

Central Bank Monitoring

I/2021



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In this issue

The economic performance of the economies we monitor is currently being affected most of all by anti-pandemic measures. In the period ahead, the pandemic and economic situation will be fundamentally shaped by the course of vaccination and in general by countries' ability to handle the epidemic within national borders. The uncertainty regarding future economic developments therefore remains high and is seriously hampering central banks' forecasts. Governments and central banks are continuing to apply expansionary policy using the wide range of instruments available to them, and central banks' monetary policy options are being further expanded by means of unconventional measures. None of the central banks we monitor changed its interest rates in the past three months.

The current *Spotlight* focuses on reserve requirements and their current use and potential functions. In our *Selected Speech*, Bank of England Governor Andrew Bailey describes how inflation-targeting central banks are adapting to new economic challenges within the framework of their price stability mandates.

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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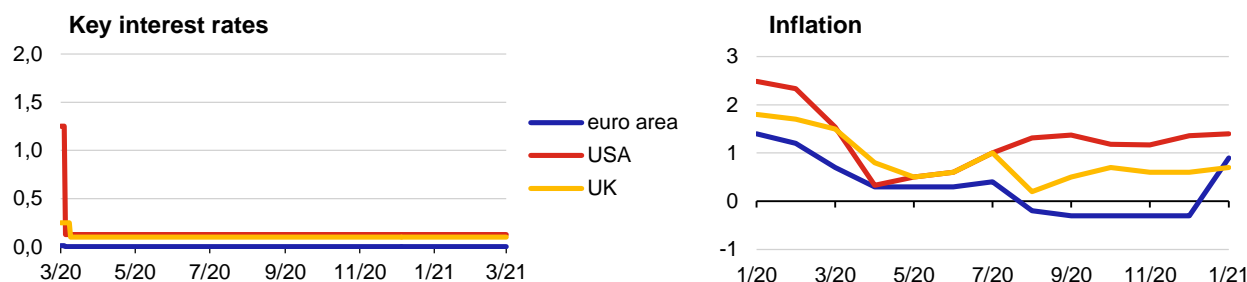
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I. LATEST MONETARY POLICY DEVELOPMENTS AT SELECTED CENTRAL BANKS

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

	<u>Euro area (ECB)</u>	<u>USA (Fed)</u>	<u>United Kingdom (BoE)</u>
Inflation target	<2% ¹	2% ²	2%
MP meetings (rate changes)	21 Jan (0.0);(0.0) ³ 11 Mar (0.0);(0.0) ³	15–16 Dec (0.00) 26–27 Jan (0.00)	17 Dec (0.00) 3 Feb (0.00)
Current basic rate	0.00%; -0.50% ³	0–0.25% ⁴	0.1%
Latest inflation	0.9% (Feb 2021) ⁵	1.4% (Jan 2021)	0.7% (Jan 2021)
Expected MP meetings	22 Apr 10 Jun	16–17 Mar ⁶ 27–28 Apr	18 Mar 6 May
Other expected events	10 Jun: publication of forecast	2 Jun: Beige Book	6 May: publication of Monetary Policy Report
Expected rate movements⁷	→	→	→

Note: ¹ ECB definition of price stability “below but close to 2%”; ² long-term average, according to August 2020 definition; ³ deposit rate; ⁴ chart shows centre of band; ⁵ flash estimate; ⁶ meeting associated with summary of FOMC economic forecasts; ⁷ direction of expected change in rates in next three months taken from Consensus Forecasts.



The **ECB** left rates unchanged and will keep them at the present level or lower until it has seen inflation robustly converge to a level sufficiently close to, but below, 2%, and such convergence has been reflected in underlying inflation. The ECB left the envelope of the PEPP at EUR 1,850 billion and will conduct net asset purchases until at least March 2022. It expects to buy assets at a higher pace in Q2 than in the first months of this year. Net asset purchases under the APP will continue at a monthly pace of EUR 20 billion; the ECB will end them shortly before it starts raising interest rates. The principal is reinvested under both programmes. TLTRO III will remain in force until June 2022. The ECB may further adjust all of its instruments to ensure that inflation moves towards its aim in a sustained manner, in line with its commitment to symmetry. GDP fell by 6.6% last year. The ECB expects GDP growth of 4.0% in 2021 (as against 3.9% in the December forecast), 4.1% in 2022 (as against 4.2%) and 2.1% in 2023. It has slightly increased its inflation forecast, with 1.5% expected in 2021 (as against 1.0%), 1.2% in 2022 (as against 1.1%) and 1.4% in 2023 (as against 1.4%).

