach captures the inflation expectations of only some economic agents and may thus not provide information about the expectations of households, for example. For these reasons, it is appropriate to monitor a broad range of measures of inflation expectations and cross-check their results. Together, however, these measures can provide a valuable picture of inflation expectations in the economy.

Inflation expectations in the academic literature

Given their important economic role, inflation expectations are a frequent subject of academic research. The theoretical literature examining this topic includes, for example, Orphanides and Williams (2004), who analyse a model of adaptive learning, which represents a (relatively modest) deviation from the common assumption of rational expectations. In this model, the task of monetary policy is more difficult than in the case of rational expectations – if monetary policy puts great emphasis on stabilising GDP but takes a lax approach to inflation, there is a risk that the anchoring of inflation expectations will deteriorate and both GDP and inflation will become less stable as a result. The authors therefore emphasise the importance of the now standard practice of setting of a specific and clearly communicated numerical inflation target[3] and the need for sufficiently activist monetary policy in achieving this target.

A large body of literature examines the characteristics of empirically measured inflation expectations. Moessner and Takáts (2020) analyse long-term inflation expectations in a number of countries measured using surveys conducted in 1996–2019.[4] The authors find that expectations are anchored much better in advanced economies than in emerging ones. However, persistent deviations of inflation from the target inflation also affect expectations in advanced economies. Moreover, the effect of expectations is asymmetric – persistently higher-than-targeted inflation has a larger effect on inflation expectations than persistently lower-than-targeted inflation.

Coibion et al. (2020) focus on Italian firms, some of which are exposed in a survey to information about recent inflation but others are not. This generates variation in inflation expectations and enables the authors to examine its causal effect. According to this study, firms expecting higher inflation raise their prices, increase their demand for credit and reduce their

[2] A well-known example of this phenomenon was the situation in the USA in the early 1980s. After a decade of high inflation, which in 1980 approached 15%, the US Federal Reserve chaired by Paul Volcker managed to tame the price growth, though at the cost of raising nominal interest rates close to 20% and triggering a recession with unemployment running at more than 10%. The importance of inflation expectations in this period is documented, for example, in Clarida et al. (2000), according to which Fed monetary policy did not follow the Taylor rule, i.e. nominal interest rates did not respond to inflation sufficiently strongly and in good time.

[3] Empirical evidence of the success of inflation targeting in better anchoring inflation expectations is provided in Walsh (2009), for example.

[4] The paper uses analysts' expectations from Consensus Forecasts surveys.

employment and capital. When monetary policy rates are at their lower bound, the upward effect of inflation expectations on prices and demand for credit are stronger, while the effect on employment decreases.

Candia et al. (2021) also examine the inflation expectations of firms, this time in the USA. According to the authors, the expectations of US firms deviate from those of households and especially professional forecasters. This confirms the importance of using various measures of expectations. The survey used by the authors shows that US firms' expectations are generally less anchored (most respondents do not know the Fed's inflation target) and differ greatly across firms in both the short and long run. This is partly (but not fully) explained by the different sectors in which the firms operate. It may also be due to firms' inattention to monetary policy and inflation caused by the long period of low and stable inflation and hence the successful effect of monetary policy (firms pay little attention to inflation if inflation is not a problem). On the other hand, these results pose a challenge to monetary policy and its communication as regards its ability to better anchor inflation expectations close to the inflation target. The fact that firms' one-year inflation expectations approached 5% in the third quarter of 2021 in this survey could be a warning signal for the US Fed.

The empirical literature arrives at mixed conclusions on the effect of inflation expectations on consumer behaviour. Candia et al. (2020) show that some consumers may associate higher inflation with worse economic outcomes and may reduce their consumption as a result.[5] This, however, is at odds with the common interpretation of the role of inflation expectations. On the other hand, Duca-Radu et al. (2021) analyse the expectations and behaviour of more than 26,000 respondents in euro area countries in 2003–2016 and find that consumers expecting inflation to rise relative to their currently perceived level of inflation actually increase their consumption. This result applies across countries and demographic groups.

