

Central Bank Monitoring

III/2021



Czech National Bank — Central Bank Monitoring — III/2021

In this issue

Inflation is rising in most of the countries we monitor, exceeding the central bank's target in many of them. The Hungarian and Czech central banks have tightened monetary policy by increasing interest rates, while the Norwegian central bank is likely to raise rates at its September meeting. Other central banks are either reducing or planning to reduce their support programmes. However, the economic situation will continue to be shaped in the period ahead by the impacts of the coronavirus pandemic.

The current *Spotlight* focuses on the inflation target tolerance band and other target specifications from the perspective of several recent studies. In our *Selected Speech*, ECB Executive Board member Isabel Schnabel presents the outcomes of the European Central Bank's monetary policy strategy review.

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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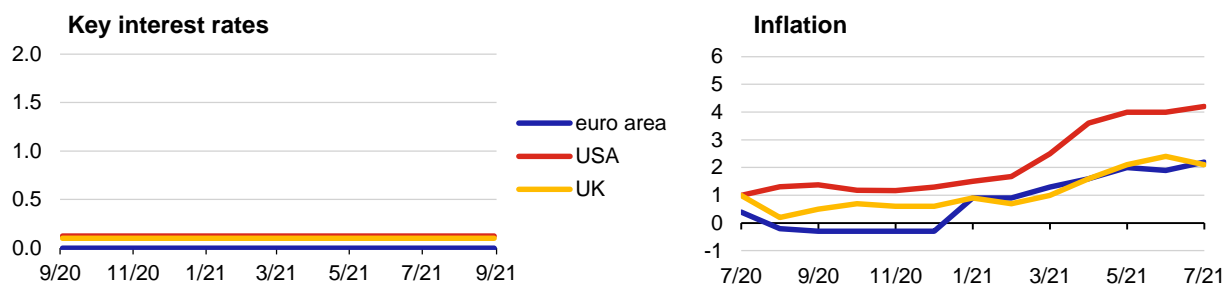
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I. LATEST MONETARY POLICY DEVELOPMENTS AT SELECTED CENTRAL BANKS

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)	22 Jul (0.00);(0.00) ³ 9 Sep (0.00);(0.00) ³	15–16 Jun (0.00) 27–28 Jul (0.00)	24 Jun (0.00) 5 Aug (0.00)
Current basic rate	0.00%; -0.50% ³	0–0.25% ⁴	0.1%
Latest inflation	3% (Aug 2021) ⁵	4.2% (Jul 2021) ⁶	2% (Jul 2021)
Expected MP meetings	28 Oct 16 Dec	21–22 Sep ⁷ 2–3 Nov	23 Sep 4 Nov 16 Dec
Other expected events	28 Oct: publication of forecast	20 Oct: publication of Beige Book	4 Nov: publication of Monetary Policy Report
Expected rate movements⁸	→	→	→

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 interest rates unchanged and expects them to remain at their present or lower levels until it sees inflation reaching 2% well ahead of the end of its projection horizon and durably for the rest of the projection horizon. This may also imply a transitory period in which inflation is moderately above target. Net purchases under the APP will continue at a monthly pace of EUR 20 billion and will end shortly before the ECB starts raising key interest rates. The total envelope of the PEPP remains at EUR 1,850 billion and the programme will run at least until the end of March 2022. However, the monthly pace of net purchases will be moderately lower than in the previous two quarters (a review of the PEPP is on the agenda for the December meeting). TLTRO III funding will continue. GDP rose by 2.2% in 2021 Q2, more than the ECB had expected. The ECB slightly raised its GDP growth forecast for this year (to 5.0%, as against 4.6% in June) and left it broadly unchanged for 2022 and 2023 (at 4.6% and 2.1% respectively). It also increased its inflation forecast to 2.2% this year (as against 1.9%), 1.7% in 2022 (as against 1.5%) and 1.5% in 2023 (as against 1.4%).

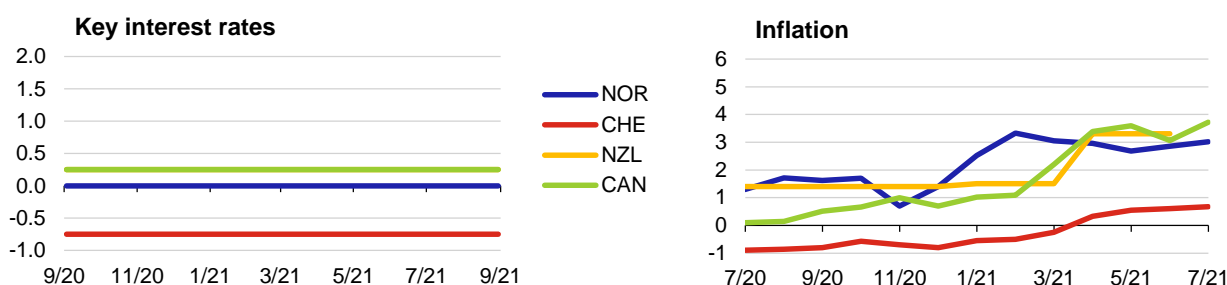
The **Fed** left its key rates and QE parameters unchanged, in line with market expectations. The key federal funds rate thus remained in the 0–0.25% range and the pace of bond purchases was kept at USD 120 billion/month. Inflation is above the US central bank's objective. Unemployment has declined to 5.4%, a post-pandemic low, but is still high. In a speech at Jackson Hole, Chair Powell said that the Fed would probably start reducing the pace of asset purchases in the coming months (see *News* for details). The more optimistic FOMC members anticipate a first hike in 2022 or 2023. The Fed has established two standing [repo facilities](#), which will serve as backstops in money markets to support the effective implementation of monetary policy and smooth market functioning. The SRF will be offered to US primary dealers and later to other banks, while the FIMA repo facility will be open to foreign and international monetary authorities.

