Bank of Russia

MONETARY POLICY GUIDELINES FOR 2023–2025

Moscow

Approved by the Bank of Russia Board of Directors on 1 November 2022.

The document was prepared based on statistics as of 21 October 2022.
The data cut-off date for forecast calculations is 27 October 2022.
If any statistics or other important data are released after the cut-off date, they may be included in the document.

The electronic version of the document is available on the Bank of Russia website in the section Publications / Guidelines for the Single State Monetary Policy (http://www.cbr.ru/eng/about_br/publ/ondkp/).

12 Neglinnaya Street, 107016 Moscow
Bank of Russia website: www.cbr.ru

CONTENTS

List of boxes

INTRODUCTION

In the Monetary Policy Guidelines, the Bank of Russia each year describes the goals of monetary policy and approaches to its implementation and provides its view of the current situation in the economy and forecasts of its development in the medium term.

In early 2022, the situation in the Russian economy changed dramatically. A number of countries enacted unprecedentedly large-scale sanctions against the real and financial sectors. They significantly complicated international logistics and settlements and constrained imports of foreign goods and services and Russian exports. Moreover, some international companies suspended their operation in Russia. The introduction of the sanctions and a considerable rise in uncertainty exacerbated volatility in the financial market and risks to financial stability and increased inflation and devaluation expectations. To stabilise the situation, the Bank of Russia, the Government of the Russian Federation, and other state authorities implemented a package of response measures. They comprised an increase in the Bank of Russia key rate to 20% per annum, capital controls, the suspension of trading on the Moscow Exchange, significant easing of banking regulation, and measures to support borrowers. These measures helped mitigate risks to financial stability, maintain the resilience of the banking sector, and generally calm the situation. Already by April, the country managed to overcome the acute stage of the crisis. However, it will take time for the economy to completely adjust to the imposed restrictions.

The main task for the next few years is to create conditions that would facilitate a successful transformation of the economy. Implementing its monetary policy, the Bank of Russia will contribute to the development of such conditions by ensuring price stability. All else being equal, low and steady inflation will enable companies and households better plan their activities, increase the affordability of debt and equity financing, and protect people's incomes against a significant unpredictable devaluation.

The inflation targeting strategy remains relevant and is still the best one for monetary policy. The flexibility of this strategy will ensure price stability and support the adaptation of the Russian economy to the new environment. Pursuing the inflation targeting strategy, the Bank of Russia continues to adhere to the earlier announced main principles in its monetary policy. They have proven to be efficient in the extraordinary conditions of 2022.

The objective of monetary policy remains unchanged – maintaining annual inflation close to 4% on an ongoing basis. Furthermore, in 2022–2023, the economy will transform and relative prices for a wide range of goods and services will adjust to the changed environment. During this period, inflation will be elevated temporarily. Monetary policy will be aimed at a gradual decrease in annual inflation. However, this process will take more time than normally, considering that the economy needs to adapt to the changed conditions.

Implementing its monetary policy, the Bank of Russia continues to influence demand and prices through the key rate and the signal regarding further decisions thereon. The drastic changes in external and internal conditions reduced the efficiency of the transmission of the key rate decisions and the signal to the economy. However, as the economy started to adjust to the imposed restrictions, the effectiveness of the transmission began to restore. This process will progress.

Monetary policy decisions impact price dynamics not instantaneously, but with a time lag. Therefore, monetary policy decisions are made relying on a macroeconomic forecast. Considering the introduced capital controls, the Bank of Russia adjusted its model-based approaches used to prepare the forecast.

To make the influence of its monetary policy on the economy efficient, the Bank of Russia uses the floating exchange rate regime. Amid the capital controls, the ruble exchange rate predominantly depends on exporters' and importers' demand and supply in the foreign exchange market. The capital controls are policy measures employed to maintain the stability of the financial sector. The Bank of Russia will continue their gradual easing.

Communication transparency helps steady the situation. Prompt and complete communication of the information about its monetary policy stance helps the Bank of Russia form a more predictable economic environment, which is crucial during the period of the dramatic alterations in the economy.

Further developments in the Russian economy are highly uncertain and are associated with both the internal adjustment of the economy to the new environment and external events. The duration and the depth of the economic decline in the next few years will largely depend on how fast businesses will rearrange their logistics and production chains, penetrate new target markets and find new suppliers, whether companies will manage to develop alternative technologies, and how successfully the labour market will adapt to the new conditions. As regards external conditions, the situation in the Russian economy will be considerably influenced by the state of the world economy and geopolitical conditions. In its baseline scenario, the Bank of Russia assumes that the enacted restrictions will remain in place over the forecast horizon. The expansion of the world economy will slow down amid the tightening of monetary policy by the largest economies to contain increasing inflationary pressure. Nonetheless, a well-calibrated monetary policy will enable them to avoid a large-scale recession. It may take up to 18 months for the Russian economy to adjust to the imposed restrictions. During this period, aggregate output will be contracting, prices will be highly sensitive, and inflation will be elevated temporarily. Further on, as the economy evolves into a new equilibrium, economic activity will start to bounce back. As estimated by the Bank of Russia, this will happen in 2023 H2. Economic growth will be quite slow, but might speed up beyond the forecast horizon owing to new production interrelations to be formed in the economy, enhancement of workers' skills, higher efficiency of capital utilisation, and the commissioning of new production facilities. Annual inflation will decelerate to 5–7% in 2023, return to the target of close to 4% in 2024, and stay at the target level further on. This will be facilitated by, among other things, the Bank of Russia's monetary policy. According to the Bank of Russia's estimates, to gradually decrease inflation to the target, it will need to maintain the key rate in the range of 6.5–8.5% per annum on average in 2023 and 6–7% per annum on average in 2024. As inflationary pressure weakens, the Bank of Russia will reduce the key rate, returning it to its long-term neutral range of 5–6% per annum.

Nonetheless, the adjustment of the Russian economy might be both faster and slower than predicted in the baseline scenario. The Bank of Russia considers other possible economic developments in its alternative scenarios. The main risks to the baseline scenario are associated with a deterioration of the geopolitical situation in the global economy in

general. If inflation stays at a steadily higher level in the largest economies, their central banks might need to tighten their monetary policies more quickly and considerably. This in turn might entail a long recession and a decline in global demand, including for Russian exports. Combined with the materialisation of additional geopolitical risks and the introduction of new sanctions, this situation might induce a deeper economic downturn and decrease the growth potential of the Russian economy. According to the Bank of Russia's estimates, the materialisation of these risks will speed up inflation over the forecast horizon and require a tighter monetary policy, as compared to the baseline scenario. As a result, it will take more time to bring inflation back to the target. In addition to the materialisation of these risks, the Bank of Russia also considers a possibility of more favourable developments. Specifically, businesses might be able to adjust to the changed conditions faster by arranging new logistics chains and equipment and technology supply channels. In this case, economic activity might start to rebound earlier and economic growth rates will be higher. Inflation will decrease to the target slightly more quickly amid a more accommodative monetary policy, as compared to the baseline scenario.

An important factor that will influence the economy under any of the scenarios in the coming years is fiscal policy. Due to the events of 2022, the fiscal rule was suspended, and the Bank of Russia lost the opportunity to conduct operations in the foreign exchange market within fiscal rule-based operations carried out by Russia's Ministry of Finance. As a result, changes in prices in global commodity markets started to affect the volatility of the ruble exchange rate and the economy in general more significantly. Currently, the Ministry of Finance is developing new principles of the fiscal rule. The new framework of the fiscal rule will determine the scale of its countercyclical impact on the economy. Therefore, the Bank of Russia will take into account fiscal policy measures when preparing its macroeconomic forecast and making its key rate decisions.

Under any scenario of future developments both in the Russian economy and abroad, the Bank of Russia will pursue its monetary policy taking into account its core function stipulated by the Constitution of the Russian Federation, which is protecting the ruble and ensuring its strength. In accordance with Federal Law No. 86-FZ, dated 10 July 2002, 'On the Central Bank of the Russian Federation (Bank of Russia)', this function shall be performed by maintaining price stability. Price stability is essential for the transformation and development of the Russian economy, including for creating conditions for balanced and steady economic growth.

These Guidelines have the following structure.

Section 1 describes the goals and principles of the Bank of Russia's monetary policy, as well as the interaction of monetary policy with other state policies. The Section includes three boxes, namely on setting the inflation target of close to 4%, a neutral interest rate amid large-scale changes in the economy, and the compatibility of the inflation targeting strategy with capital controls.

Section 2 offers a retrospective overview of the Bank of Russia's monetary policy from late 2021 until now.

Section 3 focuses on the baseline and alternative forecast scenarios of the Bank of Russia. Additionally, the Section contains boxes on fiscal policy in 2022–2025 and on an economic equilibrium.

Section 4, as always, covers the operational procedure of the Bank of Russia's monetary policy: its operational objective and system of instruments, as well as the factors influencing the trends and the forecast of banking sector liquidity.

The document also contains appendices and boxes addressing both the theoretical aspects of monetary policy, given the Russian specifics, and the most relevant economic issues.

1. MONETARY POLICY GOALS, PRINCIPLES AND INSTRUMENTS

MONETARY POLICY: ITS GOAL AND CONTRIBUTION TO ECONOMIC DEVELOPMENT

In accordance with the Constitution of the Russian Federation, the key function of the Bank of Russia is to protect the ruble and ensure its strength.[1] Pursuant to the Federal Law 'On the Central Bank of the Russian Federation (Bank of Russia)', the main goal of the Bank of Russia's monetary policy is to protect the ruble and ensure its strength by maintaining price stability, including for creating conditions promoting balanced and sustainable economic growth.[2] Price stability implies steadily low inflation.

In 2022, Russia entered the phase of a structural transformation of its economy. This transformation started following the introduction of large-scale external trade and financial restrictions by a number of states and will last for several years. Key changes will cover the sectoral structure of the economy, the distribution of labour force, technologies applied, logistics and production chains, target markets, output, and prices (including relative prices). Furthermore, Russian companies have already started to transform their business models and economic relationships and households are changing their consumer preferences. The main task today is to create such conditions that will help complete the transformation of the economy as fast as possible, with minimum losses in output, including potential output.[3]

One of the obstacles to the economic recovery is a considerable increase in uncertainty associated with both external economic developments and internal processes of the transformation of the Russian economy. In such situation, it is essential to create at the very least a predictable internal environment in the form of stable and precise targets and clear rules, the observance of which should be guaranteed. This will help businesses and households better plan their activity. The transformation also requires resources, including funding. Amid the restrictions on external financing, internal sources are becoming increasingly important. They should generate income for lenders, on the one hand, and be affordable for households and businesses, on the other hand. Implementing its monetary policy, the Bank of Russia will contribute to the development of conditions that will promote the transformation by ensuring price stability, that is, low and stable inflation.

Low and stable inflation ensures a higher predictability of economic conditions in general, thus helping companies and households make financial and investment plans. It also increases the affordability of debt and equity financing, reducing the inflation premium that banks include in credit rates. As a result, they form at a lower level and volatility of interest rates (especially long-term ones) decreases. Without low and stable inflation, it would be impossible to ensure steady and affordable interest rates as investors, including banks, always seek to receive returns on their investments. Investors are more inclined to provide financing in a country with a predictable macroeconomic environment, an integral part of which is price stability.

---

[1] *Part 2 of Article 75 of the Constitution of the Russian Federation.*

[2] *Articles 3 and 34.1 of Federal Law No. 86-FZ, dated 10 July 2002, 'On the Central Bank of the Russian Federation (Bank of Russia)'.*

[3] *Both in terms of its level and growth rates.*

Low and stable inflation protects households' incomes and savings against a significant unpredictable devaluation. In the new conditions, after the adjustment of relative prices accompanied by a temporary rise in inflation, it is crucial to return inflation to a steadily low level. This will help prevent a considerable deterioration of people's life quality and an aggravation of social inequality.[4] Low and stable inflation is critical to support the purchasing power of the ruble and domestic demand.

By ensuring price stability, monetary policy creates essential conditions, whereas not the only ones required, for the structural transformation of the economy. Monetary policy alone cannot offset the decline in economic potential which is highly likely to occur at the initial stage of the transformation. The potential of the economy depends on such factors as capital formation, the labour force size, labour and capital productivity, including as a result of using more efficient forms of labour and innovative technology implementation. Monetary policy can influence the intensity and efficiency of using these factors reducing a cyclical downturn or overheating in the economy. This is the countercyclical role of monetary policy.

Any attempts to boost economic potential by setting a too low key rate not conforming to macroeconomic developments might provoke long-term negative consequences for price stability and the economy as a whole. In the short run, the effects of such an unreasonable decrease in the key rate may spur accelerated lending growth and a rise in domestic demand. Having no opportunities to quickly ramp up supply in order to meet elevated demand, producers will raise prices and, accordingly, inflation will speed up. Higher inflation will push up interest rates, which will hinder investments and the transformation of the economy.

To address the task of the expansion of production capacities in the economy, it is necessary to implement structural and fiscal policy measures, as well as institutional changes. These measures should encourage private initiative, support innovations, foster the development of alternative and new technologies, facilitate the adaptation, enhance the flexibility of the labour market (including within the programmes for retraining and professional development of workers), and create predictable conditions for economic activity. An efficient implementation of these measures can ensure a successful transformation of the economy promoting its transition to a new equilibrium with a subsequent increase in its potential growth rates.

KEY MONETARY POLICY PRINCIPLES

Although the economic environment has dramatically altered, the main principles of monetary policy remain unchanged. Implementing the inflation targeting strategy, the Bank of Russia continues to adhere to the following main principles in its monetary policy:

- setting a permanent public quantitative inflation target
- implementation of monetary policy in the conditions of a floating exchange rate;
- using the key rate and communication as the main monetary policy instruments;
- monetary policy decision-making based on the macroeconomic forecast; and
- communication transparency.

Pursuing the inflation targeting strategy, the Bank of Russia relies on the world best practices of monetary policy implementation. Currently, this strategy is followed, whether

[4] *For details about the influence of inflation on social inequality, refer to Appendix 3 of the MPG 2018–2020 (http://www.cbr.ru/Content/Document/File/48477/on_18-eng.pdf).*

de jure or de facto, by 47 countries accounting for, according to estimates, approximately 70% of global GDP (see Appendix 8 'Inflation and monetary policy: cross-country comparisons'). Moreover, the number of emerging market economies where central banks pursue the inflation targeting strategy is constantly growing.

The advantage of the inflation targeting strategy is its flexibility. The implementation of monetary policy within this strategy does not provide for the achievement of the inflation target at all costs. To the contrary, seeking to ensure low and stable inflation, monetary policy mitigates the scale of cyclical fluctuations of output, improves the predictability of the economic environment, and thus creates conditions for balanced economic growth.

Setting a permanent public quantitative inflation target

The Bank of Russia sets a permanent quantitative inflation target and announces it for households, businesses and financial market participants to take it into account in their planning and decision-making. The Bank of Russia implements its monetary policy to achieve the established inflation target.

Amid high uncertainty, the Bank of Russia maintains the earlier set quantitative inflation target and its format. The monetary policy goal is to maintain annual inflation close to 4% on a continuous basis. As the transformation of the Russian economy progresses, its structure changes, and uncertainty decreases, the Bank of Russia will assess whether the chosen level coheres with the new environment, including within the Monetary Policy Review (see Box 1 'Why the Bank of Russia seeks to maintain inflation close to 4%').

The wording 'close to 4%' implies that inflation may slightly hover around 4%. These fluctuations are natural and associated with a continuous adjustment of relative prices.[5] Being influenced by multiple factors, prices for goods and services are always changing. Monetary policy is one of such factors. As a result, price growth rates can vary across individual product and service markets and in different regions.

The inflation target is set for the annual growth rate of consumer prices, that is, the change in prices for goods and services purchased by households over the last 12 months. The consumer price growth rate is determined based on the consumer price index (CPI) calculated for Russia by Rosstat.

The Bank of Russia seeks to maintain inflation close to 4% on a continuous basis. If there are any factors over the forecast horizon that may cause inflation to deviate from the target, the Bank of Russia assesses the reasons behind them and the duration of their potential impact on inflation, in order to make appropriate decisions on monetary policy measures. In a situation where inflation deviates from the target, the Bank of Russia chooses the pace for returning inflation to the target taking into account the scale of the deviation and the influence of monetary policy measures on economic activity. Moreover, making these decisions, the Bank of Russia factors in risks to financial stability.

In 2022–2023, price flexibility will be elevated, which is associated with the period of the most significant changes in the economy as companies search for new suppliers, develop their own production of components, rearrange technological processes, change logistics and production chains, and determine a new range of products and pricing policy. The adjustment of relative prices for a broad range of goods and services will be accompanied by a temporary yet inevitable period of elevated inflation. Monetary policy will be aimed at

[5] *Relative prices are prices for individual goods and services in the consumer basket relative to the average (overall) level of prices in the economy (presented as CPI dynamics, for instance). In the conditions of considerable shocks, the adjustment of relative prices can be observed in a wide range of goods and services.*

a gradual decrease in annual inflation to the target. However, considering the scale of the changes happening in the economy, this process will take more time than normally. In its baseline scenario, the Bank of Russia forecasts that, given the monetary policy pursued, annual inflation will slow down to 5–7% in 2023 and return to 4% in 2024 (see Section 3 'Macroeconomic scenarios and monetary policy in 2022–2025').

Implementation of monetary policy in the conditions of a floating exchange rate

The Bank of Russia pursues the floating exchange rate regime. This means that foreign exchange rates against the ruble are determined by market forces, that is, the ratio of economic agents' demand for and supply of foreign currency in the foreign exchange market. The Bank of Russia sets no targets or limits for the level of the exchange rate or the pace of its movements and does not conduct foreign exchange operations to influence the dynamics of the exchange rate.

The floating exchange rate is an essential condition for an efficient implementation of monetary policy within the inflation targeting strategy. It helps the economy better absorb external shocks and the central bank – pursue an independent monetary policy enhancing its ability to smooth the business cycle.[6] As a result, monetary policy ensures low and stable inflation more efficiently.

A floating exchange rate has a stabilising effect on the economy engaged in external trade primarily because it normally helps reduce the scale of overheating or a downturn in economic activity. Specifically, if the national currency depreciates, prices for exported goods and services for foreign buyers go down.[7] This supports the competitiveness of domestic goods and services in the international market, helping offset negative changes in external conditions. Concurrently, in terms of domestic demand (including both consumer and investment demand), a weakening of the national currency makes imported goods and services more expensive, which also supports the competitiveness of domestic products in the internal market and promotes import substitution. Contrastingly, a strengthening of the national currency has a similar countercyclical effect on the economy, limiting the risks of its overheating. This is possible through better availability of imported goods and services for domestic buyers.[8] Hence, a floating exchange rate regime ensures a sufficient flexibility of relative prices enabling economic agents to respond to changes in the external environment more quickly and at lower costs.

A greater independence of monetary policy in the conditions of a floating exchange rate increases the central bank's ability to maintain price stability. In particular, when the

---

[6] *In the conditions of a floating exchange rate, the Russian economy demonstrated higher resilience to external shocks: a smaller decline in GDP in 2015, following the slump in global oil prices and the strengthening of the sanction pressure, and in 2020 amid the pandemic-induced global crisis (as compared to the 2008–2009 global financial crisis, for instance).*

[7] *The magnitude of this effect depends on the currency of a particular foreign trade contract. As the practice of setting prices in the main reserve currencies is widespread in modern conditions, the dynamics of the exchange rate of the national currency has a somewhat smaller countercyclical effect on the economy in the short term. This is because exchange rate fluctuations do not directly cause changes in prices for exports from the perspective of foreign counterparties–buyers and, accordingly, all else being equal, do not lead to changes in the demand for exported goods. Nonetheless, for exporters–sellers in general, movements of the exchange rate influence the amount of foreign currency earnings denominated in the national currency, which, although indirectly, impacts the level of consumer and investment demand in the economy from their perspective.*

[8] *All else being equal, at the current stage, this creates conditions in Russia for promoting imports of goods required for the technological transformation of the economy.*

exchange rate is regulated, interest rates in the economy must follow the global interest rates due to arbitrage. To the contrary, when the exchange rate is not targeted, the central bank is able to adjust monetary conditions in the economy owing to the independent establishment of interest rates at a level necessary to ensure low and stable inflation. In turn, inflationary pressure triggered by exchange rate movements through the effect of their pass-through to consumer prices is taken into account by the central bank in the course of the implementation of its monetary policy.

Overall, as the exchange rate reflects the state of the country's balance of payments adjusting to objective changes in external trade and financial flows, its regulation, similarly to the administration of domestic prices, distorts the market pricing principles. If the central bank strives to maintain a certain level of the exchange rate of the national currency, it has to search a short- and long-term equilibrium in the foreign exchange market. However, considering the diversity of market participants, this equilibrium can be achieved more efficiently only through their continuous market interaction.

Besides, the attempts to maintain the nominal exchange rate at a certain level might not correlate with the dynamics of the real exchange rate of the national currency that normally reflect changes in the structure of the economy.[9] If the nominal exchange rate is kept unchanged, this might create favourable conditions for individual industries, but only temporarily and at the expense of other sectors of the economy. Contrastingly, a floating exchange rate regime makes it possible to balance the interests of different economic agents thus helping diversify the economy and enhancing its resilience, which is crucial during the periods of structural economic transformations or elevated uncertainty.

Concurrently, countries–exporters of natural resources whose economic activity is highly dependent on the situation in global commodity markets (including Russia) increase their macroeconomic stability by using instruments, including fiscal rules, that reduce the impact of the external commodity cycle on the internal business cycle. Since 2017, the framework of the fiscal rule in Russia provided for, among other things, foreign exchange operations conducted by the Bank of Russia in connection with operations carried out by Russia's Ministry of Finance to accumulate (spend) the resources of the National Wealth Fund. Although the fiscal rule was primarily aimed at limiting the influence of the commodity cycle on the economy and the stability of public finance, the mechanism of its implementation also ensured a decrease in exchange rate volatility stemming from oil price fluctuations.

Considering that the Bank of Russia's foreign currency accounts were blocked in February 2022, it has no opportunity to conduct foreign exchange operations in the domestic foreign exchange market in the world's main reserve currencies in order to counteract the factors of financial instability (such opportunity was previously provided for). This also implies the suspension of certain provisions of the fiscal rule, which is an additional source of volatility in the foreign exchange market. Therefore, to prevent the materialisation of risks to financial stability, the Bank of Russia restricted cross-border capital flows in late February–early March 2022. Coupled with other adopted measures, the capital controls made it possible to maintain the stability of the financial system. As risks decreased, the

[9] *In particular, the real exchange rate in an emerging market economy might strengthen owing to higher labour productivity in tradable sectors causing an increase in relative prices for non-tradable goods (the Balassa–Samuelson effect). Although changes in relative prices might be cyclical as well, this only makes it more complicated for the central bank to determine an equilibrium level of the exchange rate of the national currency.*

introduced restrictions were eased. The remaining restrictions on free capital flows offset the effect of the external sanctions aimed at incentivising foreign investors to withdraw capital from Russia and prohibiting potential future capital inflows.

Despite the effective capital controls, the exchange rate of the ruble remains floating. In the new conditions, its movements predominantly depend on the ratio of importers' demand for foreign currency and exporters' supply of foreign currency. The theory and practice of monetary policy generally confirm that a temporary use of capital controls to mitigate risks to financial stability is compatible with the inflation targeting strategy and the floating exchange rate regime. However, if large-scale capital controls remain in place for a long time, this might entail longer-run negative implications for the economy and its growth potential (see Box 3 'Capital controls and inflation targeting').

Capital controls are solely a policy instrument employed to maintain financial stability. As risks to financial stability weaken, the Bank of Russia considers it possible to further ease these restrictions. Nonetheless, the Bank of Russia takes into account that a part of the capital controls are of non-economic and bilateral nature. Accordingly, they may be eased only on a reciprocal basis.

Key rate and communication as monetary policy instruments

The key rate is the main instrument of the Bank of Russia's monetary policy. The key rate is the interest rate on main operations carried out by the Bank of Russia to regulate the banking sector liquidity.[10] The impact of the key rate on price dynamics is underpinned by a variety of cause and effect relationships. The complex of these relationships is referred to as the monetary policy transmission mechanism. The Bank of Russia key rate impacts market interest rates which influence economic agents' propensity to consume, save, and invest. This factor determines domestic demand in the economy that influences price movements.

For the key rate to efficiently influence market interest rates, it is necessary that overnight money market rates form close to the key rate at the first stage of the transmission mechanism. This is the operational objective of the Bank of Russia's monetary policy. In order to achieve its operational objective, the Bank of Russia employs liquidity management instruments and the interest rate corridor. In 2022, the system of monetary policy instruments demonstrated its efficiency and made it possible to stabilise the situation within a short period: despite high volatility of cash flows, the Bank of Russia managed to fully meet banks' demand for liquidity and offset the impact of external factors (see Section 4 'Monetary policy operational procedure in 2022–2025').

However, the introduction of the sanctions by a number of states in 2022, the anti-crisis measures adopted, and the adjustment of the Russian economy to them decreased the efficiency of the transmission mechanism. Nonetheless, the key rate continued to influence aggregate demand and inflation. The Bank of Russia took into account the reduced efficiency of the transmission mechanism when making its key rate decisions. As the economy adjusted to the enacted restrictions and the adopted response measures, the transmission mechanism was restoring its effectiveness. This process will continue (see Appendix 1 'Monetary policy transmission mechanism amid the structural transformation of the economy').

[10] *The rate corresponds to the minimum interest rate at the Bank of Russia's one-week repo auctions and to the maximum interest rate at the Bank of Russia's one-week deposit auctions (within the operational procedure of the Bank of Russia's monetary policy that also comprises a range of other operations).*

Key rate changes influence demand and price trends to the fullest extent, although not instantaneously but with a time lag. As estimated by the Bank of Russia, this process takes from three to six quarters. Accordingly, if inflation deviates from the target, the Bank of Russia can ensure its return to the target over a horizon from 12 to 18 months. The Bank of Russia chooses the path for bringing inflation back to the target depending on actual economic developments. Specifically, considering the need for a structural transformation of the economy after the events of early 2022, the decrease in elevated inflation to the target will take over 18 months and happen only in 2024.

The Bank of Russia Board of Directors makes its key rate decisions on a regular basis, specifically eight times a year, in accordance with the pre-approved and publicly available schedule (see Appendix 10 'Calendar of key rate decisions for 2023'). Drastic changes in the situation and a rise in uncertainty about its development might require prompt decisions on the key rate.[11] In this case, the Bank of Russia Board of Directors may hold unscheduled meetings. As the situation stabilises, the Bank of Russia will make its key rate decisions as normal. Decision-making according to the schedule is essential to increase the predictability of decisions.

Given the time-lag effect of monetary policy measures on the economy, **the Bank of Russia relies on sustainable economic trends and long-term factors when making its decisions on the key rate**. The Bank of Russia revises the key rate if current trends evidence a long-lasting deviation of inflation from the target over the forecast horizon or there are long-acting factors that are highly probable to cause such a persistent deviation. Assessing how long these factors may last, the Bank of Russia relies on the macroeconomic forecast (see the subsection 'Monetary policy decision-making based on the macroeconomic forecast'). Where the existing deviation of inflation from its target results from the effect of temporary factors and inflation is expected to return to the target in the short run, it is unreasonable to employ monetary policy measures. A change in the key rate in response to short-term factors might pull inflation away from the target in the opposite direction, which does not conform to the task of maintaining inflation close to 4%.

Nonetheless, short-term factors, if they affect inflation expectations, may cause a longer-lasting deviation of inflation from the target. Inflation trends are largely driven by inflation expectations as they guide economic agents in their decision-making regarding purchases, wage levels, and pricing. When inflation expectations are steady and anchored to the inflation target, consumers limit their purchases of goods in response to a short-term acceleration of price growth since they are confident that inflation is to slow down and return to the target. They do not raise additional, excessive loans and do not rush to use their savings as their expectations about a longer-run real interest rate remain unchanged. Therefore, when inflation expectations are anchored, an increase in prices is a factor limiting demand and thus containing a rise in inflation induced by temporary proinflationary factors. However, the situation might well be the opposite. In response to a rise in inflation triggered by short-term factors, households may increase the demand for goods, expecting that their prices can soon go up. This process may affect both the goods that have already become more expensive and other products, including staples. Households can use their savings expecting a decrease in their purchasing power. Expecting higher inflation and, accordingly,

[11] *For instance, in 2022, due to the rapid changes in external conditions and high uncertainty about the adjustment of the economy to them, the Bank of Russia Board of Directors held additional unscheduled meetings on the key rate in February–May.*

lower interest rates in real terms in the future, households might opt to raise new loans to pay for current purchases. In this environment, manufacturers may decide to significantly raise prices for a wider range of goods and services. Inflationary pressure will be amplified, and the deviation of inflation from the target will become more persistent. Consequently, the situation may require monetary policy measures.[12] Moreover, to bring inflation back to the target, the Bank of Russia might need a stronger monetary policy response as compared to the actual acceleration of inflation.

Changing the key rate in response to the inflation deviation from the target, the central bank thus smooths the economic cycle (the countercyclical role of monetary policy). To deliver on the inflation target, the Bank of Russia influences demand trends. When the economy is in a long-term equilibrium, that is, when inflation and inflation expectations are close to the target and output is near its potential, monetary policy should be neither contractionary, nor expansionary for demand and the economy. This means that the central bank should pursue neutral monetary policy maintaining the key rate at a neutral level. A neutral level of the interest rate cannot be measured directly, but can only be estimated based on observed economic indicators. Furthermore, during the period of dramatic changes in the economy, the estimates of the neutral interest rate become more uncertain.

Due to the changed interrelationships with the external world, the Bank of Russia revised its approaches to estimating the neutral rate of interest. In the new conditions, the neutral rate of interest is largely determined by internal factors, whereas external factors (the global neutral rate, the risk premium) have an indirect impact on it. Currently, the Bank of Russia relies on the previous estimate of the longer-run real neutral key rate equalling 1–2%. With the inflation target being close to 4% and inflation expectations anchored to the target, this range corresponds to the nominal neutral interest rate of 5–6% per annum. During the structural transformation of the economy, the estimate of the level of the longer-run neutral interest rate is associated with high uncertainty. There are factors that might both increase and decrease this level. The Bank of Russia will assess the impact of these factors as it accumulates relevant data (see Box 2 ‘Neutral interest rate’).

The notion of a neutral interest rate is also associated with the notion of a neutral yield curve. In an equilibrium, the yield curve should have a normal shape, i.e. it should be upward-sloping. This implies that long-term interest rates in the economy are higher than short-term ones, since market participants include additional term and risk premiums in long-term interest rates. Furthermore, when inflation expectations are anchored close to the target, long-term interest rates are more stable and less sensitive to external and internal developments and changes in the key rate that is short-term in nature. When the economy is close to its potential, inflation stays near its target, and the key rate is neutral, such slope of the yield curve suggests that real interest rates for various terms form at such levels that promote neutral monetary conditions in the economy.

In a situation where growth rates and aggregate demand start to exceed the economy’s production capacity, the economy deviates from its potential upwards. In order to prevent its overheating and the resulting deviation of inflation and inflation expectations upwards from the target, the central bank needs to temporarily increase the key rate above its neutral

[12] *For instance, in 2022 amid rising volatility in the foreign exchange market, the weakening of the ruble, and the imposed external trade restrictions, households’ and businesses’ inflation expectations surged, which put additional pressure on prices. Changes in inflation expectations were one of the factors taken into account by the Bank of Russia when making its key rate decisions (see Section 2 ‘Monetary policy environment and core measures in late 2021 and 2022’).*

level. Monetary policy tightening will help lower demand and drive the economy back to a balanced growth path and inflation to its target.[13] To the contrary, when aggregate demand decreases below the economy's production capacity, this entails the materialisation of the risks of the economy deviating downwards from its potential and of inflation – downwards from its target. This situation requires a temporary reduction in the key rate below its neutral level. Monetary policy easing will provide appropriate support to aggregate demand and bring inflation back to the target.[14]

Any key rate decision is accompanied by an explanation of its logic, and, generally, by a signal regarding possible further monetary policy decisions. By its signal, the Bank of Russia announces its intents, the implementation of which depends on whether the economic situation will be developing in line with the Bank of Russia's baseline forecast. The signal is no less important than the key rate decision itself, since it impacts market participants' expectations regarding further moves of the central bank and influences yield curve trends and monetary conditions that are coherent with the Bank of Russia's forecast.

In addition to the signal, the Bank of Russia also publishes the projected path of the key rate. It is published as part of the Bank of Russia's macroeconomic forecast four times a year. The projected path of the key rate is presented as ranges of the average key rate for every calendar year. Nevertheless, during a year, the key rate may be both above or below its annual average. The ranges of the average key rate published by the Bank of Russia are not the limits of a change in the key rate over a year. The publication of the projected path of the key rate intensifies the signal having an additional impact on the formation of market participants' expectations and monetary conditions.

The Bank of Russia's explanation of its decisions and communication of its future intentions are an important instrument for managing inflation expectations and their anchoring to the inflation target. Inflation expectations impact both inflation trends and interest rates in the economy. The anchoring of inflation expectations of both households and businesses to the inflation target is crucial to ensure the efficiency of measures implemented by the central bank. Therefore, it is essential that economic agents be confident in monetary policy. To promote this confidence, the central bank should pursue consistent monetary policy and successfully achieve the inflation target, and economic agents should comprehend the central bank's policy. In this regard, the Bank of Russia especially focuses on the development of its communication policy, and communication transparency is one of the principles in the implementation of monetary policy (see the section 'Communication transparency' herein).

Monetary policy decision-making based on the macroeconomic forecast

Considering that monetary policy decisions influence price movements with a time lag, the Bank of Russia uses the macroeconomic forecast in its decision-making. The Bank of Russia's forecast is based on advanced macroeconomic models. The core of the medium-

[13] *In 2021, amid the cancellation of a considerable part of restrictions and the measures implemented to support the economy, domestic demand trended upwards. However, the expansion of demand surpassed the capacities to build up output. Companies faced shortages of components and workforce, as well as logistics problems. Consequently, inflationary pressure intensified, and risks of a significant and long-lasting deviation of inflation upwards from the target increased. In this context, the Bank of Russia raised the key rate.*

[14] *In 2020, the slump in the global and Russian economies induced by the coronavirus pandemic entailed risks of an inflation deviation downwards from the target over the forecast horizon. To support domestic demand and maintain inflation close to the target over the forecast horizon, the Bank of Russia cut the key rate and implemented accommodative monetary policy.*

term forecasting system is formed by comprehensive forecasting models covering key interdependencies in the economy at the macro level. They are the basis for identifying the key parameters for a medium-term macroeconomic forecast. These parameters encompass changes in inflation, economic growth, monetary indicators, and the balance of payments. These model-based techniques enable the calculation of the scenario path of key rate movements. In addition to statistics, the input parameters in medium-term forecasting models are based on the findings of short-term forecasts relying on econometric models and expert opinions. To check forecasts based on various models for consistency and analyse certain relevant issues, the Bank of Russia employs additional ('satellite') models. The Bank of Russia is continuously enhancing its model-based approaches considering recent scientific developments by Russian and foreign experts in macroeconomics and quantitative methods, as well as foreign central banks' best practices.[15] Amid the trade and financial restrictions enacted by a number of states, as well as the effective capital controls, in 2022, the Bank of Russia promptly modified its model-based approaches.[16]

The Bank of Russia conducts an in-depth analysis of a wide range of data when preparing its macroeconomic forecast. The Bank of Russia analyses, among other things, current statistics on the situation in the Russian economy and in global commodity and financial markets, information on economic policies in major foreign countries, and possible changes in fiscal, tax, social and other areas of Russia's economic policy. The Bank of Russia uses these data to formulate assumptions for its forecast scenarios – a complex of external and internal economic factors that may have a material effect on the Russian economy and inflation trends, as well as assesses inflation risks.

When developing its macroeconomic forecast, the Bank of Russia takes into account the fact that decisions on monetary policy are always made when there is no complete certainty. There can be various factors of uncertainty, including not only possible future economic developments and forecast assumptions, but also new information on the past and present situation in the economy. Uncertainty in the course of monetary policy decision-making may also be associated with the specifics of model-based techniques used to build a macroeconomic forecast. Therefore, the Bank of Russia places a high emphasis on the rationale of monetary policy decisions it makes in a changing economic environment. Specifically, this involves the use of a broad range of model-based techniques and forecasting of various scenarios of developments in the global and Russian economies. This approach enables the Bank of Russia to estimate the robustness of its macroeconomic forecast and monetary policy decisions made based on this forecast.

In 2022, aggregate output is expected to contract due to the imposed sanctions. This decline will be partly a reduction in potential output. Because of uncertainty about the relative scale of the decrease in potential and the efficiency of the current processes of the structural transformation, the Bank of Russia should act more cautiously implementing its monetary policy.

The Bank of Russia follows the conservative approach when assessing the balance of inflation risks over the forecast horizon, while focusing slightly more on proinflationary

---

[15] For details about developing a macroeconomic forecast and model-based approaches applied by the Bank of Russia, refer to the Forecasting and Model-based Approaches subsection in the Monetary Policy section on the Bank of Russia website.

[16] For details, refer to the Box 'Adaptation of the Quarterly Projection Model to the capital flow control framework' in Monetary Policy Report No. 2 (38), May 2022 (http://www.cbr.ru/Collection/Collection/File/40976/2022_02_ddcp_e.pdf).

factors and risks. This is associated with the specifics of inflation expectations in Russia. Professional market participants' inflation expectations are generally anchored to the target, whereas households' and businesses' inflation expectations remain sensitive to the impact of short-term proinflationary factors. This effect may be especially strong during the period of the transformation of the economy and elevated uncertainty. Moreover, inflation expectations respond to price movements asymmetrically: households and businesses are more responsive to an acceleration of price growth, rather than to its slowdown. In such a situation, underestimation of proinflationary factors and risks may entail persistent and long-lasting deviations of inflation upwards from the target. Therefore, when formulating assumptions for its forecast, the Bank of Russia especially focuses on those drivers of price movements that may push inflation and inflation expectations upwards. This is in line with the intent of the Bank of Russia to make prudent (robust) monetary policy decisions.