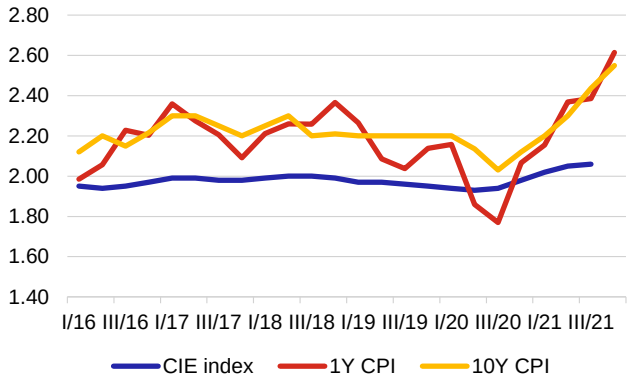
The inflation expectations of euro area consumers are also analysed in Stanisławska and Paloviita (2021) using the ECB's new Consumer Expectations Survey. According to the authors, consumers adjust their medium-term inflation expectations in response to changes in short-term expectations. However, consumers who trust the ECB more adjust their expectations to a lesser degree than those who trust it less. According to this analysis, the Covid-19 pandemic increased consumer inflation expectations (the paper only analyses data until September 2020, i.e. before the wave of higher inflation observed in 2021). More generally, the ECB analysed inflation expectations from many perspectives in its recent monetary policy strategy review. The results of these analyses are presented in ECB (2021).[6]

The current trend in inflation expectations

The elevated inflation in 2021 has been reflected in most countries in growth in inflation expected in the coming months and years. However, the rate of growth differs significantly across countries. Inflation expectations in the euro area have risen somewhat but do not yet pose a threat to the anchoring of the inflation target. An increase has been recorded for consumers' expectations at the one-year horizon in particular. Analysts' expectations for next year are relatively close to, or, in some euro area countries, even below the ECB's inflation target. Further ahead, the expectations of both analysts and financial markets are below the inflation target for the entire euro area.[7] The ECB regards the current elevated inflation pressures as temporary and expects them to fade out over the course of next year.

There are various inflation expectation indicators in the USA. Fed economists have therefore constructed an experimental CIE index of common inflation expectations based on 21 underlying indicators (including analysts' expectations, surveys of households and firms, and financial market data at various time horizons). The data from these indicators are processed so that the resulting CIE index captures inflation expected ten years ahead (as measured by the Fed's target PCE price index). Chart 1 shows that the index has increased slightly recently but remains

Chart 1: Inflation expectations in the USA



Note: CIE index: Index of Common Inflation Expectations – a composite indicator of inflation expectations; 10-year-ahead PCE inflation; source: Fed. 1Y and 10Y CPI: CPI inflation expected by analysts 1 and 10 years ahead; source: Survey of Professional Forecasters.

[5] Where consumers' incomes are not perfectly indexed to inflation, higher inflation may reduce their wealth. From the point of view of microeconomic theory, consumers will in such case prefer current to future consumption (the substitution effect) but will simultaneously reduce their total consumption (the income effect). If the income effect prevails, consumers will also reduce their current consumption.

[6] The ECB's monetary policy strategy review was discussed in detail in the September CBM, which summarised ECB Executive Board member Isabel Schnabel's speech on this topic.

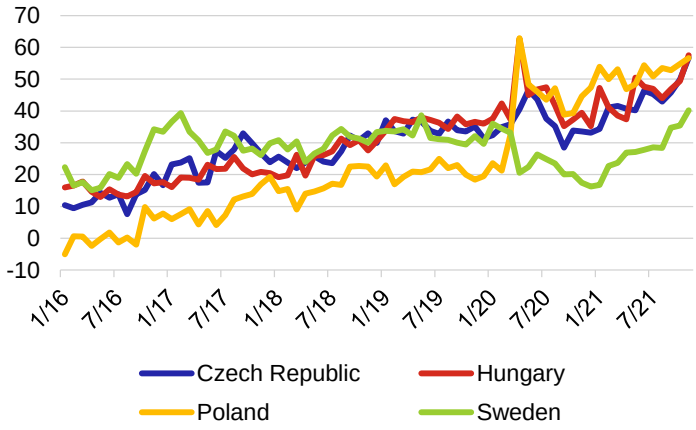
[7] A more detailed analysis of inflation expectations in the euro area, including the specific time series and a comparison with the USA, was presented in a box in the autumn Monetary Policy Report.