The **BoE** kept its key rate at 0.1% and maintained the target for the stock of asset purchases at GBP 895 billion (asset purchases will continue until the end of the year). According to the BoE, inflation will temporarily rise to 4% in 2021 Q4 before falling back to 2.5% at the end of 2022 and returning to the target in the second half of 2023. GDP is expected to grow by more than 7% this year and around 6% next year. If the main scenario of the forecast materialises, the BoE expects to tighten monetary conditions [in the following steps](#): it will cease to reinvest maturing UK government bonds when the policy rate has risen to 0.5% and begin the process of selling assets once the rate has risen to at least 1%, depending on economic circumstances; any asset sales will be conducted so as not to disrupt the functioning of financial markets. The BoE also announced that the UK financial system had completed technical preparations to implement negative interest rates should they be judged appropriate in the future. Banks had been asked to commence the preparations in February.

I.2 SELECTED CENTRAL BANKS OF 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)	17 Jun (0.00) 19 Aug (0.00)	17 Jun (0.00)	14 Jul (0.00) 18 Aug (0.00)	14 Jul (0.00) 8 Sep (0.00)
Current basic rate	0%	-0.75%	0.25%	0.25%
Latest inflation	3% (Jul 2021)	0.7% (Jul 2021)	3.3% (2021 Q2)	3.7% (Jul 2021)
Expected MP meetings	23 Sep 4 Nov 16 Dec	23 Sep 16 Dec	6 Oct 24 Nov	27 Oct 8 Dec
Other expected events	23 Sep: publication of Monetary Policy Report	29 Sep: publication of Quarterly Bulletin	24 Nov: publication of Monetary Policy Statement	27 Oct: publication of Monetary Policy Report
Expected rate movements¹	↑	→	↑	→

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.



The **NB** left its policy rate at 0%. However, the NB's current (June) forecast indicates a rise in interest rates from autumn (most likely in September), in line with Governor Olsen's earlier statement. The interest rate path is now slightly higher over its entire length than in the March forecast. The NB expects capacity utilisation to exceed a normal level towards the end of 2021 (amid a switch to a positive output gap). Unemployment is projected to decline further and return to pre-pandemic levels in the course of 2022. Inflation is expected to edge down over the rest of the year. The NB is returning to ordinary [liquidity management after the coronavirus crisis](#).

The **SNB** kept its policy rate at -0.75% and reiterated its willingness to intervene in the foreign exchange market against appreciation of the Swiss franc (in 2021 it intervened several times to the total tune of CHF 100 billion). The SNB's June forecast expects slightly higher inflation this year and the next (0.4% in 2021 and 0.6% in both 2022 and 2023) than the March forecast. This is primarily due to higher prices for oil products and tourism-related services. The SNB expects GDP growth of around 3.5% for 2021. Mortgage lending and residential property prices have risen strongly in recent quarters and the vulnerability of these segments has thus increased further. The SNB lowered the countercyclical capital buffer rate from 2% to 0% in March 2020 and is regularly assessing the need for the buffer to be reactivated.

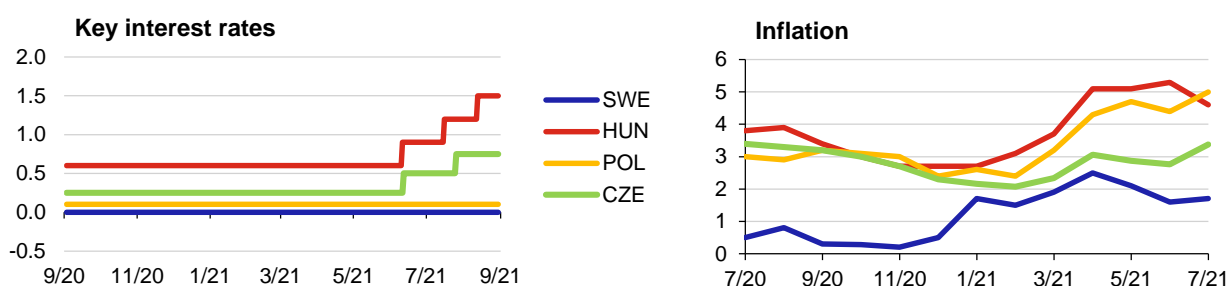
The **RBNZ** left its key interest rate unchanged at 0.25%, due mainly to the imposition of restrictions across the country (a hike had originally been expected). The LSAP asset purchase programme was halted in July (the programme was originally supposed to last until June 2022, but there were reports earlier that part of its target amount of NZD 100 billion might remain unused). The Funding for Lending Programme, which lowers banks' funding costs, was left unchanged. It is expected to remain in place until next year. The RBNZ expects to reduce the level of monetary stimulus to reduce the risk that inflation expectations become unanchored. The August forecast implies a rise in the policy rate at the end of 2021.