Measures pursued in other areas of domestic economic policy, measures of economic policy in major foreign countries, as well as external trade and financial restrictions are important factors that the Bank of Russia considered when building its macroeconomic forecast. Furthermore, representatives of the Bank of Russia take part in the work of dedicated committees and working groups for various state policy areas to achieve the correlation and consistency of measures, as well as provide expert opinions on economic issues. In 2022, this interaction expanded to overcome the consequences of considerable changes in external economic conditions (see the subsection 'Interaction of monetary policy with other state policies').

Communication transparency

Society's understanding of and confidence in the monetary policy pursued are crucial for its efficient implementation. When households and businesses are confident that the central bank is seeking and able to maintain price stability on an ongoing basis, there will be no considerable adjustments in their inflation expectations in response to short-term price fluctuations or the emergence of proinflationary or disinflationary factors. A better understanding of the central bank's decisions and its communication signals helps economic agents take them into account more quickly and correctly when forming their expectations regarding interest rates and making their decisions on borrowings, savings, wage indexation, and pricing. As a result, the impact of monetary policy on the economy and inflation strengthens, and the scale and duration of an inflation deviation from the target decrease.

To promote this understanding and confidence, the central bank should pursue consistent monetary policy, successfully achieve the inflation target, and extensively communicate information on inflation, the balance of risks to price stability, and monetary policy measures to target audiences.

The information communicated by the central bank becomes increasingly important when the economy experiences significant changes. In such an environment, prompt communication of information to society about monetary policy decisions and comprehensible explanations of current economic developments and their potential consequences help reduce uncertainty and stabilise the situation, influencing the behaviour and expectations of households, businesses, and professional market participants. Specifically, in 2022, in addition to the usual forms of communication on its website, the Bank of Russia created the section Financial Market Protection Measures that was promptly updated as the regulator

made new decisions. Among other things, this section covered monetary policy issues and provided answers to frequently asked questions. Additionally, at the end of February 2022, the Bank of Russia launched its Telegram channel.

The Bank of Russia seeks to promptly and amply communicate the information on the goals, principles, measures and results of its monetary policy, as well as on the assessment of the economic situation and its prospects. The monetary policy goals and principles are communicated annually in the Monetary Policy Guidelines. On the day when the Bank of Russia Board of Directors makes its key rate decision, the Bank of Russia issues a press release with the analysis of the factors behind the decision made and carries out the Bank of Russia Governor's live press conference.[17]

Furthermore, the Bank of Russia publishes its medium-term macroeconomic forecast four times a year (in February, April, July, and October), along with its press release on the key rate. The Bank of Russia's Monetary Policy Report is also issued four times a year: it provides a detailed view of the Bank of Russia regarding current economic developments and its medium-term forecast that are the basis for the key rate decisions made.

The Bank of Russia issues its regular commentaries on inflation movements and inflation expectations, main macroeconomic trends, the situation in financial markets, the results of the monitoring of businesses (including the Business Climate Index), and the state of the balance of payments.[18] In addition to economic materials based on recent data, the Bank of Russia also publishes findings of a range of economic research on its website and analytical articles in specialised economic journals.

The Bank of Russia takes efforts to enhance the outreach of its monetary policy and make the communication more targeted, including at the regional level.

To expand the coverage and improve the targeting of its communications, the Bank of Russia is actively developing its information policy at the regional level. On its website, the Bank of Russia published regions' profiles[19] providing a general description of each region and the sectoral structure of their economy, as well as the main social and economic indicators. The analysis of consumer price movements is released for the federal districts and individual regions in the form of information and analytical commentaries. Before each meeting of the Board of Directors, the Bank of Russia publishes the report Regional Economy: Commentaries by Bank of Russia Main Branches.[20] This publication is prepared by the Bank of Russia's regional branches. It comprises statistics, findings of surveys, and analysis of the economic situation in Russian regions. The Bank of Russia Board of Directors considers this information when discussing its key rate decisions.

After each decision on the key rate, the Bank of Russia holds a series of meetings in regions with representatives of the analyst and academic community, companies, and banks. Similar meetings are held at the federal level.

The Bank of Russia's communication policy takes into account the specifics and needs of various target audiences. The Bank of Russia considers how knowledgeable a particular audience is about monetary policy issues and the economy in general, and thus selects the

---

[17] *In the case of unscheduled meetings on the key rate (not included in the released schedule), a press conference of the Bank of Russia Governor might not be held.*

[18] *The commentaries are available in the Analytics subsection of the Monetary Policy section on the Bank of Russia website (http://www.cbr.ru/eng/analytics/dkp/).*

[19] *Regions' profiles are published on the webpages of the Bank of Russia regional branches.*

[20] *The report is available in the Analytics subsection of the Monetary Policy section on the Bank of Russia website (http://www.cbr.ru/eng/analytics/dkp/).*

most appropriate communication channels and tools, the complexity of information, the extent and format of its disclosure. Information delivered by the Bank of Russia is especially important for forming expectations of households and the non-financial sector as these groups (in contrast to professional financial market participants) generally have lower motivation and opportunities to access and process specialised economic information.

The Bank of Russia publishes a broad range of materials (from research papers to educational videos for various audiences, including schoolchildren), uses both in-person forms of communication (panel discussions, interviews to mass media) and remote ones (online conferences, blogs in social networks). Focusing on the general public, the Bank of Russia is expanding its presence in social media. On its webpage in YouTube, the Bank of Russia posts Bank of Russia executives' interviews, videos on the economic situation and monetary policy decisions, as well as educational videos. In its Telegram channel, the Bank of Russia promptly reports its decisions, posts new materials published on its website, as well as Bank of Russia executives' interviews and speeches.

INTERACTION OF MONETARY POLICY WITH OTHER STATE POLICIES

In accordance with the legislation, the Bank of Russia is responsible for several areas of economic policy. Along with monetary policy, these areas comprise the development of and ensuring the stable functioning of the banking sector, the financial market and the national payment system. The correlation and consistency of measures taken by the Bank of Russia in all the areas are achieved through their discussion at the meetings of the Bank of Russia Board of Directors and through the participation of representatives of various areas of the Bank of Russia's activities in the work of dedicated committees and working groups within the Bank of Russia. Due to the materialisation of risks and a considerable rise in uncertainty in 2022, the Bank of Russia increased the coordination of measures across all areas of its activities.

Monetary policy and financial sector stability policy

The Bank of Russia adheres to the principle of independent targets and instruments for monetary policy and financial sector stability policy. Basically, the Bank of Russia uses monetary policy and the key rate as its core mechanism to bring inflation to the target, while financial sector stability is secured through other mechanisms. First of all, this is the regulation of credit and other financial institutions (microprudential regulation), supervision, and financial resolution measures aimed at ensuring the recovery of operations of the banks and financial institutions that lost their financial stability and at preserving depositors' and creditors' funds. Secondly, these are macroprudential policy measures helping prevent the accumulation of excessive risks in individual segments of the financial system and mitigate the probability of crisis events and their adverse economic consequences, thus maintaining the stability of the financial system as a whole.

The sustainability of the financial sector is crucial for the efficient functioning of the monetary policy transmission mechanism. Only a stable financial sector is able to ensure smooth processing of payments and the transformation of savings into investment. By limiting the accumulation of systemic risks, it is possible to reduce the probability of financial crises and increase the degree of certainty for financial market participants. In case of adverse developments in financial markets, including due to external factors, macroprudential policy easing enables the financial sector to perform its core functions

stably and helps mitigate negative effects for the real economy.[21] All this promotes confidence in the national financial sector, its attractiveness for all groups of participants, and, consequently, positively influences the level of risk premiums, the depth and liquidity of financial markets, and the financial sector expansion and development.

In most cases, changes in microprudential regulation influence long-term and structural aspects of financial institutions' operations; therefore, relevant decisions are made irrespective of medium-term monetary policy decisions. Furthermore, changes in microprudential regulation (in contrast to macroprudential regulation) are generally introduced on a continuous basis and do not depend on a particular stage of the financial and economic cycle. In view of the above, normally they do not have any effect on the monetary policy environment. However, in some cases, microprudential regulation measures may influence financial market participants' activity and the implementation of monetary policy. Specifically, the introduction of the Basel III requirements for banks' capital and liquidity has significantly influenced the parameters of individual operations carried out by financial institutions. The Bank of Russia takes this into account when making decisions on necessary adjustments to certain parameters of monetary policy operations.

Macroprudential policy decisions are largely associated with cyclical fluctuations in the economy and financial markets; therefore, macroprudential measures take into account the effect of monetary policy decisions on macroeconomic indicators. In turn, macroprudential policy measures can impact the monetary policy environment, including lending trends and interest rates in individual segments. Therefore, making its decisions both in the area of macroprudential policy to limit systemic risks and in the area of monetary policy, the Bank of Russia takes into account their mutual impact. Nonetheless, the Bank of Russia implements these two policies independently, without coordinating the stances of these policies.

The monetary policy environment may also be impacted by other measures aimed at ensuring stable operation of the financial sector. Thus, liquidity provision to credit institutions within financial resolution measures shifts the structural liquidity balance in the banking sector. The Bank of Russia takes these changes into account when setting limits on operations to absorb or provide liquidity, thereby mitigating their potential effect on the operational procedure of monetary policy and on monetary conditions.

The Bank of Russia normally changes the key rate only in response to macroeconomic developments affecting inflation. If the probability of the materialisation of systemic risk rises considerably, the Bank of Russia can use the key rate to calm the situation in financial markets and maintain the sustainability of the financial sector as a whole. By using the key rate for these purposes, the Bank of Russia, among other things, contributes to the stabilisation of economic agents' exchange rate and inflation expectations, which is a critical factor for ensuring price stability.

In February–March 2022, due to the enacted sanctions, the surge in volatility in financial markets, and the bank run, the Bank of Russia approved a complex of measures to steady the situation, namely raised the key rate, introduced capital controls, granted regulatory

[21] *Specifically, in 2022, amid the unprecedented sanction pressure and elevated volatility in the financial market, the Bank of Russia implemented measures to maintain financial stability, steady the situation in the financial market, and ensure the continuity of financial institutions' operation, including regulatory easing, the release of the capital buffer, and the cancellation or decreases in the macroprudential buffers. All this made it possible to stabilise the situation. More details on the measures adopted are available on the Bank of Russia website.*

easing, temporarily closed markets, and prohibited short-term sales. These measures helped stabilise the situation, prevent creditors' and depositors' panic, and ensure the smooth functioning of the financial sector. The Bank of Russia managed to steady the situation not only as a result of the implemented measures, but also owing to its multi-year efforts to enhance the resilience of the financial system as a whole and financial institutions in particular, create capital and liquidity buffers, and develop and adhere to clear principles of work.

The Bank of Russia will continue its efforts aimed at ensuring the resilience of the financial sector, which will make the transmission of monetary policy decisions to the economy more efficient and help attain the inflation target.

Monetary policy and financial market development

The financial market development policy implemented by the Bank of Russia jointly with the Government of the Russian Federation promotes the availability of financing for a wide range of economic agents and creates conditions for investment activity growth and national economic development. The financial market is a key element to transmit the key rate signal into the economy. The larger the size and liquidity of the financial market, the stronger and quicker the transmission of the key rate into the dynamics of economic indicators.

Drastic changes in external conditions in 2022 impacted the financial market, altering the prospects of its development. At that stage, when foreign participants exited the Russian financial market, it became less liquid. The effectiveness of the transmission of all channels related to price movements in the financial market decreased (see Appendix 1 'Monetary policy transmission mechanism amid the structural transformation of the economy').

Further on, the financial market will change, which will influence the implementation of monetary policy. Considering the restrictions introduced, investments in foreign securities can be expected to become less attractive and the proportion of Russian assets in household savings might increase. As a result, the Russian financial market will apparently play an important role in the financing of the transformation of the country's economy, while the transmission of key rate decisions to the economy through the channels associated with the financial market might become more efficient.

In August 2022, the Bank of Russia published its consultation paper Financial Market: New Challenges in Modern Conditions (see Appendix 15 'Financial market development'). The Bank of Russia received feedback from organisations and associations of the research and expert community, as well as the representatives of businesses and other stakeholders. The results of the discussion of this paper will be taken into consideration when preparing the draft Russian Financial Market Development Programme for 2023–2025 being elaborated by the Bank of Russia jointly with the Russian Government. As usual, it will cover the prospects of the financial market and the planned measures for its development. The Bank of Russia plans to release the draft Russian Financial Market Development Programme for 2023–2025 in November 2022. At this stage, it is possible to outline the following factors which will likely influence the financial market and monetary policy in the medium term:

- Changes in the proportions and the roles of financial market sectors and in the competitive environment due to the aggravation of the problem of the banking sector consolidation.

- Adjustment of the regulation in various financial market sectors, including of regulatory requirements for financial market participants engaged in the financing of transformation projects.
- Development of new long-term investment instruments and the institutional investment sector. Creation of a new type of individual investment accounts (IIAs) to encourage long-term investment in securities and financial instruments.
- Redirection of external economic and trade relations to the markets of other countries, due to which market participants will need to adapt their business models. Adjustment of the Russian Government's approaches to tax incentives in the financial market considering the effective restrictions.
- Continuing digitalisation of the financial market, including the introduction of the digital ruble planned by the Bank of Russia, connection of a large number of users to the Faster Payments System, development of open APIs, acceleration of financial transactions and enhancement of their accessibility. In 2022, the Bank of Russia made the decision to speed up the launch of the digital ruble. The extent of the influence of the digital ruble on the financial system, the economy in general, and monetary policy will depend on shifts in economic agents' demand for the existing forms of money towards the digital ruble (see Appendix 7 'Impact of the digital ruble on monetary policy').
- Introduction of alternative forms of financial services, including partnership funding, into the scope of regulation and development.

Monetary policy and fiscal policy

Fiscal policy has a significant effect on the conditions of the implementation of monetary policy, including the banking sector liquidity, aggregate demand, the structure of the economy, and trends in prices for goods and services. The nature and specifics of this impact depend on budgeting approaches, the structure of budget expenditures, their effectiveness, and how they are distributed over time.

A significant easing of fiscal policy may induce proinflationary pressure in the economy, while budget consolidation has a disinflationary effect. A timely and proportionate response of monetary policy will help limit the risks of an inflation deviation from the target and mitigate the economy's deviation from a balanced growth path. Furthermore, government expenditures, specifically investment in the development of a number of important industries, may contribute to the expansion of the economy's production capacity and the transformation of its structure. In this case, faster economic growth will not exert upward pressure on inflation and does not require any monetary policy response.

Price trends may be influenced by tax policy measures. A change in indirect taxes generally causes a one-off adjustment of prices and does not require any monetary policy response. Contrastingly, where inflation expectations fluctuate due to alterations in tax policy, a situation may require a monetary policy response in order to limit the risks of an inflation deviation from the target.

Overall, responsible and well-balanced fiscal policy is a critical condition to effectively maintain price stability. One of the ways to ensure a well-balanced fiscal policy is a fiscal rule. It reduces uncertainty in the economy and increases macroeconomic stability, including by ensuring price stability. In resource-rich countries, a fiscal rule helps limit the impact of the commodity cycle on the economy by stabilising the dynamics of aggregate demand and inflation. This is achieved by tying budget expenditures to revenues earned

with a certain equilibrium level of the environment in the commodity market, as well as by creating reserves. The funds accumulated during a period of high commodity prices can be used to support aggregate demand during a period of low prices and decreasing revenues. This makes it possible to alleviate a crisis period for the economy (as, for instance, during the coronavirus pandemic). If aggregate demand in the economy is less dependent on the external economic environment and is more stable, this is a favourable condition for the implementation of monetary policy. Furthermore, the use of a fiscal rule reduces fluctuations in the real effective exchange rate caused by changes in the commodity market. This increases the competitiveness of domestic goods and helps create the conditions in the country favouring the development of manufacture in non-commodity sectors. Finally, a fiscal rule is the key element for ensuring the stability of public finance and is aimed at preventing an excessive increase in public debt. The sustainability in the area of public finance is essential to support steady long-term interest rates in the economy and the efficiency of the monetary policy transmission mechanism.

Due to the events of 2022, certain provisions of the fiscal rule in Russia were suspended. As the Bank of Russia's foreign currency accounts in the world's main reserve currencies were blocked, it lost the opportunity to conduct operations in the foreign exchange market in connection with fiscal rule-based operations carried out by Russia's Ministry of Finance. This exacerbated the impact of changes in commodity markets on the volatility of the ruble exchange rate and the economy in general. The Bank of Russia supports the development of new principles of the fiscal rule considering the changed conditions (see Box 5 'Fiscal policy in 2022–2025'). This will make it possible to restore its stabilising effect on domestic demand and public finance, which will help achieve the goal of monetary policy. Additional budget revenues can be accumulated in the national currency and currencies of friendly states. The framework of the modified fiscal rule will determine how it will influence the economy, price trends and, accordingly, monetary policy parameters. The Bank of Russia will define the parameters of monetary policy considering the fiscal policy decisions made.

Similarly to how the Bank of Russia factors in fiscal policy decisions in the course of the implementation of its monetary policy, the Ministry of Finance and the Ministry of Economic Development of the Russian Federation, in turn, take into account the inflation target and the effect of monetary policy on the economy and price movements when preparing a draft federal budget and a social and economic development forecast. The correlation and consistency of monetary policy and fiscal policy measures are achieved owing to the continuous communication between the Bank of Russia and Russia's Ministry of Finance and Ministry of Economic Development. Namely, they hold regular joint meetings to cross-check estimates and factors impacting key macroeconomic indicators and to discuss macroeconomic forecast assumptions and scenarios. Furthermore, consistent communications on related topics are also essential to enhance confidence in monetary policy and fiscal policy.

Overall, the use of the fiscal rule in conjunction with the implementation of monetary policy within the inflation targeting strategy creates a synergistic effect. Their synergistic contribution to ensuring demand and price stability and maintaining fiscal sustainability is greater than when only one of the said elements is part of the country's economic policy.

Monetary policy and other state policies

A range of measure implemented by other government authorities also help support price stability. First and foremost, these are measures taken by federal and regional state

authorities to reduce the impact of non-monetary factors on price movements. Non-monetary factors are irregular changes in supply and demand brought about by one-off events and not associated with the Bank of Russia's monetary policy (a poor harvest, disruptions in product supplies, phytosanitary restrictions on food imports, spikes in demand, etc.). Influenced by the said factors, inflation might fluctuate considerably. The impact of these factors can both diminish in a short term or be longer-lasting. Specifically, they might adversely affect inflation expectations, provoke secondary effects, and prolong the period of elevated inflation.

There are various groups of instruments used to mitigate the negative impact of non-monetary factors on inflation. These instruments can be roughly classified into permanent mechanisms and ad hoc measures. The first group includes the regulation of prices and tariffs for infrastructure companies' goods and services, customs duty mechanisms, programmes aimed at enhancing the efficiency of the economy and promoting competition, and state authorities' powers to control prices for socially important goods in certain circumstances.

The second group comprises temporary instruments that can be employed when external conditions of the functioning of the economy worsen. Currently, measures taken to support the transformation of the Russian economy in the conditions of the sanctions are becoming increasingly important. In particular, they will weaken the existing supply-side proinflationary pressure caused by the contraction of output and rising costs. Ad hoc measures are implemented to facilitate business operations, including by optimising administrative burden on businesses, simplifying customs, certification and transportation procedures, and accelerating digitalisation processes. The legalisation of parallel imports and programmes for subsidised lending to certain industries will also support businesses. In exceptional circumstances, a short-term disinflationary effect can be achieved by imposing price or mark-up caps in certain market segments.

However, in the long run, direct administrative regulation of pricing might result in a contraction of the supply of goods subject to such regulation, a reduction in manufacturers' investment, and a worsening of consumer sentiment. Therefore, the Bank of Russia carefully monitors the actual and planned changes in this area and discusses their effects with businesses, the financial community, and government authorities. Besides, the Bank of Russia provides its expertise to analyse products and services markets and proposes ways to address problems. At the regional level, the Bank of Russia regional branches regularly communicate on these issues with local public authorities. The Bank of Russia will assess the effect of the adopted measures on the economy and take them into account when preparing its macroeconomic forecast and making its monetary policy decisions.

BOX 1.
WHY THE BANK OF RUSSIA SEEKS TO MAINTAIN INFLATION CLOSE TO 4%

The efficiency of the inflation targeting regime largely depends on how consistent the central bank is in attaining the inflation target established. The practice of inflation targeting worldwide over the recent more than 30 years shows that, when the inflation target is adjusted often or when inflation deviations from the target are long-lasting or frequent, this might intensify the uncertainty of economic conditions for households, businesses, and financial market participants and decrease confidence in the monetary policy implemented. Hence, central banks generally select inflation targets and their format very carefully.

Switching to the inflation targeting regime in 2015, the Bank of Russia set the goal of its monetary policy as lowering inflation to 4% in the medium term and keeping it close to this rate further on. The Bank of Russia chose this target considering the actual specifics of pricing and the structure of the Russian economy, as well as the extensive experience of inflation targeting worldwide. The inflation target of 'close to 4%' is slightly higher than in economies with mature market mechanisms, long-term experience of maintaining price stability, high confidence in monetary authorities, and low inflation expectations. Inflation targets in such economies generally range from 1% to 3%. The Bank of Russia estimated that it would be very hard to continuously maintain inflation close to this level in Russia due to high and unanchored inflation expectations among a large number of economic agents amid long-term high inflation over previous decades, insufficient maturity of its market mechanisms, and low sectoral diversification of the economy.

In addition to the above factors, the 4% target was selected so as to mitigate the risks of deflationary trends in the markets of individual products. Given the existing structure of the Russian economy, prices in various product groups may be changing unevenly. Moreover, the consumer basket includes a rather large share of goods and services that might fluctuate in prices a lot. Therefore, the Bank of Russia assumed that when inflation is considerably below 4%, this might involve the risk of a long-lasting price decrease, i.e. deflation, in the markets of various product groups. If deflation occurs in a broad range of goods, its implications might be no less adverse than those resulting from high inflation as consumers, expecting prices to go down, will tend to postpone their purchases, while manufacturers might defer investments or even decrease output. Declining domestic demand will in turn exert additional downward pressure on prices, thereby exacerbating the deflationary spiral. Therefore, to avoid deflationary developments in the course of the adjustment of relative prices, the target growth rate of the overall consumer price index set by the Bank of Russia provides for a certain margin.

In 2021, the Bank of Russia launched the Monetary Policy Review project to comprehensively assess the first results of inflation targeting in Russia and the conformance of the current monetary policy parameters (including the selected inflation target) to the changing conditions. Initially, the Bank of Russia planned to complete the required analysis and sum up the findings of the Monetary Policy Review by mid-2022. However, the drastic changes in the external environment for the Russian economy in early 2022 had a fundamental effect on the conditions of monetary policy implementation in Russia and required additional studies before the Bank of Russia could make any decisions on the monetary policy parameters based on the results of the Monetary Policy Review. Considering these circumstances, the regulator rescheduled the completion of the Monetary Policy Review from 2022 to 2023. In particular, the Bank of Russia will assess whether the Russian economy now has the conditions for reducing the inflation target, considering the current process of its structural transformation, among other factors.

Based on the findings of the Monetary Policy Review, the Bank of Russia will make a justified decision regarding the format of the inflation target, including its level, staying totally committed to the price stability mandate and the inflation targeting strategy.

***

In 2021–2022, annual inflation significantly deviated upwards from the target. The Bank of Russia assumes in its baseline scenario that given the monetary policy pursued, annual inflation will slow down to 5–7% in 2023 and return to the target of close to 4% in 2024.

Although the monetary policy measures implemented by the Bank of Russia are able to bring inflation back to the target over the period from 12 to 18 months (over the time horizon of the impact of monetary policy), this process will take more time given the current conditions. In its baseline scenario, the Bank of Russia forecasts a gradual return of annual inflation to the target in 2024 considering the effects of a broad range of factors, with some of them being beyond the scope of the influence of monetary policy. On the one hand, the Bank of Russia factors in that, during the active phase of the structural transformation of the economy in 2022–2023, relative prices for a wide range of goods and services will adjust as households and businesses adapt to the changed conditions. On the other hand, the Bank of Russia holds that a quick return of annual inflation from its currently high levels to the target would only be possible through an excessive rise in volatility of output and an increase in the risks of a subsequent deviation of inflation downwards from the target. In view of this, the Bank of Russia assumes that the forecast medium-term inflation path will simultaneously moderate business cycle fluctuations and consistently stabilise inflation close to 4% over the medium-term horizon.

BOX 2. NEUTRAL INTEREST RATE

In modern macroeconomics, the neutral rate of interest[1] is the level of the interest rate that supports the economy at full employment (the output is at its potential, and unemployment is at its 'natural' level) while keeping inflation steadily at the target level. The nominal neutral rate is the total of the real neutral rate and expected inflation. Where inflation expectations are anchored to the target, expected inflation coincides with the central bank's target.

The neutral rate is deemed to be a benchmark for assessing a monetary policy stance. It is also considered to be a benchmark for longer-run average interest rates in the economy.[2]

The real neutral rate is determined by the economy's structure, the level of risks associated with investments in financial and non-financial assets, and economic agents' risk appetite. In particular, the following key factors may be highlighted:

1. Total production factor efficiency growth rate. The higher it is, the higher the neutral rate is, as, all other things being equal, businesses make larger investments and, accordingly, are willing to pay more for raising additional capital.

2. Demography. The structure of the population and changes in its size, both in general and of individual age groups, influence both economic growth rates (and, consequently, investment activity) and the saving ratio. Thus, as the proportion of middle age groups with a high saving ratio increases in the population structure, the neutral rate will go down.

3. Financial sector maturity and regulation. A higher maturity of the banking sector and capital markets contributes to the growth of the saving ratio in the economy and, accordingly, helps decrease the neutral rate. This effect is also facilitated when economic agents extend their planning horizon, thus making the future more important than the present, which encourages savings owing to an increase in the supply of financial capital.

4. Neutral rate levels in other economies. The neutral rate in an open economy with free capital flows will be comparable with the neutral rate in the global financial market (the external interest rate), adjusted for a country risk premium and an inflation volatility premium. A country premium characterises the differences in economic agents' perception of sovereign credit risks and the predictability of economic conditions in a particular country as compared to the environment in the key economies determining the level of the global neutral rate.

The **neutral rate is a non-observable value that cannot be measured directly, but can only be roughly approximated on the basis of a range of observable economic indicators and their dynamics**.

---

[1] *The concept of the neutral rate of interest was originated by the Swedish economist Knut Wicksell in 1898. He defined the neutral rate as a level of the real interest rate ensuring equal demand for and supply of capital. In other words, this is an interest rate equalling the marginal productivity of capital. Wicksell also argued that a change in current interest rates in the economy relative to their neutral level can influence price growth rates. Nearly 100 years after Wicksell's publication, as increasingly more countries switched to inflation targeting, his concept of the neutral rate of interest has taken a certain place in economic discussion.*

[2] *Economists distinguish between the longer-run neutral rate (or the trend interest rate) and the shorter-run neutral rate. In this case, we only refer to the longer-run neutral rate that depends on structural factors. The shorter-run neutral rate fluctuates around the longer-run neutral rate, being affected by cyclical factors (e.g. the external environment, current business activity, and fiscal policy measures). The shorter-run neutral rate is also impacted by the extent of the anchoring of inflation expectations to the inflation target and other factors. This is the shorter-run neutral rate that should be referred to when discussing the current monetary policy stance. Quantification of the shorter-run neutral rate is quite complicated, even in economies with a much longer inflation targeting history than in Russia. Moreover, central banks do not announce the results of such quantifications (refer to, for instance, Brainard L. What Do We Mean by Neutral and What Role Does It Play in Monetary Policy?/Remarks delivered at the Detroit Economic Club. Detroit, Michigan. 2018). However, making monetary policy decisions, central banks do factor in the direction and extent of the current deviation of the shorter-run neutral rate from the longer-run rate and the future dynamics of the former.*

The first group of methods is based on macroeconomic models that rely on structural interconnections between key economic variables (output, inflation, the key rate, and exchange rates) and, depending on their past dynamics, generate a range of estimates for non-observable values, including for the neutral rate. In order to obtain robust estimates using these methods, it is necessary to have extended (20–30 years) data series for the economy in question with no significant changes in the structure of the economy or the monetary policy regime.

The other group of methods is based on the above interconnection between the neutral rate in an open economy and the neutral rate in the key economies. These methods, however, are rougher and assess financial investors' perception of interest rates in a certain country (considering all risks) compared with interest rates in the key economies. Essentially, these methods measure the relative attractiveness of financial assets denominated in the national currency. These estimates cannot directly take into account individual specifics of the economy in question. Therefore, they only allow an approximate estimate of the interconnection between interest rates, inflation, and economic growth. Accordingly, when these methods are used, the final estimate largely depends on the assumptions regarding the nature and the size of the country premium in relation to the global neutral rate. This is exacerbated by the uncertainty of neutral rate estimates for the key economies that are used as the basis for the calculations.

The range of the resulting estimates of the longer-run neutral rate may be quite wide. Furthermore, the confidence intervals in emerging market economies (EMEs) are wider than those in advanced economies due to both a lower availability of extended data series and a higher flexibility of the internal macroeconomic environment and country risk premiums. Ruch (2021)[3] demonstrates that **the uncertainty about the level of the neutral rate in EMEs is twice as large, on average, as the rate of uncertainty seen for estimates in advanced economie**s (estimates of the standard deviation are as large as 1.4 pp in EMEs, compared to 0.6 pp in advanced economies). The author also notes that **the uncertainty surrounding estimates for commodity exporting EMEs is more than 40% higher than that for commodity importing EMEs**.

When the economy undergoes dramatic changes, the uncertainty about neutral rate estimates increases manifold. During the period of the coronavirus pandemic, many central banks discontinued updating their neutral rate estimates stressing the material impact of the existing shocks on potential GDP and the impossibility to provide reliable estimates in the conditions of elevated uncertainty.[4] Other central banks expanded the confidence intervals and increased the degree of approximation of the estimates published today. A number of papers[5] note that, during large-scale structural changes, the estimate of the neutral rate can be a useless tool to gauge the monetary policy stance: standard data on inflation and banks' financial conditions may provide more information about the current phase of the economy.

According to the most part of the research published before 2022, the quantitative estimates of the level of the longer-run real neutral rate for Russia are close to the range from 1% to 3%. For example, Kreptsev et al. (2016) [6] forecast 1.0–3.2% (various models), the IMF (2019)[7] – 1–3%

---

[3] *Ruch U.F. Neutral Real Interest Rates in Inflation Targeting Emerging and Developing Economies. Policy Research Working Paper 9711. The World Bank. June 2021.*

[4] *For instance, the Federal Reserve Bank of New York suspended the posting of regular updates of the estimates of the neutral rate of interest using the Laubach-Williams and Laubach-Holston-Williams models from 30 November 2020.*

[5] *Refer to, e.g., Brazil, Neutral interest rates: phantoms worth chasing? / Article / ING Think.*

[6] *Kreptsev D., Porshakov A., Seleznev, S., Sinyakov A. The Equilibrium Interest Rate: Estimates for Russia / The Bank of Russia. Working Paper Series. No. 13. 2016.*

[7] *International Monetary Fund. Russian Federation – Staff Report for the 2019 Article IV Consultation.*

(various models), and Isakov (2019)[8] – 1.5–2.5% (various parameters). Drobyshevsky et al. (2021)[9] conclude that the neutral rate of interest for Russia had been continuously decreasing from 5% in 2016 and reached the level of 1% in 2020.

Porshakov and Sinyakov (2019)[10] determine the range of neutral rate estimates in the Russian economy using a complex of approaches to estimation based on both structural and econometric methods. The findings suggest that, according to strict definitions, the equilibrium real rate estimates in Russia all have wide confidence intervals and are highly sensitive to various model parameters (the observed values are given in a range from negative to positive ones).

In the new conditions, it is getting challenging to estimate the neutral rate of interest relying on the previous models due the changed interrelationships with the external world, including the foreign sanctions enacted against the financial sector, and the capital controls introduced by Russia in response to them. With the capital controls in place, global factors are less important in the estimates of the neutral rate and they thus should be, to a greater extent, based on internal factors. In the new conditions, the neutral rate of interest for the Russian economy is largely determined by the potential economic growth rate that depends on the pace of the accumulation of production factors, the growth of their efficiency, and the pace of technological progress. The impact of the global neutral rate and the country risk premium remains, but this influence is becoming indirect.

Currently, the Bank of Russia relies on the previous estimate of the longer-run real neutral rate equalling 12%. With the inflation target of 4% and inflation expectations anchored to the target, this range corresponds to the neutral interest rate of 5–6% per annum.

It should be stressed that this range is a part of a wider interval of possible neutral rate estimates.

Specifically, the amount of the structural budget deficit has a considerable effect on the estimate of the neutral rate. The shift towards a higher level of the structural budget deficit increases the contribution of the fiscal channel to the expansion of money supply. The overall growth rate of money supply needs to be in line with aggregate demand dynamics that correspond to the inflation target. In turn, the level of aggregate demand corresponding to maintaining inflation at the target largely depends on the path of potential output. Thus, with the path of potential output unchanged, a greater contribution of the fiscal channel implies less room for creating money supply through the credit channel. This in turn requires a higher level of real interest rates on loans.

Hence, with a higher structural budget deficit and a greater contribution of the fiscal channel to the growth of money supply, real interest rates corresponding to the inflation rate at the target will be higher on average. Accordingly, a longer-run neutral equilibrium neutral rate, in both nominal and real terms, will be higher in such economy.

Furthermore, during the structural transformation of the economy, the estimate of the longer-run neutral rate of interest is associated with additional uncertainty. There are factors that might both increase and decrease the neutral rate. The Bank of Russia will assess the overall effect of all the factors as it accumulates relevant information.

---

[8] Isakov A., Latypov R. The Ibsen Manoeuvre: Yet Another R Estimate/VTB Capital Research Alert, (Very) Technical Brief series. 15 July 2019.*

[9] Drobyshevsky S.M., Trunin P.V., Sinelnikova-Muryleva E.V., Makeeva N.V., Grebenkina A.M. Estimating a neutral real interest rate in Russia during inflation targeting. Voprosy Ekonomiki. 2021; (9):5–23. (in Russian) https://doi.org/10.32609/0042-8736-2021-9-5-23.

[10] Porshakov A. and Sinyakov A. (2019). Estimates of the Equilibrium Interest Rate for Russia: Is 'Navigating by the Stars' Useful? Russian Journal of Money and Finance, 78 (4), pp. 3–47.

BOX 3. CAPITAL CONTROLS AND INFLATION TARGETING

Due to the sanctions enacted in February 2022, the Bank of Russia lost the opportunity to use a part of its international reserves to mitigate risks to financial stability. In this context, the Bank of Russia was forced to introduce capital controls. According to the theory and practice of macroeconomic policy worldwide, inflation targeting and the floating exchange rate regime are perfectly compatible with the use of a wide range of instruments enhancing financial stability, including capital flow management measures. However, large-scale capital controls, basically, can only have a temporary stabilising effect. Over time, they are not only becoming less efficient, but also entail adverse long-term consequences for economic growth.

When implementing their monetary policy, central banks need to factor in the extent of the economy's involvement in external trade and global financial markets. This influences the sensitivity of internal economic conditions to external changes and, accordingly, determines the central bank's response.