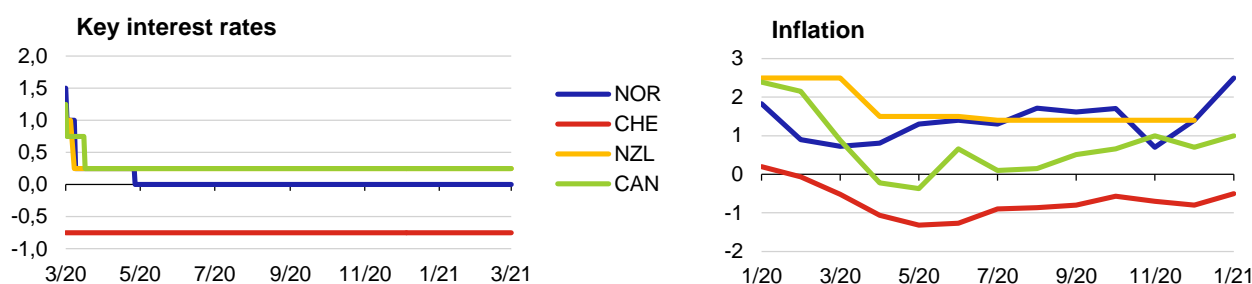
The **Fed** left its key federal funds rate unchanged. At its December meeting, the forward guidance was modified, with the Fed again stating that it will buy assets until substantial progress is made with unemployment and inflation. No changes were made to the asset purchase programme at the February meeting (the pace remains at USD 120 billion/month). According to Jerome Powell, it is premature to discuss starting tightening monetary policy. If there is a taper, it will be gradual and will be communicated clearly and well in advance. A slower-than-expected recovery and a drop in demand have been holding down inflation, which, however, is expected to rise temporarily in the spring due to base effects. A robust recovery is likely in the medium term (around the second half of this year), but downside risks will continue to weigh on the economy. Powell does not think that the Fed's expansionary policy is the main driver of asset prices and thus sees no reason to introduce new measures to enhance financial stability.

The **BoE** kept its key rate unchanged at 0.1% and maintained the target for the stock of asset purchases at GBP 895 billion. The BoE will purchase government bonds and, to a lesser extent, corporate bonds until the end of 2021. After a modest recovery in 2020 Q4, the BoE February forecast projects a q-o-q GDP decline of 4.2% in 2021 Q1. Household consumption is the main demand component behind the decline in GDP. The unemployment rate gradually increased in the course of the year, reaching 5.1% in 2020 Q4; the BoE expects it to peak at around 7.5% in the second half of 2021. According to the BoE, inflation will remain below its 2% target in the immediate future and will not reach it until the start of 2022. The BoE has not introduced negative interest rates so far but has been analysing this option for a year now. In autumn 2020, it asked commercial banks how ready they were for their possible use (see *News*).

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)	17 Dec (0.00) 21 Jan (0.00)	17 Dec (0.00)	24 Feb (0.00)	20 Jan (0.00) 10 Mar (0.00)
Current basic rate	0%	-0.75%	0.25%	0.25%
Latest inflation	2.5% (Jan 2021)	-0.5% (Jan 2021)	1.4% (2020 Q4)	1% (Jan 2021)
Expected MP meetings	18 Mar 6 May	25 Mar	14 Apr 26 May	21 Apr 9 Jun
Other expected events	18 Mar and 17 Jun: publication of Monetary Policy Report	31 Mar: publication of Quarterly Bulletin	26 May: publication of Monetary Policy Statement	21 Apr: 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.



The **NB** left its policy rate unchanged at zero and expects it to remain at this level for some time. The NB's December 2020 forecast implies a rate at the current level for over a year ahead, followed by a gradual rise as activity approaches a normal level. The Q4 GDP figures (excluding the oil industry) showed a quarter-on-quarter decline of 0.9%. The NB expects a drop of almost 2% in 2021 Q1. Inflation will temporarily rise to 3% this year. Price growth on the Norwegian property market accelerated further to 8%.

The **SNB** kept its policy rate at -0.75%. It is continuing to supply liquidity to the banking system via the SNB COVID-19 refinancing facility and has expressed its willingness to intervene in the foreign exchange market. The SNB December forecast expects consumer prices to stagnate this year (i.e. zero inflation) and to rise only slightly next year (0.2%). GDP decreased by 2.9% last year, in line with the SNB's expectations. The SNB projects GDP growth of 2.5–3% this year.

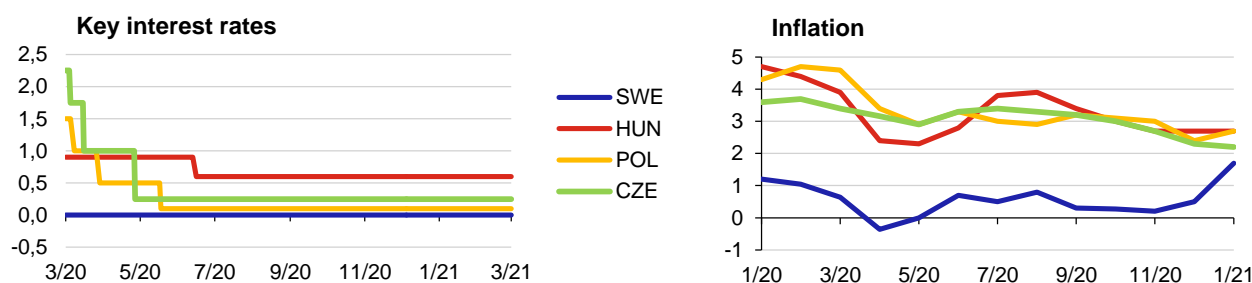
The **RBNZ** left its key interest rate unchanged at 0.25%. The size of the LSAP asset purchase programme remained the same (a maximum of NZD 100 billion by June 2022) and is expected to be fully used. The programme has helped reduce bond yields along the entire yield curve. The Funding for Lending (FLP) programme, which lowers commercial banks' funding costs, is helping to ease monetary conditions further. The economy recovered faster in 2020 Q3 than the RBNZ had originally expected. In 2020 Q3, GDP grew by 14% quarter on quarter and fell by 2.2% year on year. The RBNZ expects GDP to decline by 2.4% this year and to increase by 3.8% in 2022. According to the RBNZ's forecast, unemployment will peak at 5.2% in the middle of this year.