The **BoC** left its key interest rate unchanged at 0.25% and will hold it at the effective lower bound until the 2% inflation target is sustainably achieved. In the July projection, this happens in the second half of 2022. The BoC is continuing to buy government bonds, but it further reduced the pace of the purchases from CAD 3 billion to CAD 2 billion per week owing to the ongoing economic recovery. Canadian GDP contracted by 1.1% year on year and 0.3% quarter on quarter in Q2. This reflects a decline in exports, due in part to supply chain disruptions (especially in the auto sector) and weakened residential investment, as housing market activity pulled back from recent high levels. CPI inflation remains above 3% as expected. Wage increases have been moderate to date, and medium-term inflation expectations remain well anchored. Core measures of inflation have risen, but by less than the CPI.

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)	30 Jun (0.00)	22 Jun (+0.30) 27 Jul (+0.30) 24 Aug (+0.30)	8 Jul (0.00) 8 Sep (0.00)	23 Jun (+0.25) 5 Aug (+0.25)
Current basic rate	0%; -0.1% ²	1.5%	0.10%	0.75%
Latest inflation	1.7% (Jul 2021)	4.6% (Jul 2021)	5.4% (Aug 2021) ³	3.4% (Jul 2021)
Expected MP meetings	20 Sep 24 Nov	21 Sep ⁴ , 19 Oct 16 Nov, 14 Dec	6 Oct 3 Nov 8 Dec	30 Sep 4 Nov ⁴
Other expected events	21 Sep and 25 Nov: publication of Monetary Policy Report	21 Sep and 14 Dec: publication of Inflation Report	10 Nov: publication of Inflation Report	12 Nov: publication of Monetary Policy Report
Expected rate movements⁵	→	→	→	↑

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 expects it to remain at this level over the entire forecast period (i.e. until 2024 Q3). The deposit rate also remains unchanged (-0.1%). The envelope for bond purchases is still SEK 700 billion. The assets will be kept on the Riksbank's balance sheet at least until the end of 2022. The Riksbank will also continue to offer liquidity within all the programmes launched. The July GDP forecast expects growth of 4.2% this year (as against 3.7% in April), 3.7% next year (as against 3.6%) and 1.9% in 2023 (as against 2.0%). The inflation outlook (CPIF) is slightly higher for this year (1.8% as against 1.5%) and for 2022 (1.7% as against 1.4%) and stands at 1.8% for 2023. Inflation is thus slightly below the central bank's target over the entire forecast, although closer to it than in the April forecast.

The **MNB** started a rate hiking cycle in June after having previously announced it was ready to tighten monetary policy. It raised the base rate three times in a row (by 30 basis points each time) to 1.5%. The MNB is maintaining a presence in the government bond market but is to phase out the purchases. As a first step, the purchases will decrease from a weekly amount of HUF 60 billion to HUF 50 billion from 23 August. The FGS GO! scheme to support SMEs was closed in June. Inflation was 4.6% in July, while core inflation stood at 3.5%. Hungary's GDP growth temporarily increased to 17.9% year on year in Q2 due to base effects. In quarter-on-quarter terms, GDP grew by 2.7%, exceeding the pre-pandemic level.

The **NBP** kept its interest rate at 0.1%. It is continuing to buy government bonds and government-guaranteed debt securities on the secondary market and is maintaining its loan refinancing programme. According to a flash estimate, GDP grew by 11.1% year on year in 2021 Q2, driven by a strong rise in private consumption. According to the July forecast, GDP will grow by 5% this year (as against 4.1% in March) and just over 5% in the next two years. The current forecast expects inflation of 4.2% this year (as against 3.1%), 3.3% next year (as against 2.8%) and 3.4% in 2023 (as against 3.2%).

The **CNB** raised its key rate twice in a row (by 25 basis points each time) to 0.75% in response to increased price pressures from the foreign and domestic economies. GDP increased by 8.2% year on year in 2021 Q2. It will grow by 3.5% overall this year and 4.1% next year. The growth will be driven by strongly recovering household consumption. Consumer sentiment will also be boosted by an improving labour market situation. Inflation will rise well above the upper boundary of the tolerance band around the 2% target in the quarters ahead. This will be due to an upswing in food price inflation coupled with continued high core inflation and strong fuel price inflation. The CNB increased the countercyclical capital buffer rate by 50 basis points to 1.50% with effect from 1 October 2022.