Most countries are actively engaged in international trade and are deeply integrated in the global financial system.[1] Owing to cross-border mobility of capital and production factors, an open economy model enables countries to attract investment and even consumption and boosts the competitiveness and effectiveness of the economy, increasing public welfare in the longer run. However, it also implies a higher exposure of the economy to external shocks, including volatility of capital flows.[2]

As the openness of the world economy increased, the **business cycle in many countries, especially emerging market economies (EMEs), became more synchronised with global financial flows** influencing domestic credit and economic activity, including through prices for financial assets.[3] As a result, central banks' measures to strengthen the stability of the financial system, including macroprudential policy instruments and regulation of cross-border capital flows, became more important.[4] Nonetheless, they were aware that a floating exchange rate regime was essential for maintaining price stability. Under the inflation targeting regime, a floating exchange rate ensures independence of monetary policy and enhances its countercyclical effect on the economy.[5]

Hence, **in practice, this is the need to maintain financial stability that might urge central banks to regulate capital mobility**. Specifically, capital controls might affect all financial operations or only certain forms of capital flows. **However, if capital flow management measures are large-scale and introduced directly when significant risks to financial stability materialise, they are basically effective only for a while** as they might cause long-lasting negative implications. In particular, restrictions on capital mobility substantially complicate current economic activity, might worsen the investment climate, and prevent the country from reaping the benefits of an open economy

---

[1] *For instance, according to the World Bank's statistics (http://data.worldbank.org), the global value of external trade as % of GDP more than doubled since 1970, peaking in 2008, after which it slightly decreased.*

[2] *Refer to, for instance, Pasricha G.K., Nier E. Review of The Institutional View on The Liberalization and Management of Capital Flows – Background Note on Capital Flows and Capital Flow Management Measures – Benefits and Costs/IMF Policy Papers. No. 2022/009. 30 March 2022.*

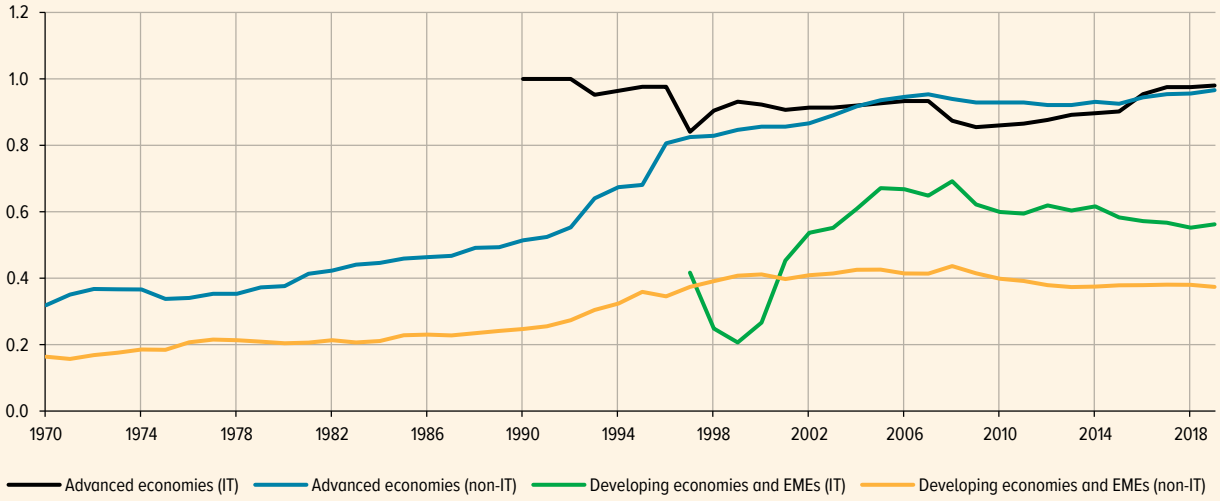
[3] *Refer to, for instance, The Bank for International Settlements. Changing patterns of capital flows/CGFS Papers. No. 66. May 2021.*

[4] *For details about overlaps in the regulation of capital flows and the use of macroprudential measures, refer to, for instance, The International Monetary Fund. The Liberalization and Management of Capital Flows: an Institutional View. 12 November 2012.*

[5] *This is a consequence of the known trilemma of monetary policy assuming that the independence of monetary policy is impossible when an economy has a fixed exchange rate and no restrictions on cross-border capital flows. Refer to, for instance, Obstfeld M., Ostry J.D., Qureshi S. A Tie That Binds: Revisiting the Trilemma in Emerging Market Economies/IMF Working Papers. No. 2017/130. 8 June 2017.*

FINANCIAL OPENNESS INDEX KAOPEN (↑ – GREATER OPENNESS)

Chart B-3-1



Note. The values for the groups of countries were calculated as the arithmetic mean. IT – inflation-targetting countries.
Sources: Bank of Russia calculations; Chinn D., Ito H. What Matters for Financial Development? Capital Controls, Institutions, and Interactions / Journal of Development Economics. October 2006 (http://www.sciencedirect.com/science/article/abs/pii/S0304387805001409).

in the future.[6] The use of these measures also involves considerable administrative costs for the economy. Moreover, the effectiveness of capital controls might decrease as economic agents adjust to the introduced restrictions, including owing to the extensive development of financial technologies.[7] Finally, capital controls disturb the functioning of certain channels of the monetary policy transmission mechanism.[8]

The introduction of capital controls as part of a broad complex of financial stability measures can be a more important instrument for EMEs than for advanced economies less exposed to exchange rate shocks.[9] Although financial openness in the world has been consistently growing since the 1980s, the gap in capital mobility for the group of advanced economies and the group of emerging market and developing economies has been gradually expanding. Among developing and emerging market economies, **the subgroup of the countries whose central banks pursue the inflation targeting strategy is characterised by a relatively higher openness of the economy, which proves that this strategy is particularly robust and flexible**.[10]

The robustness of the inflation targeting strategy amid a greater openness of the economy ensures the ability to maintain monetary autonomy in the conditions of free exchange rate movements. More responsible macroeconomic policy in general pursued by inflation targeting countries is no less important as it ensures high confidence among economic agents, including in the central bank's actions. Another significant factor of stability is high maturity of financial markets in this group of countries. Nevertheless, to support financial stability, certain countries actually conduct foreign exchange interventions as well and accumulate international reserves,

---

[6] Refer to, for instance, Basu K., Eichengreen B., Gupta P. From Tapering to Tightening: The Impact of the Fed's Exit on India/The World Bank Policy Research Working Papers. 13 November 2014.

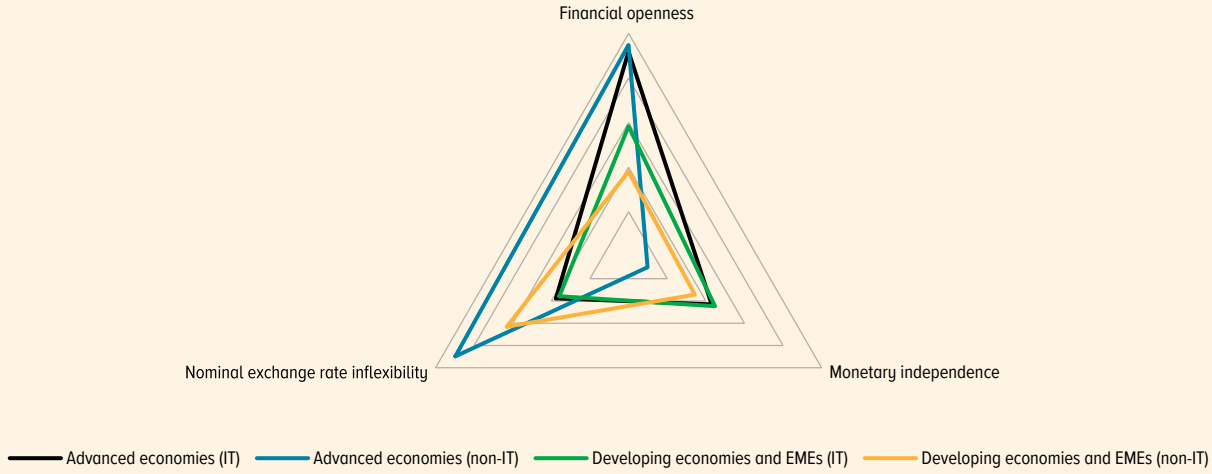
[7] Refer to, for instance, Alnasaa M., Gueorguiev N., Honda J., Imamoglu E., Mauro P., Primus K., Rozhkov D. Crypto, Corruption, and Capital Controls: Cross-Country Correlations/IMF Working Papers. No. 2022/060. 25 March 2022.

[8] See Appendix 1 'Monetary policy transmission mechanism amid the structural transformation of the economy'.

[9] Refer to, for instance, Korinek A., Sandri D. Capital controls or macroprudential regulation?/Journal of International Economics. 2016.

[10] Refer to, for instance, de Carvalho Filho I. 28 Months Later: How Inflation Targeters Outperformed Their Peers in the Great Recession/International Monetary Fund. March 2011. For details about inflation targeting, see Appendix 8 'Inflation and monetary policy: cross-country comparisons'.

INDICATORS OF THE TRILEMMA OF MONETARY POLICY (2010–2019 AVERAGE) *Chart B-3-2*



Note. Financial openness – the KAOPEN index measuring the degree of de jure restrictions on the current and financial accounts of the balance of payments; monetary independence – the correlation between the internal and external short-term interest rates; inflexibility of the exchange rate – the extent of volatility of the nominal exchange rate.
Sources: Bank of Russia calculations; Aizenman J., Chinn D., Ito H. The Emerging Global Financial Architecture: Tracing and Evaluating the New Patterns of the Trilemma's Configurations / Journal of International Money and Finance, Vol. 29, No. 4. 2010.

which they may use, when needed, to smooth the adjustment of the balance of payments.[11] If the national economy and the country's financial system have the above features, they are able to resist the impact of external shocks without introducing large-scale capital controls.

Hence, according to the theory and practice of macroeconomic policy worldwide, **inflation targeting is perfectly compatible with the use of a wide range of instruments enhancing financial stability, including capital flow management measures**. However, extensive direct restrictions on free capital flows, although they might be effective in exceptional cases for ensuring financial stability, have longer-run negative implications for the economy and its growth potential. In view of this, the balance between price and financial stability measures available to central banks is still a relevant issue.[12]

***

In late February–early March 2022, in order to prevent the materialisation of risks to financial stability, the Bank of Russia restricted cross-border capital flows, in addition to the temporary yet sharp increase in the key rate to 20% per annum. **These actions mirrored the measures of certain countries and were necessitated primarily because the Bank of Russia was unable to use its international reserves** to stabilise the balance of payments amid the drastic weakening of the ruble.[13] The combination of the measures adopted during the acute phase of the crisis and the results of the Bank of Russia's consistent macroprudential policy over previous years helped mitigate the initial risks of an aggravation of the financial crisis, and the introduced restrictions were gradually eased.

[11] *Refer to, for instance, Aizenman J. International Reserves, Exchange Rates, and Monetary Policy: From the Trilemma to the Quadrilemma/Oxford Research Encyclopedia of Economics and Finance. 29 July 2019.*

[12] *Refer to, for instance, the Box 'Monetary policy and financial stability policy: striving for the balance' in the MPG 2020–2022 (http://www.cbr.ru/Content/Document/File/79959/on_2020_eng.pdf).*

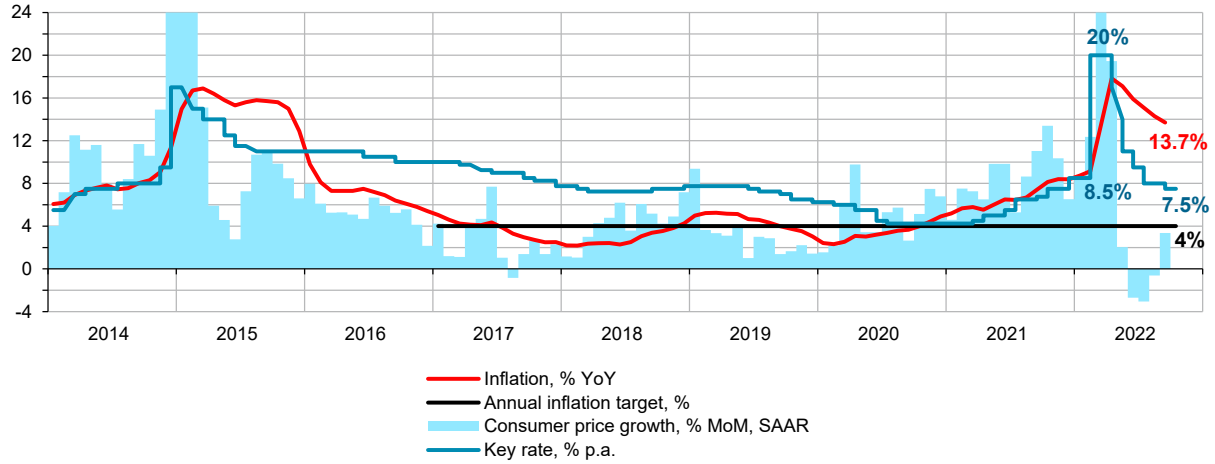
[13] *More information about the adopted and effective measures of the Bank of Russia aimed at stabilising the situation in the financial market amid the materialisation of sanction risks is available on the Bank of Russia website in the section Financial Market Protection Measures.*

If risks to financial stability decrease further, the Bank of Russia does not see any serious reasons for preserving extensive capital controls. Nevertheless, implementing its monetary policy, **the Bank of Russia will factor in that the effective capital controls are mostly of non-economic nature and were introduced as a temporary and forced measure**.[14]

[14] *For details about changes in the forecasting approaches, refer to the Box 'Adaptation of the Quarterly Projection Model to the capital flow control framework' in Monetary Policy Report No. 2 (38), May 2022 (http://www.cbr.ru/Collection/Collection/File/40976/2022_02_ddcp_e.pdf). For details about changes in the monetary policy transmission mechanism, see Appendix 1 'Monetary policy transmission mechanism amid the structural transformation of the economy').*

2. MONETARY POLICY ENVIRONMENT AND CORE MEASURES IN LATE 2021 AND 2022

BANK OF RUSSIA KEY RATE AND INFLATION *Chart 2.1*



Sources: Rosstat, Bank of Russia.

Key rate increase in response to inflation acceleration due to demand expansion surpassing capacities to ramp up output (December 2021–mid-February 2022)

In late 2021–early 2022, annual inflation was rising, exceeding the forecast level and substantially deviating upwards from the target. Inflation accelerated both in Russia and worldwide because the expansion of demand surpassed the potential to ramp up output in a wide range of industries. The capacities to increase output were limited due to disruptions in production and logistics chains amid the coronavirus pandemic, among other reasons. In order to return inflation to the target and the economy to a balanced growth path, it was necessary to ensure moderately tight monetary conditions. To this end, the Bank of Russia continued the cycle of the key rate increase started in March 2021. In December and early February, the Bank of Russia Board of Directors raised the key rate by a total of 200 bp to 9.50% per annum. Moreover, the Bank of Russia admitted the possibility of its further increase.

Inflation exceeded the Bank of Russia's October forecast. It reached 8.4% as of the end of 2021 and sped up to 8.7% in January 2022, considerably deviating from its 4% target. These figures evidenced an overheating of the Russian economy. The growth of domestic and external demand surpassed the potential to ramp up output in the majority of industries. Staff shortages and disruptions in supplies hindered the expansion of production. Moreover, companies faced rising costs due high global prices for commodities and more expensive logistics. High demand enabled enterprises to pass through their much higher costs to prices.

Inflationary processes became more persistent across a wide range of goods and services due to the secondary effects created by high and unanchored inflation expectations of households and businesses. Amid rising inflation, households' inflation expectations peaked

in December 2021, reaching the highest level since 2016. Companies' price expectations were also at their multi-year highs.

In 2021, monetary conditions remained accommodative due to high inflation expectations. According to the Bank of Russia's assessments, they became neutral only in early 2022. Following the key rate increases, since March 2021, OFZ yields and credit and deposit rates were rising gradually. In late 2021–early 2022, the growth of OFZ yields was also driven by the escalation of geopolitical tensions. Besides, amid rising inflation and inflation expectations, the growth of nominal interest rates failed to ensure a sufficient increase in households' propensity to save or a moderate and balanced expansion of lending. In February, the annual growth rate of the retail and corporate loan portfolios reached the highest level since 2019 and 2015, respectively. The annual growth of households' funds with banks was moderate in early 2022, only slightly exceeding the figure of mid-2022 and early 2021 (before the start of the key rate increase cycle).

At the beginning of February, the Bank of Russia forecast that, considering the monetary policy pursued, annual inflation would slow down to 5.0–6.0% by the end of 2022 and return to its target in 2023. This required a temporary shift towards moderately tight monetary conditions, which the Bank of Russia took into account in the forecast path of the average key rate. In early February, the path was raised to 9.0–11.0% per annum in 2022.

Response to severe threats to price and financial stability (late February–March 2022)

At the end of February 2022, the external conditions for the Russian economy altered dramatically. Foreign countries enacted unprecedentedly large-scale sanctions against Russia to break the established trade and financial relations and isolate the Russian economy from the world economy. Jointly with other state authorities, the Bank of Russia promptly responded to the growth of risks to price and financial stability, including through monetary policy measures. By early April, the country managed to overcome the acute stage of the crisis.

The sanctions enacted against Russia affected both the financial and real sectors of the economy. In finance, large Russian banks were disconnected from the system of cross-border interbank payments, and foreign payment systems suspended their operation in Russia. Foreign countries also imposed restrictions on the use of Russia's gold and foreign currency reserves. As a result, the Government of the Russian is technically unable to repay its debt to non-residents and the Bank of Russia cannot conduct transactions with US dollars and euros. Funds of some individuals and Russian companies held abroad were blocked as well.

Restrictions in the real sector considerably hindered international logistics and primarily affected air and sea transport. Exports of high-technology goods and services to Russia were banned. Imports of a range of goods from Russia were restricted. Furthermore, some western corporates voluntarily stopped working with Russian clients, and some of them terminated their operation in Russia.

The imposed sanctions exacerbated volatility in financial markets and temporarily, yet seriously, weakened the ruble. The banking sector faced a considerable outflow of depositors' funds. The depreciation of the ruble and soaring inflation expectations significantly fuelled consumer demand in late February–early March. This surge, coupled with the overall rise in

uncertainty and higher production and logistics costs, forced companies to raise prices. In March, monthly inflation hit its 20-year high of 7.6% and annual inflation sped up to 16.7%.

In order to stabilise the situation in the economy, the following measures were implemented in February–March.[1]

First, the Bank of Russia raised the key rate on 28 February from 9.5% to 20.0% per annum. The sanctions and the related increase in uncertainty created direct threats to financial and price stability. The considerable rise in the key rate helped return household funds to deposits and moderate soaring consumer demand. Already by April, a notable part of the cash withdrawn by households returned to banks, and the risks of an uncontrollable surge in prices were eliminated.

The Bank of Russia made its decision on the key rate considering that the domestic economy was moving into a phase of a large-scale structural transformation, among other factors. As expected, this was to be accompanied by temporarily yet inevitably elevated inflation predominantly associated with the adjustment of relative prices for a broad range of goods and services due to the adaptation of businesses to the new environment. Since then, the Bank of Russia's monetary policy took into account the need for a structural transformation of the economy, simultaneously promoting conditions for a gradual return of annual inflation to the target in 2024.

Second, the Bank of Russia, the Government of the Russian Federation, and the Russian President introduced a range of capital controls. The sanctions against the domestic financial market and the Bank of Russia limited the opportunities for carrying out foreign exchange interventions to maintain financial stability. In order to steady the situation in the foreign exchange market, the authorities obliged exporters to sell 80% of their foreign currency revenues and minimised the opportunities for non-residents to withdraw assets from Russia. This stabilised the exchange rate and, further on, helped decrease volatility in the financial market.

Third, the Bank of Russia suspended trading in almost all sections of the Moscow Exchange. At its bottom, its index plunged to the levels observed after the outbreak of the coronavirus pandemic in 2020 Q1. Moreover, during a single day, on 24 February, the index lost 24%. On the same day, the OFZ zero coupon yield curve also shifted upwards significantly. Short- and medium-term yields rose by 4–5 pp to 15–17% per annum. The suspension of trading prevented a series of bankruptcies and protected the rights of Russian investors who had purchased these securities. Later on, exchange trading was gradually resumed. From 21 March, the exchange resumed trading in government bonds. By early April, the exchange generally returned to its usual operation mode (except conducting transactions to sell securities at non-residents' orders).

Fourth, the Bank of Russia implemented a package of measures to maintain stability in the banking sector. At the end of February, the banking sector shifted to a structural liquidity deficit due to cash withdrawals, large tax payments, and lower amounts of funds placed by the Federal Treasury with banks. The outflow of liquidity and the uncertainty about banks' future cash flows caused an increase in the cost of borrowing in the money market and a decline in transaction amounts in unsecured lending. During certain periods,

[1] *The detailed list of measures (including their effective periods) taken by the Bank of Russia from late February until early November 2022 to stabilise the situation in the financial market amid the materialisation of the sanction risks is available on the Bank of Russia website in the section Financial Market Protection Measures and is promptly updated.*

RUONIA (Ruble Overnight Index Average) formed close to the upper bound of the Bank of Russia's interest rate corridor.

To maintain the stability of credit institutions and bring the interbank lending rate closer to the key rate, the Bank of Russia implemented a range of prompt measures. Specifically, the Bank of Russia carried out daily fine-tuning auctions, expanded the Lombard List, and eased the requirements for non-marketable assets which could be accepted as collateral under refinancing operations. Additionally, to ensure more flexibility for banks in managing their own funds, the Bank of Russia reduced the required reserve ratios to 2%. In the second half of March, the liquidity situation stabilised and the funds earlier raised by banks mostly returned to them. The banking sector reversed to a structural liquidity surplus.

The Bank of Russia introduced a variety of regulatory easing measures for banks and macroprudential measures. They supported the stability of the banking sector despite fluctuations of the exchange rate, the value of collaterals, and the quality of the loan portfolio.

Finally, the Bank of Russia, jointly with the Government and the Federal Assembly of the Russian Federation, developed measures to support borrowers. The Russian Government launched new subsidised lending programmes for borrowers. The Bank of Russia in turn expanded specialised subsidised bank lending programmes for small and medium-sized businesses from 175 to 675 billion rubles. To reduce debt burden on borrowers who had raised loans earlier, the authorities adopted the law on loan repayment holidays. It enabled banks to offer loan restructuring programmes to households and businesses. Furthermore, the Government of the Russian Federation together with the Bank of Russia developed a programme to partially compensate companies for higher costs on loans at floating interest rates that rose due to the increased key rate.

Decrease in the key rate as the situation stabilised (April–mid-September 2022)

By April, risks to financial stability started to decrease. Households were returning their funds to the banking sector, including ruble deposits. The ruble exchange rate and the situation in the financial market in general stabilised. Risks to price stability weakened as well: the current growth rates of consumer prices and households' and businesses' inflation expectations considerably decreased. The Bank of Russia promptly responded to the changes in the situation and reduced the key rate several times, including at the unscheduled meetings of the Board of Directors. From early April by mid-September, the key rate was cut from 20% to 7.5% per annum. The Bank of Russia made these decisions considering that the key rate decreases during this period would limit the magnitude of the economic decline, but would simultaneously create conditions for returning annual inflation to the target in 2024. By mid-September, the impact of one-off disinflationary factors began to weaken. In this context, the Bank of Russia assumed that it had less room for reducing the key rate.

In April, annual inflation peaked to 17.8% and started to edge down. High-frequency data, including weekly figures, evidenced a slowdown of current price growth up to negative values after the peak in March. Prices for goods and services were adjusting downwards largely owing to a stronger ruble and weaker consumer demand. In summer, current price growth rates remained low owing to, among other reasons, a supply expansion in the certain product markets, including food markets, amid the external and internal restrictions on exports. In August, annual inflation slowed down to 14.3%.

Spring and summer recorded a significant downward adjustment of households' inflation expectations and companies' price expectations after their peak in March, although they stayed elevated.

Overall, inflationary pressure was declining much faster than assumed by the Bank of Russia in April. In the baseline scenario presented in April, the Bank of Russia expected annual inflation to be 18–23% as of the end of 2022. By September, the forecast was adjusted downwards to 11–13%.

In addition to monetary policy, the efficiency of import substitution and the scale and pace of the recovery of imports also reduced the magnitude of the proinflationary effect of supply-side factors, including through the adjustment of relative prices.

Beginning from March, business activity was weakening due to both contracting demand and declining supply.

High-frequency indicators and surveys evidenced that companies were suffering serious troubles in production and logistics. The sanctions made it much more complicated for Russian companies to access their usual export markets and reduced their opportunities to ensure stable imports of finished goods, raw materials, and components.

Companies were progressively diversifying supplies of raw materials and components and their sales markets. Business sentiment was improving. However, trends across industries and regions remained very uneven. Besides, the contraction of export operations, as compared to import ones, was much weaker, which contributed to the further strengthening of the ruble. In these conditions, the capital controls were eased gradually. Nevertheless, in summer, the value of imports began to restore partially.

In April–May, consumer activity plummeted in real terms, especially notably in the non-food segment. Soaring demand diminished already in the second half of March, while households' propensity to save rose significantly amid high deposit rates and uncertainty. In June–July, consumer activity started to bounce back, including owing to a gradual resumption of consumer imports. However, in August–early September, the momentum from the rebound of consumer activity slightly weakened. Households' propensity to save remained elevated due to general economic uncertainty and declining real incomes.

Considering a higher resilience of businesses to the new environment and government support measures, the overall decline in economic activity over 2022 Q2–Q3 was less considerable than forecast by the Bank of Russia in April. Nonetheless, the shrinkage of output is forecast to be more extended over time.

Monetary conditions were eased gradually, changing from tight to neutral by September. As the key rate and inflation expectations decreased, price conditions were returning to the pre-crisis level and even decreased below it in some segments. However, the easing of monetary conditions was uneven. As before, during the periods of key rate decreases, deposit rates were falling more quickly than credit rates. This was because banks were seeking to limit the interest rate risks they accepted. As the economic situation improved gradually, non-price lending conditions were eased as well.

Despite lower deposit rates, the inflow of funds into credit institutions continued. The growth of funds was mostly in current accounts and long-term ruble deposits. There was an outflow of funds from short-term deposits opened at higher interest rates. This suggested a normalisation of the structure of households' bank savings.

Disbursements of consumer and mortgage (both market-based and subsidised) loans shrank notably in 2022 Q2. The annual increase in the overall retail portfolio slowed down to its lowest level since 2018. The decline in corporate lending was more moderate. However, at the beginning of 2022 Q3, there was a surge in issued subsidised and market-based mortgage loans. Unsecured consumer lending was rebounding. The expansion of corporate lending sped up due to both the implementation of the subsidised programmes and a considerable easing of monetary policy.

The Bank of Russia's monetary policy was still aimed at returning inflation to the target and took into account the need for the structural transformation of the economy. The key rate reduction in April–September was the response of monetary policy to a wide range of disinflationary factors influencing, among other things, the adjustment by the Bank of Russia of the annual inflation path forecast in the baseline scenario (as compared to April). However, by the middle of September, the impact of short-term disinflationary factors started to weaken, whereas proinflationary risks, to the contrary, began to rise. Considering these conditions, in September, the Bank of Russia assumed that it had less room for a further reduction in the key rate and the cycle of monetary policy easing was close to the end.

Keeping the key rate unchanged amid a considerable rise in uncertainty (mid-September–October 2022)

At the end of September 2022, the geopolitical and internal economic situation drastically altered again. The country announced partial mobilisation, which had a substantial effect on all aspects of the Russian economy. The feeling of uncertainty and the lack of confidence in the future intensified notably. The banking sector faced another outflow of cash and funds from household accounts. Nevertheless, the Bank of Russia's prompt measures to provide adequate liquidity to banks, as well as a slight increase in deposit rates by credit institutions were sufficient to support financial stability and prevent an outflow of household funds. In October, taking into account the current situation, the macroeconomic forecast, and the balance of proinflationary and disinflationary risks, the Bank of Russia made the decision to keep the key rate unchanged.

Additional support measures taken in September–October 2022

In order to support the persons called up for the partial mobilisation (individuals and SMEs), the Bank of Russia adopted a range of measures. Specifically, the Bank of Russia advised professional creditors to restructure mobilised persons' and their family members' debts and recommended credit history bureaus and credit history users – not to consider such restructuring as a factor worsening a borrower's credit history. Besides, the Bank of Russia advised banks not to charge penalties on loan agreements, demand early performance of the obligations, or take any actions to recover overdue debt, as well as to suspend any procedures for foreclosure on the collateral (mortgaged property) and eviction from foreclosed homes.[2]

Furthermore, in October, with the active engagement of the Bank of Russia, the legislative authorities adopted two laws on loan repayment holidays. The first one (dated 7 October 2022) concerns the participants in the special military operation and their family members that have already raised a mortgage or consumer loan, or a microloan. The second law (dated 20 October 2022) entitles the mobilised owners of SMEs to suspend

[2] *Refer to the section Financial Market Protection Measures on the Bank of Russia website.*

repayments on business loans and microloans and clarifies the procedure for granting the loan repayment holidays to all participants in the special military operation established by the law, dated 7 October 2022. Besides, pursuant to the draft of the Bank of Russia Ordinance, the mobilised persons will be able to cancel their CMTPLI (compulsory motor third party liability insurance) policies and receive a partial refund of the insurance premium. In addition to the support for the mobilised persons, the Bank of Russia granted regulatory easing to microfinance organisations and consumer credit cooperatives.

Annual inflation continued to slow down. In September, inflation decelerated to 13.7%. The current price growth rate, namely the seasonally adjusted monthly price growth rate, remained decreased, but then sped up slightly due to one-off factors, as compared to the very low figures of May–July (for details on various inflation measures, see Appendix 2 'Inflation indicators used by the Bank of Russia').

Companies' price expectations remained elevated. Households' inflation expectations also stabilised at a higher level, as compared to summer. However, consumer activity was not increasing because of high uncertainty about further developments. People continued to prefer savings. Some households opted for cash as the priority form for money holdings.

In October, the Bank of Russia adjusted its inflation forecast for 2022 to 12–13%. Concurrently, it assumed that, given the monetary policy pursued, annual inflation will slow down to 5–7% in 2023, return to the target of 4% in 2024, and stay close to this level further on.

Adaptation of the economy to the new conditions. According to recent data, business activity trends in the third quarter turned out to be more positive than predicted by the Bank of Russia before. Many companies were finding new suppliers, arranging import substitution, and entering new sales markets, including by refocusing on domestic consumers. A favourable situation in agriculture added momentum to economic activity. However, heterogeneity across industries and regions remained high.

In September, economic activity weakened somewhat. In addition to the persistent bottlenecks in production and logistics, companies faced new constraints in the labour market caused by the partial mobilisation. This effect is still to be assessed. As overall uncertainty rose, business and consumer sentiment worsened. Consumer activity remained subdued. Economic activity was supported by demand from the government sector.

More positive trends in exports and imports made it possible to adjust the forecast for 2022 upwards as compared to the April and July estimates. Moreover, the forecast for the economy as a whole was improved as well. The baseline scenario forecast an economic decline in 2022 by 8–10% in April and by 4–6% in July, whereas in October, the Bank of Russia improved its forecast of the GDP reduction to 3.0–3.5%.

Monetary conditions remained neutral overall, but tightened slightly in late September–October, despite the preceding stage-by-stage reduction in the key rate. This was associated with the drastic escalation of geopolitical tensions and rising uncertainty. Consequently, OFZ yields edged up, credit rates stopped decreasing, and non-price lending conditions tightened.

Despite all this, credit activity remained high in both the retail and corporate segments, although it started to slow down in October. Lending was still supported by interest rates that had dropped from their peak values and by the subsidised lending programmes.

In October, the Bank of Russia decided to make a pause in changing the key rate. It kept the key rate unchanged at 7.5% per annum, after its cut by 12.5 pp in April–

September. The Bank of Russia estimated that there was a balance between proinflationary and disinflationary risks in the short term. The economy continued to adjust to the new environment, annual inflation was still decelerating, and current inflationary pressure remained decreased. However, proinflationary factors still prevailed over the medium-term horizon, and their impact strengthened from mid-September. These are the risks that might entail a deviation of the situation from the baseline scenario and require adjustments to the key rate path assumed in the forecast.

Proinflationary risks created by external conditions include a stronger fragmentation of the world economy, a deepening of crisis processes, and rising geopolitical tensions. Moreover, the economic situation continues to worsen globally. Many countries are facing high inflation. As a result, they have to further raise their policy rates. Coupled with the imbalances in global markets accumulated over previous years, this might aggravate financial stability risks. Combined, all these risks might cause an even greater contraction of Russian exports and a weakening of the ruble, involving related proinflationary effects.

Serious proinflationary risks inside the country include the dynamics of inflation expectations and related changes in consumer behaviour models, as well as an exacerbation of supply-side constraints. The latter might be caused by possible problems with supplies and the replenishment of stocks if import trends are negative. Overall uncertainty will also affect the pace of the supply recovery. An additional risk that might materialise over the medium-term horizon is associated with changes in the structure of the labour market provoked by the partial mobilisation. This might be a shortage of some specialists or a transfer of labour force across industries and regions with a possible adjustment of wages that might rise faster than labour productivity.

Disinflationary risks over the forecast horizon are generally weaker than proinflationary ones. The Bank of Russia assumes that disinflationary risks might materialise if households continue to prefer savings, imports rebound faster, and the record-high harvest of 2022 influences domestic prices amid remaining restrictions on exports.

Monetary policy will help bring inflation back to the 4% target in 2024. According to the Bank of Russia's forecast presented in October, this could be ensured with the average key rate over the year equalling 10.6% per annum in 2022, 6.5–8.5% per annum in 2023, and 6.0–7.0% per annum in 2024. As always, an important factor considered by the Bank of Russia when pursuing its monetary policy is fiscal policy. The forecast of the average key rate factors in a gradual decrease in the structural deficit of the federal budget over the forecast horizon. An additional expansion of the budget deficit might require a tighter monetary policy to return inflation to 4% in 2024 and maintain it close to the target in the future.

The Bank of Russia will make its further decisions on monetary policy, taking into account actual and expected inflation movements relative to the target and the process of the structural transformation of the economy, as well as assessing risks from internal and external conditions and financial markets' response to these risks.

BOX 4. MAIN FACTORS INFLUENCING THE IMPLEMENTATION OF MONETARY POLICY

There are multiple factors that emerged in 2022 and considerably impact the implementation of monetary policy, including in the medium term. The factors that have the strongest influence are as follows.

Blocking of the Bank of Russia's gold and foreign currency reserves and a range of private assets

According to its policy, the Bank of Russia may conduct operations in the domestic foreign exchange market when there is a threat to financial stability. The Bank of Russia sees as a threat to financial stability such situations that may cause a considerable shrinkage of liquidity in the domestic foreign exchange market, the emergence of persistent devaluation expectations coupled with elevated demand for foreign currency, higher dollarisation of the economy in general, and a short-term increase in risks to credit institutions' and businesses' sustainability.

This was the situation that occurred in late February 2022. However, as foreign countries blocked the foreign currency accounts of the Bank of Russia, it was unable to conduct foreign exchange operations in the domestic foreign exchange market in the world's main reserve currencies. In these conditions, the Bank of Russia was forced to adopt other measures to counteract factors of financial instability. Firstly, capital controls were introduced. Secondly, the operation of most sections of the Moscow Exchange was suspended. The implemented measures helped stabilise the situation in financial markets and, among other things, subsequently shift towards a progressive reduction in the key rate.[1]

Simultaneously with the blocking of the Bank of Russia's foreign currency accounts, assets of a number of companies and individuals in the USA, the European Union, the United Kingdom, and other foreign states were frozen as well. This exacerbated the risks of owning assets in these countries (including their currencies), created pressure in the domestic foreign exchange market, and contributed to the strengthening the ruble relative to these states' currencies, which was not associated with the changes in the key rate. Consequently, the effectiveness of the foreign exchange channel of the transmission mechanism worsened. Concurrently, higher risks of investment in foreign assets and increased volatility of the exchange rate relative to the world's main reserve currencies encourage Russian investors to shift their funds from foreign assets towards domestic ones, and companies – to replace foreign currency loans for ruble-denominated ones. Further on, a decrease in the dollarisation of assets and liabilities in the Russian economy will boost the effectiveness of the Bank of Russia's monetary policy.[2]

Introduction of cross-border capital controls

Due to the sanction restrictions enacted against the Bank of Russia and large Russian banks, it was necessary to introduce cross-border capital controls. Specifically, at the end of February, payments to residents of some countries were limited, and exporters were obliged to sell 80% of their foreign currency earnings. Capital controls are solely a policy instrument employed to maintain financial stability. They were eased as risks decreased.

These restrictions had a significant impact on the functioning of the monetary policy transmission mechanism, primarily of its foreign exchange channel. If an economy has capital controls in place, the influence of the financial account on the exchange rate substantially decreases, and the balance of trade becomes the main factor impacting exchange rate movements. Accordingly, the exchange rate of the ruble depends on the ratio of importers'

[1] *See Section 2 'Monetary policy environment and core measures in late 2021 and 2022'.*

[2] *See Appendix 1 'Monetary policy transmission mechanism amid the structural transformation of the economy'.*

demand for foreign currency and exporters' supply of foreign currency. As a result, the influence of monetary policy on the ruble exchange rate becomes more extended over time and indirect. Previously, a change in the key rate translated into prices for financial instruments and, further, into the exchange rate directly, whereas now it influences first the demand for imported goods through the interest rate channel and only then – the ruble exchange rate.[3]

Accelerated transition to payments in national currencies

The blocking of Russian companies' foreign assets by some states has demonstrated that, due to increased operational risks, such assets are not a full-fledged alternative to Russian assets. Moreover, the use of US dollars and euros in external trade exacerbates counterparties' vulnerability due to possible restrictions on payments through the existing payment infrastructure. This urges exporters and importers to use various currencies to set prices and make payments on international transactions. The transition to settlements in rubles is possible as well.

In the short term, the use of non-reserve currencies in external trade payments is associated with extra risks for businesses. As these currencies are still less liquid and stable, their use in payments might involve higher volatility of cash flows for external trade participants. In the longer run, the use of a broad range of currencies will help mitigate risks associated with the sensitivity of the ruble to fluctuations of the exchange rates of certain largest advanced economies.[4] Furthermore, as settlements in rubles increase, credit transactions in rubles related to funding for external trade operations will also grow. As a result, the influence of the situation in the international foreign exchange market on Russian banks' financial position will weaken, thus enhancing their resilience.[5]

Suspension of the fiscal rule

The fiscal rule smooths out the impact of changes in external economic conditions on the domestic environment and ensures the predictability of the Russian Government's approaches to expenditure budgeting and public debt management.

The mechanism of the fiscal rule assumed that oil prices in 2022 would ensure extra oil and gas revenues to the federal budget that were to be used to purchase foreign currency for its subsequent transfer to the National Wealth Fund (NWF). In the current conditions, the functioning of this mechanism is impossible as the reserves accumulated in the main reserve currencies will be instantaneously blocked and the markets of other currencies are not sufficiently deep or their exchange rates are too volatile. Additionally, the required budget expenditures have considerably increased because of the structural transformation of the economy. For these reasons, the Ministry of Finance suspended certain provisions of the fiscal rule associated with using extra oil and gas revenues and planning the maximum amount of federal budget expenditures.

The suspension made the economy more sensitive to changes in the environment in commodity markets. Furthermore, federal budget expenditures temporarily exceed the levels conforming to the previous parameter of the fiscal rule due to additional expenditures needed to finance measures associated with the structural transformation of the economy. Additional budget expenditures are possible if the budget receives extra oil and gas revenues. Therefore, fiscal policy in 2022 is expansionary, which creates certain proinflationary risks. Progressive fiscal policy normalisation planned in 2023–2025 will be an important factor supporting price stability.[6]

---

[3] *See Section 1 'Monetary policy goals, principles and instruments' and Appendix 1 'Monetary policy transmission mechanism amid the structural transformation of the economy').*

[4] *See Appendix 1 'Monetary policy transmission mechanism amid the structural transformation of the economy'.*

[5] *See Appendix 1 'Monetary policy transmission mechanism amid the structural transformation of the economy'.*

[6] *See Section 1 'Monetary policy goals, principles and instruments' and Box 5 'Fiscal policy in 2022–2025'.*

3. MACROECONOMIC SCENARIOS AND MONETARY POLICY IN 2022–2025

In 2022, the conditions of the functioning of the Russian economy altered dramatically. The sanctions enacted by foreign states against the Russian financial sector made it impossible to conduct payment and insurance transactions as before. The restrictions in external trade and international cooperation forced businesses to search for new target markets, develop new production relations, and arrange new logistics routes. The blocking of the Bank of Russia's foreign currency accounts and the introduction of capital controls in response increased the dependence of the ruble exchange rate on the state of the balance of trade. Together, these shocks triggered the process of large-scale structural changes in the Russian economy.