The **BoC** left its key interest rate unchanged at 0.25% and will maintain it at the effective lower bound until the 2% inflation target is sustainably achieved. According to its January projection, the BoC will not hit its target until 2023. The bank is continuing to buy government bonds at a pace of CAD 4 billion per week and to supply liquidity to the market using its Contingent Term Repo Facility (CTRF) and Standing Term Liquidity Facility (STLF). GDP dropped by 5.5% last year. The BoC expects GDP growth of 4.0% this year, 4.8% in 2022 and 2.5% in 2023. In line with the forecast, inflation is near the bottom of the target band (1–3%) and stood at 1.0% in January. The lower inflation was due mainly to low energy prices and declines in the prices of some goods and services caused by the onset of the coronavirus crisis. Measures of core inflation range from 1.3% to 2%. The BoC expects inflation of 1.6% this year, 1.7% in 2022 and 2.1% in 2023.

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)	10 Feb (0.00)	15 Dec (0.00) ³ 26 Jan (0.00) 23 Feb (0.00)	13 Jan (0.00) 3 Feb (0.00) 3 Mar (0.00)	17 Dec (0.00) 4 Feb (0.00) ³
Current basic rate	0%; -0.1% ²	0.6%; -0.05% ²	0.10%	0.25%
Latest inflation	1.7% (Jan 2021)	2.7% (Jan 2021)	2.7% (Jan 2021)	2.1% (Feb 2021)
Expected MP meetings	26 Apr	23 Mar ³ 27 Apr 25 May	7 Apr 5 May 9 Jun	24 Mar 6 May ³
Other expected events	27 Apr: publication of Monetary Policy Report	25 Mar: publication of Inflation Report	15 Jul: publication of Inflation Report	14 May: publication of Monetary Policy Report
Expected rate movements⁴	→	→	→	→

Note: ¹ CPIF – consumer price index including fixed interest rate; ² deposit rate; ³ publication of new forecast; ⁴ direction of expected change in rates in next three months taken from Consensus Forecasts.



The **Riksbank** left its key rate at 0%. The deposit rate is also unchanged at a slightly negative level (-0.1%). The forecast expects the key rate to remain at 0% until 2024 Q1 (one quarter longer than Riksbank predicted in November). The Riksbank will buy bonds totalling SEK 700 billion by the end of 2021. The Swedish economy has withstood the second wave of the pandemic relatively well, and the fall in GDP in 2020 will be more moderate than the Riksbank originally expected (-2.8%, as against -4.0%). The GDP outlook for this year expects growth of 3.0% (the November forecast predicted 2.6%). The forecast for 2022 predicts GDP growth of 3.9% (as against 5.0% in November) and the Swedish economy is expected to grow at a rate of 2.4% in 2023 (as against 2.2%). The inflation outlook (CPIF) is 1.5% for this year (as against 0.9%), 1.3% for 2022 (as against 1.2%) and 1.7% in 2023.

The **MNB** kept its base rate at 0.6%. The deposit rate is negative at -0.05%. The MNB decided to reduce the weekly new liquidity provided through the collateralised lending facility from HUF 30 billion to HUF 10 billion, while raising its weekly government bond purchases to HUF 60 billion. The MNB is also currently buying bonds maturing in less than ten years (having previously focused on maturities of around 15 years). By mid-February, HUF 1.7 trillion had been provided to SMEs under the FGS Go! scheme and HUF 900 billion of corporate bonds had been issued under the Bond Funding for Growth Scheme (the allocation was increased in January; the target is HUF 1.15 trillion). GDP declined by 3.7% year on year in Q4 and 5.1% in 2020 as a whole. The MNB expects GDP growth to be in the upper part of its 3.5–6.0% forecast range in 2021 and between 5.0% and 5.5% in 2022. Inflation will be 3.5–3.6% this year and hit the 3% target in 2022.

The **NBP** kept its interest rate at 0.1% and is buying government bonds and government-guaranteed debt securities on the secondary market. A programme to refinance loans granted to firms is also in place. Polish GDP fell by 2.8% overall last year. According to the March forecast, GDP will grow by 4.1% this year and by 5.4% in the next two years. The forecast also projects inflation at 3.1% this year, 2.8% in 2022 and 3.2% in 2023.

The **CNB** left its key 2W repo rate at 0.25%. Its winter forecast assumes a gradual rise in interest rates from the second half of this year after a period of stability of market interest rates. The forecast expects economic growth to resume from Q2 onwards, aided by a gradual improvement in household and corporate sentiment amid a gradual easing of anti-pandemic measures. The Czech economy will grow by more than 2% this year and 3.8% next year. Inflation will slow close to the 2% target in Q1, and will fluctuate around the target for the rest of this year. Headline inflation will be slightly above the inflation target next year, owing mainly to an increase in excise duties.