close to 2%. However, the individual underlying indicators are more volatile – for comparison, the chart also shows analysts' expectations one and ten years ahead, which are rising faster. The Fed had previously viewed the current inflation pressures as temporary, but recently started to admit that the period of higher inflation may last longer than it originally expected and thus gradually started to prepare the financial markets for a possible faster than previously expected monetary policy tightening. This shift was subsequently reflected in the Fed's November decision to begin tapering its net asset purchases and its December decision to increase the pace of tapering.

The Bank of England analyses inflation expectations in the UK in the November issue of its flagship *Monetary Policy Report*, in which it takes into account the expectations of households, companies, financial markets and professional forecasters at several time horizons. Inflation expectations one year ahead are elevated, but the BoE judges that medium term expectations remain well anchored. However, it will continue to monitor the individual indicators. It regards the current inflationary pressures as temporary and expects them to decrease during 2022. However, it is simultaneously communicating that interest rates will have to go up to bring inflation back to target and moved in that direction in December when it increased interest rates for the first time.

Chart 2 shows the inflation expectations of households in selected non-euro area EU countries.[8] Following the onset of the coronavirus pandemic in spring 2020, expectations in these countries recorded sharp swings, although in different directions – they increased in the Czech Republic, Hungary and Poland but decreased in Sweden. This reflected significant uncertainty regarding future economic developments. The initial shock was subsequently offset at least partly in all countries. Inflation expectations in these countries have risen during 2021 and are particularly elevated in the Czech Republic, Hungary and Poland. In Sweden, however, they are not significantly above the pre-pandemic level. The central banks of the above three Central European countries rapidly tightened their monetary policies in the second half of 2021 (the CNB and the Hungarian central bank announced this step in advance due to the presence of strong and persistent domestic inflationary pressures, while the Polish NBP initially considered the inflationary pressures to be demand-driven and temporary but then partly revised this view and also responded by quickly raising rates). By contrast, the Swedish Riksbank still sees no strong domestic inflationary pressures or any danger of de-anchoring of inflation expectations. It regards the current inflation as temporary, so it has not changed its interest rates yet, nor does it plan to do so in the near future.

Chart 2: Inflation expectations in selected non-euro area EU countries (qualitative household survey)



Note: Households' expectations about how inflation will develop in the next 12 months; balance of answers; seasonally adjusted; source: European Commission Business and Consumer Survey.

As for other countries, the Swiss SNB and the Canadian BoC, for example, are not currently encountering significantly increased inflation expectations. According to the SNB, the latest inflation expectations data are mixed and consistent with the inflation target in both the short and longer term. Switzerland is the exception, as it is facing no strong growth in inflation this year. The SNB's monetary policy thus remains accommodative. Inflation in Canada is currently well above the central bank's 2% inflation target, but the BoC ascribes the growth to temporary demand factors and expects inflation to decrease again in 2022. It has thus left interest rates unchanged so far. The current elevated inflation in Canada has been reflected this year in an increase in inflation expected one year ahead. However, longer-term inflation expectations remain stable and well anchored. By contrast, the New Zealand's RBNZ views the high inflation as being caused by a wide range of factors, only some of which can be expected to fade out on their own, while others will be more persistent. Households' and firms' inflation expectations are also elevated, especially in the short run. The RBNZ has therefore already started to raise its rates. Likewise, the Norwegian NB has begun to tighten its monetary policy, albeit at a slower pace. The current