The world economy continued to accumulate imbalances over the year. The main achievement of global economic policy in 2020–2021, namely the quick recovery after the coronavirus-induced crisis, faded amid the acceleration of inflation worldwide and rising inflation expectations. Inflation had been growing globally since early 2021, staying close to its 35–40 year highs beginning from June 2022. An additional driver was the exacerbation of supply shocks in the energy commodity and food markets provoked by intensifying geopolitical tensions in February–March 2022. Households' and businesses' inflation expectations in many countries have been continuously increasing since the beginning of 2022. According to a survey by Ipsos, inflation remains the greatest worry for people since April 2022, displacing the coronavirus, inequality, and unemployment from the top.

Most countries revised their inflation forecasts for 2022 upwards. Many central banks shifted towards monetary policy tightening. Measures taken by central banks have already resulted in a substantial toughening of financial conditions worldwide. Yields on government bonds rose following the changes in expectations regarding the pace and the scale of monetary policy tightening.

However, there is still no consensus about how significantly and quickly the central banks of the largest economies should toughen their monetary policy in each particular case. Persistently high inflation, monetary policy tightening, declining demand, remaining disruptions in supply chains, volatility in the food and energy commodity markets, large amounts of accumulated government and corporate debts, the instability of balance sheets of certain companies in the financial sector, the continuing coronavirus pandemic, and geopolitical tensions – all these factors of various nature are causing unprecedented uncertainty about the development of the world economy over the medium-term horizon.

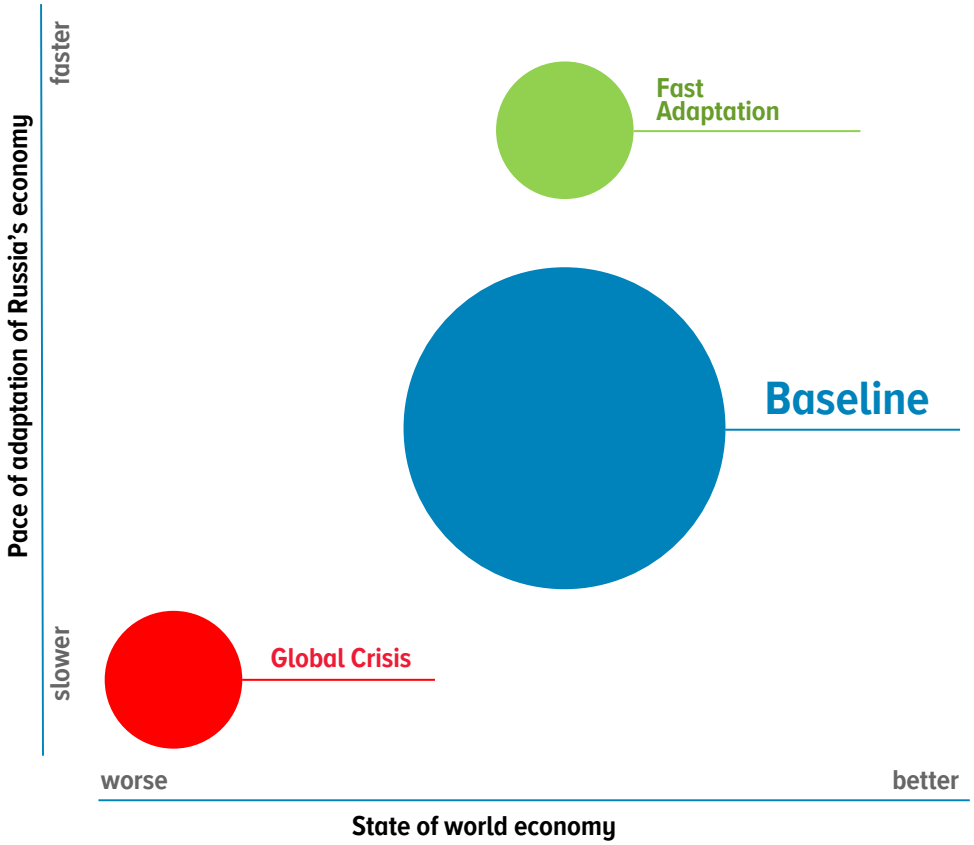
Surging consumer prices, especially for everyday goods and services, namely food, fuels, and electricity, entail a notable decline in households' real incomes worldwide. The phasing-out of fiscal support measures forces households to cut spending even more, while the increase in policy rates by central banks reduces the affordability of loans and deteriorates the financial position of borrowers who raised loans at floating interest rates. All this is causing a considerable decline in consumer demand. Overall uncertainty and the toughening of financial conditions cause volatility in financial markets, financial stability risks, and a decrease in production and investment activity.

Consequently, after surging to high levels in 2021 Q4–2022 Q1, the growth of the world economy is now slowing down. International organisations again lowered their economic growth forecasts for 2022. In particular, the World Bank decreased its forecast from 3.2% in April to 2.9% in June, the IMF – from 3.6% in April to 3.2% in July, and the OECD – from 4.5% in December to 3% in June. In October, the IMF kept the 2022 forecast unchanged, but revised downwards the 2023 forecast by another 0.2 pp to 2.7% (from 3.6% estimated in April). The risk of a recession in the largest economies – the USA and the euro area – in the next 12 months is already assessed as significant.

The scenarios of macroeconomic development and monetary policy for 2022–2025 prepared by the Bank of Russia consider both the changed conditions for the evolution of the Russian economy and extraordinary uncertainty of external conditions. The set of characteristics of the baseline and alternative scenarios was formed based on the following:

- **The state of the world economy** that depends on how quickly supply shocks weaken, how well inflation expectations are anchored, what response measures are taken by central banks, and how stable economic agents' financial position is amid rising monetary policy rates in advanced economies (namely, the USA and the euro area).
- **The pace of the adaptation of the Russian economy to the new conditions** that depends on the establishment of new economic relations, the launch of new production

SCENARIOS ASSUMED IN THE BANK OF RUSSIA'S MACROECONOMIC FORECAST *Chart 3.1*



Notes:
1. The state of the world economy is understood in terms of the GDP level by the end of the forecast horizon.
2. The diameter of the circle illustrates the Bank of Russia's estimate of the ratio of probabilities of materialisation of the scenarios.
Source: Bank of Russia.

MAIN PARAMETERS OF EXTERNAL CONDITIONS OF THE BANK OF RUSSIA'S SCENARIOS *Table 3.1*

	2022	2023	2024	2025
World GDP, % YoY				
Baseline scenario	3.0	2.7	3.2	3.4
Fast Adaptation	3.0	2.7	3.2	3.4
Global Crisis	3.0	-0.2	2.3	3.9
Inflation, USA,* % in December YoY				
Baseline scenario	4.5	3.3	2.4	2.0
Fast Adaptation	4.5	3.3	2.4	2.0
Global Crisis	4.5	4.4	4.1	3.6
Inflation, euro area, % in December YoY**				
Baseline scenario	4.8	3.6	1.9	1.4
Fast Adaptation	4.8	3.6	1.9	1.4
Global Crisis	4.8	4.8	3.2	2.6
US Fed rate,* %, Q4 average**				
Baseline scenario	3.75	4.75	3.25	2.25
Fast Adaptation	3.75	4.75	3.25	2.25
Global Crisis	3.75	1.00	2.50	3.00
ECB rate,** %, Q4 average**				
Baseline scenario	1.5	2.7	2.1	1.4
Fast Adaptation	1.5	2.7	2.1	1.4
Global Crisis	1.5	1.7	2.3	1.9
Urals crude price, USD/barrel, average for the period				
Baseline scenario	78	70	60	55
Fast Adaptation	78	70	60	55
Global Crisis	78	35	35	40

* *Core PCE, USA.*
** *Core HICP, euro area.*
*** *Fed Funds target rate, the upper bound of the range.*
**** *ECB deposit facility rate.*
Sources: US Fed, ECB, IMF, Bank of Russia calculations.

facilities, the efficiency of import substitution processes, and the development of parallel import mechanisms.

- **The impact of geopolitical conditions** on the Russian economy that depends on whether or not foreign countries will impose additional sanctions on external trade and how significant the secondary effects of the sanctions may be, including non-formal restrictions from a wide range of counterparties.

The Global Crisis scenario assumes a considerable worsening of external economic and geopolitical conditions, as compared to the baseline scenario. The Fast Adaptation scenario assumes a quicker adaptation of the Russian economy to the new conditions, as compared to the baseline scenario, with the state of the world economy and the geopolitical environment being similar.

Whatever the scenario, the Bank of Russia's monetary policy will be aimed at returning inflation to the target of 4% considering that the economy needs to adapt to the new structure. The complex of measures and decisions made will be adjusted depending on the state of the Russian economy, inflation trends, and the main indicators in financial markets.

3.1. BASELINE SCENARIO

In the baseline scenario, the world economy continues to develop within the already existing trends. Due to persistently high inflation coupled with low unemployment in

advanced economies, their central banks are tightening monetary policies more significantly than was planned before. Consequently, economic growth slows down faster than expected and will be lower in 2023–2025 than was earlier predicted. Monetary policy tightening amid elevated market volatility increases financial stability risks, although they are not expected to materialise under this scenario.

In its baseline scenario, the Bank of Russia assumes that global economic growth will inevitably decelerate during the period of policy rate increases by major central banks, but a well-calibrated monetary policy will enable the largest economies to avoid a large-scale recession. Inflation in the world will return close to the target in 2024 H1. Annual growth rates in advanced economies will be close to zero in late 2022–mid-2023 and will then start to rise slightly. By 2025, growth will reach the level of 3.4% (which was previously observed in 2017).

The baseline scenario does not assume any significant changes in the current configuration of the geopolitical conditions throughout the forecast horizon. The external restrictions imposed on Russian exports, imports, investment and technology cooperation are expected to remain for the most part over the medium-term horizon.

Russian exported goods will still be sold in the global market with discounts. According to the baseline scenario, the size of the discounts will remain at the current level until the end of the forecast horizon.

Considering the price trends in commodity markets from the beginning of the year, the Bank of Russia's baseline scenario assumes that the oil price over the forecast horizon will be higher as compared to the level specified in the MPG 2022–2024, namely 78, 70 and 60 US dollars per barrel in 2022, 2023 and 2024, respectively. In 2025, the Urals crude price will return to its long-term equilibrium level of 55 US dollars per barrel. Furthermore, the Bank of Russia expects gas prices to stay elevated until the end of 2022 and gradually adjust downwards in 2023–2025.

Forecast of the balance of payments

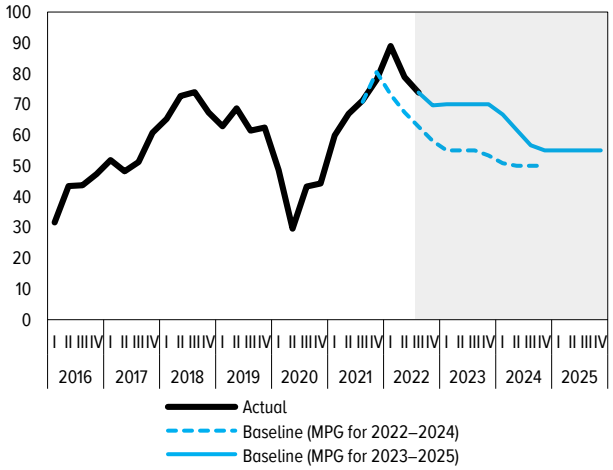
As the actual trends in exports are favourable, it is possible to forecast a record-high current account surplus in 2022 totalling about 253 billion US dollars. However, the value of goods and services exports is expected to decrease over the forecast horizon due to both a further reduction in goods prices and the increasing impact of the sanctions on export quantities.

Concurrently, the value of imports will gradually bounce back after its slump in 2022. The pace of this recovery will depend on the development of new mechanisms in financing and insurance, the arrangement of new logistics routes, and the establishment of new business relations. The growth of imports will also be driven by the mechanism of parallel imports launched at the end of March.

By 2025%, the current account surplus will decline by 94% as compared to the level of 2022, namely to 15 billion US dollars, and the surplus of the balance of goods and services – by 78%. The current account surplus will contract more significantly than the surplus of the balance of goods and services because the primary and secondary income balance will reverse to a deficit.

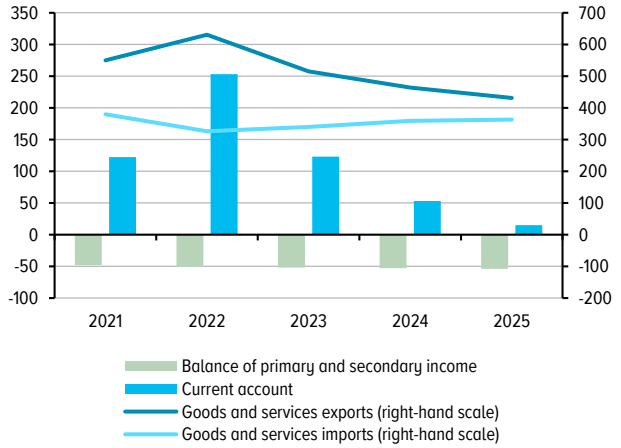
Changes in the financial account balance reflect changes in the current account and are associated with a reduction in the private sector's foreign liabilities and a considerable expansion of banks' foreign assets owing to the accumulation of export revenues exceeding the opportunities to pay for imports and make repayments on obligations.

OIL PRICE PATH IN THE BASELINE SCENARIO *Chart 3.2*
(USD/barrel)



Note. Nominal prices for Urals crude (the arithmetic mean of prices for Urals crude delivered to the Mediterranean and Northwest European markets).
Source: Bank of Russia calculations.

CURRENT ACCOUNT FORECAST IN THE BASELINE SCENARIO *Chart 3.3*
(billions of US dollars)



Source: Bank of Russia.

Forecast of key macroeconomic indicators

In late February–early March 2022, the Russian economy faced a combination of shocks: drastic restrictions on external trade, problems with purchase of raw materials and components, the announced termination of supplies of a number of foreign goods to the Russian market, disruption of well-established external economic relations, and restrictions on payment and settlement infrastructure. Companies were forced to search for new clients, suppliers, and contractors, adapt to the new forms of financial interaction (including a significant increase in required advance payments), and consider, in some cases, possible changes in the range of manufactured products. The Russian economy entered the period of its structural transformation.

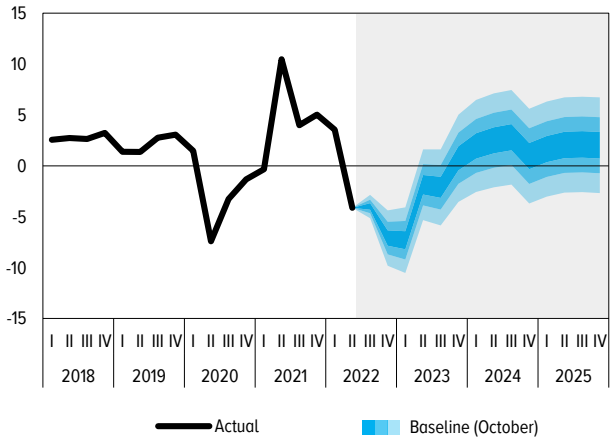
Statistics for 2022 Q2 and high-frequency indicators for 2022 Q3 suggest that the adaptation of the economy to the new environment generally progresses better than expected. Domestic demand was supported by fiscal policy measures, including higher demand from the public sector.

However, the escalation of geopolitical tensions in September 2022, including the subsequent process of the partial mobilisation, increased uncertainty and slowed down economic growth. Supply shocks will probably be more extended over time, and the economy will resume growth in 2023 H2.

In its baseline scenario, the Bank of Russia expects GDP to decline by 3–3.5% as of the end of 2022. The economy will contract by 1–4% in 2023, but will start to grow slightly in 2023 Q4 – by up to 1.5% in annualised terms. Recovery growth will continue in 2024, with the increase in Q4 equalling 0.5–1.5% in annualised terms. In 2025, the pace of economic growth will stabilise in the range of 1.5–2.5%.

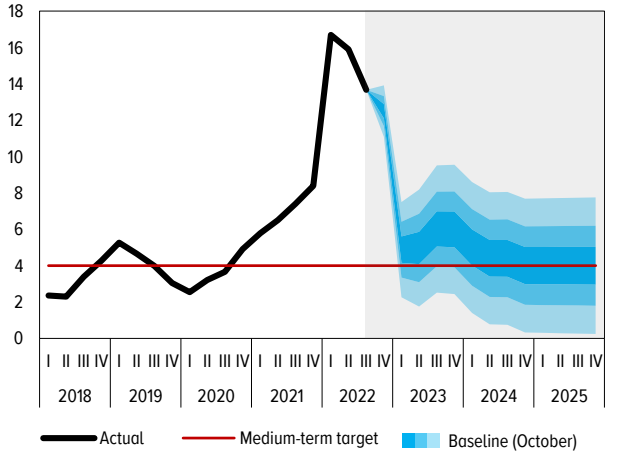
- Household final consumption expenditure will decrease in 2022 by 3.0–3.5% in annualised terms and start to moderately rise in 2023 H2, although the contraction of expenditure as of the end of 2023 will be up to 3%. In 2022–2023, consumer behaviour will depend on the continuing adjustment of households' consumption to the new environment, which might result in higher savings. In 2024, the increase in household final consumption expenditure will speed up to the recovery rates of 3.5–

GDP GROWTH PATH IN THE BASELINE SCENARIO *Chart 3.4*
(% change YoY)



Note. The shaded blue areas over the forecast horizon show the probability of different GDP growth values. The confidence intervals are symmetrical and based on the historical estimates of GDP growth uncertainty. If the situation develops in line with the baseline scenario assumptions, GDP growth will reach a rate within the darkest central area only in 25 of 100 cases. Each of the pairs of the lighter areas accounts for 25 of 100 cases. Overall, GDP growth will reach the rates within the blue areas in 75 of 100 cases. In the remaining 25 cases, GDP growth may reach a rate outside the blue areas; over the forecast horizon, this area is shaded in grey.
Source: Bank of Russia calculations.

INFLATION PATH IN THE BASELINE SCENARIO *Chart 3.5*
(% change YoY)



Note. The shaded blue areas over the forecast horizon show the probability of different inflation rates. The confidence intervals are symmetrical and based on the historical estimates of inflation uncertainty. If the situation develops in line with the baseline scenario assumptions, inflation will reach a rate within the darkest central area only in 25 of 100 cases. Each of the pairs of the lighter areas accounts for 25 of 100 cases. Overall, inflation will reach the rates within the blue areas in 75 of 100 cases. In the remaining 25 cases, inflation may reach a rate outside the blue areas; over the forecast horizon, this area is shaded in grey.
Source: Bank of Russia calculations.

4.5%, including owing to lending. In 2025, the growth of household expenditure will stabilise in the range of 1.5–2.5%.

- Gross fixed capital formation will remain almost unchanged in 2022 relative to the level of 2021. Earlier approved investment projects and additional capital expenditures from the budget have prevented a decline in GFCF. However, already in 2023, the reduction in GFCF might reach 3–7% as, amid the uncertainty of 2022, many investment projects were adjusted for the next years and the factor of fiscal support will become less significant due to the process of gradual consolidation. In 2024, GFCF will expand at a recovery pace amid an increasingly more sustainable transformation of the Russian economy and, in 2025, its growth pace will stabilise in the range of 1–3%.
- Export quantities will contract by 15–16% in 2002, dragged down by the external restrictions and a slowdown of global economic growth. In 2023, exports will shrink by another 7.5–11.5% in real terms due to the impact of the EU sanctions. In 2024, the decline will edge down to 1–3%. In 2025, export quantities might increase slightly by up to 2% owing to the continuing recovery of non-oil and gas exports and service exports.
- Import quantities are forecast to contract by 22.5–23.5% in 2022 due to the imposed external restrictions. In 2023, the reduction in import quantities will slow down. Imports in real terms might even bounce back slightly by up to 0.5%. As the development of new external economic relations progresses, the growth of imports will speed up to 3.0–5.0% in 2024 and stabilise in the range of 1.0–3.0% by 2025.

Annual inflation continues to decelerate gradually. In September, the annual growth of consumer prices edged down to 13.7% from 14.3% in August. A slight acceleration of monthly price growth in September was primarily caused by one-off factors, namely higher

rates in auto insurance and mobile communication. However, despite the actual decrease in annual inflation, households' and businesses' inflation expectations stay elevated.

Until the end of the year, inflation trends will depend on two main factors. Firstly, a moderate disinflationary effect might arise due to the slowdown of consumer activity caused by a higher saving ratio and a slight tightening of non-price conditions in retail lending amid the uncertainty associated with the earlier partial mobilisation. Secondly, the indexation of tariffs scheduled for December will have a slight proinflationary impact. As a result, inflation will be in the range of 12–13% as of the end of 2022, according to the Bank of Russia's baseline forecast.

Inflation trends in 2023 will be influenced by both the continuing structural transformation of the economy and the lagged effects of the earlier partial mobilisation. Although the economy has adjusted to the changed conditions faster than expected, as the effects of inertia are exhausted (including of the reduction in available stocks and the completion of the earlier signed contracts), supply shocks might manifest themselves more strongly, turning out to be more persistent and longer-lasting than predicted before. This in turn might accelerate price growth. Moreover, the lagged effects of the partial mobilisation will manifest themselves gradually through a possible increase in the transfer of labour force across industries and regions, a shortage of some specialists, and proinflationary pressure from wages. Considering all these factors, the Bank of Russia assumes that annual inflation in 2023 will be in the range of 5.0–7.0% exceeding the target.

In 2024, inflation will return to 4% and remain at the target level further on. Given the decision made by the Bank of Russia Board of Directors on 28 October 2022, the average key rate for 2022 will equal 10.6%. If the situation develops in line with the Bank of Russia's baseline forecast, the average key rate for the year will be in the range of 6.5–8.5% per annum in 2023 and 6.0–7.0% per annum in 2024, returning to its neutral level of 5.0–6.0% per annum in 2025.

Forecast of monetary indicators

As forecast by the Bank of Russia, the banking system's claims on the economy will grow by 9–12% as of the end of 2022, which corresponds to the rates of 2018–2020 but is below the actual figure of 2021. In addition to a higher level of interest rates than in 2021, another limiting factor is tighter non-price lending conditions introduced by banks in February–March amid elevated uncertainty. Although banks later on eased some requirements, they remain conservative in selecting borrowers.

The banking system's claims on households will increase by 7–10% in 2022. The forecast factors in the expansion of mortgage lending by 14–17%.

In 2023, in the course of its structural transformation, the economy might face the accumulated effect of the problems that were of secondary importance at the moment of its initial adaptation in 2022. Specifically, a number of the earlier concluded contracts supporting companies' business activity in 2022 will be completed. Besides, enterprises might face a more urgent need for repairs of imported equipment, whereas high-quality components for this purpose are only produced by a limited number of suppliers. Moreover, the effect of the sanctions approved in mid-2022 but actually enacted in late 2022–early 2023 might manifest itself more strongly.

All these processes will make banks stay cautious in their assessments of borrowers, and the growth of corporate lending might slow down to 7–12%. Banks might need more time to check companies' financial solvency in the new environment, verify their business

models, and develop additional criteria for assessments in the case of considerable changes in their operation due to the restrictions on component imports and goods exports.

Conversely, the expansion of retail lending will speed up to 9–14%, which will be associated with a gradual weakening of uncertainty and a deficit in the labour market improving the prospects for higher incomes.

As the economy adjusts to the new structure and inflation and the key rate decrease, the growth rate of lending to the economy will stabilise in the range of 8–13%.

In 2022, money supply (in the national definition) will expand faster than claims on the economy, driven by a significant influence of expansionary fiscal policy and lower interest rates on foreign currency deposits. Further on, as fiscal policy normalises and anti-crisis measures are ended, the contribution of fiscal operations to the expansion of money supply will decrease and its dynamics, as in previous years, will be mostly driven by the growth of claims on the economy.

Influence of a possible stagflation in the world economy on the Bank of Russia's baseline scenario

Problems in the world economy might turn out to be deeper than assumed in the baseline scenario. The observed supply shocks, now considered to be temporary for the most part, are likely to have become irreversible during the more than two years of the effective anti-epidemic restrictions of various degrees of intensity and the strengthening of disintegration processes. Consequently, the level of potential growth of many large economies could have declined. This means that monetary policy tightening by the largest foreign central banks (the USA and the euro area) in 2022 might turn out to be insufficient to steadily decelerate inflation and inflation expectations will no longer be anchored to the target.

Foreign central banks will have to raise their policy rates significantly, but inflation abroad might stay considerably higher, than assumed in the baseline scenario, over the entire forecast horizon. Inflation will be fuelled by unanchored inflation expectations and a moderate expansion of supply amid the continuing disintegration of value-added chains. A long period of persistently high inflation will force consumers to cut spending even more and companies – to limit the number of new employees to be hired and, possibly, to reduce the current headcount in order to decrease costs.

As a result, large advanced economies might face a stagflation, that is, a period of fast inflation, slow growth, and high unemployment. Despite a substantial rise in policy rates, inflation in some advanced economies (USA, euro area) might still surpass the target even by the end of 2025, with the GDP growth rate not exceeding 2%.

As to Russia, a global stagflation will intensify proinflationary pressure due to the pass-through of higher prices in external markets to costs and higher output prices for imported goods. Inflation will be higher than assumed in the baseline scenario. To bring inflation back to the target and prevent secondary effects of inflation expectations, the Bank of Russia will have to keep the key rate at a higher level than expected under the baseline scenario.

As regards the dynamics of Russian GDP, a global stagflation will involve a deeper contraction of output, as compared with the baseline scenario. A further recovery and growth will be much slower. The main determinants of the differences relative to the baseline scenario are a more moderate increase in exports (due to weaker external demand amid a slowdown of the world economy) and more subdued domestic demand (because of both a higher level of the key rate and lower real incomes due to faster inflation).

Lending to the economy will be expanding more slowly than under the baseline scenario as monetary conditions will be tighter. Its growth will be affected by both a higher level of the key rate and a tightening of additional non-price requirements for borrowers amid rising uncertainty and a worsening economic situation.

THE BANK OF RUSSIA'S FORECAST UNDER THE BASELINE SCENARIO *Table 3.2*

	2020 (actual)	2021 (actual)	2022	2023	2024	2025
Core macroeconomic indicators (growth, % YoY, unless indicated otherwise)						
Inflation, % in December YoY	**4.9**	**8.4**	**12.0–13.0**	**5.0–7.0**	**4.0**	**4.0**
Inflation, yearly average, % YoY	3.4	6.7	13.7–13.9	4.5–6.4	4.1–4.8	4.0
Key rate, yearly average, % p.a.	**5.1**	**5.7**	**10.6***	**6.5–8.5**	**6.0–7.0**	**5.0–6.0**
Gross domestic product	**-2.7**	**4.7**	**(-3.5)–(-3.0)**	**(-4.0)–(-1.0)**	**1.5–2.5**	**1.5–2.5**
– % change in Q4 YoY	*-1.3*	*5.0*	*(-7.8)–(-6.4)*	*0.0–1.5*	*0.5–1.5*	*1.5–2.5*
Final consumption expenditure	-4.9	7.2	(-2.5)–(-2.0)	(-2.5)–(+0.5)	3.0–4.0	1.5–2.5
– households	*-7.4*	*9.5*	*(-3.5)–(-3.0)*	*(-3.0)–0.0*	*3.5–4.5*	*1.5–2.5*
Gross capital formation	-4.1	8.9	(-11.5)–(-10.5)	2.5–6.5	3.0–5.0	2.5–4.5
– gross fixed capital formation	*-4.6*	*6.8*	*0.0–1.0*	*(-7.0)–(-3.0)*	*3.0–5.0*	*1.0–3.0*
Exports	-4.1	3.5	(-16.0)–(-15.0)	(-11.5)–(-7.5)	(-3.0)–(-1.0)	0.0–2.0
Imports	-11.9	16.9	(-23.5)–(-22.5)	(-3.5)–(+0.5)	3.0–5.0	1.0–3.0
Money supply (national definition)	**13.5**	**13.0**	**23–26**	**10–15**	**9–14**	**6–11**
Banking system's claims on the economy in rubles and foreign currency, including**	**10.9**	**13.9**	**9–12**	**8–13**	**9–14**	**8–13**
– on businesses	*10.2*	*10.7*	*10–13*	*7–12*	*8–13*	*8–13*
– on households, including	*12.9*	*22.0*	*7–10*	*9–14*	*9–14*	*8–13*
– housing mortgage loans	*21.6*	*26.7*	*14–17*	*10–15*	*10–15*	*10–15*
Balance of payments indicators* (billions of US dollars, unless indicated otherwise)**						
Current account	**35**	**122**	**253**	**123**	**53**	**15**
Goods and services	77	170	305	175	105	68
Exports	*381*	*550*	*631*	*515*	*464*	*431*
Imports	*305*	*380*	*326*	*340*	*359*	*363*
Balance of primary and secondary income	-41	-48	-51	-52	-53	-54
Current and capital account balance	**35**	**122**	**253**	**123**	**53**	**15**
Financial account (including changes in reserve assets)	**39**	**122**	**250**	**123**	**53**	**15**
Net errors and omissions	4	0	-4	0	0	0
Balance of the private sector's financial transactions	50	74	251	124	54	16
Urals crude price, yearly average, USD/barrel	**42**	**69**	**78**	**70**	**60**	**55**

* *Given that from 1 January through 30 October 2022 the average key rate is 11.3%, the average key rate from 31 October through 31 December 2022 is forecast in the range of 7.4–7.6%. Additional information on the format of the key rate forecast is available in the methodological note.*

** *The banking system's claims on the economy mean all claims of the banking system on non-financial and financial institutions and households in Russian rubles, foreign currency, and precious metals, which include loans issued (including overdue loans), overdue interest on loans, credit institutions' investment in debt and equity securities and promissory notes, as well as other forms of equity interest in non-financial and financial institutions, and other receivables under settlement operations with non-financial and financial institutions and households.*
The growth rate of claims is adjusted for foreign currency revaluation. For the purpose of the adjustment for foreign currency revaluation, the growth of claims in foreign currencies and precious metals is recalculated into rubles at the period average RUB/USD exchange rate. Housing mortgage loans, net of claims on such loans acquired by banks.

*** *On the basis of the methodology set out in the 6th edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6). In the financial account, '+' denotes net lending and '–' denotes net borrowing. Final values may differ from the total of the respective values due to rounding.*

Source: Bank of Russia.

3.2. ALTERNATIVE SCENARIOS

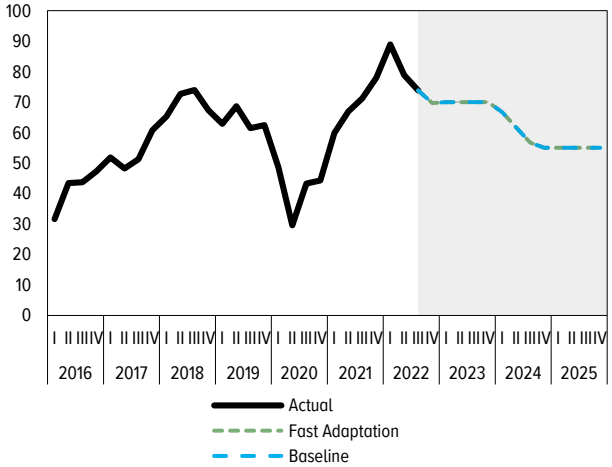
FAST ADAPTATION

The Fast Adaptation scenario, just as the baseline one, assumes that the world economy continues to develop within the earlier formed trends and, despite an increase in policy rates by the largest central banks, it was able to avoid a large-scale recession. The geopolitical environment in this scenario is the same as in the baseline one, just as the oil price, namely 70 US dollars, 60 US dollars, and 55 US dollars per barrel in 2023, 2024, and 2025, respectively.

The value of exports will slightly exceed the level expected under the baseline scenario owing to a slight improvement in transportation and logistics of exported goods. Concurrently, a faster establishment of new economic relations and an expansion of parallel imports, as compared to the baseline scenario, will boost imports over the forecast horizon. The surplus of the balance of goods and services over the forecast horizon will somewhat surpass the figures predicted in the baseline scenario for 2023 and will be close to them in the next years.

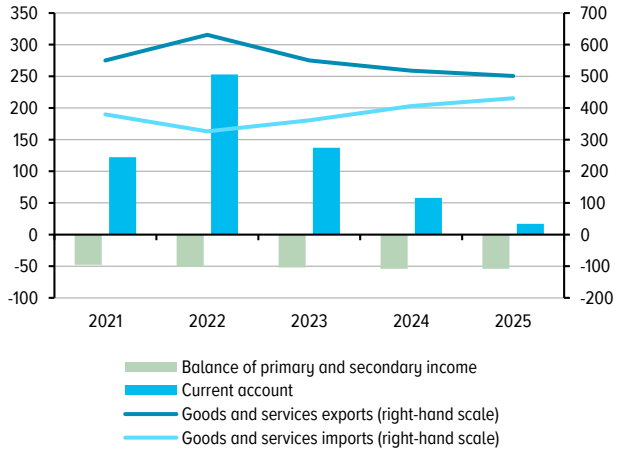
Under this scenario, the Russian economy will be mainly boosted by a quicker rebound of domestic demand. New partnerships and stronger economic relations will contribute to a more active recovery of the economy that might slightly expand already by the end of 2023. Owing to a quicker saturation of markets with both new goods and common items through the parallel import mechanism, supply shocks will be offset much earlier under this scenario, as compared to the baseline one. As a result, inflation will return to the level close to the target already by the end of 2023 amid a more accommodative monetary policy than under the baseline scenario. In 2024–2025, the price growth rate will stay close to 4%, with the key rate being in the neutral range of 5.0–6.0% per annum.

OIL PRICE PATH IN THE FAST ADAPTATION SCENARIO *Chart 3.6*
(USD/barrel)



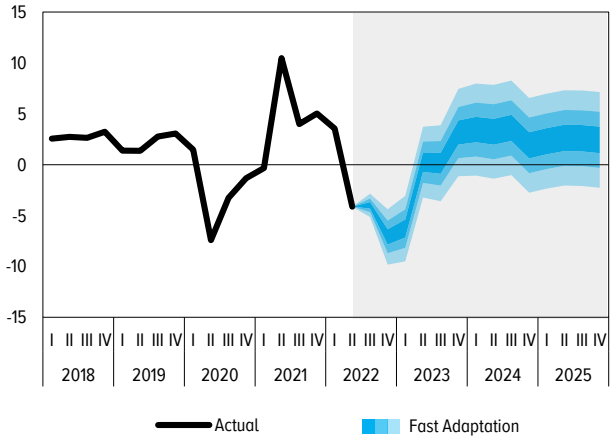
Note. Nominal prices for Urals crude (the arithmetic mean of prices for Urals crude delivered to the Mediterranean and Northwest European markets).
Source: Bank of Russia calculations.

CURRENT ACCOUNT FORECAST IN THE FAST ADAPTATION SCENARIO *Chart 3.7*
(billions of US dollars)



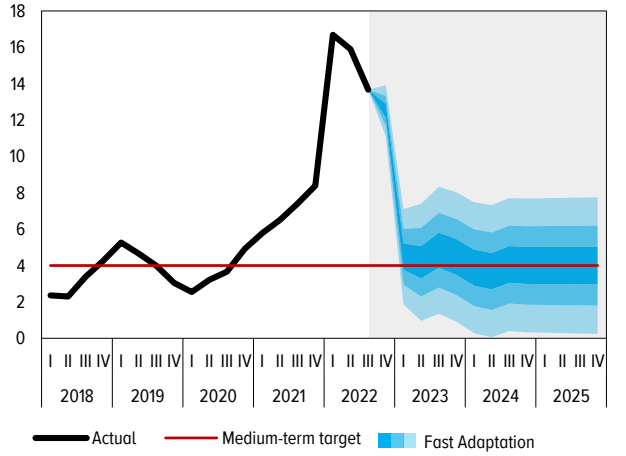
Source: Bank of Russia.

GDP GROWTH PATH IN THE FAST ADAPTATION SCENARIO *Chart 3.8*
(% change YoY)



Note. The shaded blue areas over the forecast horizon show the probability of different GDP growth values. The confidence intervals are symmetrical and based on the historical estimates of GDP growth uncertainty. If the situation develops in line with the assumptions of this scenario, GDP growth will reach a rate within the darkest central area only in 25 of 100 cases. Each of the pairs of the lighter areas accounts for 25 of 100 cases. Overall, GDP growth will reach the rates within the blue areas in 75 of 100 cases. In the remaining 25 cases, GDP growth may reach a rate outside the blue areas; over the forecast horizon, this area is shaded in grey.
Source: Bank of Russia calculations.

INFLATION PATH IN THE FAST ADAPTATION SCENARIO *Chart 3.9*
(% change YoY)



Note. The shaded blue areas over the forecast horizon show the probability of different inflation rates. The confidence intervals are symmetrical and based on the historical estimates of inflation uncertainty. If the situation develops in line with the assumptions of this scenario, inflation will reach a rate within the darkest central area only in 25 of 100 cases. Each of the pairs of the lighter areas accounts for 25 of 100 cases. Overall, inflation will reach the rates within the blue areas in 75 of 100 cases. In the remaining 25 cases, inflation may reach a rate outside the blue areas; over the forecast horizon, this area is shaded in grey.
Source: Bank of Russia calculations.