II. NEWS OVER THE LAST THREE MONTHS

RBNZ to include property prices in its monetary policy considerations by government decision

The New Zealand government has [decided](#) to alter the remit of the RBNZ Monetary Policy Commission so that the MPC will assess the effect of its monetary policy decisions on the government's policy relating to sustainable house prices. This change in the MPC's remit is due to the New Zealand government's long-standing push for housing affordability. The shape of this adjustment had been discussed by the [government](#) and the [RBNZ since November 2020](#). The RBNZ has [agreed](#) to the change. The dual mandate of the RBNZ, i.e. achieving price stability and promoting maximum sustainable employment, is unaffected by this change.

Riksbank starts test period for new SWESTR reference rate

At the end of January, the Riksbank [started](#) a deferred test period for a new overnight reference rate that has been given the name [SWESTR](#) (Swedish krona Short Term Rate). The test period will last approximately six months. During this time, the Riksbank will publish the SWESTR on its website every banking day. The new reference rate was initially announced by the Riksbank in September 2019, but its publication was delayed due to the coronavirus pandemic (see the [June 2020 CBM](#)).

Bank of Japan launches monetary policy review

The BoJ [decided](#) at its December meeting to launch a review of its monetary policy, the results of which it should publish at its March meeting. The current unconventional monetary policy measures, i.e. quantitative and qualitative easing with yield curve control ("QQE with YCC"), are working well, according to the BoJ, and the bank judges there is no need to change them. The aim of the review is to assess the effectiveness and sustainability of individual measures and, where appropriate, to adjust them (analysts are talking about the possibility of adjusting YCC or reducing the ETF funds purchase limit). The BoJ conducted its last monetary policy review in 2016, when YCC was added to the existing QQE.

BoE to support the transition to sustainable economy by government decision...

In March, the Bank of England was given an [explicit mandate](#) by the UK government to support the government's goal of moving to a sustainable, low-emission economy, as part of its annual renewal of the remit of the MPC (and the FPC). The price stability objective and the inflation target of 2% remain unchanged. BoE [welcomed](#) the updated MPC remit and announced that in the coming months it would propose an adjustment to the Corporate Bond Purchase Scheme (CBPS) to account for the climate impact of the issuers of the bonds it holds. This new approach should be applied as from the next scheduled round of reinvestment operations in 2021 Q4.

...and "green" investment and finance are also issue for ECB and Fed

In February, the ECB and the 19 national central banks of the euro area (i.e. the Eurosystem) agreed on a [common stance](#) for climate change-related sustainable investments in their euro-denominated non-monetary policy portfolios. As part of the common stance, the Eurosystem banks also aims to start making annual climate-related disclosures for these types of portfolios within the next two years. In late January, the Fed [established](#) a Supervision Climate Committee (SCC) that will examine the potential implications of climate change for financial institutions, infrastructure and markets.

BoE and RBNZ prepare banking systems for possible introduction of negative rates

The Bank of England [disclosed](#) in early February that it would require commercial banks to be prepared to implement a negative Bank Rate at any point after six months. The "operational readiness" of the New Zealand banking system to enable the OCR to be taken negative if required was [announced](#) by the RBNZ in late February. Neither of these central banks is preparing for the imminent introduction of negative interest rates, but they are not ruling it out if necessary.

CNB starts to publish Monetary Policy Report

At the beginning of 2021, the CNB replaced its quarterly Inflation Report published since 1998 with a [Monetary Policy Report](#). The bank is following the lead of other central banks, for example the Riksbank and the Bank of England. The newly drafted report refrains from detailing past developments and focuses on key economic issues having a dominant influence on the monetary policy settings.

ECB and Fed extend liquidity lines for foreign central banks

The ECB [agreed](#) with several non-euro area central banks to extend their euro liquidity lines to March 2022 (specifically the swap line with the central bank of Croatia and the repo lines with the central banks of Albania, Hungary, the Republic of North Macedonia, Romania, San Marino and Serbia). These liquidity lines had previously been set to expire this June; the ECB [decided](#) to offer a nine-month extension in December 2020. In December, the Fed [announced](#) the extension of its temporary USD swap lines with nine central banks (the Reserve Bank of Australia, the Banco Central do Brasil, the Bank of Korea, the Banco de Mexico, the Monetary Authority of Singapore, the Riksbank, the Danmarks Nationalbank, the Norges Bank and the RBNZ) and of the FIMA repo facility (a temporary repo facility for foreign and international monetary authorities) to 30 September 2021. These USD liquidity lines had originally been scheduled to last for at least six months from March 2020; in July 2020 they were extended to March 2021.

Riksbank to refinance its FX reserves for three years, denies weakening currency

In January, the Riksbank [announced](#) that until the end of 2023 it would purchase foreign currency on the foreign exchange market at an average pace of SEK 5 billion per month, with the aim of transitioning to self-financing of its foreign exchange reserves over the course of three years. The Riksbank's foreign exchange reserves are currently largely financed externally through loans in foreign currency on the international capital market via the Swedish National Debt Office. These loans currently amount to roughly 40% of the foreign exchange reserve (around SEK 178 billion of the total of SEK 437 billion). At the same time, the Riksbank in its announcement placed great emphasis on the rationale for these purchases, which have "no monetary policy purpose" and are not being conducted to affect the Swedish krona exchange rate.