II. NEWS OVER THE LAST THREE MONTHS

ECB adopts symmetric 2% target and commits to climate-related action plan following strategy review

In July, the ECB [announced](#) the results of its monetary policy strategy review, which it had been working on for 18 months (for the launch of the review see the [March 2020 CBM](#)). A major change is the announcement of a symmetric 2% target instead of the earlier “close to, but below, 2%” formulation. The ECB stated that negative and positive deviations of inflation from the target are equally undesirable. Christine Lagarde [specified](#) that the ECB is not doing average inflation targeting like the US Fed, but that a short-term overshoot of the inflation target was possible. The HICP remains the measure of inflation, but the ECB has flagged a long-term intention to take owner-occupied housing better into account. Pending the creation of the necessary index by Eurostat, the ECB will consider other estimates of the cost of owner-occupied housing in its monetary policy assessments.

The ECB also intends to help [combat climate change](#) and will incorporate such considerations into its monetary policy strategy and include climate indicators and risks in its statistical, analytical and forecasting apparatus. It will adjust the framework guiding the allocation of corporate bond purchases to incorporate climate change criteria.

The ECB also announced changes in its monetary policy communication, which it had already begun to implement after its July monetary policy meeting. The “Introductory statement to the press conference” has been replaced by a “[Monetary policy statement](#)”, which has its own brief [visualisation](#) to improve its clarity. A more fundamental change was an adjustment to its forward guidance at the July meeting, when, in line with the new strategy, the ECB stated that interest rates would remain at their present or lower levels “until it sees inflation reaching 2% well ahead of the end of its projection horizon and durably for the rest of the projection horizon”. Some members of the ECB’s Governing Council did not support this version, as the “well ahead” formulation might indicate monetary policy inaction leading to an overshoot of the inflation target.

The ECB intends to conduct monetary policy strategy reviews periodically, with the next assessment expected in 2025. For more details on the monetary policy strategy review, see Isabel Schnabel’s *Selected Speech* in this issue of MCB.

MNB adopts “Green Monetary Policy Toolkit Strategy”

In July, the MNB [adopted](#) a “[Green Monetary Policy Toolkit Strategy](#)” aimed at promoting long-term environmental sustainability to enable the MNB to promote green financing under its mandate to maintain price stability. As part of the implementation of the strategy to promote and boost green lending, MNB has launched two new programmes, the first being the Green Mortgage Bond Purchase Programme, amounting to up to HUF 200 billion. In October, MNB will launch the FGS Green Home Programme, also with a total limit of HUF 200 billion, earmarked for providing banks with interest-free liquidity on the terms of low-interest loans to build energy-efficient residential property.

BoJ also adopts strategy on climate change

The Bank of Japan has adopted a [climate strategy](#) that – in addition to monetary policy measures – includes four other areas (financial system, research, international finance and environmental sustainability of its own operations). As part of its [monetary policy measures](#), the BoJ will this year start providing interest-free loans to banks for one year to finance climate-friendly projects. In the framework of international cooperation, the BoJ will buy green bonds in foreign currencies.

Fed chair hints at tapering at virtual Jackson Hole symposium

The theme of the August [conference](#) of central bankers and economic experts organised by the Kansas Fed was “Macroeconomic Policy in an Uneven Economy”. This year’s symposium was ultimately convened as a virtual one, just like last year. The widely anticipated opening [speech](#) was delivered by Fed Chair Jerome Powell, who hinted at a probable reduction in asset purchases (tapering) in the coming months, as the Fed is observing “clear progress” towards its goal of maximum employment and inflation is returning to levels consistent with meeting the 2% target; the current significantly increased inflationary pressures are seen as temporary. Other speakers included Kristin Forbes (MIT), Alan Blinder (Princeton) and Gita Gopinath (IMF)

Fed extends access to USD liquidity for foreign central banks

In July, the Fed [decided](#) to further extend its USD liquidity swap lines with nine central banks (the Reserve Bank of Australia, the Banco Central do Brasil, the Bank of Korea, the Banco de México, the Monetary Authority of Singapore, the Sveriges Riksbank, the Danmarks Nationalbank, the Norges Bank and the Reserve Bank of New Zealand) until the end of 2021.

The Fed's liquidity swap lines were originally scheduled to last from March 2020 for at least six months but have already been extended twice (see [the March CBM](#) for more). The Fed also [decided](#) to set up a permanent FIMA repo facility (a repo line for foreign central banks and monetary authorities).

Norges Bank governor resigns

In August, Øystein Olsen, Governor of the Norges Bank, [announced](#) his decision to step down as of February 2022 due to his age. He took up the post of NB Governor in January 2011 and is currently serving a second six-year term. The current Deputy Governor, Ida Wolden Bache, is expected to succeed Olsen as head of the NB.

RBNZ considers tools to rein in property market...

In June, the New Zealand government [expanded](#) the tools available to the RBNZ to include the ability to use a DTI limit to cool the property market. In a previous [analysis](#), the RBNZ had found that this macroprudential tool is best suited to the objectives of achieving sustainable house prices. In August, the RBNZ [indicated](#) that it was considering introducing one of the tools to cool the property market. The forthcoming consultations will be focused on operational feasibility and possible calibration of the tools to tighten mortgage lending standards, including further adjustments to the LTV limits, and on implementing DTI restrictions and/or interest rate floors.