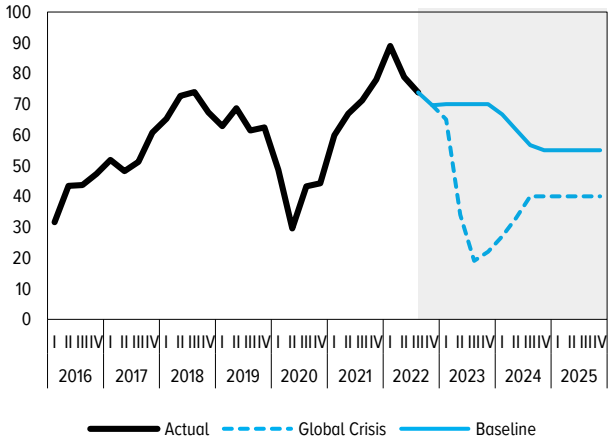
GLOBAL CRISIS

In recent 30–40 years, the active integration of countries into the global environment was one of the main driving forces of the development of the world economy. Countries were forming single markets, harmonising their standards, and developing a common policy on some issues. However, the escalation of geopolitical tensions (including trade wars) in the last few years raises the issue of how long the global integration processes will continue on the same scale in the future or the opposite trends will start to prevail. The signs of a fragmentation are already obvious and have become more intense recently.

The Global Crisis scenario relies on the assumption that the fragmentation in the world economy will become even more notable. Markets will concentrate increasingly more in regional blocks, while countries will focus less on using relative advantages and more – on strengthening the localisation of production facilities. In this context, the scenario assumes that two mutually intensifying risks will materialise simultaneously in early 2023.

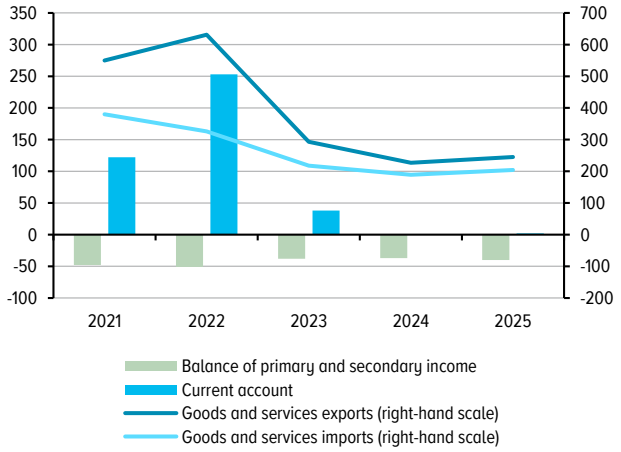
Firstly, the situation in the world economy significantly worsens under this scenario, as compared to the baseline one. Elevated inflationary pressure amid a lower potential of the economy might suggest that the increase in policy rates by the largest central banks might be insufficient to steadily slow down inflation. Inflation expectations might deviate from the target even more than now and will not be anchored any longer. Furthermore, rising interest rates will cause a reduction in asset prices, push up debt servicing costs, and worsen unstable balance sheets of non-bank financial institutions (pension funds, insurance companies, hedge funds, and collective investment funds) worldwide. Besides, the experience of 2022 shows that a less predictable path of interest rates reduces liquidity in key financial asset markets, which might in turn increase the probability of a considerable reassessment of risks by investors. A surge in financial stability risks under this scenario

OIL PRICE PATH IN THE GLOBAL CRISIS SCENARIO *Chart 3.10*
(USD/barrel)



Note. Nominal prices for Urals crude (the arithmetic mean of prices for Urals crude delivered to the Mediterranean and Northwest European markets).
Source: Bank of Russia calculations.

CURRENT ACCOUNT FORECAST IN THE GLOBAL CRISIS SCENARIO *Chart 3.11*
(billions of US dollars)



Source: Bank of Russia.

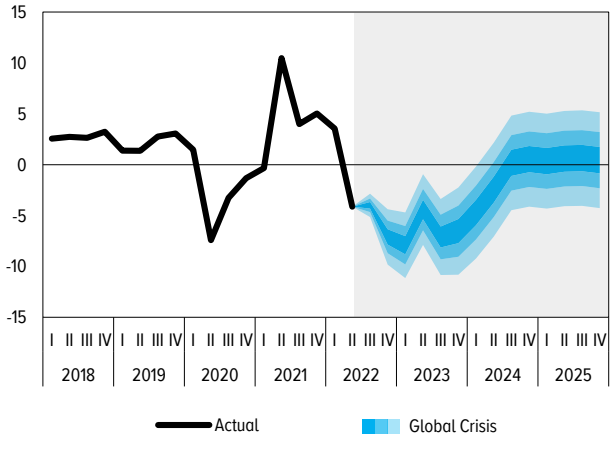
exacerbates the issue of the interaction of monetary policy and financial stability policy. This in turn limits central banks' opportunities to fine-tune their economic policies.

Secondly, this scenario assumes an escalation of geopolitical tensions, including additional restrictions that might be imposed on Russian exports. A contraction of crude oil and petroleum products supply in the global market will entail a short-term surge in the Brent crude price. Foreign companies' costs will start to rise, and inflation will accelerate even more. As inflation expectations are not anchored to the target under this scenario, the largest central banks will have to raise their policy rates above market expectations in order to prevent an inflationary spiral. Soaring interest rates, combined with elevated volatility of the external environment, will cause an extensive materialisation of financial stability risks. An additional considerable increase in policy rates amid large amounts of accumulated debts and declining demand might force investors to reassess financial solvency of borrowers with unsteady incomes and cause a revaluation of high-risk assets in the market. Consequently, the world economy might face an economic and financial crisis, the scale of which might be comparable with that of the 2007–2008 crisis. If a global crisis occurs, this might be a reason for maintaining especially tough restrictions on Russian exports.

The world economy will slow down drastically, which will have a disinflationary effect on overall price growth rates. Prices in global commodity markets will drop, dragged down by lower demand. Moreover, already at the end of 2023, inflation in the largest advanced economies will accelerate again, without having reached its target. On the one hand, demand will be bouncing back, driven by additional fiscal support measures, among other things. On the other hand, an increasing fragmentation of the world economy and restrictions in global trade and cooperation will aggravate supply shocks. After a sharp reduction in policy rates, the largest central banks will have to raise them anew and keep them at a higher level, as compared to the baseline scenario. Despite its gradual deceleration, inflation abroad will not return to the target until the end of the forecast period.

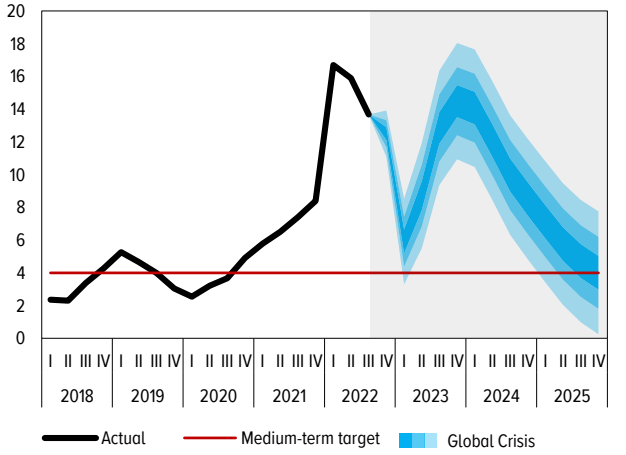
The oil price will be under the pressure of both low external demand amid a recession in some large economies and the geopolitical environment that will increase the discount

GDP GROWTH PATH IN THE GLOBAL CRISIS SCENARIO *Chart 3.12*
(% change YoY)



Note. The shaded blue areas over the forecast horizon show the probability of different GDP growth values. The confidence intervals are symmetrical and based on the historical estimates of GDP growth uncertainty. If the situation develops in line with the assumptions of this scenario, GDP growth will reach a rate within the darkest central area only in 25 of 100 cases. Each of the pairs of the lighter areas accounts for 25 of 100 cases. Overall, GDP growth will reach the rates within the blue areas in 75 of 100 cases. In the remaining 25 cases, GDP growth may reach a rate outside the blue areas; over the forecast horizon, this area is shaded in grey.
Source: Bank of Russia calculations.

INFLATION PATH IN THE GLOBAL CRISIS SCENARIO *Chart 3.13*
(% change YoY)



Note. The shaded blue areas over the forecast horizon show the probability of different inflation rates. The confidence intervals are symmetrical and based on the historical estimates of inflation uncertainty. If the situation develops in line with the assumptions of this scenario, inflation will reach a rate within the darkest central area only in 25 of 100 cases. Each of the pairs of the lighter areas accounts for 25 of 100 cases. Overall, inflation will reach the rates within the blue areas in 75 of 100 cases. In the remaining 25 cases, inflation may reach a rate outside the blue areas; over the forecast horizon, this area is shaded in grey.
Source: Bank of Russia calculations.

for Russian oil. Consequently, the Urals crude price will be notably below the level of the baseline scenario over the forecast horizon. In particular, it will decline from 78 US dollars per barrel in 2022 to 35 US dollars in 2023–2024 and rise only to 40 US dollars in 2025.

The surplus of the balance of goods and services in 2024–2025 will total no more than 2 billion US dollars. The value of exports and imports will be 40–50% lower than predicted under the baseline scenario. The cooperation with Russian counterparties will be affected by both formal and informal restrictions.

A global crisis coupled with a worsening of the geopolitical environment will considerably complicate the structural transformation of the Russian economy and its adaptation to the new conditions. Output will contract in 2023 more than in 2022. It will continue to decline in 2024 and might slightly grow by no more than 1% only in 2025. Some new relations established in 2022 might be broken due to the escalation of geopolitical tensions. The consequences will be especially painful for intermediate and investment goods imports. Technical and investment cooperation programmes will become more complicated. Both the level and potential growth rates of the Russian economy will decline.

Besides, fiscal measures supporting the structural transformation of the economy will be limited under this scenario, as compared to the baseline one, because export revenues will plummet due to lower prices and quantities of oil and gas exports.

Inflation might speed up to 13–16% in 2023 amid a weakening of the ruble and an aggravation of supply shocks. Inflation expectations will go up as well. The Bank of Russia will have to raise the key rate significantly, compared to the baseline scenario, and keep it at an elevated level during a long period in order to prevent secondary effects of inflation expectations and bring inflation back to the target. Even with higher interest rates than assumed in the baseline scenario, inflation will only return to the target by the end of 2025.

According to this scenario, the expansion of lending to the economy will not exceed 5% in 2023. Its growth will be affected by both a higher level of the key rate and a tightening of additional non-price requirements for borrowers amid rising uncertainty and a worsening economic situation. Further on, the expansion of lending to the economy will speed up gradually, but will be still slightly below the level of the baseline scenario even at the end of the forecast horizon.

THE BANK OF RUSSIA'S FORECAST UNDER THE FAST ADAPTATION SCENARIO *Table 3.3*

	2020 (actual)	2021 (actual)	2022	2023	2024	2025
Core macroeconomic indicators (growth, % YoY, unless indicated otherwise)						
Inflation, % in December YoY	**4.9**	**8.4**	**12.0–13.0**	**3.5–5.5**	**4.0**	**4.0**
Inflation, yearly average, % YoY	3.4	6.7	13.7–13.9	3.5–5.5	3.5–4.3	4.0
Key rate, yearly average, % p.a.	**5.1**	**5.7**	**10.6***	**5.5–7.5**	**5.0–6.0**	**5.0–6.0**
Gross domestic product	**-2.7**	**4.7**	**(-3.5)–(-3.0)**	**(-2.0)–(+1.0)**	**2.5–3.5**	**2.0–3.0**
– % change in Q4 YoY	*-1.3*	*5.0*	*(-7.8)–(-6.4)*	*2.5–4.0*	*1.5–2.5*	*2.0–3.0*
Final consumption expenditure	-4.9	7.2	(-2.5)–(-2.0)	(-1.0)–(+2.0)	5.0–6.0	2.0–3.0
– households	*-7.4*	*9.5*	*(-3.5)–(-3.0)*	*(-1.0)–(+2.0)*	*6.0–7.0*	*2.5–3.5*
Gross capital formation	-4.1	8.9	(-11.5)–(-10.5)	8.0–12.0	3.5–5.5	3.0–5.0
– gross fixed capital formation	*-4.6*	*6.8*	*0.0–1.0*	*(-4.0)-0*	*5.0–7.0*	*1.5-3.5*
Exports	-4.1	3.5	(-16.0)–(-15.0)	(-5.5)–(-1.5)	0.5–2.5	0.5–2.5
Imports	-11.9	16.9	(-23.5)–(-22.5)	7.0–11.0	11.0–13.0	3.0–5.0
Money supply (national definition)	**13.5**	**13.0**	**23–26**	**12–17**	**10–15**	**8-13**
Banking system's claims on the economy in rubles and foreign currency, including**	**10.9**	**13.9**	**9–12**	**10–15**	**10–15**	**9–14**
– on businesses	*10.2*	*10.7*	*10–13*	*9–14*	*9–14*	*8–13*
– on households, including	*12.9*	*22.0*	*7–10*	*11–16*	*10–15*	*9–14*
– housing mortgage loans	*21.6*	*26.7*	*14–17*	*12–17*	*11–16*	*10–15*
Balance of payments indicators* (billions of US dollars, unless indicated otherwise)**						
Current account	**35**	**122**	**253**	**137**	**58**	**17**
Goods and services	77	170	305	189	111	70
Exports	*381*	*550*	*631*	*550*	*518*	*501*
Imports	*305*	*380*	*326*	*361*	*406*	*431*
Balance of primary and secondary income	-41	-48	-51	-52	-54	-54
Current and capital account balance	**35**	**122**	**253**	**137**	**58**	**17**
Financial account (including changes in reserve assets)	**39**	**122**	**250**	**137**	**58**	**17**
Net errors and omissions	4	0	-4	0	0	0
Balance of the private sector's financial transactions	50	74	251	138	59	18
Urals crude price, yearly average, USD/barrel	**42**	**69**	**78**	**70**	**60**	**55**

* *Given that from 1 January through 30 October 2022 the average key rate is 11.3%, the average key rate from 31 October through 31 December 2022 is forecast in the range of 7.4–7.6%. Additional information on the format of the key rate forecast is available in the methodological note.*

** *The banking system's claims on the economy mean all claims of the banking system on non-financial and financial institutions and households in Russian rubles, foreign currency, and precious metals, which include loans issued (including overdue loans), overdue interest on loans, credit institutions' investment in debt and equity securities and promissory notes, as well as other forms of equity interest in non-financial and financial institutions, and other receivables under settlement operations with non-financial and financial institutions and households.*
The growth rate of claims is adjusted for foreign currency revaluation. For the purpose of the adjustment for foreign currency revaluation, the growth of claims in foreign currencies and precious metals is recalculated into rubles at the period average RUB/USD exchange rate. Housing mortgage loans, net of claims on such loans acquired by banks.

*** *On the basis of the methodology set out in the 6th edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6). In the financial account, '+' denotes net lending and '–' denotes net borrowing. Final values may differ from the total of the respective values due to rounding.*

Source: Bank of Russia.

THE BANK OF RUSSIA'S FORECAST UNDER THE GLOBAL CRISIS SCENARIO *Table 3.4*

	2020 (actual)	2021 (actual)	2022	2023	2024	2025
Core macroeconomic indicators (growth, % YoY, unless indicated otherwise)						
Inflation, % in December YoY	**4.9**	**8.4**	**12.0-13.0**	**13.0–16.0**	**8.0–9.0**	**4.0**
Inflation, yearly average, % YoY	3.4	6.7	13.7–13.9	9.2–11.8	10.3–12.,0	4.9–5.9
Key rate, yearly average, % p.a.	**5.1**	**5.7**	**10.6***	**11.5–13.5**	**12.0–13.0**	**6.0–7.0**
Gross domestic product	**-2.7**	**4.7**	**(-3.5)–(-3.0)**	**(-8.0)–(-5.0)**	**(-2.0)–(-1.0)**	**0.0–1.0**
– % change in Q4 YoY	*-1.3*	*5.0*	*(-7.8)–(-6.4)*	*(-7.5)–(-5.5)*	*0.0–1.0*	*0.0–1.0*
Final consumption expenditure	-4.9	7.2	(-2.5)–(-2.0)	(-4.5)–(-1.5)	(-1.0)–0.0	0.0–1.0
– households	*-7.4*	*9.5*	*(-3.5)–(-3.0)*	*(-5.5)–(-2.5)*	*(-2.0)–(-1.0)*	*0.0–1.0*
Gross capital formation	-4.1	8.9	(-11.5)–(-10.5)	(-12.5)–(-8.5)	(-2.5)–(-0.5)	0.5–2.5
– gross fixed capital formation	*-4.6*	*6.8*	*0.0–1.0*	*(-12.0)–(-8.0)*	*(-1.0)–(+1.0)*	*0.0–2.0*
Exports	-4.1	3.5	(-16.0)–(-15.0)	(-30.5)–(-26.5)	(-16.0)–(-14.0)	(-0.5)–(+1.5)
Imports	-11.9	16.9	(-23.5)–(-22.5)	(-32.5)–(-28.5)	(-19.5)–(-17.5)	0.5–2.5
Money supply (national definition)	**13.5**	**13.0**	**23–26**	**3–8**	**10–15**	**6–11**
Banking system's claims on the economy in rubles and foreign currency, including**	**10.9**	**13.9**	**9–12**	**0–5**	**3–8**	**7–12**
– on businesses	*10.2*	*10.7*	*10–13*	*0–5*	*2–7*	*7–12*
– on households, including	*12.9*	*22.0*	*7–10*	*(-1)–(+4)*	*3–8*	*7–12*
– housing mortgage loans	*21.6*	*26.7*	*14–17*	*2–7*	*7–12*	*10–15*
Balance of payments indicators* (billions of US dollars, unless indicated otherwise)**						
Current account	**35**	**122**	**253**	**38**	**1**	**2**
Goods and services	77	170	305	76	38	41
Exports	*381*	*550*	*631*	*293*	*227*	*245*
Imports	*305*	*380*	*326*	*218*	*189*	*204*
Balance of primary and secondary income	-41	-48	-51	-38	-37	-40
Current and capital account balance	**35**	**122**	**253**	**38**	**1**	**2**
Financial account (including changes in reserve assets)	**39**	**122**	**250**	**38**	**1**	**2**
Net errors and omissions	4	0	-4	0	0	0
Balance of the private sector's financial transactions	50	74	251	36	1	1
Urals crude price, yearly average, USD/barrel	**42**	**69**	**78**	**35**	**35**	**40**

* *Given that from 1 January through 30 October 2022 the average key rate is 11.3%, the average key rate from 31 October through 31 December 2022 is forecast in the range of 7.4–7.6%. Additional information on the format of the key rate forecast is available in the methodological note.*

** *The banking system's claims on the economy mean all claims of the banking system on non-financial and financial institutions and households in Russian rubles, foreign currency, and precious metals, which include loans issued (including overdue loans), overdue interest on loans, credit institutions' investment in debt and equity securities and promissory notes, as well as other forms of equity interest in non-financial and financial institutions, and other receivables under settlement operations with non-financial and financial institutions and households.*
The growth rate of claims is adjusted for foreign currency revaluation. For the purpose of the adjustment for foreign currency revaluation, the growth of claims in foreign currencies and precious metals is recalculated into rubles at the period average RUB/USD exchange rate. Housing mortgage loans, net of claims on such loans acquired by banks.

*** *On the basis of the methodology set out in the 6th edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6). In the financial account, '+' denotes net lending and '–' denotes net borrowing. Final values may differ from the total of the respective values due to rounding.*

Source: Bank of Russia.

BOX 5. FISCAL POLICY IN 2022–2025

During this period, fiscal policy will be implemented in the conditions of the sanctions, a considerable decline in the Russian economy and its post-crisis recovery. Fiscal policy will be aimed at supporting the Russian economy and promoting its structural transformation.

The existing restrictions made it impossible to conduct fiscal rule-based operations to buy/sell the main reserve currencies in the amount of an increase/decrease in oil and gas revenues (OGR). Besides, the situation required a substantial easing of fiscal policy and an increase in expenditures above the limit stipulated by the fiscal rule parameters. As a result, the Ministry of Finance suspended certain provisions of the fiscal rule associated with using extra oil and gas revenues and planning the maximum amount of federal budget expenditures.

Currently, there are several options for modifying the fiscal rule under discussion. Specifically, the Ministry of Finance is studying the possibility of revising the level of the structural primary deficit and of basic OGR considering the changes in the structural parameters of the global oil market and the sanctions enacted against Russia.

Additionally, the Ministry of Finance is studying the possibility of implementing the operational mechanism of the fiscal rule for replenishing (or spending) the resources of the National Wealth Fund in the currencies of friendly states. If this mechanism is approved, the fiscal rule may resume its countercyclical influence on the ruble exchange rate. In 2022, amid the considerable negative impact of the sanctions, fiscal policy will become expansionary again instead of the earlier planned completion of the fiscal consolidation of 2021–2022. The Russian Ministry of Finance has increased the planned amount of budget expenditures by over 5 trillion rubles (relative to the parameters set by Federal Law No. 390-FZ, dated 6 December 2021).[1] In 2023, in the conditions of updated fiscal rule parameters, the Ministry of Finance will start the transition period of the fiscal consolidation to be completed in 2025. Within the transition period, the Ministry of Finance will be gradually readjusting the federal budget parameters related to the level of basic OGR. The duration of the effective period of the easing of the fiscal policy parameters (compared to the fiscal rule) is explained by the need to finance the measures aimed at supporting the structural transformation of the economy. Besides, to achieve these objectives, significant amounts are to be invested from the NWF in national projects during 2022–2025 (a part of these operations were conducted in January–August 2022).

The increase in planned expenditures is mostly associated with the measures taken to support households, businesses, and the labour market, including preferential and subsidised lending programmes, as well as with the additional allocations to pay monthly child benefits (0.4 trillion rubles).[2] Furthermore, the increase in budgetary expenditures in 2022–2024 is related to elevated inflation in 2022–2023 as the Russian Government, seeking to mitigate its consequences, conducted unscheduled indexations of social transfers in June 2022 and adjusted the amount of the scheduled indexations in 2023.

The tightening of the sanctions and the worsening of the situation in the bond market forced the Russian Ministry of Finance to suspend OFZ offerings for a long time after February 2022, with the return to the bond market at the end of 2022, and to cancel auctions for Eurobond placements. In 2023–2024, the Ministry of Finance of Russia will participate in the OFZ market more actively, but the amount of borrowings is expected to be below the levels specified by Federal Law No. 390-FZ, dated 6 December 2021, in order to limit the negative effect on the

[1] *Federal Law No. 390-FZ, dated 6 December 2021, 'On the Federal Budget for 2022 and the 2023–2024 Planning Period'.*

[2] *Resolution of the Government of the Russian Federation No. 630-p, dated 9 April 2022, and Resolution of the Government of the Russian Federation No. 887-r, dated 15 April 2022.*

situation in the bond market. The main source to finance the budget deficit and debt repayments will be the NWF's resources and other liquid balances in budget accounts with the banking system as their significant amount will be sufficient to finance all obligations in 2022–2025.

The weakening of business and consumer activity in 2022–2023 involves risks for earning non-oil-and-gas revenues (NOGR). In 2022, the reduction in NOGR earned (especially as regards earnings from consumption and imports) can be partially offset by PJSC GAZPROM's dividends (0.6 trillion rubles), other measures to increase the collection of NOGR, and a higher amount of OGR. An increase in OGR might be driven by favourable price trends in the hydrocarbon markets and certain measures in the oil and gas sector.[3] The redistribution of earnings from social contributions from 2022 to 2023 will provide temporary support to business.

The Bank of Russia will factor in the influence of fiscal policy from the perspective of both inflationary risks and, generally, the impact of fiscal policy on monetary conditions and the banking sector liquidity.

[3] A one-time increase in the mineral extraction tax rate in 2022: +1.2 trillion rubles, the expansion of the application of the additional income tax to certain oil and gas fields (up to 0.2 trillion rubles over 2023–2027).

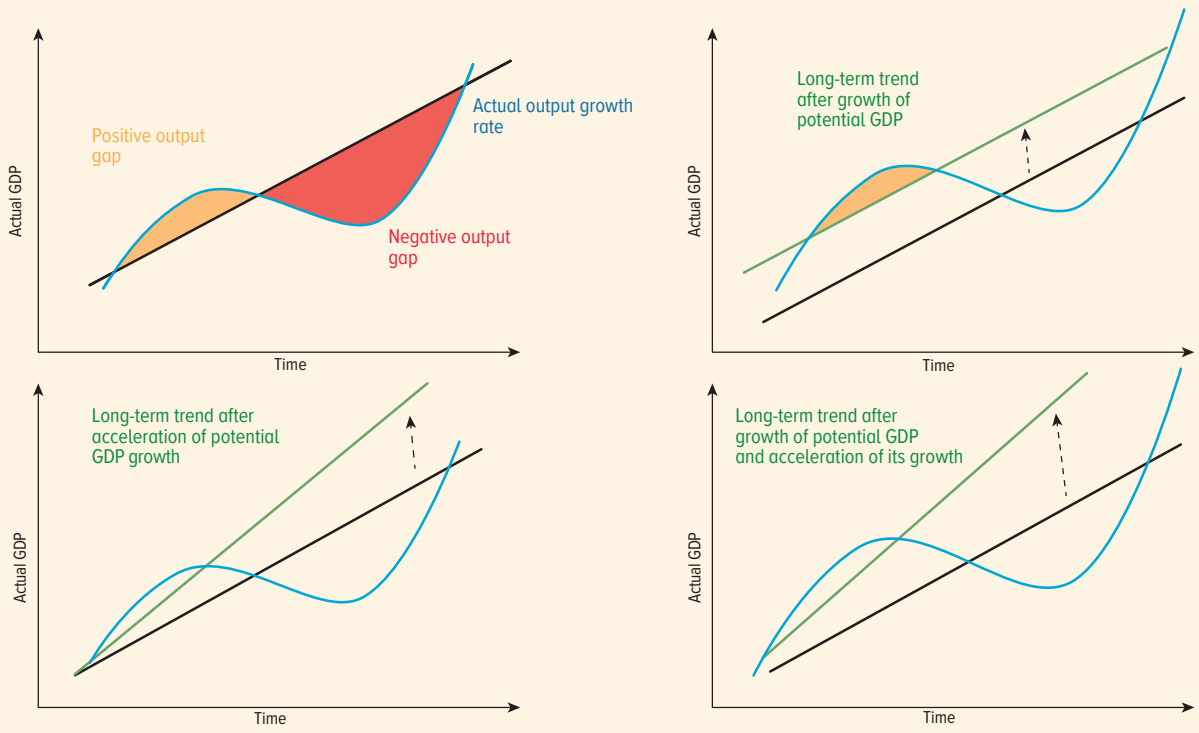
BOX 6.
CONCEPT OF AN ECONOMIC EQUILIBRIUM AND DEVIATIONS OF KEY MACROECONOMIC VARIABLES FROM SUCH EQUILIBRIUM (GAPS)

The concept of a long-run equilibrium in the economy is widely applied in the context of macroeconomic policy. In a long-run equilibrium, all key economic indicators grow at a constant pace determined by fundamental factors. In other words, a long-run equilibrium does not imply any specific point, but rather a steady path of economic development. When the central bank implements its monetary policy under the inflation targeting regime in a long-run equilibrium, consumer prices rise at a pace conforming to the inflation target, and economic growth rates are equal to potential and determined by the growth rate of production factors and the pace of technological advancement.

If there is no external influence, the economy can remain in a long-run equilibrium for an indefinite period of time. Various internal and external cyclical shocks (e.g., rising commodity prices, new technologies, budget expenditure increase, changes in consumer preferences, declining demand for exports, and so on) might cause a short-term deviation of the economy from its equilibrium that is called a gap. Such a gap may arise when economic growth rates, inflation, the exchange rate, unemployment, and other macroeconomic indicators deviate from their long-run equilibrium values.

Economic publications refer to an output gap most often. This is a non-observable variable showing how much actual output has deviated from potential output. Potential output in turn is the level of output the economy is able to generate with the full utilisation of production factors under the existing resource, technological and institutional constraints. In central banks' practice, the relevant concept of potential output is a level of output creating neither

LONG-TERM TREND (POTENTIAL GROWTH RATE) *Chart B-6-1*



Source: Bank of Russia.

proinflationary nor disinflationary pressure, i.e., a level ensuring that inflation stays at the target, provided there are no new shocks. Potential output is not constant – it varies depending on the dynamics of production factors (labour force growth, the embrace of innovative technologies, or the commissioning of new equipment). Therefore, another characteristic of the economy is the growth rate of potential output, or the pace of changes in potential output over time.

When the actual growth rate of output exceeds its potential due to the effect of cyclical shocks, this forms a positive (proinflationary) output gap in the economy. As supply expands not sufficiently compared to demand when the gap is positive, the economy faces elevated inflationary pressure. Price growth starts to exceed the inflation target, and the central bank has to raise its policy rate to ensure that demand returns to an equilibrium with supply. In the opposite case, when the actual increase in output is below the potential pace, the output gap is negative (disinflationary), and price growth is slower as compared to the inflation target. In these circumstances, the central bank needs to reduce the policy rate to drive demand upwards to the level of supply.

When the economy experiences large-scale structural transformations, this might change both the level and the growth rate of potential output. For instance, new technologies might significantly speed up the expansion of potential output, and the commissioning of a new large plant – increase its level. The effect of structural factors alters a long-run equilibrium, and the estimate of the output gap in the new conditions might turn out to be both higher and below the previous one. However, the central bank's response is limited only to the part of the gap that shows the deviation of the actual growth rate from a new equilibrium trend. Monetary policy measures (and other instruments available to the central bank) are not sufficient to return the economy to the earlier long-term trend.

In an open economy, temporary deviations from an equilibrium might be associated with changes in both domestic economic conditions and the external economic environment. A response of macroeconomic policy, including monetary policy, to shocks helps mitigate their consequences for the economy and ensures its prompt return to a long-run equilibrium.

As the output gap is actually a non-observable variable, when using the concept of an economic equilibrium in making its monetary policy decisions, the Bank of Russia factors in the uncertainty associated with the accuracy of the estimates of the gap. Specifically, a comprehensive understanding of a possible deviation of the economy from its equilibrium is formed based on not only empirical estimates using advanced model-based approaches, but also various expert approaches relying on a broad range of observed economic indicators indirectly showing the output gap trend. Such a balanced approach ensures the robustness of monetary policy decisions made by the central bank.

4. MONETARY POLICY OPERATIONAL PROCEDURE IN 2022–2025

OPERATIONAL OBJECTIVE AND INSTRUMENT SYSTEM OF MONETARY POLICY

Within the inflation targeting strategy, the Bank of Russia influences economic activity and price movements predominantly through the interest rate channel. Accordingly, the operational objective of the Bank of Russia's monetary policy is to keep overnight money market rates close to the key rate. The Bank of Russia considers RUONIA (Ruble Overnight Index Average), which is the weighted average interest rate on unsecured overnight interbank ruble loans, as the main indicator of the cost of borrowing in the overnight segment. This market segment is chosen as the target one both because interest rates forming therein act as the benchmark for the majority of interest rates in the economy and because the Bank of Russia is able to almost directly impact their levels using its instruments.

The system of instruments for managing the banking sector liquidity includes required reserves, auctions, and standing facilities to provide and absorb liquidity. According to the Bank of Russia's regulations, banks must maintain required reserves, i.e., certain balances of funds primarily in correspondent accounts opened to banks.[1] Thereby, the Bank of Russia establishes a required level of liquidity both for every particular bank and for the banking sector as a whole. If, as a result of changes in the amount of cash in circulation, budget operations or other factors, the balance in banks' correspondent accounts turns out to be above or below the level that banks need to comply with the reserve requirements and process client payments, the Bank of Russia will absorb or provide funds through its auctions. The upper and lower bounds of the interest rate corridor are determined by interest rates on overnight standing facilities. Its width equals 200 bp and its centre corresponds to the key rate. The interest rate corridor forms the maximum and minimum alternative cost of borrowing and depositing in the interbank market, thus limiting fluctuations in market rates and bringing them closer to the key rate. The Bank of Russia thus creates the conditions promoting an equilibrium in the overnight segment of the money market.

The Bank of Russia monitors the banking sector liquidity on a daily basis, but carries out its main operations to regulate liquidity once a week. In recent years, the banking sector mostly had a substantial structural liquidity surplus. In view of this, the Bank of Russia conducted regular one-week operations to absorb excess liquidity. If the situation alters causing a structural liquidity deficit, the Bank of Russia launches its repo auctions to provide liquidity for a one-week period as well.

The Bank of Russia's monetary policy operational procedure enables the regulator to efficiently manage money market rates both when there is a structural surplus of liquidity and a deficit. The Bank of Russia continues to enhance the technical level and usability of its operations by credit institutions.

[1] *Banks have the right to average required reserves in their correspondent accounts, that is, to maintain the required amount of funds not every day, but only on average over the period from four to five weeks, which makes it possible to flexibly respond to significant changes in the liquidity level, helping stabilise market rates.*

USING MONETARY POLICY INSTRUMENTS AND ACHIEVING THE OPERATIONAL OBJECTIVE OF MONETARY POLICY

In 2022, overnight interbank rates in the money market were mostly in the lower half of the Bank of Russia interest rate corridor. In January–the first half of October 2022, the average deviation of RUONIA from the Bank of Russia key rate (the spread) expanded by 4 bp in absolute terms compared to the previous year, to reach -19 bp (vs the average of -15 bp in 2021). The spread volatility increased to 37 bp over January–the first half of October 2022 (vs 21 bp in 2021).

As in 2021, banks' expectations about key rate changes influenced the level of RUONIA in the market. From January through September 2022, the key rate changed in the range from 7.5% to 20% per annum. The first rise by 1 pp to 9.5% per annum was predictable for the market and, at the beginning of the February required reserves averaging period, resulted in an increase in market rates several days before the Bank of Russia made this decision. In April–September, market participants, to the contrary, expected the key rate to decrease, due to which the negative spread expanded on certain days. When the Bank of Russia Board of Directors held unscheduled meetings on the key rate, such effects either did not exist or were considerably less notable.

In late February–early March 2022, as the surplus of liquidity sharply reversed to its deficit,[2] the volatility of RUONIA surged. At the end of February, after the receipt of tax payments, the Federal Treasury did not increase as usual, but, to the contrary, reduced funds deposited with banks, forming additional balances of budgetary funds in the Treasury Single Account with the Bank of Russia to use them promptly if needed. Besides, after the situation in the financial market stabilised, the Bank of Russia conducted foreign exchange interventions for several days at the end of February, which also caused an additional outflow of liquidity. The amount of cash outside the Bank of Russia rose significantly during this period. Firstly, when economic uncertainty is elevated, households tend to demonstrate high demand for cash. Secondly, responding to the rise in clients' demand for cash, credit institutions increased their own cash holdings to satisfy the demand for cash in full. Thus, nearly a half of the outflow of cash was due to higher balances in banks' cash offices and ATMs. As clients' concerns rose, banks were forced to increase their demand for liquidity to be able to process settlements. Many banks accumulated a considerable liquidity cushion in their correspondent accounts. Banks' turnover on operations were up and became much less predictable.

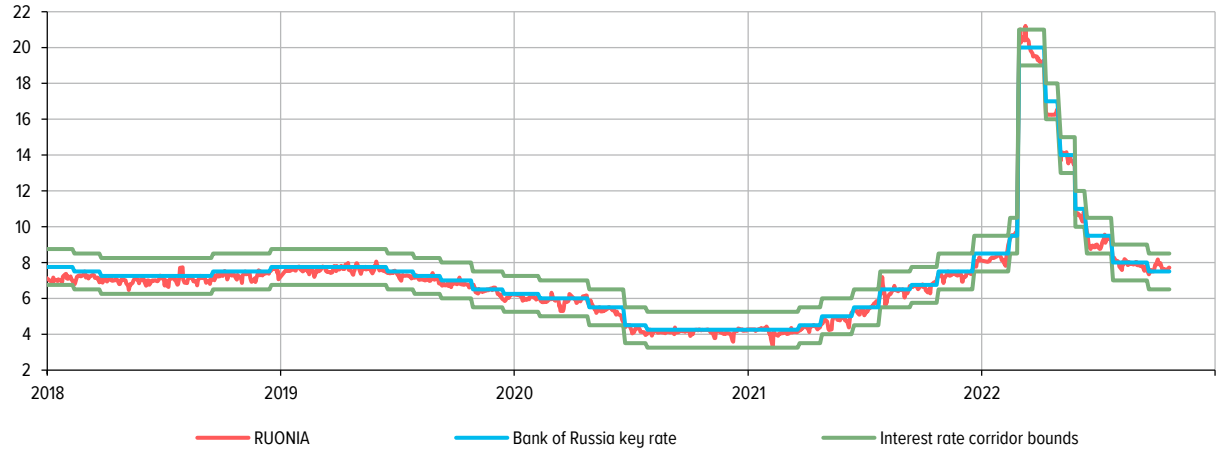
All these factors caused an increase in the cost of borrowing in the money market and a decline in transaction amounts in unsecured lending. Specifically, in early March, some market participants conducted transactions in the overnight IBL segment at an interest rate exceeding the upper bound of the Bank of Russia's interest rate corridor.

In order to support credit institutions' stability and to calm banks that had almost stopped crediting each other, the Bank of Russia implemented a range of prompt measures. In particular, from early March, the Bank of Russia started to carry out its main one-week

[2] *On average, the liquidity position over the required reserves averaging periods in January–September varied from a deficit of 1.9 trillion rubles to a surplus of 2.8 trillion rubles. The review covers the required reserves averaging periods from 12 January 2022 to 11 October 2022. The average value of the liquidity position over a required reserves averaging period enables a more objective assessment (as compared to the analysis of the value as of a specific date) of how long-term factors (namely budget operations and changes in the amount of cash in circulation) influence the banking sector liquidity and reduces the effect of temporary strategies pursued by individual credit institutions to manage balances of funds in their correspondent accounts.*

MONEY MARKET RATES
(% p.a.)