Some central banks begin announcing possible foreign exchange interventions

The Riksbank's thorough explanation of its intended foreign currency purchases comes at the same time that other central banks have begun foreshadowing possible foreign exchange interventions. Their public announcements may be an effort to avoid being labelled "currency manipulators", as Switzerland and Vietnam were by the United States in December due to their central banks' interventions in foreign exchange markets. The Swiss SNB immediately rejected this designation and [announced](#) that it remained willing to intervene more strongly in the foreign exchange market. Poland's NBP, which intervened unannounced in December, [announced](#) possible further interventions in January to strengthen monetary policy easing. [Israel's BoI](#) and [Chile's BCC](#) also publicly announced possible foreign exchange interventions and increases in foreign exchange reserves.

Bank of Italy surveys inflation expectations using Twitter

A research paper by the Bank of Italy ([WP 1318](#)) looked at the possibility of determining inflation expectations using a textual analysis of Twitter social media posts. It found that daily indicators generated by machine learning techniques and textual analysis of Italian Twitter posts are highly correlated with both monthly survey-based and daily market-based inflation expectations.

SNB urged to review monetary policy and raise inflation target

A group of senior economists following the SNB's monetary policy (Stefan Gerlach, Yvan Lengwiler and Charles Wyplosz) published a [research paper](#) calling for a review of that policy and proposing some changes, including adjusting the inflation target to a symmetrical one of 2% (the SNB target is currently in the range of 0% to 2%).

III. SPOTLIGHT: RESERVE REQUIREMENTS

Reserve requirements used to be a standard central bank instrument. Recent decades, however, have seen a decline in their importance, especially in developed countries; the prescribed level of reserves has been reduced, and in some cases the requirement has been abolished completely. This article discusses the potential functions of reserve requirements and describes the practices of selected central banks.

Reserve requirements oblige commercial banks¹ to maintain a certain amount of liquidity as reserves on balances at the central bank. This amount is set as a percentage share (the “reserve requirement rate”) of a base determined by reference to banks’ liabilities to non-banks. The reserve base either consists of all these liabilities taken together, or distinguishes between them in terms of properties such as time to maturity, liability type (household deposits vs. bonds), currency (domestic vs. foreign) and creditor type (residents vs. non-residents).²

Main functions of reserve requirements

Gray (2011) identifies three main potential functions of reserve requirements: prudential, monetary control and liquidity management. The prudential function is the oldest: a bank wishing to maintain consumers’ trust would voluntarily hold part of its assets in the form of highly liquid sources.³ Such holdings were later made mandatory in the form of reserve requirements. Reserve requirements were thus introduced as a way of increasing confidence in the banking sector and protecting against bank runs. In this context, therefore, they are primarily microprudential and their very existence – rather than active changes in reserve requirement rates – is sufficient for them to work.

Over the last two decades, reserve requirements have been referred to in the literature in the prudential context as well (see, for example, Glocker and Towbin, 2012a), although in the sense of an active approach where their parameters are adjusted in order to influence lending activity in response to economic developments. In this context, reserve requirements therefore have more of a macroprudential role.

Today, though, newer and more targeted prudential tools – capital and liquidity requirements for banks, deposit insurance schemes and instruments regulating lending on specific markets (such as LTV, DTI and DSTI) – perform a similar role. In countries where such instruments do not exist or do not fall institutionally within the central bank’s powers, reserve requirements may be the only macroprudential tool available to the central bank. Given the existence of the above more sophisticated instruments, however, Gray (2011) says that the prudential role of reserve requirements may be outdated.

The function of reserve requirements as a monetary policy instrument is analysed in the traditional literature in connection with the use of an older, money multiplier theoretical model of money creation. Reserve requirements play a crucial role in this model – the reserve requirement rate determines how much the reserves supplied by the central bank are multiplied in the form of loans and how much new money is created as a result. This model implicitly assumes that the quantity of money in the banking sector is the binding constraint on lending and that the central bank targets the stock of money in the economy by making changes to the monetary base, which the required reserves form part of. However, neither of these assumptions reflects modern monetary policy-making in advanced countries. Where an inflation-targeting central bank sets the monetary policy rate and elastically supplies or absorbs liquidity according to the banking sector’s needs, reserve requirements play virtually no role from this purely monetary policy regime perspective. The contrast between the money multiplier model and modern monetary policy implementation is discussed in depth by Bindseil (2004), for example.⁴

Even outside the money multiplier framework, however, reserve requirements can potentially complement nominal interest rates as a monetary policy instrument in an open economy. The main motive in this case is to control capital inflows and outflows. *Ceteris paribus*, an increase in the monetary policy rate induces banks to raise both their lending rates and their deposit rates. The higher deposit rates make the country more attractive to foreign investors and lead to

¹ Commercial banks, building societies and branches of foreign banks licensed in the Czech Republic or carrying on business there under the “Single Licence”, and, since 1 January 2012, credit unions, are subject to the reserve requirements in the Czech Republic. For simplicity, we only use the term “commercial banks” in this article.