...and suspends pandemic asset purchase programme, but postpones rate hike

In July, the RBNZ [announced](#) that it would end the Large Scale Asset Purchase (LSAP) Programme later that month as the economy was recovering, but the Funding for Lending Programme remains in place. An interest rate rise was then widely expected at the August meeting but was [postponed](#) in light of the newly introduced pandemic restrictions.

Riksbank's SWESTR rate launched as reference rate for financial contracts

As of September, the Riksbank's transaction-based reference rate (SWESTR, Swedish krona Short Term Rate) is [ready to be used](#) in financial contracts. The Riksbank published its first official value on 2 September. The test period for SWESTR announced in January (see the [March CBM](#)) has thus ended.

ECB launches investigation phase of digital euro project

In July, the ECB [launched](#) the investigation phase of a digital euro project, which is foreseen to run from October 2021 and last 24 months. Its aim of this phase is to address key issues regarding design and distribution. The ECB publishes developments concerning the digital euro on a special [web page](#). For more information about the start of the project see the [December 2020 CBM](#).

Norges Bank given power to set countercyclical capital buffer

In September, the Norwegian government [assigned](#) responsibility to the Norges Bank for setting the countercyclical capital buffer rate. The NB will also regularly advise the finance ministry on the systemic risk buffer for banks.

III. SPOTLIGHT: THE INFLATION TARGET TOLERANCE BAND AND ITS DRAWBACKS

The monetary policy reviews conducted recently in several major central banks focused, among other things, on how to best formulate the inflation target. One aspect of formulating the inflation target is its specification as a point or a range. This Spotlight summarises the results of several recent studies that address this issue and goes into more detail on the topic of inflation targets as discussed in the June issue of CBM.

A point or a range? The history of formulating inflation targets

The suitability of expressing the inflation target as a point or a range has been debated since the very beginning of inflation targeting (IT). When discussing ranges, however, authors do not always make it clear whether they are referring to a range for ex-post fluctuations of observed inflation around a point target or to a target range for expected future inflation. The debate is further blurred by the wide variety of terms used by central banks for such ranges, such as “variation band”, “tolerance band”, “uncertainty band”, “control range”, “inflation range” and “target range”. A comprehensive classification of inflation targets was proposed, for example, by Apel and Claussen (2017):

- (i) a target range where the whole range is the inflation target
- (ii) a point target where the central bank’s inflation target is specified in terms of a single number
- (iii) a point target with a tolerance band where the tolerance band specifies which deviations from the target the central bank considers acceptable when assessed ex post.

In the early days of IT, central banks very often specified the inflation target as a **target range**. This got across to the public the important information that achieving a precisely specified inflation rate is uncertain (de facto impossible) and that the central bank’s ability to control inflation is necessarily imperfect. However, the uncertainty regarding the correct interpretation of the specific inflation target level in the case of a target range threatens to weaken the anchoring of inflation expectations. Therefore, a number of countries whose inflation targets have been defined as a range from the outset or from a certain point in time state expressly that they target its midpoint (e.g. New Zealand and Canada). The range used by the Reserve Bank of Australia is so narrow (2–3%) that the central bank itself has described it as a “thick point”.¹ The history of the specification of inflation targets is shown in the following table.

Table: Specification of inflation targets in selected central banks over time

P (blue) = point target, PB (red) = point target with tolerance band, R (yellow) = target range

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
ECB											R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	P	
Fed																								P	P	P	P	P	P	P	P	P	P	P
BoE*				R	R	R	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
NB													P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SNB												R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
RBNZ**	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
BoC**			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Riksbank							PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	P	P	P	P	P	P	P	P	P	P	P	P	
MNB												P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
NBP										P	R	R	R	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	
CNB										R	R	R	R	R	R	R	R	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB
RBA				R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
BoJ																								P	P	P	P	P	P	P	P	P	P	P

Notes: * The Bank of England has been using a point target since 1995. Since 1997, however, a higher-than-pre-defined deviation from the inflation target has had specific consequences in that the central bank must explain this deviation to the government in an open letter. The inflation target is thus rather a point target with a tolerance band. ** Both the Reserve Bank of New Zealand and the Bank of Canada express the target as the 2% midpoint of a target range of 1–3%. The banks are ordered as in section I of CBM. The first record for each central bank corresponds to the year of adoption of inflation targeting; for the Riksbank, it is the year when the inflation target became effective (the inflation target was adopted two years earlier). Source: Central banks’ websites, Ehrmann (2021), HM Treasury (2013).

¹ Debelle (2018)

An alternative to a target range is to express the inflation target as a **point target**. It has the advantage of providing a clear nominal anchor for inflation expectations to converge towards and anchor to. However, given external shocks and other factors outside the central bank's control, inflation usually fluctuates around the set point value. Banks therefore perceive an implicit (unexpressed) band, or specifically express an explicit "**tolerance band**" within which inflation can move without such swings being seen as a breach of the target. The frontier between an implicit and explicit band is the situation where a bank has officially specified only a point target but a higher-than-defined deviation from the target is accompanied by specific consequences. An example of this is the Bank of England, which must explain any deviation of more than ± 1 percentage point to the government and propose a policy action. However, the tolerance band is most often expressed explicitly, i.e. by a numerical value for acceptable deviations of inflation from the point target.