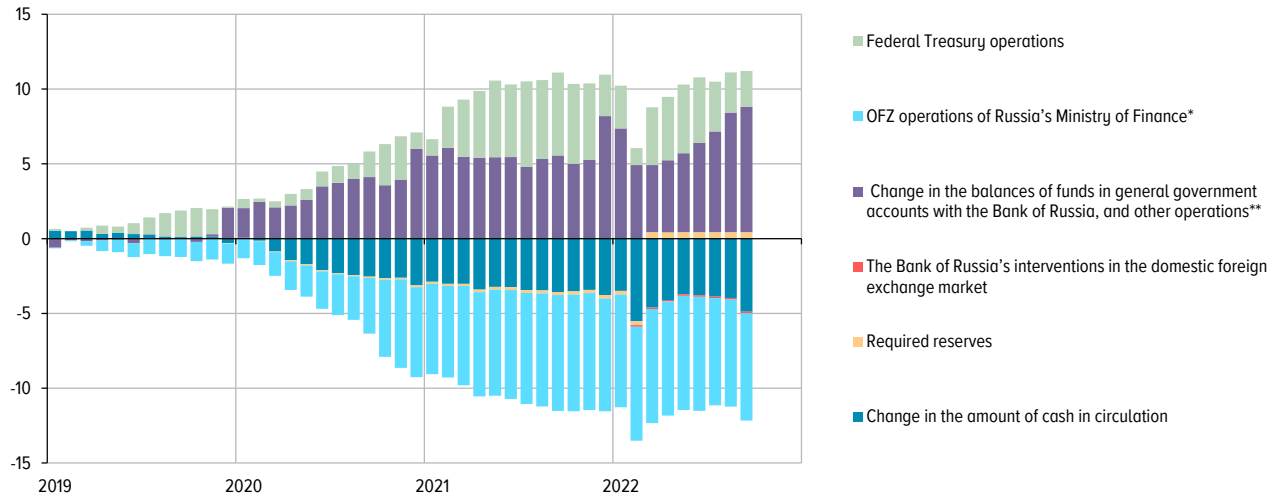
Chart 4.1



Source: Bank of Russia.

FACTORS OF BANKING SECTOR LIQUIDITY
(cumulative, trillions of rubles)

Chart 4.2



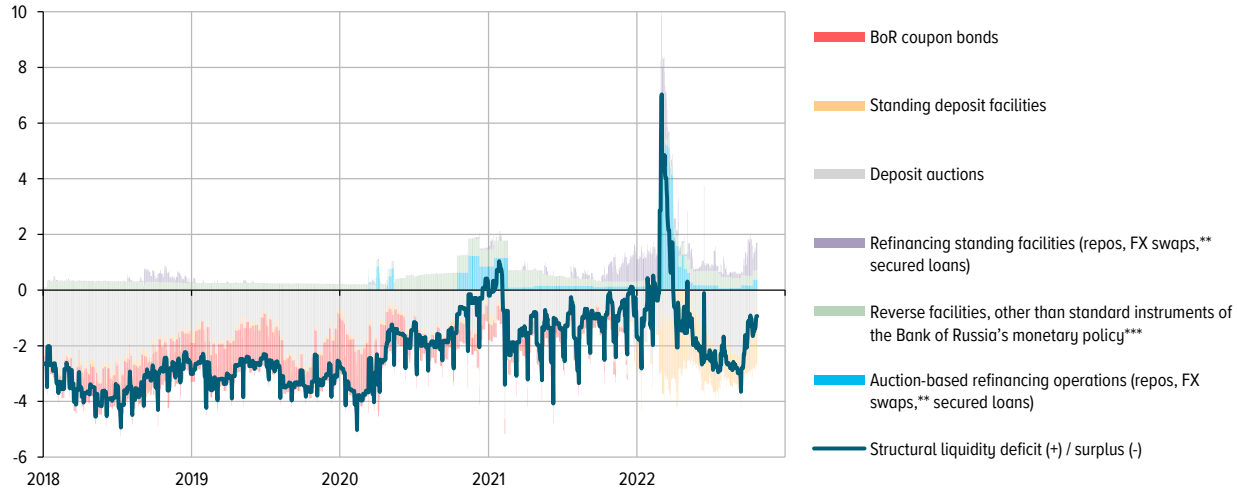
** Excluding coupon payments.*
*** Excluding the Federal Treasury's deposit, repo and swap operations, the Federal Treasury's operations to place funds bank accounts with credit institutions, and OFZ operations of Russia's Ministry of Finance, including fiscal rule-based operations of Russia's Ministry of Finance to buy (sell) foreign currency in the domestic foreign exchange market, and other operations.*
Source: Bank of Russia.

auctions in the form of repos instead of deposits. From 28 February through 1 March, (one-week and fine-tuning) repo auctions were conducted without an announced limit, that is, funds were provided to all participants in the requested amounts against marketable collateral.

Amid a substantial outflow of funds from banks, unpredictable behaviour of clients, a challenging situation in financial markets, and a decrease in confidence among credit institutions in each other, banks could not forecast their own liquidity position as precisely as before. Consequently, they increased the demand for not only refinancing, but also liquidity absorbing operations. In view of this, the Bank of Russia held daily fine-tuning repo auctions and fine-tuning deposit auctions. The limit on these operations was established at 3 trillion rubles, which exceeded banks' need for both liquidity providing and absorbing operations, but formed the signal that credit institutions would not face a deficit of liquidity.

STRUCTURE OF BANK OF RUSSIA OPERATIONS*
(trillions of rubles)

Chart 4.3



** The Bank of Russia's claims on credit institutions under refinancing instruments /the Bank of Russia's liabilities to credit institutions on liquidity absorbing instruments as of start of business.*
*** The Bank of Russia's USD/RUB and EUR/RUB buy/sell FX swaps.*
**** The Bank of Russia's specialised refinancing instruments, Bank of Russia loans issued within irrevocable credit lines, and USD/RUB and EUR/RUB sell/buy FX swaps.*
Source: Bank of Russia.

Partially replacing the money market with its operations, the Bank of Russia thus stabilised the situation.

In addition to repos backed by securities, banks also raised loans collateralised by non-marketable assets. In early March, banks' debt on these operations reached the peak of 5.0 trillion rubles. To lower the operational burden on credit institutions' employees, beginning from 1 March, the Bank of Russia reduced interest rates in loans secured by non-marketable assets and issued for two to ninety days to the level of interest rates on overnight operations. From 25 March, the Bank of Russia started to offer lombard loans for a period from two to ninety days at a floating interest rate that was also equated with interest rates on overnight operations.

As banks' need for liquidity surged at the end of February, the Bank of Russia expanded the Lombard List and eased the requirements for non-marketable assets which were allowed to be accepted as collateral for loans and increased banks' individual limits on loans and repos to enable banks to raise liquidity in larger amounts.[3] Additionally, banks

[3] *On 24 February 2022, the Bank of Russia recommenced to include debt securities of a wide range of issuers in the Lombard List (bonds of the constituent territories of the Russian Federation and municipalities, mortgage-backed bonds, corporate bonds, and Eurobonds). Beginning from 25 February 2022, bonds issued by legal entities that are residents of the Russian Federation and by the constituent territories of the Russian Federation and municipalities to be put on the Lombard List should have the minimum credit rating of the issue (issuer) of 'A-(RU)' / 'ruA-' assigned by the credit rating agencies ACRA JSC / JSC Expert RA. For issue-grade debt securities issued by legal entities – non-residents of the Russian Federation that are put on the Lombard List, the minimum credit rating of the issue should be 'BB' / 'Ba2' assigned by the rating agencies S&P Global Ratings, Fitch Ratings / Moody's Investors Service. Beginning from 28 February 2022, institutions included in the Register and the constituent territories of the Russian Federation and municipalities put on the List of Entities should have the minimum credit rating of 'A-(RU)' / 'ruA' assigned by the credit rating agencies ACRA JSC / JSC Expert RA. From 27 February 2022, the Bank of Russia expanded the list of core activities of legal entities who are obligors or borrowers under loan agreements, the claims on which can be accepted a collateral for Bank of Russia loans. The Register of legal entities undertaking obligations under loan agreements, the claims on which are included in the loan collateral pool without the Bank of Russia's check of accounting (financial) statements or other information about such entities. The List of the constituent territories of the Russian Federation*

were allowed to temporarily fix securities prices for raising liquidity from the Bank of Russia. These measures increased the amount of collateral available to credit institutions in the conditions of high market volatility.

Changes in required reserves were an additional measure to support banks. To provide liquidity as fast as possible, the Bank of Russia cancelled the penalty for non-fulfilment of required reserves averaging as of the end of the February averaging period. The penalty was not charged where the amount of such non-fulfilment did not exceed 20% of the amount that banks were to maintain in their correspondent accounts over that period. This measure was equivalent to a prompt 20% reduction in the averaged part of required reserves. As a result, banks were able to decrease balances in their correspondent accounts and thus quickly release substantial funds. In the March averaging period, the Bank of Russia lowered the required reserve ratios to 2% for all types of reservable liabilities and raised the averaging ratio to 0.9 for banks with a universal licence and banks with a basic licence, which also released additional funds from both the required reserves accounts and correspondent accounts of banks.

In March 2022, the inflow of liquidity into banks resumed. The Federal Treasury and local governments of the Russian Federation started to increase funds deposited with banks. Over March–June, the amount of these operations did not only exceed the outflow observed in February, but even offset the excess of budget revenues over expenditures over that period. After the demand for cash stabilised, banks returned excessive cash from cash offices and ATMs to their correspondent accounts with the Bank of Russia. Furthermore, as deposit rates were up, households later on partially returned cash to banks. By mid-May, the dynamics of cash in circulation came close to the seasonal path. In April, the banking sector returned to a structural liquidity surplus.

As a result of the measures implemented by the Bank of Russia and the decrease in banks' need for liquidity, the situation in the money market started to steady from the second half of March 2022: RUONIA began to form close to the key rate with a slight negative spread. Activity in the money market also started to recover, with turnover in the overnight IBL segment approaching its annual average. However, the number of participants in this market contracted as compared to the beginning of the year, with several major banks accounting for the largest share of borrowings. Besides, banks maintained high demand for more reliable and shorter-term liquidity absorbing instruments, namely secured overnight repos and Bank of Russia standing deposit facilities. Banks are expected to later on redistribute their excess funds from deposits with the Bank of Russia to deposits in the overnight IBL segment.

The demand for Bank of Russia secured standing lending facilities declined amid the inflow of liquidity. Banks only raised additional funds on certain days, which was usually associated with one-off factors, including banks' strategies for required reserves averaging amid their expectations about a reduction in the key rate.

As the situation with liquidity normalised and it reversed to a structural surplus, the Bank of Russia began to scale back the earlier implemented measures, specifically it reduced the limits on fine-tuning operations and then gradually discontinued conducting them on a daily basis. Besides, the Bank of Russia recommenced to determine the value of collateral

and municipalities that may be entities having obligations under loan agreements, the claims on which may be included in the Bank of Russia's loan collateral pool.

based on market prices and tightened the requirements for a number of assets accepted as collateral.

Beginning from the May required reserves averaging period, the Bank of Russia resumed one-week deposit auctions instead of repo auctions. This helped absorb banks' excess liquidity and keep RUONIA close to the key rate. Further on, as the structural surplus expands, the Bank of Russia will also absorb, if needed, a steady excess of liquidity through the issue of coupon bonds, with the amount of each issue to be established, as before, based on the liquidity forecast.

Beginning from the moment of the regulation of required reserves for May 2022, the Bank of Russia raised the required reserve ratios for all categories of reservable foreign currency liabilities.[4] This measure was taken to maintain the trend towards the dedollarisation of credit institutions' balance sheets, among other things. Additionally, after the ratios were reduced in March 2022, compliance with the reserve requirements was not the main stimulus for a number of banks to maintain required funds in their correspondent accounts. To be able to process clients' payments, especially in the evening, banks had to accumulate excess liquidity in their correspondent accounts. This made credit institutions' demand for liquidity more volatile. As a result, banks decreased supply at the Bank of Russia's one-week auctions, but maintained the demand for short-term liquidity absorbing instruments, including for standing deposit facilities, as noted above. Another increase in the required reserve ratios in July[5] made credit institutions' demand for liquidity steadier.

The Bank of Russia continued to carry out one-month repo auctions at a fixed interest rate and one-year repo auctions at a floating interest rate in order to enable individual credit institutions to offset temporarily uneven liquidity distribution in the future as well.

According to the experience of 2022, the system of the Bank of Russia's monetary policy instruments made it possible to fully meet banks' demand for liquidity and offset the impact of external factors even in the conditions of extremely high volatility. Despite the extraordinary shocks that the banking sector had to address, the existing operational procedure demonstrated its efficiency and flexibility and helped stabilise the situation over a short period. An important factor helping attain this goal was the resilience of the banking system achieved before the crisis occurred. Banks had a sufficient amount of high-quality assets that they were able to use for raising the required liquidity from the Bank of Russia. The support measures implemented by the Bank of Russia ensured the smooth functioning of banks and helped quickly restore turnovers in the short-term IBL segment of the money market to the level of early 2022 on average.

In addition to the measures taken to support banks, the Bank of Russia also adopted a range of other measures to aid the most vulnerable industries. Specifically, the Bank of Russia jointly with the Government of the Russian Federation developed anti-crisis

---

[4] *Press release of the Bank of Russia, dated 29 April 2022 (http://www.cbr.ru/eng/press/pr/?id=35954). The Bank of Russia raised the required reserve ratios to 4% for all categories of reservable foreign currency liabilities for both banks with a basic licence and banks with a universal licence.*

[5] *Press release of the Bank of Russia, dated 25 July 2022 (http://www.cbr.ru/eng/press/pr/?id=38068). The Bank of Russia raised the required reserve ratios:*

- *by 1 pp to 3% for all categories of reservable ruble liabilities for banks with a universal licence and non-bank credit institutions; and*
- *by 1 pp for banks with a universal licence and banks with a basic licence and by 3 pp for non-bank credit institutions to 5% for all categories of reservable foreign currency liabilities.*

The new ratios are to be first applied to required reserve amounts for August 2022. The required reserve ratios for all categories of reservable ruble liabilities for banks with a basic licence remain unchanged.

subsidised lending programmes for SMEs. The overall limit of funding provided to banks under these programmes was 0.7 trillion rubles. Businesses can thus raise working capital loans for up to one year and investment loans for up to three years at lower interest rates. The working capital loan programme enabled small and medium-sized businesses to raise subsidised loans (or refinance earlier raised loans) at an interest rate of not above 15% and 13.5% per annum, respectively. Interest rates on investment loans for ultimate borrowers did not exceed 15% and 13.5% for small and medium-sized enterprises, respectively. By early October, banks' debt on these instruments totalled 0.1 trillion rubles.

The Bank of Russia continued to enhance its monetary policy instruments. In the near future, it plans to more precisely classify liquidity providing operations depending on their functions. In particular, the Bank of Russia intends to divide standing facilities into operations for managing money market rates and additional operations for the cases where the Bank of Russia acts as the last-resort creditor. Concurrently, the Bank of Russia seeks to create a system of instruments that would discourage credit institutions to excessively rely on Bank of Russia standing facilities in stable conditions and would enable them to promptly raise the required liquidity in a stress situation of its outflow.

As the Faster Payments System and other payment innovations advance and the digital ruble is introduced, the Bank of Russia Payment System will also be adjusted and developed further. Specifically, in the next few years, the Bank of Russia will develop possible versions of a new procedure for its operation: they will expand banks' and their clients' opportunities to make settlements, on the one hand, and maintain the effectiveness of the monetary policy implementation, on the other hand. Furthermore, already in 2023, the digital ruble will become another factor impacting the banking sector liquidity, along with cash. Credit institutions will start exchange funds from their own correspondent accounts for digital rubles. However, considering that digital rubles will be used in small amounts at the initial stage, these operations will not have a significant effect on banks' liquidity during the next three years.

Besides, the Bank of Russia will continue to improve the required reserve mechanism.[6] Additionally, the Bank of Russia assesses whether it is reasonable to set differentiated required reserve ratios for credit institutions' reservable liabilities depending on the foreign currency type (currency of a friendly or unfriendly country). The implementation of this approach will require amendments to the Bank of Russia regulations and the adjustment of the software complexes used by credit institutions and the Bank of Russia to calculate and regulate the amount of required reserves. In view of this, according to preliminary estimates, this option can be implemented approximately by 1 April 2023.

---

[6] *From May 2022, credit institutions are to comply with a new procedure for creating their required reserves where their amount is calculated by the Bank of Russia for every particular credit institution based on the amount of reservable liabilities identified according to data from certain reporting forms as of the same date (for banks with a universal licence) and data on average monthly balances in balance sheet accounts over the reporting period (for banks with a universal licence and non-bank credit institutions). All credit institutions were obliged to use the averaging mechanism. In the course of the monthly regulation of required reserves by the Bank of Russia, the averaged part of required reserves changes each month, while the balance of funds in the required reserve account – once a year (during the regulation period with recalculation). Additionally, the Bank of Russia plans to update the list of reservable balance sheet accounts considering changes in the accounting of certain liabilities (subordinated instruments), as well as the procedure for calculating the penalty based on the level of the key rate effective during the period of non-compliance. The Bank of Russia will also consider whether it is possible for credit institutions to report balances in their balance sheet accounts for each day of the reporting period as the source data for calculating the amount of required reserves.*

LIQUIDITY FORECAST

As of the end of 2021, the liquidity surplus totalled 1.7 trillion rubles, which is above the Bank of Russia's forecast of 0.6–1.0 trillion rubles presented in the MPG 2022–2024. The main reasons behind this deviation were a larger than expected amount of budget expenditures in December 2021 and lower balances in banks' correspondent accounts.

Maintaining the required reserves during the averaging period, banks consider their expectations about changes in the key rate. During the averaging period, they might keep relatively large balances in their correspondent accounts decreasing the funds deposited with the Bank of Russia on certain days and reduce these balances on other days. Specifically, banks forecast an increase in the key rate at the meeting of the Bank of Russia Board of Directors on 17 December 2021. In view of this, they maintained relatively large balances in their correspondent accounts during the first part of the averaging period and deposited the excess funds with the Bank of Russia at the end of the year.

The concentration of budget expenditures is traditionally high at the end of the year, but it was notably higher in December 2021 than usually. Budget expenditures surpassed the forecast, including due to the financing of a part of the previous years' obligations. As expected, the Federal Treasury reduced the balances of budgetary funds in the Treasury Single Account with the Bank of Russia. As a result, an additional amount of 1.7 trillion rubles was placed with banks over 2021. The dynamics of cash in circulation in 2021 generally stayed close to the previous years' path observed before the pandemic.

The forecast of the structural liquidity surplus for the end of 2022 is estimated in the range of 3.3–3.9 trillion rubles. The forecast takes into account the assumption about the suspension of the fiscal rule by the Russian Ministry of Finance and the financing of a part of budget expenditures from the NWF's resources. These operations and investments from the NWF will be the main sources of the inflow of liquidity into banks. Besides, it is expected that a part of expenditures can be covered by budgetary funds temporarily deposited by the Federal Treasury or local governments with credit institutions. Such operations have a neutral effect on liquidity and do not cause changes in the surplus.

As expected, the amount of cash in circulation will grow by 1.4–1.6 trillion rubles as of the end of 2022. The demand for cash rose substantially at the end of September–the first half of October, but is expected to normalise gradually by the end of the year. However, the overall annual outflow of cash from banks is forecast to exceed its normal seasonal dynamics.

The increase in the required reserve ratios caused a rise in banks' demand for liquidity in the September averaging period. If banks uniformly average their required reserves, their funds in the correspondent accounts with the Bank of Russia will amount to 2.3–2.5 trillion rubles as of the end of 2022.

Further on, the Bank of Russia plans to continue the stage-by-stage increase in the required reserve ratios. These decisions will be made considering the expected rise in the structural surplus, which will help make banks' demand for liquidity less volatile. Budget operations will form the inflow of funds into banks, while the annual increase in the amount of cash in circulation will remain a factor of the outflow of liquidity. According to the Bank of Russia's baseline forecast, the growth path of cash will be in line with nominal GDP trends. However, the gradual expansion of the practice of cashless payments will limit the rise in this indicator. As a result, the amount of the liquidity surplus will be relatively stable over the three-year horizon.

The dynamics of the structural liquidity surplus in 2023–2025 might vary significantly depending on the amount of budget operations and the impact of other liquidity factors. If the NWF's resources are used more actively to finance budgetary expenditures (as in the Global Crisis scenario, for instance), the surplus will be higher, all else being equal. Contrastingly, a smaller amount of resources used from the NWF will reduce the banking sector's structural liquidity surplus over the forecast horizon (as in the Fast Adaptation scenario).

APPENDICES

APPENDIX 1. MONETARY POLICY TRANSMISSION MECHANISM AMID THE STRUCTURAL TRANSFORMATION OF THE ECONOMY

Monetary policy transmission mechanism channels

The key objective of Russia's monetary policy is to maintain price stability, and the main instrument to achieve it is the management of the key rate. Changes in the key rate translate into the dynamics of credit and deposit rates, securities prices, and the ruble exchange rate. In turn, price parameters forming in various segments of the financial market influence savings, consumption, investment, and the volume and structure of foreign trade. As a result, aggregate demand in the economy and the level of prices change.

The system of economic interdependencies, within which key rate changes influence demand and prices, is referred to as the *monetary policy transmission mechanism*. Its main elements that are chains of cause and effect relationships are called *transmission mechanism channels* (Diagram 1).

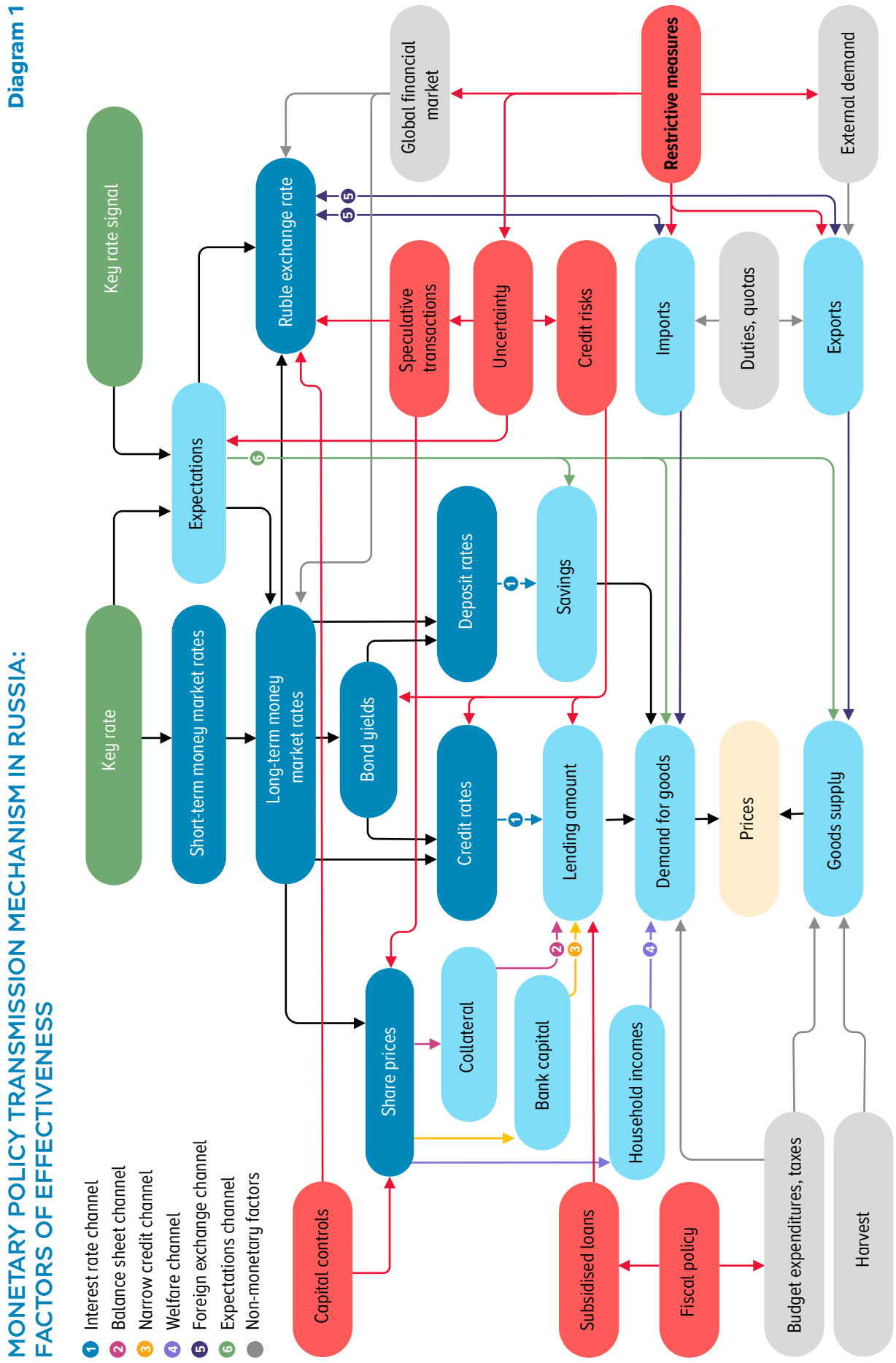
Transmission mechanism channels are mostly based on the impact of the key rate on credit and deposit rates, bond yields, and returns on other financial instruments. This impact is translated in several stages. First, the key rate influences short-term interest rates in the money market, primarily – in the interbank lending (IBL) market. It is unprofitable for banks to deposit funds at a lower interest rate than the one offered by the Bank of Russia or to borrower funds at a higher interest rate than the one offered by the Bank of Russia. Accordingly, overnight money market rates always hover around the key rate.

Repeatedly conducted short-term transactions are an alternative to borrowing (depositing) funds for a longer period. Hence, short-term IBL rates influence interest rates on longer-term transactions (returns on a long-term transaction and multiple subsequent short-term transactions should be commensurate). Moreover, in this case, not only are current interest rates important, but so are expected interest rates determined predominantly by the Bank of Russia's signal of its possible decisions on the key rate. If market participants expect a key rate reduction, interest rates on long-term transactions will be lower than when they expect the key rate to increase. Large banks and financial companies can place available funds in both the money market and the bond market opting for the one that will generate higher returns. Therefore, bond yields adjust simultaneously with the movements of long-term money market rates.

Changes in the situation in the money and bond markets in turn influence credit and deposit rates offered by banks. Generally, this impact has a time lag (it takes time for banks to make a decision on changing their pricing policy). Besides, although the key determinant of credit and deposit rates is the situation in the money and stock markets, interest rates on banking products are also influenced by a variety of factors that are not directly connected with monetary policy (from the level of credit risks in the economy to changes in households' saving preferences).

Diagram 1

MONETARY POLICY TRANSMISSION MECHANISM IN RUSSIA: FACTORS OF EFFECTIVENESS



The most important channel of the transmission mechanism in the Russian economy is *the interest rate channel* that is related to the direct influence of interest rates on decisions regarding consumption, investment, saving and, accordingly, demand in the economy and inflation). Growth of interest rates in the economy brings down the attractiveness of using borrowings for consumption and investment. Moreover, when interest rates are rather high, they reduce the attractiveness of purchases using own funds alike as this money may be deposited in the financial market and generate returns. Consequently, demand in the economy contracts thus containing inflation. To the contrary, a decrease in interest rates boosts the use of own funds and borrowings for consumption and investment, thus supporting demand and creating conditions for higher inflation.

A separate group of the transmission mechanism channels includes the one related to the movements of prices for financial assets, first of all securities. Lower market rates usually push up asset prices (because deposits become less attractive, securities are acquired more actively owing to more affordable credit, and demand in the economy and, accordingly, corporate profit being the source of dividends are expected to rise), whereas higher interest rates drive down asset prices.

An increase in the value of securities held by banks is a source of profit and capital growth and thus provides more opportunities for banks to expand lending (*the narrow credit channel*). Securities held by companies and households can secure loans, and a rise in their value makes it possible to borrower more funds at relatively low interest rates. Hence, an increase in the value of securities expands borrowers' opportunities to raise loans (*the balance sheet channel*).

Besides, many private investors seek to maintain a certain amount of assets (the financial reserve). If prices for securities and, accordingly, welfare of their holders decrease, the latter tend to save rather than consume in order to offset the reduction in the reserve. Contrastingly, higher prices for securities encourage their holders to consume more. This effect is referred to as *the welfare channel* in economic research. Some studies join all the above three channels and use a general term for them – *the asset price channel*).

Interest rates forming in the Russian financial market also influence investors' preferences between ruble- and foreign currency-denominated financial instruments. The higher are interest rates in rubles, the more attractive are ruble-denominated assets, the higher is the demand for rubles, and the stronger is the ruble exchange rate. A strengthening of the ruble contributes to a reduction in the ruble value of Russian imports and, accordingly, product prices in the domestic market. To the contrary, when the ruble weakens (which is due to lower interest rates, among other factors), this makes imports more expensive and generally intensify inflation trends. The influence of the key rate on inflation through the structure and volumes of external economic relations is referred to as *the foreign exchange channel of the transmission mechanism*.

The above-described transmission mechanism channels are complemented by *the inflation expectations channel*. Companies' and households' decisions are influenced not only by the current price level, but also expectations about its future changes. For instance, if market participants expect inflation to rise, they will seek to make purchases before prices go up, which will additionally speed up inflation. Conversely, where prices are expected to go down, this moderates inflation. Owing to the effect of the inflation expectations channel, changes in the Bank of Russia key rate can shift market participants'

expectations and influence inflation even before the above channels of the transmission mechanism start to translate their impact.

Monetary policy of a central bank is an essential factor influencing inflation in the economy. Nevertheless, there are also multiple factors not depending on the Bank of Russia's activities (related to climate, politics, and demography), i.e., *non-monetary factors*, that affect both inflation and intermediate links of the transmission mechanism (the exchange rate, interest rates, and foreign trade volumes). Moreover, it would be hard to find any element in the economy that would not be related (at least indirectly) to the transmission mechanism. Therefore, any structural shifts in the economy (technical, legal, or organisational) also affect the functioning of the transmission mechanism. The importance of individual channels, their efficiency, and even the mechanisms of their functioning may change. In 2022, these changes were especially numerous. In view of this, this subsection only provides an overview of the general principles of the functioning of the transmission mechanism channels.[1] The text of Appendix 1 below describes how the factors that were specific to 2022 influenced the functioning of the transmission mechanism as a whole and its individual channels in particular.

Structural transformation of the economy in 2022 and the transmission mechanism

In 2022, Russia faced dramatic changes in the external economic environment caused by the escalation of geopolitical tensions and large-scale restrictions enacted against the Russian economy, its individual industries, companies, and people. The changes in the external economic situation, the related protective measures taken by the Russian authorities, and the structural transformation of the economy affected all aspects of the functioning of the Russian economy, including the monetary policy transmission mechanism. Nonetheless, the general principle of its functioning described above remained unchanged. The chains of cause and effect relationships ensuring the influence of changes in the Bank of Russia key rate on aggregate demand in the economy and inflation (see the Subsection 'Transmission mechanism channels') continued to function. However, in the conditions of the structural transformation of the economy associated with higher economic and geopolitical uncertainty, there emerged more factors not related to monetary policy that had a significant effect on interest rates, exchange rates, the structure of demand and supply in the financial market, the volumes of external economic transactions, and other elements of the transmission mechanism. As a result, the impact of monetary policy on the economy was distorted (Diagram 1).

The changes in the Russia economy associated with the sanction pressure and the protective measures implemented by the Russian authorities affected all channels of the monetary policy transmission mechanism, but the depth and the duration of this impact considerably varied for different channels. The detailed description of this influence is provided in the subsections of Appendix 1 below. The impact of the changes in the economic conditions on the transmission mechanism channels can be summarised as follows.

[1] *The detailed description of the monetary policy transmission mechanism, including quantitative assessments of the effectiveness of the functioning of its individual channels, is provided in Appendix A 'Monetary policy transmission mechanism in Russia' to the MPG 2021–2023 (http://www.cbr.ru/Content/Document/File/112393/on_2021_eng.pdf). Quantitative assessments of the functioning of the transmission mechanism channels in 2022 are not given due to high uncertainty and extensive changes in the Russian economy making it complicated to assess certain economic interdependencies.*

- The *interest rate channel* continued to function. However, market rates and credit and saving activity were influenced not only by the key rate, but also by specific factors (first of all, risk reassessment associated with the sanctions), which required more significant changes in the key rate to attain the objectives of monetary policy. If no new shocks arise, this effect may be expected to dissipate gradually as the structural transformation of the economy progresses and it adjusts to the changed environment.
- The performance of the *credit and balance sheet channels* was constrained due to the overall decrease in banks' risk appetite amid elevated uncertainty. This effect will moderate as bank management adapts to the changed conditions.
- In March–April, the *welfare channel* did not function due to the impossibility to conduct transactions with securities. Then, the impact of the key rate on securities prices was limited because of large-scale external shocks (price fluctuations in global markets, changes in the parameters of the sanctions). It might take a long time for the welfare channel to restore its effectiveness.
- The importance of the *foreign exchange channel* significantly declined. The key rate influenced the ruble exchange rate slowly and weakly through a number of intermediate links (the impact on domestic interest rates, aggregate demand, and imports). The influence of the external trade environment on the ruble exchange rate strengthened. The importance of the foreign exchange channel will be low until the capital controls are eased.
- The efficiency of the *expectations channel* decreased amid uncertainty and the structural transformation of the economy complicating the estimates of economic prospects. As the economy evolves into a new equilibrium, the functioning of this channel will restore.

Sanction pressure

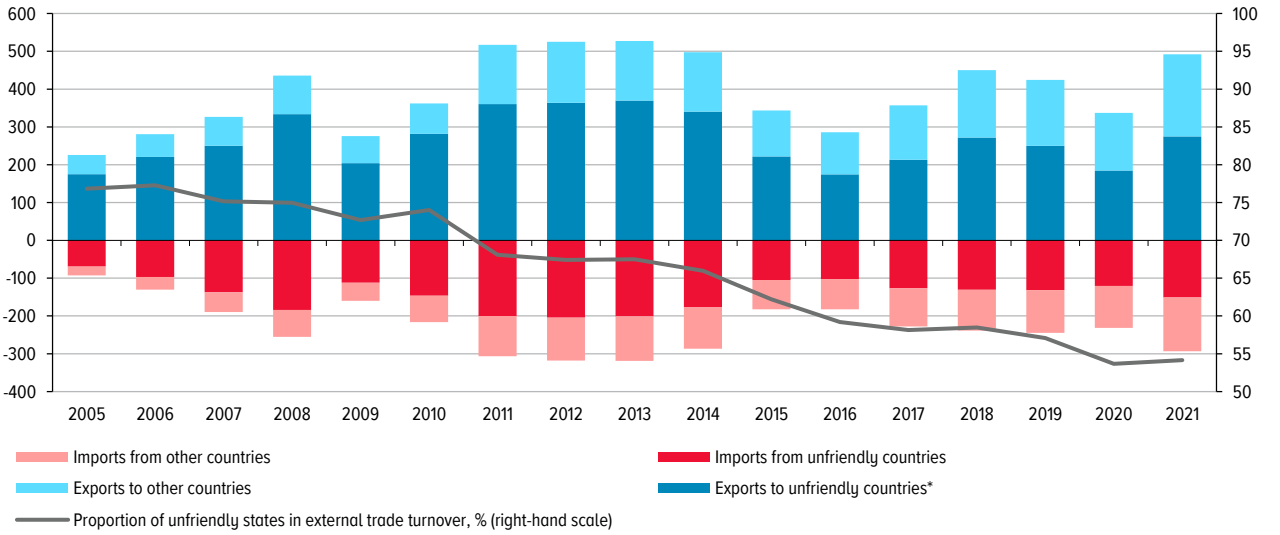
There are three main groups of various structural changes in the economy that affected the monetary policy transmission mechanism. The first one includes the changes associated with unfriendly states' acts (direct restrictions), as well as concerns about potential new measures, due to which a number of large companies decided to stop working with Russian clients or limit communication with them.

As of the beginning of 2022, unfriendly states accounted for nearly 56% and 51% of the total value of Russian exports and imports, respectively. Hence, the sanctions on operations with Russian companies and banks (exports and imports of a broad range of goods, financing, and provision of a number of services) substantially limited the value of external trade operations in 2022.

However, the restrictions did not only directly affect Russia's trade with unfriendly countries, but also limited Russian companies' operations with other states. Firstly, the practice of the so-called secondary sanctions (restrictive measures against Russia's foreign economic partners from third countries) forced potential partners to use a more complex and expensive structure of operations hindering their identification, which reduced the attractiveness of the Russian market. Secondly, a range of restrictions made operations with partners from third parties more complicated (the ban on transport insurance or the closure of seaports increased goods transportation costs, the blocking of assets required new mechanisms of settlements to be arranged, and so on).