[8] The chart is based on a survey conducted by the European Commission in all EU countries. It has the advantage of being a single methodology, which makes it easy to compare individual countries. On the other hand, it is a qualitative survey, so it does not contain exact numerical values of expected inflation. The relevant central banks also monitor other indicators of inflation expectations, such as surveys of professional forecasters and financial market expectations. These indicators are broadly in line with the household expectations presented in the chart – expected inflation is increasing in all countries but remains on target in Sweden.

data from an inflation expectations survey of Norwegian households, firms and economists show that their expectations have also increased but remain relatively well anchored at longer horizons.[9]

Conclusion

As inflation expectations are to some degree self-fulfilling, they are a significant factor for monetary policy. Like normal fluctuations in inflation, fluctuations in expectations – especially short-term ones – are natural and do not pose any major risk to inflation going forward. However, large or long-term deviations of expectations from the inflation target represent a significant risk to the future fulfilment of the target. In such a situation, it therefore is desirable for monetary policy to respond in good time and with sufficient force to re-anchor inflation expectations close to the target.

Inflation expectations are currently rising in most of the countries we monitor. In some countries, however, there has only been a minor increase in short-term expectations, while long-term expectations remain well anchored to the central bank's target. Since the central banks concerned view the current inflation pressures as temporary, they have not yet started to tighten their monetary policies. In other countries, however, the rising inflation expectations are now signalling a risk. In many of them, moreover, the current inflation is being driven by persistent demand pressures in addition to temporary supply factors. The central banks of these countries have therefore started to tighten their monetary policies this year, in some cases quite dramatically.

References

Candia, B., Coibion, O., and Gorodnichenko, Y. (2020): "Communication and the beliefs of economic agents," NBER Working Papers 27800, National Bureau of Economic Research.

Candia, B., Coibion, O., and Gorodnichenko, Y. (2021): "The inflation expectations of U.S. firms: Evidence from a new survey," available at https://eml.berkeley.edu/~ygorodni/CCG_SoFIE.pdf.

Clarida, R., Galí, J., and Gertler, M. (2000): "Monetary policy rules and macroeconomic stability: Evidence and some theory," Quarterly Journal of Economics, Vol. 115, No. 1, pp. 147–180.

Coibion, O., Gorodnichenko, Y., and Ropele, T. (2020): "Inflation expectations and firm decisions: New causal evidence," Quarterly Journal of Economics, Vol. 135, No. 1, pp. 165–219.

Duca-Radu, I., Kenny, G., and Reuter, A. (2021): "Inflation expectations, consumption and the lower bound: Micro evidence from a large multi-country survey," Journal of Monetary Economics, Vol. 118, pp. 120–134.

ECB (2021): "Inflation expectations and their role in Eurosystem forecasting," ECB Occasional Paper Series No. 264, Work stream on inflation expectations.

Moessner, R., and Takáts, E. (2020): "How well-anchored are long-term inflation expectations?" BIS Working Papers No. 869.

Orphanides, A., and Williams, J. (2004): "Imperfect knowledge, inflation expectations, and monetary policy," in The Inflation-Targeting Debate, ed. Bernanke, B., and Woodford, M., National Bureau of Economic Research.

Stanisławska, E., and Paloviita, M. (2021): "Medium- vs. short-term consumer inflation expectations: Evidence from a new euro area survey," Research Discussion Papers 10/2021, Bank of Finland.

Walsh, C. (2009): "Inflation targeting: What have we learned?" International Finance, Vol. 12, No. 2, pp. 195–233.

[9] For the sake of brevity, we do not provide more detailed data for these countries here. Surveys of inflation expectations and central banks' statements on their anchoring can be found for Switzerland, for example, here, for Canada here and here, for New Zealand here and here, and for Norway here.

IV. SELECTED SPEECH: Jens Weidmann: Crises as a catalyst for change

In his November speech at the virtual European Banking Congress, the outgoing President of the German Bundesbank Jens Weidmann placed recent developments in the Eurosystem's monetary policy in the overall picture and revealed the existing problems and longer-term challenges for monetary and fiscal policy.