Another major difference between the above categories concerns the time perspective. A point target and a target range express, respectively, which value, or a value from which range, is consistent with the central bank's target *ex ante*. By contrast, a tolerance band indicates which dispersion of values around its target the central bank itself considers to be an acceptable result of its monetary policy when assessed *ex post*.

The specification of the inflation target was studied by Mishkin (2000), who noted that a specified range around the target "can take on a life of its own". This means that the public debate may focus on whether inflation is inside or outside the range rather than on how far inflation is from the point target or from the midpoint of the range. Too much focus on the edges of the range can lead the central bank to concentrate on keeping the inflation rate just within the band rather than on hitting the inflation target. This may in turn foster non-linear monetary policy-making where the central bank responds more aggressively to inflation outside the range than to inflation inside it. Le Bihan et al. (2021) use a New Keynesian model to illustrate this situation and its implications for monetary policy (see below).

A tolerance band, yes or no? The Riksbank's dilemma

More studies on inflation target formulation were published in 2017 in connection with the debate about the reintroduction of a tolerance band by the Riksbank, which had established a tolerance band of ± 1 percentage point in 1995 and later abandoned it in 2010. The Riksbank reintroduced the tolerance band in 2017 as "variation band".²

Apel and Clausen (2017) analyse the pros and cons of the various inflation target formulations (point, point with a tolerance band, range) and their effect on the flexibility of monetary policy.

They conclude that monetary policy can be flexible and consider factors other than inflation – such as output and employment – even without a tolerance band around the target, but only if the central bank's point target is sufficiently credible. They illustrate this using the example of the Riksbank, whose forecast uses alternative scenarios for interest rates with different paths of other factors. However, the alternative scenarios do not mean that the bank can choose *any* monetary policy. It must select the one that brings inflation back to the inflation target at the forecast horizon, so that the public does not lose confidence in the inflation target and inflation expectations therefore remain anchored.

According to Apel and Clausen (2017), a tolerance band can provide monetary policy with greater flexibility. However, the credibility of the inflation target must be maintained. The tolerance band must not have hard edges either. In other words, it must not work in a manner where inflation outside rather than inside the band is very problematic for the bank. If the band has hard edges, the central bank has a limited choice of responses to inflation outside the band, as it chooses only those where inflation returns quickly into the band.³

According to the authors, however, a tolerance band is a useful communication tool for the central bank, as it provides information on which degree of uncertainty – and which deviations of inflation from the target – the central bank considers normal and acceptable. It is thus a pedagogical tool for expressing the impossibility of hitting an exact point target. A tolerance band also makes moderate deviations of inflation from the point target optically "less dramatic". Nevertheless, the authors note that a tolerance band must not be confused with a target range. They say that a range, where the bank may theoretically target different levels of inflation at different times, causes inflation expectations to be less firmly anchored, as it increases the uncertainty regarding the actual level of the inflation target and thus reduces its credibility, potentially leading to fluctuations in economic performance.

² The reintroduction of the tolerance ("variation") band was decided by the Riksbank at the same time as the adoption of the CPIF (the consumer price index with a fixed interest rate) as a formal target variable for monetary policy, see the Riksbank's [September 2017 decision](#) and the [September 2017 CBM](#).

³ The situation of "hard edges" is similar to the "indifference band" specified in Chung et al. (2020). The implications for monetary policy are analysed in Le Bihan et al. (2021). See later in this article for more details on both.

Andersson and Jonung (2017) argue in favour of tolerance bands. Deviations of inflation from the inflation target may also be due to the specific price index used to measure inflation. There can be significant differences between various price indices (the CPI, the GDP deflator, core inflation, etc.) and none of them provides a completely “true” view of inflation. What is more, every index contains measurement errors. Forecasting uncertainty also stems from unexpected shocks, which may affect inflation in the meantime. As regards communication, a tolerance band is a simple way of informing the public that monetary policy cannot keep inflation on target at all times. Moreover, in the authors’ view, the experience of the Riksbank, which abandoned its tolerance band in 2010–2017, showed that without a tolerance band, the public and analysts tend to focus solely on the specific value of the inflation target. Any deviation from this point target is then interpreted as a monetary policy failure.

How does the formulation of the target affect inflation expectations? ECB research

Ehrmann (2021) asks what effect the formulation of the inflation target (point, point with a tolerance band, range) has on short- to medium-term inflation expectations. He tests two hypotheses in his paper: first, that adopting an interval is *less* effective in anchoring inflation expectations because it gives the central bank more flexibility in pursuing monetary policy in the sense of targeting various levels of inflation (the “flexibility hypothesis”), i.e. expressed reciprocally that the best anchoring is achieved with point targets without tolerance bands, the least is observed under target ranges, and point targets with tolerance bands might be located somewhere in between. The second hypothesis states that adopting an interval is more effective in anchoring inflation expectations because it lowers the likelihood of missing the target, thereby enhancing the credibility of the central bank (the “credibility-enhancement hypothesis”). He uses a dataset for 20 inflation-targeting countries to test the hypotheses with regard to, among other things, the period of introduction of IT, how well inflation expectations were anchored before the introduction of IT, whether there are differences when inflation is close to the target and when inflation tends to stray further from the target, and whether there are differences between advanced and emerging market economies in the selected sample of countries.