STRUCTURE OF RUSSIA'S EXTERNAL TRADE
(billions of US dollars)

Chart A-1-1



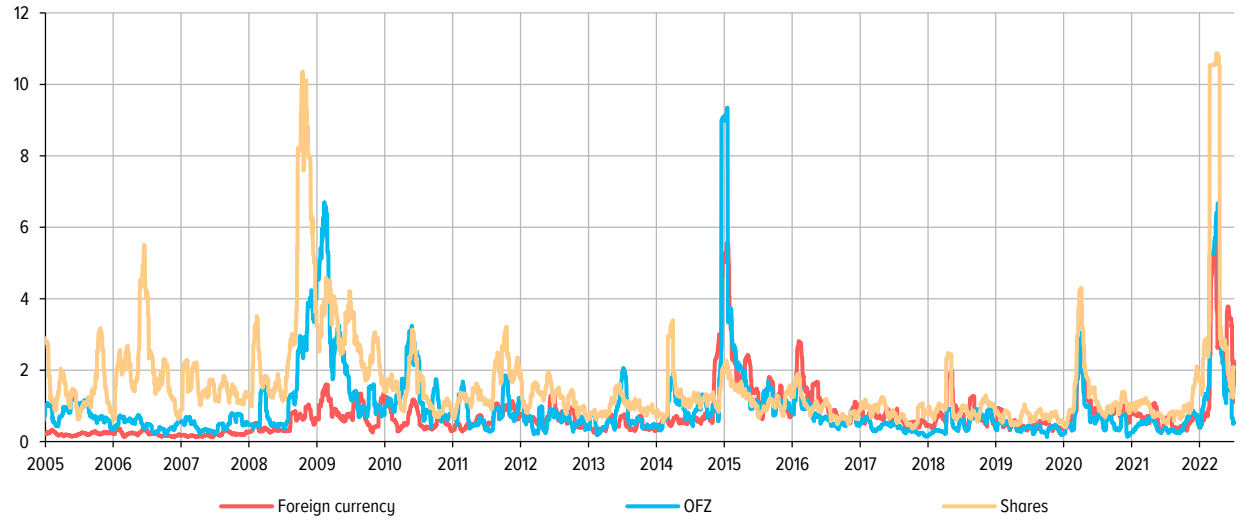
** The countries included in the list of unfriendly countries and territories pursuant to Directive of the Government of the Russian Federation No. 430-r, dated 5 March 2022.*
Sources: Federal Customs Service, Bank of Russia calculations.

The imposed restrictions and expectations of new measures significantly affect the main elements of the foreign exchange channel of the transmission mechanism. Fears to lose funds due to the blocking of foreign assets (for Russian investors) or the ban on operations with certain Russian assets (for foreign investors) constrained the free flow of funds between ruble and foreign currency instruments and, accordingly, the impact of ruble interest rates on the exchange rate of the ruble. In these conditions, demand and supply in the foreign exchange market predominantly depended on changes in the balance of trade. Besides, the contribution of the ruble exchange rate to the dynamics of exports and imports was decreasing as the structure of the balance of trade was largely influenced by the introduction of new restrictions and the development of mechanisms aimed at neutralising these measures. This limited the effectiveness of the foreign exchange channel of the monetary policy transmission mechanism.

The restrictions on Russian companies' operations with counterparties from unfriendly states complicated the activity of certain Russian companies, increasing operational risks and requiring additional costs to overcome the difficulties created. Hence, the imposition of new restrictions made investors and creditors reassess risks and potential profitability of companies that were subject to these measures. This reassessment in turn impacted credit rates and bond yields (through the risk premium included in interest rates) and prices for companies' shares. As the restrictions were extensive, they often affected the majority of companies in the industry. Thus, the enactment of new restrictions could influence the estimates of the situation in the industry as a whole, sectoral exports and imports, and, accordingly, the ruble exchange rate.

However, it was difficult to estimate the implications of the restrictions for the Russian economy as the development of the situation depended on a complex of factors, most of which were of non-economic nature and could not be rationally modelled. In this context, the effect of public announcements and one-off high-profile factors on market participants' sentiment strengthened. Changes in their sentiment might entail panic sales

VOLATILITY IN THE MAIN SEGMENTS OF THE RUSSIAN FINANCIAL MARKET* *Chart A-1-2*
(%)



** Historical volatility was calculated as a root-mean-square deviation of a number of logarithmic changes in an indicator (the USD/RUB exchange rate, the price of a zero coupon bond, the MOEX Index) over the previous 20 business days.*
Sources: Moscow Exchange, Bank of Russia calculations.

or rush purchases of assets, which, coupled with speculative transactions, significantly intensified volatility in a number of segments of the Russian financial market.

Consequently, although the key rate still influenced pricing in the credit, stock and foreign exchange markets in 2022, pricing in financial markets was also considerable influenced by unfriendly countries' restrictions that exacerbated price volatility. This reduced the effectiveness of *the interest rate and foreign exchange channels* of the transmission mechanisms and *all the channels related to price movements in the stock market*.

Furthermore, pricing in the Russian financial market was impacted not only by the already imposed restrictions, but also concerns about potential new sanctions. News about changes in planned restrictions, conflicts, and compromise between unfriendly countries regarding the enactment of another package of measures affected the estimates of the prospects of the Russian economy and its individual segments. This distorted the effect of the expectations channel of the transmission mechanism as well.

Higher uncertainty of expectations associated with both the difficulty to assess the consequences of the already enacted restrictions and the potential imposition of new restrictions also impacted banks' assessment of credit risks and their readiness to expand lending to borrowers. These changes in banks' credit policy, along with changes in the key rate, influenced lending amounts and, accordingly, limited the effectiveness of the credit channel of the transmission mechanism.

Protective measures taken by the Russian authorities

The second group of factors that affected the functioning of the monetary policy transmission mechanism included the measures taken by the Russian authorities to limit the negative consequences of the restrictions.

In order to cushion the pressure of the unfavourable factors on the volatility of the ruble exchange rate and securities prices, as well as to support financial stability, the Bank of Russia introduced a range of restrictions on transactions in the stock and foreign exchange markets and on operations related to capital flows. Specifically, in late February and early March, the Bank of Russia temporarily prohibited short-term sales in the stock market

and sales of securities held by non-residents and suspended trading in the stock and derivatives market sections of the Moscow Exchange. To stabilise the foreign exchange market, the authorities introduced the requirement for selling foreign currency earnings, the ban on issuing foreign currency loans to non-residents, the limits on foreign cash withdrawals from deposits and foreign currency cash sales by banks, and a mandatory fee on operations to buy foreign currency.

As uncertainty decreased and financial stability risks weakened, many of the above measures were eased or cancelled. In particular, the stock and derivatives market sections of the Moscow Exchange resumed trading already at the end of March, the fee for buying foreign currency was cancelled in April, the required percentage of foreign currency earnings to be sold was reduced in May, and the ban on short-term sales was lifted in June.

The introduction of the restrictions on foreign exchange and securities transactions, as well as their further easing and cancellation affected market participants' sentiment and, accordingly, the ruble exchange rate and securities prices more significantly than the key rate changes. Furthermore, due to these restrictions, at least a part of market participants found it more difficult to change the structure of their assets and liabilities. As a result, the key rate had a weaker effect on the ruble exchange rate and securities prices, which decreased the effectiveness of *the foreign exchange channel* of the transmission mechanism and *the channels related to the dynamics of asset prices*.

The deterioration of the external trade environment, as well as rising uncertainty and the resulting weakening of domestic demand adversely affected the situation in Russian companies. To support the national economy, Russian ministries and state agencies ramped up the amounts of the existing subsidised lending programmes and initiated new ones (see Box 7 'Subsidised lending programmes').

Subsidising of credit rates remained the most wide-spread form of preferential lending in Russia. This mechanism was used in the most significant programmes (subsidised mortgages and loans to agricultural enterprises, small and medium-sized businesses, and systemically important companies). A subsidy in these programmes is calculated based on the key rate, which enables ultimate borrowers to raise a loan at a quite low fixed interest rate and credit institutions – to hedge their interest rate risks. The growing proportion of subsidised loans in the market weakened the impact of the key rate on the cost of credit for ultimate borrowers and thus reduced the effectiveness of *the interest rate channel* of the transmission mechanism.

Another form of the government programmes supporting lending is preferential loan guarantees minimising the risk premium included in credit rates. The ultimate interest rate on loans backed by state guarantees is lower than that on unsecured loans, but it is adjusted following changes in the key rate, just as any other market rates. Therefore, such preferential loans do not hinder the functioning of the interest rate channel. However, state guarantees enable banks to expand lending, ignoring the level of an ultimate borrower's reliability. This weakens the link between the level of market rates and lending amounts that is related to banks' willingness to increase their investment in higher-risk assets (the so-called risk-taking channel combining the elements of *the balance sheet and the narrow credit channels*).

The preferential lending programmes were coupled with large-scale preferential restructuring of earlier issued loans. In 2022, the authorities relaunched the programme of loan repayment holidays for SMEs and households. Besides, a special procedure for

accruing interest on loans issued at a floating interest rate was established.[2] A gradual increase in credit rates according to this procedure helped borrowers adapt to the drastic changes in the market environment and avoid a violation of their credit obligations. These measures limited the contraction of lending (including as a result of non-deterioration of the quality of bank assets helping maintain the supply of credit), reducing the impact of the key rate increase in February on credit activity.

Preferential lending was not the only form of support to the economy amid the worsening situation in external trade. Tax privileges, combined with the increase in budget expenditures, contributed to an inflow of funds into the real sector. The funds received by the economy through the fiscal channel enable budget spending unit not to raise new borrowings or repay earlier raised loans regardless of credit rate dynamics.

Structural transformation of the Russian economy

The restrictions imposed by unfriendly states and the measures implemented by the Russian authorities to support the national economy have had a significant effect on the business environment in both external and domestic economic activity, as well as the relative attractiveness of various products and financial services. At least a part of these changes can be expected to remain in the long term, even if geopolitical tensions weaken.

On the one hand, protectionist reasons form the prerequisites for maintaining the restrictions against certain industries of the Russian economy. On the other hand, the events of 2022 H1 have demonstrated that the use of foreign raw materials, equipment, and financial resources does not only offer the advantages of international division of labour, but also involves increased risks of disruptions in supplies and settlements. Regardless of how the situation will be unfolding in the future, Russian companies and their foreign counterparties will consider these risks and rearrange the structure of their operations, seeking to mitigate possible losses.

There is a third group of factors, which affected the functioning of the monetary policy transmission mechanism, that is associated with the structural transformation of the economy caused by the dramatic changes in external economic conditions. In particular, the blocking of foreign assets of some Russian companies has demonstrated that, due to increased operational risks, foreign assets (at least the assets held in the jurisdictions controlled by unfriendly countries) are not a full-fledged alternative to Russian assets. Besides, until recently, Russian businesses concentrated their external financial operations in the largest international financial centres controlled by unfriendly states. The opportunities to increase assets in neutral jurisdictions were limited due to both immature infrastructure and lower versatility of financial centres located in these jurisdictions. Higher risks associated with foreign assets were one of the reasons for oversupply of foreign currency in the domestic foreign exchange market, which resulted in the ruble strengthening not related to the key rate changes. This became an additional factor reducing the effectiveness of *the foreign exchange channel* of the transmission mechanism.

The disorganisation of the established foreign trade relations (due to both direct trade restrictions and more complicated logistics and settlements on export and import transactions) was forcing Russian companies to revise the structure of their purchases and sales. The refocusing on new sales market entails extra costs and frequently makes companies offer discounts to attract buyers, which reduces their profit margin. Similarly,

[2] *Federal Law No. 71-FZ, dated 26 March 2022, 'On Amending Certain Laws of the Russian Federation'.*

the refocusing on new supply sources also involves additional costs, including indirect ones (the adjustment of technological process parameters to the new sources of raw materials, the mastering of new equipment, etc.). These factors reduce the profitability of export and import transactions regardless of exchange rate movements, which also weakens the effectiveness of *the foreign exchange channel* of the monetary policy transmission mechanism.

In the conditions of a local decrease in the profitability of export and import transactions, companies became more interested in the domestic market. Competition in some segments of the Russian market strengthened, which put downward pressure of prices. The impact of this factor on prices was not associated with monetary policy and distorted the functioning of *all channels* of the transmission mechanism.

Changes in external economic operations are altering the business models of Russian companies, and not only of exporters and importers, but also of their suppliers, contractors, clients, and competitors. As a result of changes in the structure of Russian companies' supplies and sales, it is more difficult to assess counterparties' financial position, uncertainty is rising, and companies might refocus on new suppliers and contractors with whom they have not yet well-established business relations. Consequently, this might disrupt the flow of payments and make prepayment requirements more frequent, which increases the demand for short-term corporate loans (working capital loans). The growth of companies' debt burden associated with the expansion of short-term lending limited their opportunities to flexibly manage their loan portfolios and reduced the effectiveness of *the interest rate and credit channels* of the transmission mechanism.

The structural transformation affected not only companies, but also households. In particular, as previously, households transferred their savings to short-term deposits amid higher uncertainty and a significant rise in short-term deposit rates. However, in 2022, the scale of this transfer substantially surpassed the figures recorded over previous episodes of instability: namely, over March–April, over a half of all long-term ruble deposits were transferred to the short-term segment of the market. As the maturity of household deposits shortened abruptly, this increased their turnover, accelerating the impact of the key rate on changes in households' saving behaviour and strengthening the effectiveness of individual elements of *the interest rate channel* of the transmission mechanism.

Additionally, as medium-term economic expectations became less uncertain, households' propensity to save was up, which reduced the demand for consumer loans, among other things. Coupled with a more conservative credit policy that banks stick to during instability periods, this caused a slump in consumer lending transactions. As a result, the impact of monetary policy on consumer lending amounts and consumer demand weakened. Changes in households' preferences were short-term. Already in 2022 H2, the interest in long-term deposits started to recover and the demand for consumer loans began to rise.

Restoration of the effectiveness of the transmission mechanism

It should be noted that all the above factors reducing the effectiveness of the monetary policy transmission mechanism are temporary. There are already mechanisms that have been developed to mitigate the adverse consequences of a part of the restrictions imposed by unfriendly countries. Besides, the latter have introduced some exceptions to the sanctions or eased them where they had underestimated the negative implications for themselves.

Considering the increasing imbalances in global markets, the negative consequences of the sanctions might be expected to be eased further.

Already now, the Russian authorities are easing the measures that they took to limit financial stability risks. These measures were initially introduced as temporary ones, and they are likely to be eased further as threats to financial stability weaken.

Finally, the influence of the structural transformation of the economy on the efficiency of the monetary policy transmission mechanism is connected not with the structure of the economy, but rather with the transition from one structure to another and with the costs incurred by the economy in the course of its adjustment to the changed external conditions. As the economy adapts to the new environment, establishes new business relations, and develops a new transportation and settlement infrastructure, the need in structural shifts will be decreasing. Therefore, the impact of the structural shifts in the economy on the elements of the monetary policy transmission mechanism will be weakening as well, while the effectiveness of this mechanism will restore.

However, the future restoration of the efficiency of the transmission mechanism does not mean that it will recover all its forms and specifics that prevailed before 2022. The structural transformation of the economy affects all elements of the economy in one way or another, including the monetary policy transmission mechanism.

In particular, a gradual replacement of US dollars and euros for rubles and partner countries' currencies in foreign trade settlements might become an important factor influencing the functioning of the transmission mechanism. If the proportion of rubles in foreign trade contracts (including as the price currency) grows, this will reduce the significance of the foreign exchange channel of the transmission mechanism as movements of the ruble exchange rate will have a weaker effect on the volumes of export and import transactions. Besides, considering the increasing diversification of the currency structure of foreign trade payments, exports and imports will be influenced by the exchange rate of the ruble against a wide range of foreign currencies. In this case, the distorting impact of the shocks related to the markets for certain foreign currencies on the efficiency of the foreign exchange channel will be weakening. The ultimate change in the contribution of the foreign exchange channel to the functioning of the transmission channel will depend on the ratio of the ruble and partner countries' currencies in the structure of foreign trade settlements.

The expected growth of international settlements in rubles might influence not only the foreign exchange channel of the transmission mechanism. The rise in such settlements increases the need for rubles to service the settlements and, accordingly, the demand for ruble loans from both Russian companies and their foreign counterparties. As the influence of external trade on demand trends increases in the credit market and the range of borrowers expands, banks will need to adjust their credit policy, which will make the functioning of *the credit channel* more complicated. Besides, as the amount of credit transactions in rubles associated with servicing foreign trade operations goes up, the proportion of ruble-denominated financial instruments in foreign assets and Russian banks' liabilities might be expected to increase. This will weaken the influence of the situation in the international foreign exchange market on Russian banks' financial position and improve their financial stability, thus enhancing the effectiveness of *all channels* of the transmission mechanism.

A further deepening of import substitution processes might become yet another aspect of the structural transformation of the economy impacting the transmission mechanism.

In addition to the government programmes supporting domestic enterprises, this will be driven by the reassessment of the risks associated with the stability of imports and the urge to mitigate these risks. As the share of external trade in GDP contracts, the role of *the foreign exchange channel* for the transmission mechanism might be expected to decrease, whereas *the interest rate channel* and other channels associated with the affordability of borrowings in the domestic financial market are likely to become more important.

Justifiably, the rise in operational risks on external financial transactions gradually weakened the relations with the largest financial centres controlled by unfriendly states. This creates the conditions for both diversification of external financial relations and the development of the domestic financial market. As the range of partners in international financial transactions expands, the influence of non-monetary factors related to fluctuations in certain foreign financial markets on domestic demand and inflation might be expected to weaken. If the domestic financial market develops amid the decline in transactions in the largest financial centres, this will increase the efficiency of *the interest rate and credit channels* of the transmission mechanism.

It is worth emphasising that operational risks and transaction costs related to Russians' investments in foreign securities have risen. The restrictions against the largest Russian banks and their affiliated brokers have reduced the attractiveness of investments in foreign securities. Hence, the proportion of Russian savings in household savings might be expected to grow in the medium term. As Russian assets, in contrast to foreign ones, are sensitive to the influence of the Bank of Russia's monetary policy, this will increase the efficiency of *the welfare channel* of the transmission mechanism.

Developing its monetary policy, the Bank of Russia takes into account the structural transformation of the economy in general and the changes in the functioning of the transmission mechanism in particular. Considering elevated uncertainty, the Bank of Russia will carry out frequent monitoring of the processes in the financial sector and the economy as a whole, adjusting its policy as it identifies new trends or changes in the existing ones.

BOX 7. SUBSIDISED LENDING PROGRAMMES

An important factor of the performance of the Russian credit market is preferential lending programmes primarily providing for subsidising interest rates on loans. Russia has been using such programmes since the beginning of the 21st century (subsidised lending in agriculture and aircraft leasing were launched back in 2002–2003). However, they became large-scale only in the second half of the 2010s. A decrease in inflation and its higher predictability helped promote long-term lending: in 2001, loans for more than three years accounted for as little as 6–7% of the portfolio of ruble loans to non-financial organisations, whereas in 2015, this figure rose to 43–46%). Companies were developing their business models using borrowings more actively, and subsidised lending programmes became more efficient in these conditions.

In 2015–2019, there was a range of extensive subsidised lending programmes (family mortgage, subsidised lending to agricultural companies and to small and medium-sized businesses) and several dozens of specialised programmes launched to support certain industries, regions, and even infrastructure projects. Most often, their model involves subsidies paid to creditors: banks issue a loan to a borrower at a subsidised interest rate stipulated by the terms of the programme, which is considerably below the market level, and receive interest at this rate, and the government agencies responsible for the implementation of the programme then pay a subsidy to the creditor bank to make up for its lost revenue. Normally, this subsidy is calculated based on the Bank of Russia key rate. Banks consider this model fairly attractive as they can thus not only earn revenues, but also be protected against interest rate risk. When the key rate is raised, the growth of interest expenses on deposits is offset by an increase in the subsidy paid. Hence, seeking to expand lending under subsidised programmes, many banks offer a discount on the credit rate to their borrowers according to the terms of the subsidised lending programme.

In recent years, subsidised programmes have become one of the main instruments to promote economic activity and cushion the consequences of external shocks. In particular, during the instability period caused by the coronavirus pandemic, the Government launched subsidised lending programmes to maintain employment (the so-called Payroll Fund 0, Payroll Fund 2.0, Payroll Fund 3.0 programmes) and a subsidised mortgage lending programme for a wide range of borrowers. In 2022, to alleviate the consequences of the restrictions, the Government offered large-scale subsidised lending programmes for systemically important enterprises and importers of high-priority products, extended the subsidised mortgage lending programme, and launched a number of specialised programmes. The proportion of subsidised loans in the total portfolio surged during this period.

Subsidised lending programmes are widely used because this instrument enables a local increase in demand exceeding many times budget expenditures, which can be called a subsidy multiplier. This effect is most noticeable in subsidising interest rates on short-term loans: for instance, a subsidy reducing the interest rate on a six- and twelve-month loan by 8 pp makes it possible to ramp up lending by an amount that is 25 and 12 times higher, respectively, than expenditures for subsidising.[1] Contrastingly, when a similar subsidy is paid for a 15-year loan, final expenditures for subsidising the interest rate might exceed the growth of lending.

Generally, interest rates on subsidised loans do not depend on monetary policy, easing monetary conditions in the economy and distorting the functioning of the interest rate channel of the transmission mechanism. As estimated by the Bank of Russia, by mid-2022, loans issued

---

[1] *This estimate relies on the assumption that all loans at a subsidised interest rate are raised by those borrowers who would not raise them on market terms. According to the monitoring of the implementation of the subsidised lending programmes, a part of such loans are raised by borrowers who are ready to pay interest at a market rate. Therefore, the actual effect of the subsidised lending programmes on domestic demand is below the above estimates.*

under subsidised corporate programmes accounted for at least 12.5% of the portfolio of ruble-denominated corporate loans (above 5.0 trillion rubles). In the mortgage market, these figures exceeded 20% and 2.5 trillion rubles, respectively.[2] The easing of monetary conditions caused by rising amounts of subsidised transactions is a non-monetary factor considered by the Bank of Russia when developing and implementing its monetary policy.

Subsidised loans are not the only non-market component of banks' loan portfolio. Specifically, the amounts of loans to affiliated borrowers exceeded subsidised lending until recently. Nevertheless, a large proportion of such transactions is lending to financial institutions being part of the same banking group. As regards lending to non-financial borrowers, the impact of this factor is minor. Besides, by offering more attractive price and non-price conditions to affiliated borrowers, a bank is guided by the same aim to maximise its profit as in market-based lending. However, in this case, along with interest on a loan, the bank also has other sources of profit (dividends, revenues from projects implemented jointly with the borrower, and so on). Therefore, changes in the key rate ultimately translate into interest rates and amounts of lending to affiliated borrowers. Although complicating the functioning of the interest rate and credit channels of the transmission mechanism, such transactions do not hinder it.

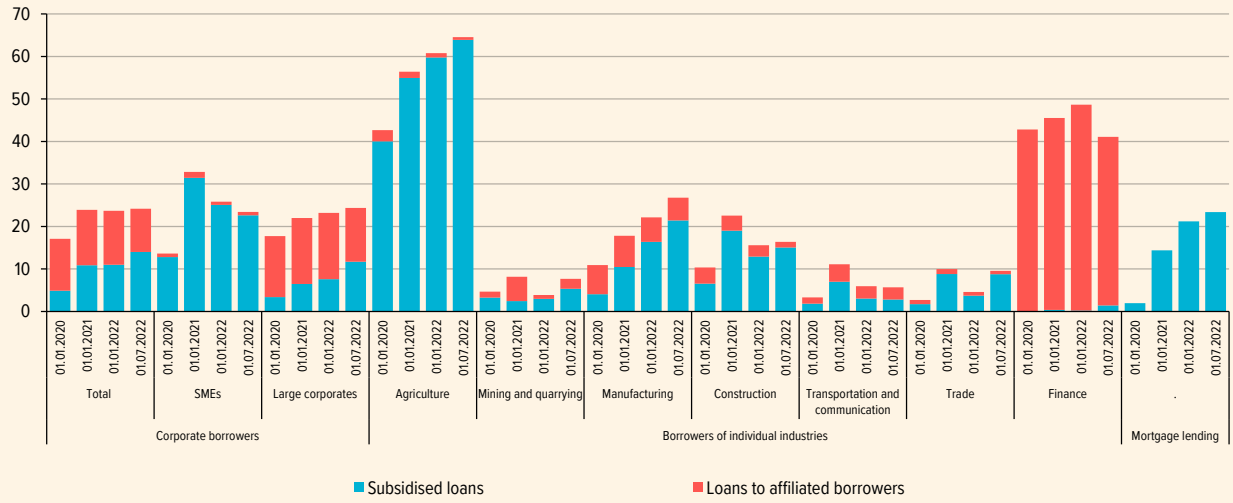
The wider is the range of borrowers and the longer is the period of a subsidised lending programme, the greater are the macroeconomic imbalances it might cause. On the one hand, in order to weaken the proinflationary effect of such programmes, the Bank of Russia has to pursue a tighter monetary policy, and a reduction in the key rate for some groups of borrowers is accompanied by its increase for all others. On the other hand, subsidies ensuring lower interest rates are paid from the budget (that is, taxes paid by the entire economy), being a mechanism of funds redistribution among various groups of economic agents. This is especially important in subsidising interest rates on long-term loans as expenditures for subsidies during a long period remain a burden on the budget, decreasing the opportunities to pursue a flexible fiscal policy.

In view of this, the Bank of Russia believes it reasonable to support the national economy in general, including by achieving predictably low inflation and, accordingly, the affordability of investment resources. Conversely, subsidised lending programmes can be efficient for supporting small groups of socially important borrowers (regional or sectoral) or promoting the restoration of demand during economic downturns (provided that these programmes are ended after their goals are achieved).

[2] *Available financial data sources, including banks' reporting, do not provide integrated information on the accumulated amount of subsidised loans. The outstanding amounts on subsidised loans given in the text of the box and in the charts are the Bank of Russia's assessments based on data from multiple sources.*

LOAN PORTFOLIO STRUCTURE
(%)

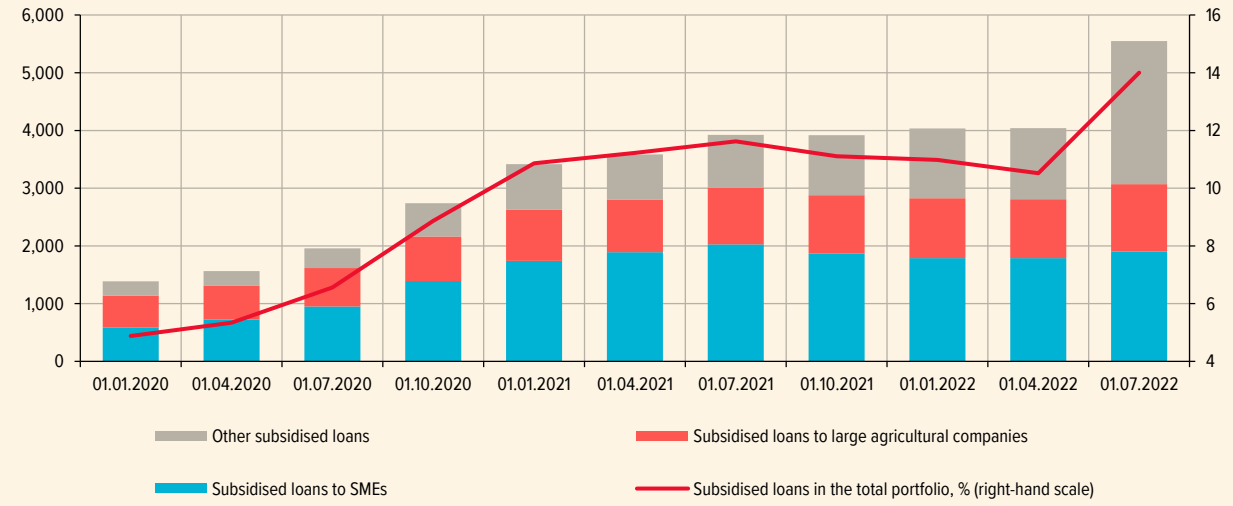
Chart B-7-1



Sources: Bank of Russia, DOM.RF.

STRUCTURE OF THE PORTFOLIO OF SUBSIDISED RUBLE-DENOMINATED CORPORATE LOANS
(billions of rubles)

Chart B-7-2



Source: Bank of Russia.

BOX 8. IMPACT OF CAPITAL CONTROLS ON THE MONETARY POLICY TRANSMISSION MECHANISM

In 2022, external conditions for the Russian economy altered dramatically. Due to the sanctions enacted against the Bank of Russia and large Russian banks, it was necessary to introduce capital controls in the Russian economy. The foreign sanctions and the response measures have significantly reduced the dependence of the Russian financial system on the external environment. This in turn has changed the view of how to respond to shocks of various nature through monetary policy measures and how these decisions affect the economy. In other words, the monetary policy transmission mechanism has altered.

The main change in the monetary policy transmission mechanism is related to the functioning of the foreign exchange channel, namely its role has been notably decreasing. If an economy has no capital controls in place, the exchange rate of its national currency depends on trade and financial flows recognised in two accounts of the balance of payments – the current account and the financial account. Active participation of national and foreign financial institutions in the foreign exchange market helps smooth out exchange rate fluctuations, including seasonal ones. Additional mechanisms, such as the fiscal rule, smooth out the exchange rate fluctuations associated with global prices for commodities (e.g., oil, copper, etc.).

If an economy has capital controls in place, the influence of the financial account on the exchange rate substantially decreases, and the balance of trade becomes the main factor impacting exchange rate movements. Accordingly, in the current conditions, the exchange rate of the ruble depends on the ratio of importers' demand for foreign currency and exporters' supply of foreign currency. Therefore, the level of the exchange rate responds to the initial increase in the key rate and its subsequent reduction much more weakly.[1] As a result, the influence of monetary policy on the ruble exchange rate becomes more extended over time and indirect. Previously, a decision on the key rate translated into prices for financial instruments and, further, into the exchange rate directly, whereas now it influences first the demand for imported goods through the interest rate channel and only then – the ruble exchange rate.

Using the terms of model responses of monetary policy to shocks of various nature, the changes in the monetary policy transmission mechanism can be described as follows.

Demand shock. On the one hand, the domestic demand shock increases the demand for imports and, consequently, somewhat weakens the exchange rate. On the other hand, it accelerates inflation, which requires monetary policy tightening. An increase in the key rate does not result in an instantaneous strengthening of the real exchange rate, as it was in the conditions of the open financial market, due to the disruption of the connection with financial instruments – the exchange rate stays close to the level formed by imports for a while longer. Consequently, this might require a slightly more notable increase in the key rate, as compared to a similar situation in the past, whereas accumulated inflation might still remain higher.

Oil price shock. In the new conditions, the exchange rate has become dependent not only on trade flows, but also on oil prices. As a result, the oil price shock causes a more significant strengthening of the ruble and a disinflationary effect during the first 18 months of the shock, after which the effect of revenues starts to prevail. A positive response of output is shifted to future periods due to a more considerable switch to imports during the first year of the shock. As opposed to the regime of open financial markets, the key rate in the economy with capital controls in place is cut in response to lower inflation.

---

[1] *For details about the implementation of these changes in the Bank of Russia's model-based approaches, refer to the Box 'Adaptation of the quarterly projection model to the capital flow control framework' in Monetary Policy Report No. 2 (38), May 2022 (http://www.cbr.ru/Collection/Collection/File/40976/2022_02_ddcp_e.pdf).*

External demand shock. Higher external demand pushes up exports. However, commodities make a a large share in domestic exports, and the markets of production factors weakly respond to higher output in the export segment. As a result, the response of inflation in the medium term is much weaker, and the disinflationary effect of a stronger real exchange rate prevails during the first year of the shock. As opposed to past periods, the regime with capital controls in place generally needs a much weaker response of monetary policy to the external demand shock.

External monetary policy shock. As the interconnection with foreign financial markets and financial instruments is disturbed in the new conditions and the exchange rate of the national currency predominantly depends on trade flows, the response of domestic variables to the external monetary policy shock is limited to the response of exports to lower external demand and thus there might be no need in any monetary policy response. Previously, the external monetary policy shock entailed a considerable depreciation of the national currency and a subsequent pass-through of a weaker exchange rate to prices, which required an increase in the key rate.

Monetary policy shock. Changes in the functioning of the foreign exchange channel significantly weaken the response of the exchange rate to both the initial increase in the key rate and its subsequent reduction. In contrast to the previous period, a decrease in the key rate does not cause a depreciation of the exchange rate and, consequently, its pass-through to prices. Accordingly, inflation stays at a lower level longer owing to a stronger exchange rate. Consequently, this might require a more substantial easing of monetary policy in the future in order to return inflation to an equilibrium. As monetary policy in this case actually offsets in part the foreign exchange channel, key rate dynamics might be more volatile.

BOX 9. TRANSFER CURVE AND FORMATION OF INTEREST RATES ON BANK OPERATIONS

The transfer curve is a set of internal uniform transfer interest rates for operations of various terms set by a commercial bank. The transfer curve is the core of the intrabank system of banking product pricing that enables banks to determine a coherent range of prices for operations in various market segments and, when needed, to flexibly adjust the structure of their balance sheets by choosing between various sources of funding and investments. In order to determine terms and conditions for any transaction (whether a lending, deposit, or stock exchange transaction) for a particular term, a bank only needs to set the transfer rate for this term and assess costs and risks associated with this transaction. Furthermore, the use of the transfer pricing system as part of the liquidity and interest rate risk management mechanism enables banks to generate additional income from maturity management – raise funds for shorter terms and invest them in assets for longer terms.

There is no such thing as a uniform transfer curve for the entire banking sector. Each bank builds its individual curve based on the yield curves of market instruments with minimum risk or, where necessary, relying on its internal assessments. The basic curve, which is usually referred to as risk-free in banks' internal documents, relies on yields of such instruments as OFZ bonds and interest rate swaps. In addition, the use of the transfer curve is reasonable mostly for large banks that perform simultaneous transactions in multiple market segments. They need to ensure the integrity and consistency of their interest rate policy, on the one hand, and align the interests of their business units, on the other hand. Small specialised banks, e.g., those operating only in the deposit and credit markets, may simply establish two sets of interest rates (without using transfer rates) – on asset- and liability-related transactions. However, large banks using the transfer curve in their pricing help strengthen the interconnection between financial market segments since the impact of significant events, including key rate changes, is simultaneously transmitted to all these segments. Transfer curves of large banks are therefore an integral part of the interest rate and credit channels of the monetary policy transmission mechanism.

Transfer rates are only a starting point in bank product pricing. For each type of asset-related transactions, the rate should not be below the transfer rate for the corresponding term plus costs and risk premiums (both general and typical of this transaction type), the fee for using the bank's capital, and the interest margin of the relevant business unit. Contrastingly, the rate on any type of liability-related transactions should not exceed the transfer rate less costs, the fee for the liquidity buffer (including the fee for compliance with the liquidity ratio), and the interest margin of the relevant unit. As a result, regardless of the asset and liability structure, the spread between rates on asset- and liability-related transactions enables a bank to cover all necessary costs and risks and generate profit for each business unit of the bank.

Factoring in the costs and risk premiums for various operations might have a significant effect on banking product pricing, distorting the response of deposit, loan and corporate bond rates to changes in the level and slope of the risk-free curve. The key costs and risks comprise operational costs, credit risks for individual segments and borrowers, and expenses for payments to the deposit insurance system and contributions to the required reserves (refer to Appendix 7 to the MPG 2018–2020).

Thus, banks' cautious selection of borrowers in 2016–2017, which restricted access to the market for the highest-risk clients, coupled with the recovery of the Russian economy, brought down credit risk premiums embedded in credit rates and, accordingly, helped (along with the

expectations of a further key rate decrease) accelerate the reduction in medium-term interest rates in the credit market as compared to the key rate and money market rates.

Moreover, under certain conditions, movements of transfer rates and interest rates for ultimate borrowers might diverge. For instance, in 2014, an important factor influencing interest rate dynamics in long-term retail lending was changes in the market structure, namely the replacement of long-term consumer and car loans for lower-risk mortgage loans. As a result, the decrease in the risk premium caused a reduction in long-term interest rates in retail lending despite the rise in the key rate and interest rates on interbank loans over the year. The opposite situation is also possible: a slight decline in the transfer rate following the risk-free rate might cause an increase in the credit rate due to a more significant rise in the cost of risk.

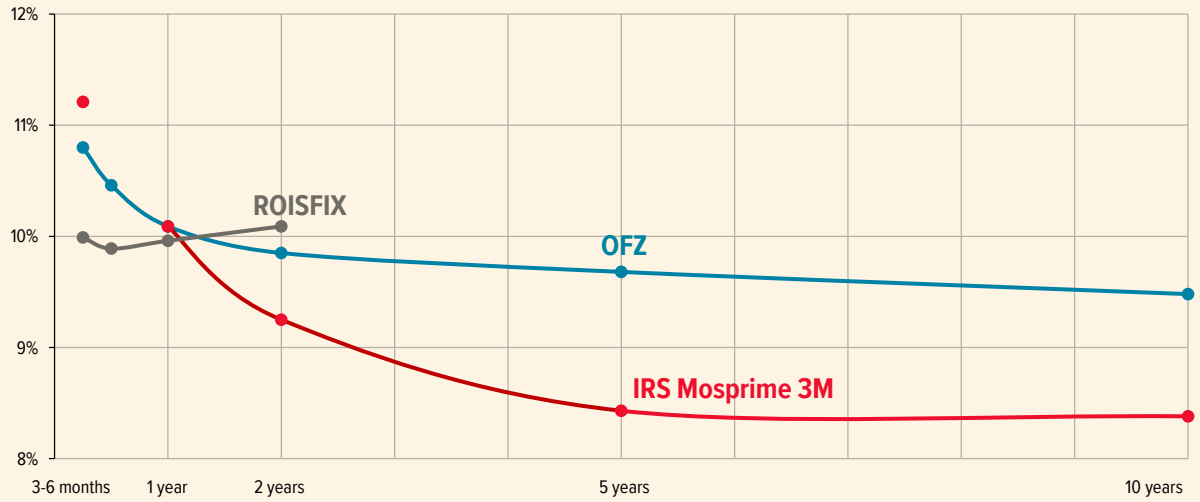
In the case of rapid shock changes in markets, banks might temporarily switch to simplified or manual pricing of banking products, as well as choose another benchmark. At the acute stage of the 2022 crisis, the effectiveness of certain markets (including the interest rate swap and cross-currency interest rate swap market and the debt market) declined drastically. The interest rate swap and cross-currency interest rate swap markets were segmented: non-residents and resident banks discontinued to conclude new transactions, and a considerable proportion of current transactions were terminated prior to maturity. OFZ trading on the Moscow Exchange was suspended, following which g-curve yields were not calculated and were unavailable to banks. In such conditions, banks changed the mechanism for determining the levels of transfer prices: some banks used prices for interest rate swaps in the external market as a transfer curve (without additional premiums), while other banks relied on the level of the key rate effective as of a particular moment as a transfer curve, and so on.