² A range of other parameters need to be set when reserve requirements are implemented. Apart from differentiation of liabilities in the reserve base, they include the percentage RR rate (which determines the amount of required reserves), whether the required reserves are to be remunerated or not (and if so, at what rate) and whether banks are required to maintain a given amount of reserves at all times or only on average over a “maintenance period”. It usually differs from the “reporting period” for which the reserve base is calculated. (This is because if the two were the same, on the last day of the maintenance period commercial banks would still not know exactly the reserve base and hence the resulting prescribed level of reserves, owing to the fluctuations that occur on deposit accounts.) The configuration of reserve requirements can therefore vary widely from country to country.

³ Feinman (1992) describes the origins of reserve requirements in the USA in the 19th century and subsequent developments in the 20th century.

⁴ The process of money creation in the modern economy is also described in CNB blog articles by Tomáš Holub ([here](#)), Petr Král ([here](#)) and Tomáš Holub, Petr Král and Branislav Saxa ([here](#)).

capital inflows and appreciation of the home currency. However, this may be undesirable and destabilising, especially in the case of short-term speculative capital inflows. As a defence against excessive capital inflows, the central bank can increase the reserve requirement rate. This leads (in the case of unremunerated reserves) to an increase in the spread between client lending and deposit rates due to banks incurring higher costs or loss of profits as a result of leaving a greater proportion of their balance sheets lying idle in the form of required reserves at the central bank. Raising the reserve requirement rate thus enables the central bank to tighten monetary policy without facing unwelcome capital inflows.

Reserve requirements are routinely used to lean against capital inflows and generally influence monetary conditions in some developing countries, typically in Latin America.⁵ The disadvantage of using them for this purpose is that they are a relatively crude and imprecise tool for influencing monetary conditions and they lead to market distortions, as unremunerated reserves represent a hidden tax on the banking sector, and banks can be expected to pass on the tax burden at least partially to their clients, i.e. firms and households, in the form of higher interest rate spreads (indeed, this is the essence of the transmission of a change in the reserve requirements to monetary conditions in the modern sense of this instrument). This can have two consequences: it can partially shift activity and risks to unregulated non-banking institutions (“shadow banking”) with a competitive advantage over banks, and it can put SMEs at a disadvantage, as they are more reliant on bank financial intermediation. Also, the active use of reserve requirements for the above purposes often leads in practice to high reserve requirement rates (in the tens of per cent), so the market distortions can be sizeable. What is more, the overall impact of a change in the reserve requirements on inflation is ambiguous, because – as Glocker and Towbin (2012b) show empirically – the main monetary policy transmission channels act in opposite directions (an increase in the reserve requirement rate leads to a fall in lending activity while triggering a depreciation).

The third potential role of required reserves is their liquidity management function. Commercial banks generally hold reserves for two reasons: to satisfy the reserve requirements and to be able to meet their interbank payment obligations. Demand for reserves for interbank payment purposes depends on many external factors and is therefore volatile and difficult to predict. The existence of reserve requirements can stabilise banks’ demand for reserves and, where there is a structural liquidity shortage, makes it easier for the central bank to predict demand for liquidity and to supply the required liquidity to the market. Banks can then use their required reserve holdings to cover short-term liquidity shocks (as they are allowed to maintain flexible daily levels over the maintenance period) instead of hurriedly seeking or offering reserves in the interbank market, which would increase the volatility of interbank interest rates.

Likewise, where there is a structural liquidity surplus, required reserves can act as a buffer. Banks tend to get rid of most of their reserves in excess of the requirement in liquidity-draining repos instead of holding them as free (unremunerated) reserves. In the event of a sudden liquidity need caused by external factors, banks may face a short-term liquidity shortage, which, however, they will cover from the reserves they hold for compliance purposes. Without those reserves, there would again be a surge in demand for reserves in the interbank market and an increase in the volatility of interbank rates.

Reserve requirements thus stabilise interbank interest rates – making it easier to manage commercial bank liquidity, facilitating smoother payments and encouraging trading on the interbank market – and can also smooth monetary policy transmission. Of all the above functions of reserve requirements, the literature generally regards this as practically the only relevant argument for the existence of reserve requirements in developed countries in modern times (see, for example, Weiner, 1992, Clinton, 1997, and Gray, 2011). Whether reserve requirements are important for stabilising interbank rates, or whether central banks can do without them, depends on the specific characteristics of the interbank market in each country. The factors undermining the importance of reserve requirements for interbank transactions include the existence of a corridor for interbank rates in the form of a Lombard and deposit facility and the existence of an intraday credit facility.

The different optimal configurations of reserve requirements also reflect the specific reasons for their existence. For example, the use of reserve requirements to limit or generally control lending via interest rate spreads requires unremunerated reserves, and to stabilise interbank rates the reserves have to be averaged over several weeks. Where there is no clear reason for a different configuration (and where reserve requirements are applied), the best practice according to Gray (2011) is to apply reserve requirements to liabilities with a maturity of under two years with no further differentiation, to average the reserves over a maintenance period of at least two weeks, to remunerate them at the monetary policy rate, to have the end of the reporting period precede the start of the maintenance period, and to charge banks a rate higher than the Lombard rate for failure to meet the requirements.

⁵ Changes to reserve requirement rates affect lending and the financial cycle. The active use of reserve requirements in these countries is motivated by the objectives of both price and financial stability, so there is some overlap between the monetary policy and macroprudential functions of reserve requirements.