The paper refutes the flexibility hypothesis, i.e. the hypothesis that ranges are less effective in anchoring inflation expectations. In the author’s view, the evidence is generally consistent with the second, credibility-enhancement hypothesis. His analysis thus favours the adoption of some sort of interval, be it in the form of a range or a tolerance band around a point target.

He adds, however, that none of the three target types consistently outperformed the others in all the tests of the anchoring of inflation expectations. So it cannot be said that one of them is clearly the best. However, there were differences in the results between advanced and emerging market economies. In advanced economies with a point inflation target, the anchoring of inflation expectations was at risk if inflation repeatedly strayed far from the target. Target ranges proved to be less suitable for emerging markets because if actual inflation fell outside this interval, the credibility of the inflation target dropped very significantly, as evidenced by dramatically growing differences in inflation forecasts among external analysts.

How should the tolerance band be treated? The Fed’s view

Chung et al. (2020) produced their study as background for the Fed’s monetary policy strategy review. It distinguishes three ways the central bank may treat the tolerance band around the point target. It assesses the potential benefits and risks of each of these concepts for the FOMC.

According to the authors, a monetary policy framework may employ (i) an uncertainty range, which acknowledges uncertainty about inflation outcomes, (ii) an operational range, which defines the scope for intentional deviations of inflation from its target, and (iii) an indifference range, over which monetary policy will not react to inflation deviations.

In terms of this taxonomy, most central banks use the first approach, i.e. they treat the tolerance band as an uncertainty band. As an example of the second approach, i.e. using the tolerance band as an operational range, the authors mention the CNB’s exchange rate commitment, where the bank communicated its intention to maintain the exchange rate at a weakened level until the 2% inflation target was fulfilled sustainably, which, according to the published inflation forecasts, meant achieving or slightly exceeding the target.⁴ According to the authors, the credibility of this commitment was raised, among other things, by a tolerance band of ± 1 percentage point (although they add that the CNB’s range does not seem to have been intended to signal that it would actively have preferred inflation to deviate from the target and thus seems closer to an uncertainty range). According to the authors, no central bank publicly communicates the third approach, i.e. a tolerance band as a range of indifference. However, in their view, possible candidates for this approach are the Swiss National Bank with its range of 0–2%, which communicates a need for a response only when inflation leaves this band,

⁴ The authors cite Dürte  (2020), which analyses the monetary policy of the CNB and the Bank of Japan when the effective lower bound on interest rates was reached.

and the Reserve Bank of Australia with its band of 2–3% described as a “thick point”, which suggests that monetary policy will not respond to movements of inflation within this band.

Reflecting on the current situation in the US economy, and in the context of the Fed's monetary policy strategy review, the authors voice their concern that any tolerance band concept risks confusing the public's understanding of the point inflation objective, possibly weakening its credibility. They state that the economic context matters importantly for the introduction of a tolerance band. According to them, most countries established tolerance bands close to the introduction of IT regimes, when the central banks' ability to control inflation was less clear. They state that introducing a tolerance band at a time when inflation has been running persistently below the 2% target may reduce the credibility of the commitment to keep inflation really on target, possibly causing inflation expectations to become less well anchored. The authors argue that if a tolerance band were to be introduced now, clear communication about the nature of the band and its role in the FOMC's monetary policy strategy would be essential and the public should be made aware that the band may be contingent on certain structural factors that may well change over time.

Should monetary policy only react outside the tolerance band? A Banque de France study

This year also saw the publication of a paper by Le Bijan et al. (2021). It uses a New Keynesian model to analyse the consequences of tolerance range policies, characterised by a stronger reaction of the central bank to inflation when inflation lies outside the range than when it is inside. The model thus captures a notion of “policy patience”, with policy responding more slowly to an inflation shock if inflation lies within the tolerance band. It is thus a form of the “indifference band” as defined in Chung et al. (2020) and shows its possible implications for monetary policy.

The authors conclude that a tolerance band should not be a “zone of inaction”. They believe that insufficiently active monetary policy when inflation is inside the band endangers macroeconomic stability. To stabilise inflation over the cycle, the central bank must balance a weak monetary policy reaction to inflation within the tolerance range with a forceful response when inflation is outside it. However, the difference in the responses inside and outside the band results, among other things, in an increase in the volatility of the nominal interest rate. The authors also state that their results are also robust in the situation where interest rates are close to the effective lower bound.