Past: lessons from the financial and sovereign debt crises

Since the time when the euro area was dealing with the aftermath of the global financial crisis and was rocked by the debt crisis, the Eurosystem has taken many steps to strengthen the financial system. Stricter regulations have been introduced and capital requirements for banks have been increased. For a stable financial system, it is not enough to monitor the resilience of individual institutions, so macroprudential policy was introduced in the euro area to take a broad approach.

According to Weidmann, all this has made the euro area more stable. Nevertheless, by the end of the last decade, several challenges remained. For example, the sovereign-bank nexus has not been decisively broken, as many banks still hold large portfolios of domestic government bonds. Moreover, this practice is being encouraged by the existing regulatory rules, which prioritise holdings of sovereign bonds in terms of capital requirements. Weidmann is convinced that regulation should not give banks incentives to overinvest in government bonds and to tie their fate to their sovereign's solvency.

The monetary policy setting had also changed since the financial crisis. Inflation in the euro area was stubbornly low. Equilibrium real interest rates have fallen, reducing central banks' room for manoeuvre. Consequently, monetary policy resorted to unconventional tools such as quantitative easing to achieve the desirable expansionary effect. While this has been supportive for growth and inflation, according to Weidmann it has led monetary policy into largely uncharted territory and caused monetary and fiscal policy to become more intertwined. This was the situation when the pandemic hit.

Present: unsound developments laid bare

Like the crises that came before, the current one is exposing existing problems and new challenges. For example, in the area of fiscal policy it was right for governments to act swiftly to avert a downturn. Hence, it was appropriate to trigger the general escape clause in the Stability and Growth Pact. But before the crisis, the EU fiscal rules lacked teeth. Therefore, during the crisis, countries with high debt ratios experienced a further significant increase in debt.

Monetary policy is another case in point. Last year, the Eurosystem took swift and decisive action to stabilise the economy and lay the foundations for its recovery. However, when the pandemic crisis hit, policy rates were already at a record low, forcing the Eurosystem to extend the use of unconventional instruments. Indeed, the Eurosystem's holdings of public sector bonds are still growing and will probably come to roughly one-third of euro area GDP by the end of this year. Mervyn King, the former Governor of the Bank of England, has recently warned that quantitative easing could become a "dangerous addiction", as it is deployed in response to bad news but isn't reversed when the bad news ends. As a result, the stock of bonds held by central banks steadily increases and monetary policy normalisation could become more and more elusive.

Future: challenges after the COVID-19 crisis

According to Weidmann, the most important question for monetary policymakers is how persistent the price pressures will be. The elevated inflation will probably last longer than previously projected, as energy prices have surged further and supply chain disruptions may persist. Beyond that, the inflation outlook is uncertain. Higher inflation expectations and wage growth could strengthen price pressures in the medium term, and the fallout from the pandemic could significantly affect inflation, which is unlikely to fall below the 2% target over the medium term, as previously forecast.

In this regard, Weidmann points out that the risk of too high inflation cannot be ignored. Moreover, given the considerable uncertainty about the inflation outlook, monetary policy should not commit to its current very expansionary stance for too long. To keep inflation expectations well anchored, we need to reiterate over and over again that monetary policy will be normalised if required to safeguard price stability.

Central banks' extensive bond purchases have made government budgets more sensitive to changes in policy rates. On central bank accounts, medium and long-term bonds on the asset side are matched by commercial banks' short-term deposits on the liability side. Thus, increasing rates will squeeze central banks' profits and, through profit distributions, lower government revenues. Weidmann believes that in this situation, central banks will come increasingly under pressure from governments and financial markets to keep monetary policy expansionary for longer than their price stability mandate requires. It is therefore vital, in his opinion, that euro area countries forge a path to sound public finances after the crisis. The upcoming reform of the EU fiscal rules should simplify and clarify these rules. It is not possible to give free rein to fiscal policy while expecting monetary policy to fix any solvency problems. Weidmann concludes that central banks are not omnipotent, but the demands placed on them are growing from crisis to crisis.

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