Practices of individual central banks

Central banks' approaches to reserve requirements can be divided into three broad categories. Some central banks in developing countries use this tool actively in monetary and macroprudential policy. The second category consists of banks where reserve requirements have been introduced and the reserve requirement rate is negative but low (in single figures) and seldom changed. In this case, the function of reserve requirements is usually to stabilise interbank rates. The third category is formed of central banks which either do not apply reserve requirements at all, or set a zero per cent rate. This approach is common in inflation-targeting central banks in developed countries.

Federico et al. (2014) describe the main trends in the use of reserve requirements for the period 1970–2011. On a sample of 52 countries, they show that reserve requirement rates are much higher on average in developing than in developed countries; in both groups they are declining over time. Two-thirds of developing countries and just one-third of industrial countries (and no industrial country since 2004) actively used reserve requirements in the period under review. The authors link an active approach to reserve requirements primarily with the above-mentioned need of developing countries to defend the stability of their currencies and to prevent changes to monetary policy rates from having unwelcome exchange rate effects. These trends have continued over the last decade (not covered by the above analysis).

As mentioned above, active use of reserve requirements is typical of Latin American countries, including inflation-targeting ones. The instrument is also used actively by China, for example. However, the application of reserve requirements in these countries does not mean that the relevant central banks do not use interest rates as a monetary policy tool – in reality the two instruments work in parallel and complement each other.

The central banks that apply reserve requirements but do not actively change them include the ECB. It has changed the reserve requirement rate only once in its history – in 2012, when it lowered it from 2% (in effect since 1999) to the current 1%. The Swiss central bank also applies a positive reserve requirement rate (2.5%) and does not normally change it. The Hungarian MNB cut its rate from 2% to 1% in 2016. In response to the coronavirus pandemic, it then stopped applying reserve requirements at least temporarily in March 2020 in order to boost liquidity. Likewise, Poland's NBP in March 2020 reduced its reserve requirement rate to 0.5% after having kept it unchanged at 3.5% since 2010.

Table: Reserve requirements at selected central banks

	Rate	Remuneration	Averaging	Differentiation by liability type
ECB	1%	Yes*	Yes (6–7 weeks)	Maturity of under 2 years
SNB	2.5%	Yes*	Yes	Maturity of under 90 days
MNB**	1%	Yes	Yes (1 month)	Maturity of under 2 years
NBP	0.5%	Yes	Yes	No
CNB	2%	Yes	Yes (1 month)	Maturity of under 2 years
Fed	} No reserve requirements/zero per cent rate			
Bank of England				
Norges Bank				
RBNZ				
Bank of Canada				
Riksbank				

* In the event of negative monetary policy rates, the ECB and the SNB apply a zero reserve requirement rate.

** In March 2020, the MNB [stopped enforcing reserve requirements](#) until further notice. This de facto meant the introduction of a zero rate, which, however, is presented as a temporary measure.

Source: Central banks' websites, [BIS](#).

The Czech National Bank also uses a positive reserve requirement rate, but has long kept it constant. Reserve requirements played a significant role in monetary policy during the 1990s, when the money market was underdeveloped and CNB pursued a policy of money targeting. The specific rate and other parameters were repeatedly adjusted to current needs in this period. However, the monetary policy role of the reserve requirements diminished substantially when inflation targeting was introduced in 1998, and the rate gradually declined over the period 1997–1999. Since October 1999, it has been constant at 2% of banks' liabilities to non-banks. In 2001, remuneration of required reserves at

the two-week repo rate was introduced. The main motive for these measures was to eliminate market distortions and make Czech banks more competitive, and also to align the parameters with ECB standards ([see the Box in Inflation Report II/2001](#)). Since then, the CNB's approach to reserve requirements has not changed, apart from some minor technical modifications. All the primary liabilities of banks, building societies and credit unions with a maturity of under two years are subject to the requirements with no further differentiation, and the reserves are averaged over a period of around one month.

The US Federal Reserve used reserve requirements quite actively in the 20th century. Its approach to this instrument changed over time as modifications were made to the monetary policy framework, among other things. The importance of the instrument declined in the first half of the 1990s, when the reserve requirement rate was gradually reduced. The requirements became just a tool for creating a stable demand for reserves, which in turn made interbank rates more stable. In 2008, the Fed introduced remuneration of the reserves, and in March 2020 it unified its reserve requirement rates at zero ([see the Fed's press release of 15 March 2020](#)), meaning that the reserves ceased to be mandatory. This measure formed part of a set of actions taken in response to the outbreak of the coronavirus pandemic. However, it was also a result of previous discussions and of a switch to an ample reserves regime in which reserve requirements longer play any role in stabilising the demand for reserves.