Conclusion

The aim of having a specifically expressed inflation target is to provide a nominal anchor for the economy. A specific number is easier to communicate and easier to remember, so a point target is mentioned as being more suitable for anchoring inflation expectations. At the same time, however, central banks need to express the uncertainty about the future path of inflation and communicate that monetary policy does not have full control over inflation, as there may be shocks that will cause it to deviate from the target. One way to express this uncertainty is to have either a tolerance band around the point target or a target range, in which banks often emphasise its midpoint as the de facto inflation target. The difference between these approaches is thus semantic rather than practical.

The central bank has ways to communicate uncertainty about future inflation. For example, it can use fan charts with confidence intervals around its forecast for inflation (and similarly also other variables). Another option is to produce alternative inflation forecast scenarios to indicate that there are multiple possible future paths. In the end, maintaining the credibility of the inflation target is what matters. This is achieved by monetary policy responding at all times in a way that keeps the inflation outlook close to the anchor for inflation expectations.

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IV. SELECTED SPEECH: Isabel Schnabel: A new strategy for a changing world

In her July [speech](#) at a virtual meeting organised by the Peterson Institute for International Economics, ECB Executive Board member Isabel Schnabel presented the outcomes of the recent review of the ECB's monetary policy strategy, the incentives to change the strategy and how the changes will affect monetary policy.

The ECB's monetary policy was challenged by severe economic and financial crises, as well as deep structural changes in the economy, in particular during the most recent decade. The main challenges were a gradual and persistent decline in the real equilibrium interest rate and a protracted period of disinflation, forcing central banks to find additional instruments to provide policy accommodation. The ECB's strategy review looked for a way to break the vicious circle of low inflation and low interest rates and explain why inflation has not accelerated more forcefully in response to the far-reaching measures the ECB took. Isabel Schnabel summed up the changes to the monetary policy strategy as follows:

Defining price stability

- Prices of owner-occupied housing: The ECB has confirmed the HICP as a suitable inflation measure. However, to better reflect the fact that housing costs are absorbing a growing share of household income, it recommends that owner-occupied housing be included. The augmented HICP will better represent actual household consumption expenditure and transmission of monetary policy, which also affects residential investment costs through its impact on mortgage rates. Until the European Statistical System creates the required index at a monthly frequency, the ECB will use quarterly owner-occupied housing indices to assess the impact of housing costs on inflation and inform its policy deliberations.
- A symmetric inflation target: The ECB has replaced its previous aim with a clear 2% inflation target, with deviations to the downside and to the upside being considered equally undesirable. The previous definition was subject to ambiguity, as some observers considered 2% to be a ceiling rather than a target. The stronger commitment to target symmetry should help firmly anchor inflation expectations.
- Medium-term orientation and proportionality: The Governing Council has confirmed the medium-term orientation of its monetary policy, which affords the required flexibility to tailor policy responses to the size, persistence and type of shock it is facing and allows the ECB to take account of financial stability. Such flexibility will be subject to a careful proportionality assessment enshrined in the new strategy. This assessment comprises an analysis of the balance of the benefits and costs of the ECB's actions, taking account of their effectiveness and side effects, as well as risks of a destabilisation of inflation expectations. The outcome can influence the choice, design and intensity of the measures.

Monetary policy at the effective lower bound

- A broader toolkit for the future: The ECB responded to the advent of the effective lower bound by substantially expanding its toolkit. The review suggests that this has stimulated growth and inflation. The Governing Council has therefore decided that these instruments will remain part of its standard toolkit and should no longer be regarded as unconventional. Looking ahead, new and untested instruments will be used if needed and as appropriate.
- Especially forceful or persistent action close to the lower bound: Because of central banks' limited ability to lower rates, disinflationary shocks close to the lower bound risk not being fully offset, thereby potentially becoming more persistent. Monetary policy therefore needs to respond especially forcefully or persistently. This may temporarily cause inflation to overshoot the target moderately in the future.
- An appropriate policy mix: Fiscal and monetary policy need to complement each other. A public sector that is largely insensitive to interest rate changes reduces the effectiveness of monetary policy, in particular in the euro area, where it accounts for nearly half of total spending. While in normal times the stabilisation role of fiscal policy is limited, countercyclical discretionary fiscal policy is crucial in crisis times and in the proximity of the lower bound.

Preconditions for price stability

- Financial stability and price stability: Some monetary policy measures, especially the more forceful and persistent ones, may increase risks to financial stability, which, however, is a precondition for price stability. The revised monetary and financial analysis will therefore systematically evaluate financial vulnerabilities and imbalances and their possible implications for future tail risks to output and inflation. Assigning a more prominent role to financial stability does not mean that monetary policy will be driven by financial stability. It rather means that it will account flexibly for it.
- Climate change and price stability: In recognition of the risks that climate change poses to growth and price stability, and with a view to accelerating the transition to a more sustainable economy, the ECB has committed to a comprehensive action plan that will culminate in broad changes to its monetary policy implementation framework.

The strategy review has been a long journey according to Schnabel. While many elements of the existing monetary policy strategy have been vindicated, others have been challenged and required adaptation. In a rapidly changing world, the ECB intends to assess periodically the appropriateness of its strategy, with the next assessment expected in 2025.

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