The Fed has thus joined the group of countries that no longer apply reserve requirements. The members of this group are typically developed inflation-targeting countries. Specifically, New Zealand stopped applying reserve requirements back in 1985 and Sweden and Canada did the same in 1994. Australia, the UK, Hong Kong and Norway also do not use this tool.⁶

Conclusion

Reserve requirements used to be regarded as one of the main instruments employed by central banks. They are still routinely used as a monetary policy tool in some less developed countries, including inflation-targeting ones, which use reserve requirements for capital control and exchange rate stabilisation purposes as a complement to their main monetary policy instrument, interest rates. The disadvantage of using reserve requirements for this purpose is that they are a relatively crude tool and cause market distortions in the banking sector. In developed inflation-targeting countries, reserve requirements no longer play such a crucial monetary policy role. However, they can help stabilise rates on the interbank market and smooth payments. Whether reserve requirements are necessary or not then comes down to the specific characteristics and technical configuration of the interbank market. Some countries have reserve requirements with a non-zero but low and usually constant rate, while others work with no reserve requirements at all.

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⁶ The technical details of how the relevant central banks have dealt with the issue of interest rate volatility on the interbank market and with smoothing payments differ from country to country. The abolition of the reserve requirements in Canada, the UK and New Zealand is described by Sellon and Weiner (1997). The issue is also examined by Gray (2011).

IV. SELECTED SPEECH: Andrew Bailey: Modern challenges for central banks

In recent years, monetary policy has had to deal with new types of economic shocks and greater economic volatility. Andrew Bailey, Governor of the Bank of England, in his [speech](#) at the LSE German Symposium, outlined how inflation-targeting central banks have adapted to this situation to keep inflation under control.

It is almost 25 years since the UK embraced the idea of an independent central bank with a mandate to maintain price stability in the form of an inflation target. In the context of the history of UK monetary regimes, this has been a successful quarter of a century in which the much desired price stability has actually been achieved. But the conditions in which monetary policy is made do not stand still. The first decade was with hindsight very benign: the impact of demand shocks to the economy was small, and supply shocks were typically in a favourable direction. The next decade and more has been quite different, with much larger shocks – a mix of both demand shocks and more adverse supply shocks. This period has included a global financial crisis, a global pandemic, and in the UK the decision to leave the EU.

The trend to sustained lower equilibrium interest rates around the world has made the so-called effective lower bound a very pertinent issue. The task of monetary policy has moved from being a choice (albeit not an easy one) on a single dimension (the official interest rate) to a more multi-dimensional choice which also involves decisions on which tools to use and which tools to develop for possible future use. Close to the lower bound, the transmission of policy tends to be less effective, but this does not make monetary policy pointless or unnecessary.

Monetary policy has also had to adapt to the fact that in many countries the challenge has shifted from getting inflation down to getting it up to target. This has been less marked for the UK, in part because of exchange rate movements. However, the UK is also facing a period of below target inflation today. However, the UK regime of inflation targeting is a symmetrical one, as both high and low inflation are costly. Put like this, it is obvious and uncontroversial that a central bank with a symmetric inflation target has the same objective either way, whether inflation is above or below target, and it cannot throw the towel in. To do so would amount to abandoning the bank's remit and independence.

But that is not the end of the story, because of late it has been said that central bank independence has been compromised by the actions taken in the face of the pandemic. This comes down to the relationship between monetary and fiscal policy. Both policies are inherently countercyclical. The evidence from the past shows that without an independent monetary policy institution the overall effects of economic policy were dangerously procyclical at times, leading to bad outcomes. Even in the current situation of a collapse of economic activity alongside very low inflation, the central bank should respect its remit and inflation target and, in accordance with the logic of countercyclical policy, use all available tools to raise activity and support employment and welfare. For the BoE, in practice, doing so has meant significantly easing monetary conditions and supporting the flow of credit to businesses, which has called on both the monetary policy and financial stability tools of the BoE. Fiscal policy, too, has played a very big part, helping to spread the cost of this large shock over time, because otherwise the cost to the public and the country would be unbearable.

Arguments that the BoE has flouted the rules and thereby damaged its independence by purchasing government debt and lowering the government's cost of borrowing are, according to Governor Bailey, entirely without merit. In a world where the government has to manage the task of spreading the cost of the pandemic, which would otherwise fall on individuals at great cost to them, and the central bank supports demand in the economy consistent with its inflation target, it is hardly surprising that the government benefits from the favourable financing conditions. Independent pursuit of an inflation target does not mean that monetary policy is uncorrelated with other macro policies, including fiscal policy. The consistency of the response of monetary and fiscal policy does not mean independence has been abandoned.

Of course, the real test of independence may come when monetary policy needs to be tightened. But the reason why central bank independence is regarded so highly is because it is a regime that provides the most powerful set of incentives possible, to do the right thing when that time does come. The BoE is responsible to Parliament for acting to hit the inflation target. Not to do so would also be found out almost immediately by financial markets. Inflation expectations would become de-anchored. So there is both an institutional and a market discipline at work to mitigate this risk. Governor Bailey emphasised that there was no signal on policy in what he was saying.

The fact that in the last decade or so, monetary policy has faced much larger shocks and greater variance of inflation with a tendency to undershoot does not for a moment call into question the benefits of targeting inflation. Indeed, over the same period inflation expectations in the UK have not become de-anchored or more volatile, despite the greater economic volatility. But this shift has required central banks to be somewhat more flexible in the way they go about seeking to hit their inflation targets. This is apparent in a number of approaches used by central banks: the adoption of a mechanism of averaging inflation over time; allowing inflation to return to target over a longer period of time; or using forward guidance. But, adaptation is in the nature of effective policymaking.

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