The sanction and anti-sanction restrictions on capital flows enacted in 2022, combined with elevated sanction risks, limited arbitrage opportunities to raise/deposit foreign currency inside and outside Russia. This altered the functioning of the mechanism of banking product pricing: the impact of the factor of foreign currency liquidity on interest rates strengthened, whereas the influence of foreign interest rates (namely, monetary policy tightening in the USA and the euro area) weakened.

The ultimate interest rate for a client might be also affected by the value of options embedded in a banking product, that is, the client's right to unilaterally change the main terms of the contract, for instance the maturity of the transaction, its interest rate or currency. Besides, the ultimate interest rate for a borrower on certain loan types might turn out to be lower as a result of the implementation of government subsidised lending programmes. In this case, the difference between the preferential and market rates is compensated to the bank as a subsidy from the budget.

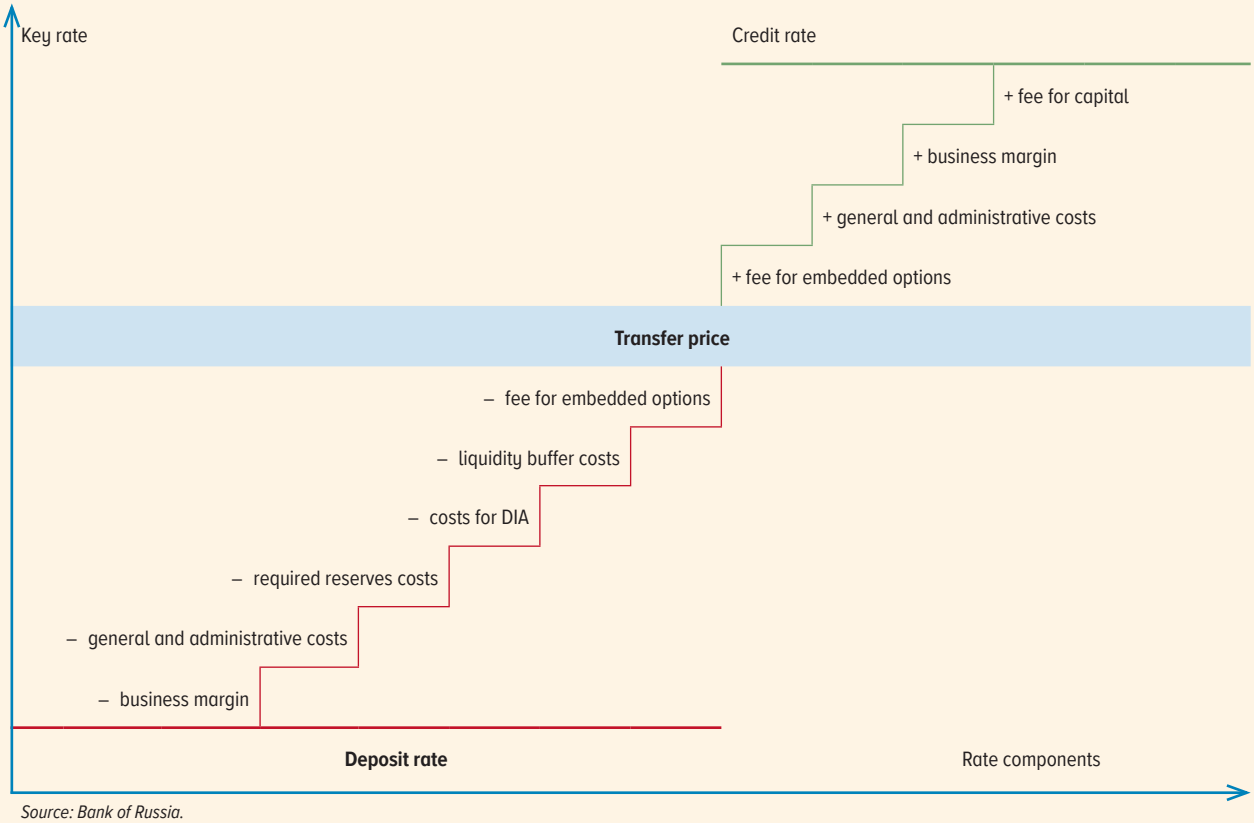
Financial market parameters may exert additional influence on interest rates for the real sector of the economy. Such parameters include the extent of market segmentation, the level of competition for depositors' funds or higher-quality borrowers, and the specifics of business models employed by individual market participants and of the financial sector regulation in general.

BASIC CURVES IN RUBLES AS OF 1 JUNE 2022 *Chart B-9-1*
(%)



Sources: Cbonds, Moscow Exchange, NFA.

MARKET MECHANISM FOR THE FORMATION OF DEPOSIT AND CREDIT RATES FOR A BANK'S CLIENTS *Chart B-9-2*



Source: Bank of Russia.

APPENDIX 2.
INFLATION INDICATORS USED BY THE BANK OF RUSSIA

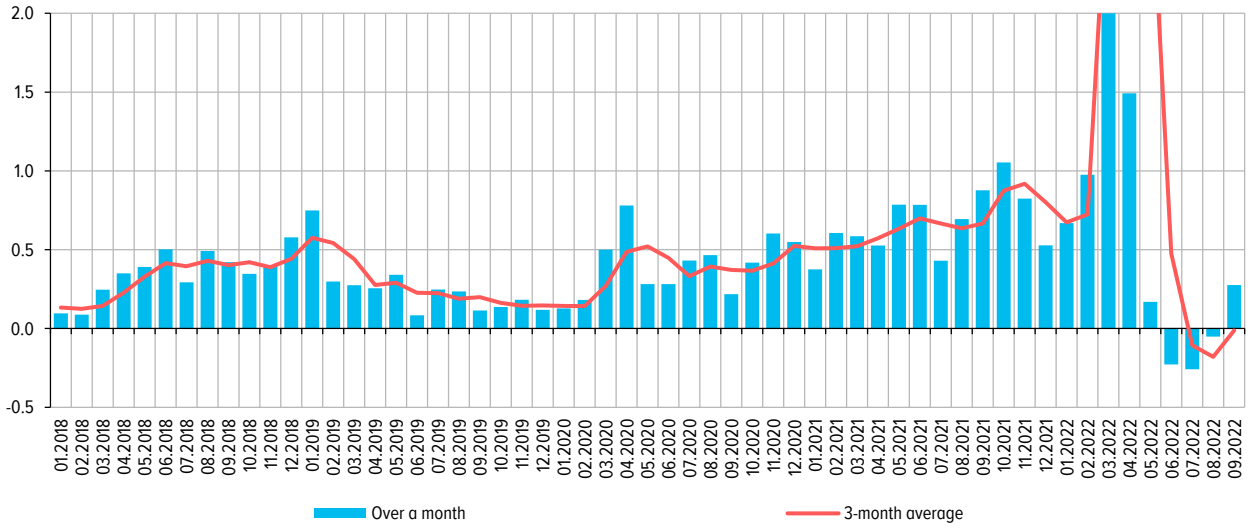
The Bank of Russia's inflation target of close to 4% is set for the annual growth rate of the Consumer Price Index (CPI). This indicator is not sensitive to seasonal price fluctuations, representative, easy to understand, and widely used by economic agents.

Assessments of current price dynamics may rely on the monthly price growth index. It has notable seasonal fluctuations, due to which this figure is seasonally adjusted[1] in analysis. However, even seasonally adjusted monthly inflation is still a rather volatile indicator. This volatility can be smoothed by using the average price growth rate (for instance, for three months).

The Bank of Russia especially focuses on the analyses of steady price trends as monetary policy influences inflation with a significant time lag. Inflation is affected by one-off factors, and their impact is often exhausted over a shorter-term horizon than that of the effect of monetary policy instruments. Normally, if inflation expectations are anchored at the target, there is no need to use monetary policy instruments to adjust such short-term fluctuations.

By implementing its monetary policy, the Bank of Russia can impact steady inflation which is determined by the dynamics of prices for a broad range of goods and services. In view of this, it is particularly important to identify the trend that is common for multiple components. When the economy experiences structural changes, relative prices of many inflation components adjust, which might influence overall price dynamics in the medium

SEASONALLY ADJUSTED CONSUMER PRICE INDEX *Chart A-2-1*
(%)



Sources: Rosstat, Bank of Russia calculations.

[1] *The Bank of Russia's methodology for seasonal adjustment, coordinated with Rosstat, as well as seasonally adjusted CPIs are available on the Bank of Russia website (http://www.cbr.ru/eng/statistics/ddkp/aipd/). Assessments of the stable indicators of price dynamics are provided in the information and analytical commentary Consumer Price Dynamics (http://www.cbr.ru/eng/analytics/dkp/dinamic/).*

term. During such periods, the Bank of Russia pays close attention to the goods and services demonstrating extraordinary price movements.

The structural transformation of the economy and elevated price uncertainty make it more complicated to identify the steady component of inflation, thus increasing the uncertainty of estimates. Some indicators might become less useful in assessing steady inflation. In such a situation, the Bank of Russia factors in a larger number of various assessments when determining its monetary policy stance.

Underlying inflation

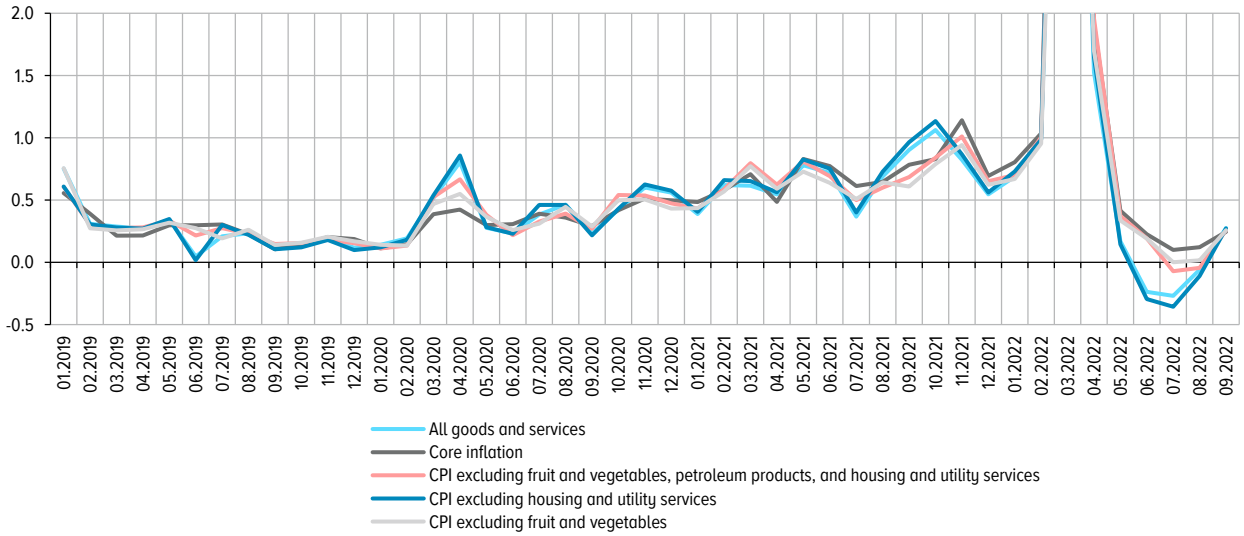
Underlying inflation is calculated using dynamic factor models.[2] This approach makes it possible to identify general dynamics of a large number of economic indicators and specific shocks that are not typical of the majority of indicators.

Indices excluding individual categories

One of the ways to assess steady trends in price movements is to exclude from the CPI a number of individual components with the most volatile prices, administered prices, and prices formed not under the influence of factors that are common for most product markets. Such indices measure inflation dynamics without the distortion created by changes in prices for certain product groups caused by specific factors. It is thus possible to derive a more stable indicator for analysing medium-term price trends.

One of the examples of such an indicator is core inflation calculated by Rosstat (which covers approximately 69% of all goods and services). Core inflation is the CPI excluding prices for components impacted by administrative, one-off or seasonal factors. Often,

SEASONALLY ADJUSTED MONTHLY INFLATION EXCLUDING CERTAIN COMPONENTS *Chart A-2-2*
(%)



Sources: Rosstat, Bank of Russia calculations.

[2] *Refer to the report 'Evaluating the underlying inflation measures for Russia' (Working Paper Series, No.4, 2015).*

simple indices may be helpful as they exclude certain categories of goods and services demonstrating unusual or volatile price dynamics. In particular, these indices include:

- inflation excluding housing and utility services (90%[3] of goods and services);
- inflation excluding administered prices and tariffs (75% of goods and services);
- inflation excluding fruit and vegetables (95% of goods and services);
- core inflation excluding food products (40% of goods and services); and
- inflation excluding fruit and vegetables, petroleum products, and housing and utility services (81% of goods and services).

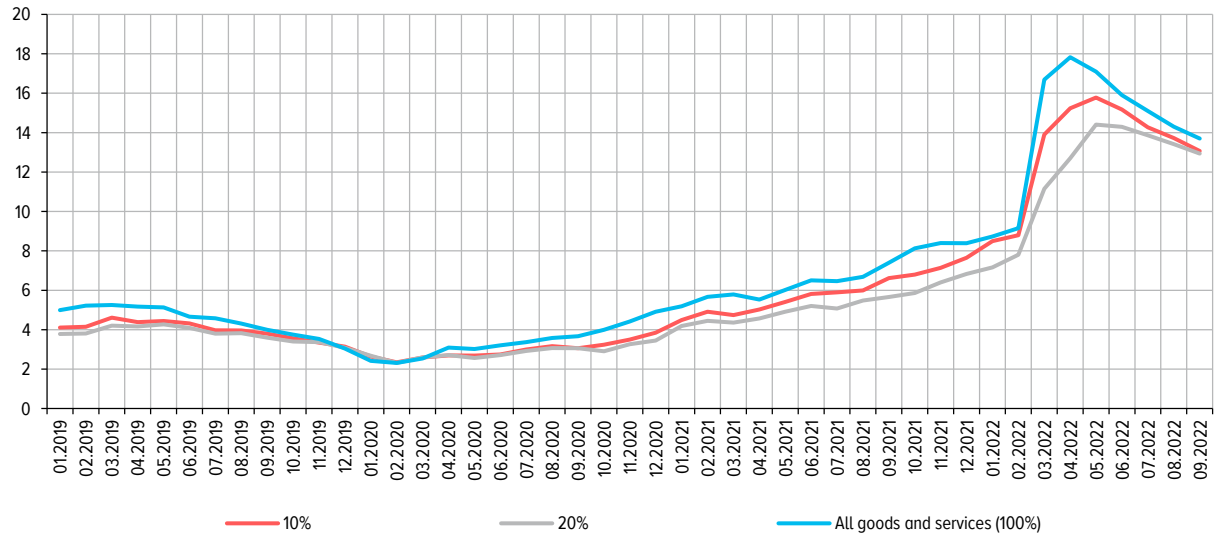
Indices excluding components with extraordinary price movements

According to an alternative approach, the CPI is measured excluding not a fixed set of components selected by economists based on their pricing specifics, but the components showing extreme price dynamics at each particular point of a time series. When this approach is used, the stable indicator of price dynamics includes only goods and services with relatively stable inflation, and their range varies in different periods. Indicators can also differ in terms of the excluded part of the consumer basket (5%, 10% and so on) and the period of volatility under review. For instance, analysing steady price trends, the Bank of Russia often relies on the CPI excluding 10% and 20% of the prices that were most volatile over the past three months.

Price indices that are based on price growth distribution have a similar sense. The examples of such indices used by the Bank of Russia are median inflation and inflation excluding a certain share of products and services with the highest and lowest price growth rates. These indices make it possible to analyse product and service price trends excluding outliers.

In recent years, the movements of prices for certain goods and services significantly accelerated inflation. Specifically, excluding 20% of the most volatile components, average annual inflation was 1 pp lower in 2020–2021 and 2.5 pp lower in January–August 2022.

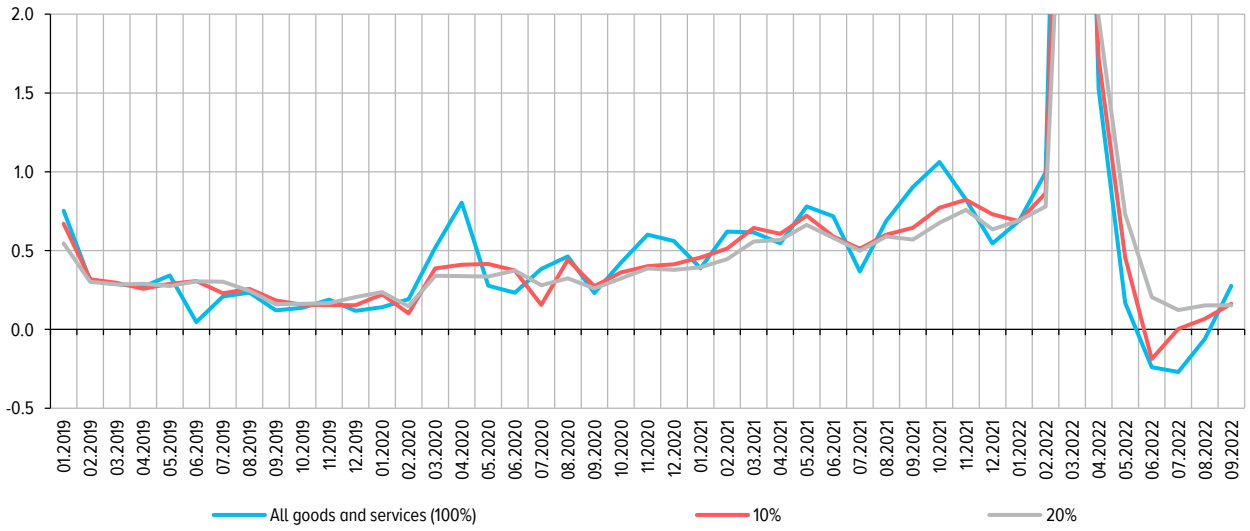
ANNUAL INFLATION EXCLUDING VOLATILE COMPONENTS *Chart A-2-3*
(%)



Sources: Rosstat, Bank of Russia calculations.

[3] *Hereinafter, in 2022.*

SEASONALLY ADJUSTED MONTHLY INFLATION EXCLUDING VOLATILE COMPONENTS *Chart A-2-4*
(%)



Sources: Rosstat, Bank of Russia calculations.

Analysis of extraordinary price movements

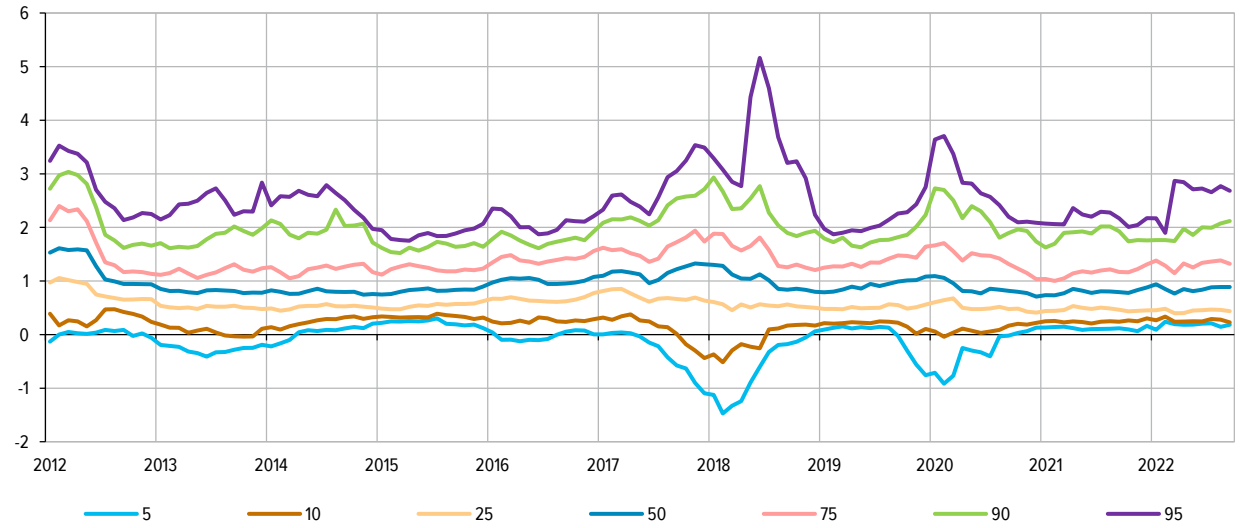
In addition to steady price trends, the Bank of Russia also analyses the size of the variance of price growth rates around the average. The variance forms primarily due to a large amplitude of changes in prices for a relatively small number of goods and services if their price dynamics significantly differ from averages and might considerably intensify inflation volatility.

To analyse how movements of prices for certain products and services correlate with the overall price trend, the Bank of Russia relies on relative price indices calculated as ratios between price indices of individual product and service groups. The analysis also takes into account monthly distributions of price growth rates. These instruments help assess how extreme price changes in particular product groups are.

Such analysis is especially relevant for product and service groups with a downward trend in relative prices. To ensure economic stability of certain enterprises, it is essential to avoid a persistent decline in prices for their products amid nominal rigidity. Most often, this decreases business profitability if it is impossible to cut costs proportionately.

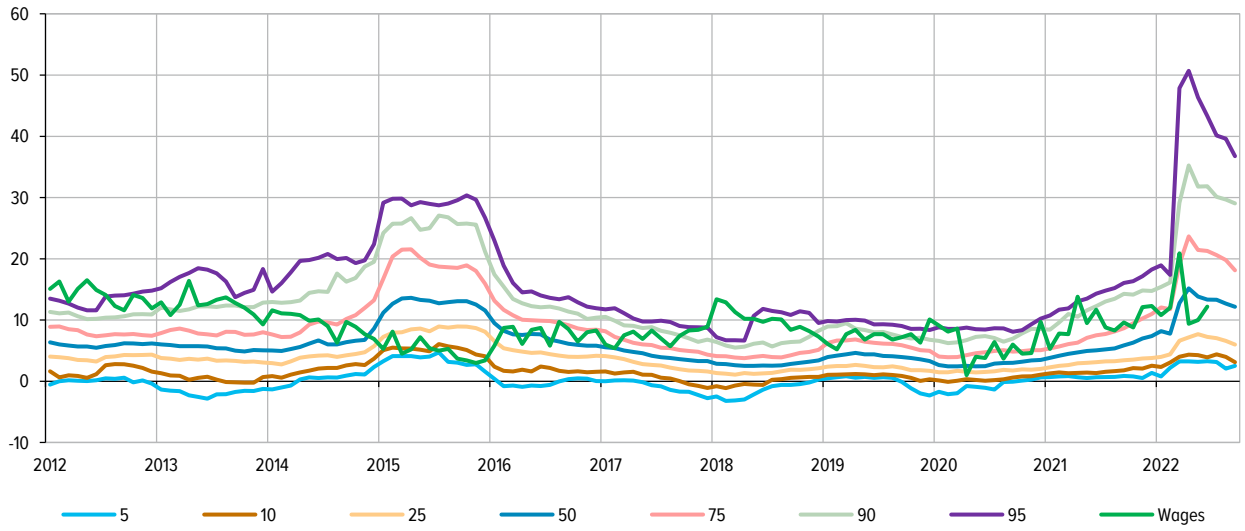
Hence, when the Bank of Russia makes its monetary policy decisions aimed at maintaining price stability, it primarily focuses on general price trends and employs a whole range of indicators to carry out their comprehensive analysis.

PRICE INCREASES RELATIVE TO INFLATION *Chart A-2-5*
(percentiles, YoY)



Sources: Rosstat, Bank of Russia calculations.

DISTRIBUTION OF ANNUAL PRICE INCREASES AND ANNUAL NOMINAL WAGES *Chart A-2-6*
(percentiles, %)



Sources: Rosstat, Bank of Russia calculations.

APPENDIX 3. NON-MONETARY INFLATION FACTORS IN 2022: THE IMPACT OF SANCTIONS

The inflation target is achieved and inflation is maintained at the target over the medium-term horizon by implementing monetary policy. Non-monetary factors of price movements are beyond the scope of monetary policy. These factors stem from one-off events and, hence, their impact on inflation normally diminishes in the short term. Generally, no monetary policy measures are applied in response to these factors as they could increase output and price volatility. Nonetheless, certain non-monetary factors might destabilise economic agents' inflation expectations, making the monetary policy transmission mechanism less efficient. This might require proactive interventions by the central bank in order to prevent adverse implications for both inflation and economic trends.

Since February 2022, inflation in Russia has been strongly impacted by such non-monetary factors as the consequences of the large-scale financial and economic sanctions enacted against Russia. Their nature and the scale of influence on pricing differed.

The surge in prices in March 2022 was induced by the weakening of the ruble exchange rate and soaring demand

The first reaction of the economy was the drastic depreciation of the ruble. As during the episode of late 2014–early 2015, this was accompanied by a significant rise in households' inflation expectations. The surge in demand, coupled with the pass-through of the exchange rate to prices, sped up monthly price growth to 7.51% (SA), which is a 20-year high.[1] Soaring consumer demand was exacerbated by concerns about the suspension of supplies and possible shortages in the market segments dependent on imported finished and intermediate goods. Consequently, the increase in prices for non-food durables, including cars, electrical goods, TV and radio devices, and construction materials, sped up most notably.

As in 2014–2015, the effects of soaring demand were quickly exhausted. The growth rate of consumer prices (SA) edged down, to reach 0.17% (SA) in May. In June–September, prices declined by 0.26% (SA). In May–August, for the first time on record, non-food goods became cheaper (overall, by 0.79%, SA), primarily owing to prices for cars and home improvement goods. In September, prices edged up only slightly (by 0.08% SA).

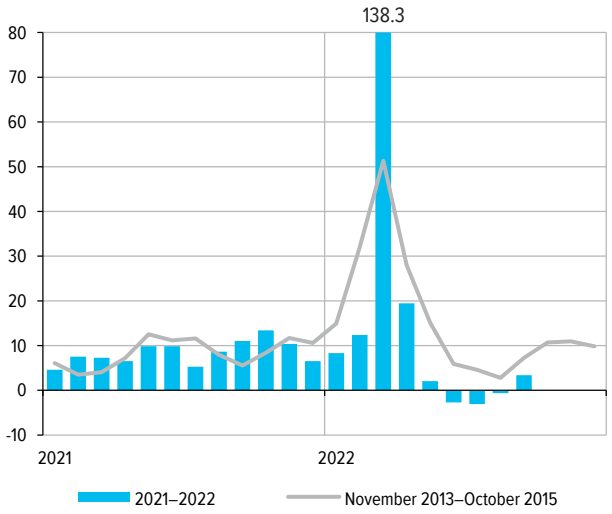
The prompt price adjustment became possible owing to macroeconomic and financial stability maintained by the Bank of Russia and the Government of the Russian Federation. An important factor helping calm consumer sentiment was the ruble strengthening that more than offset the extent of its weakening. Furthermore, price growth was limited by a decline in consumer activity amid a reduction in households' real incomes after the price surge, a considerable rise in deposit and credit rates in March–May, and further on – as they edged down – an increase in propensity to save for precautionary purposes and due to tighter non-price lending conditions.

However, the slowdown of inflation was associated with the price adjustment after the surge only partially: the major contributor to the deceleration was the dynamics of fruit

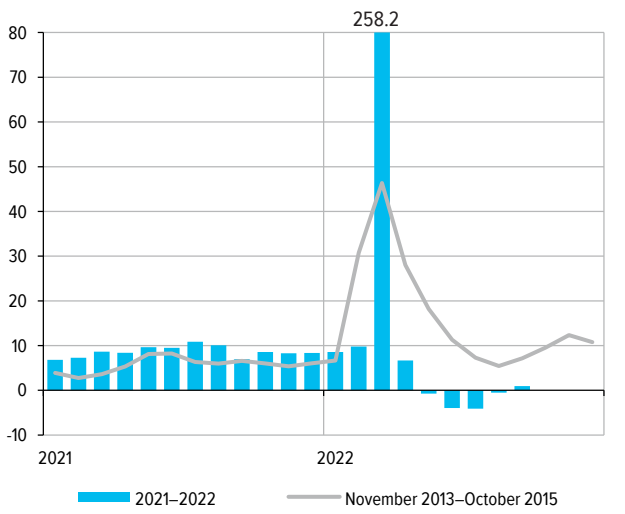
[1] *Time series of seasonally adjusted inflation indicators are developed by the Bank of Russia for the period since 2002.*

MONTHLY PRICE INCREASES IN 2021–2022 AND NOVEMBER 2013–OCTOBER 2015
(% SA, annualised)

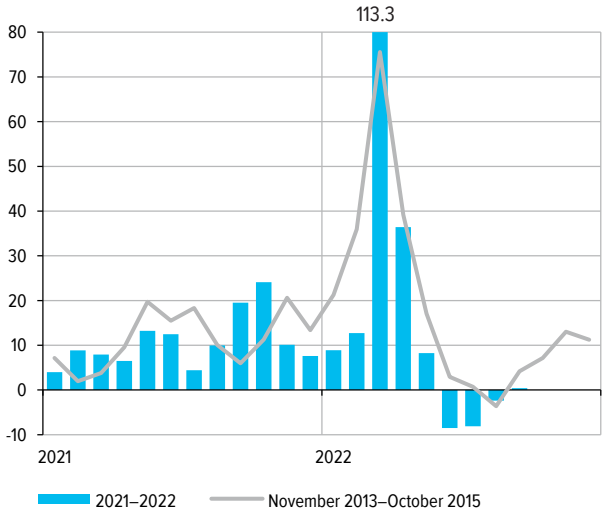
INFLATION *Chart A-3-1*



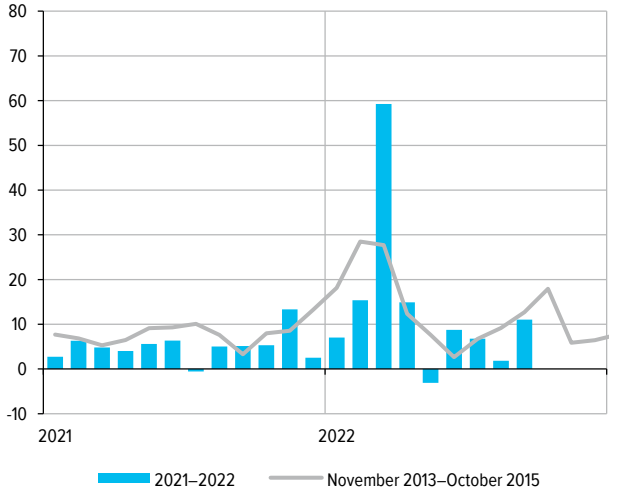
NON-FOOD GOODS *Chart A-3-2*



FOOD PRODUCTS *Chart A-3-3*



SERVICES *Chart A-3-4*



Sources: Rosstat, Bank of Russia calculations.

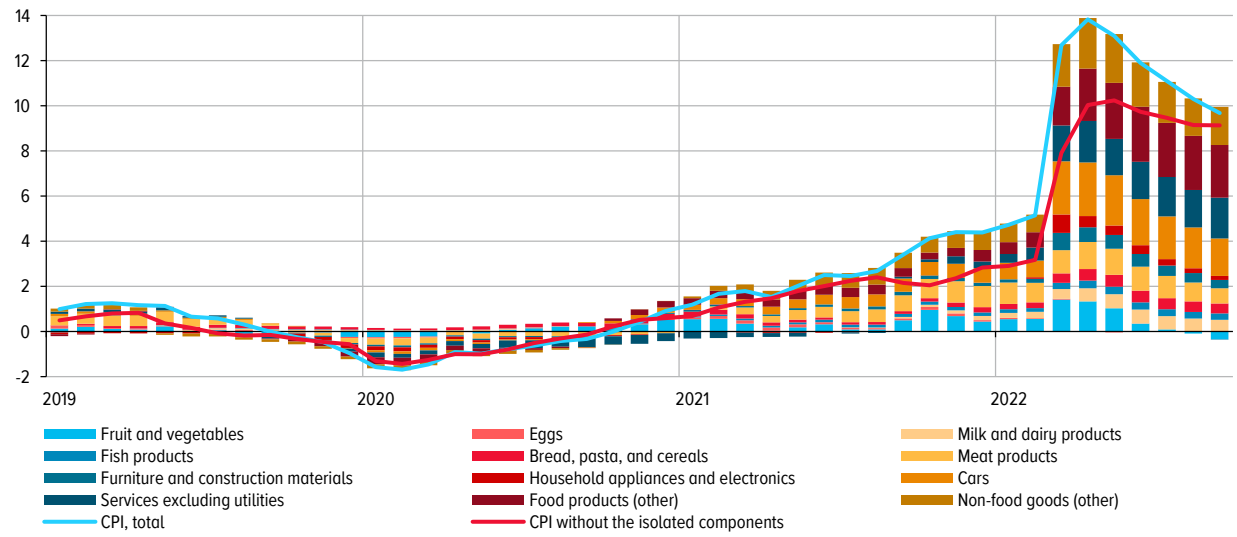
and vegetable prices that are traditionally highly volatile. The decrease in annual inflation in May–September (by 4.15 pp to 13.68%) was much less significant than its rise in March–April (by 8.68 pp to 17.83%). The annual growth rates of prices for non-food durables stayed high, just as their contribution to the increase in the deviation of inflation upwards from the 4% target.

The impact of supply-side factors changed dramatically

Disruptions in business relations, the suspension of imports, and the contraction of exports of a whole range of goods caused a reduction in the utilisation rates of production capacities and output and lowered the technology level of production. Other factors decreasing economic efficiency and pushing up costs per unit included the replacement of counterparties, the rearrangement of production and logistics processes, higher prices for

DECOMPOSITION OF THE DEVIATION OF ANNUAL INFLATION FROM 4%
(pp)

Chart A-3-5



Sources: Rosstat, Bank of Russia calculations.

CONSUMER PRICES
(% growth on the previous period, SA annualised)

Table A-3-1

	2020	2021				2022			2022		
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	July	August	September
Inflation	6.5	6.4	8.7	8.3	10.1	42.6	5.9	-0.1	-3.1	-0.6	3.4
Food products	8.6	6.9	10.7	11.1	13.7	37.8	10.6	-3.4	-8.1	-2.4	0.4
– excluding fruit and vegetables	7.5	9.3	9.2	8.4	14.1	32.6	22.0	-0.2	-0.3	-0.1	-0.1
Non-food goods	6.3	7.6	9.2	9.3	8.4	62.2	0.6	-1.3	-4.1	-0.5	1.0
– excluding petrol	7.0	6.9	9.7	9.6	8.2	72.1	0.9	-1.6	-4.5	-1.1	0.9
Services	4.0	4.6	5.3	3.2	7.0	25.3	6.6	6.5	6.8	1.8	11.0
– excluding housing and utility services	3.8	5.4	5.9	3.0	8.3	37.4	8.0	6.9	6.2	0.1	15.1
Core inflation	5.5	7.2	9.0	8.8	10.7	51.1	10.9	1.5	0.4	1.1	3.0
Median	4.4	4.5	6.6	6.9	8.2	26.6	9.3	2.3	1.9	2.0	2.8

Note. The median is a value dividing a sample into two equal parts, with a higher and a lower price growth rate. Calculated based on the distribution of price growth rates depending on their weights in the consumer basket for the calculation of the CPI.
Sources: Rosstat, Bank of Russia calculations.

raw materials and intermediate goods, and worsening conditions for payments, settlements, and bank and commercial lending. Implicitly, price growth was through a decrease in product quality. All this involved a contraction of the economy's potential coupled with the strengthening of long-term proinflationary risks. The aggregate supply curve became steeper: producers partially lost opportunities to flexibly respond to changes in demand, and its fluctuations started to affect prices to a greater extent.

The pass-through of higher costs per unit to prices was more notable in the market of the goods and services that were steadily demanded. In particular, the average monthly growth rates of prices (SA) for household chemicals and clothing in Q2–Q3 exceeded the average of 2021 Q4. The decrease in prices (SA) for many food products in June–September only partially offset their earlier surge. In September, prices for fats and oils, dairy products, pasta, and cereals were at least 20% higher than in the previous year.

Proinflationary risks were associated with faster growth of global prices

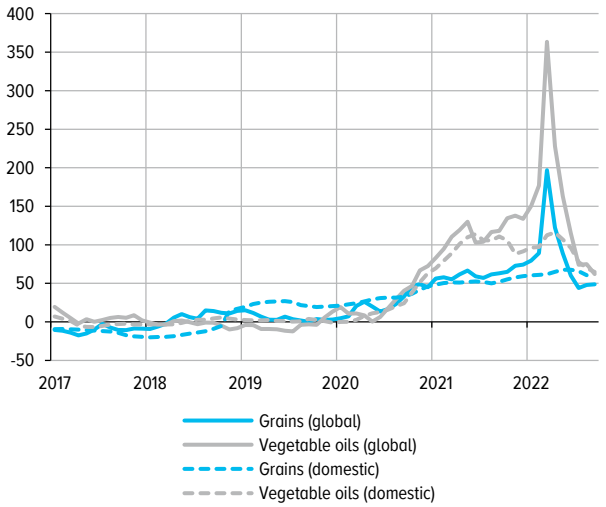
Over the first months of 2022, the growth of global commodity prices sped up sharply, with their volatility rising significantly. Despite their decline from Q2, their levels in some markets remained high. Fluctuations of prices in ruble equivalent were stronger due to exchange rate movements. Owing to the permanent customs and tariff regulation mechanisms and the approved temporary measures, as well as considering the embargo on Russian imports introduced by a number of countries, the dynamics of global prices have a rather limited effect on prices in the Russian market. Nonetheless, proinflationary risks associated with external trade conditions persist.

The export embargo was a temporary disinflationary factor

The expansion of domestic supply resulting from the contraction of exports of a range of goods was a disinflationary factor in the short term. For instance, it impacted consumer prices for motor fuels that edged down by 0.5% (SA) over March–September. However, in the longer run, the loss of markets might involve adverse implications for output, production capacity and, consequently, higher proinflationary risks.

GLOBAL AND DOMESTIC FOOD PRICES (IN RUBLES) *Chart A-3-6*

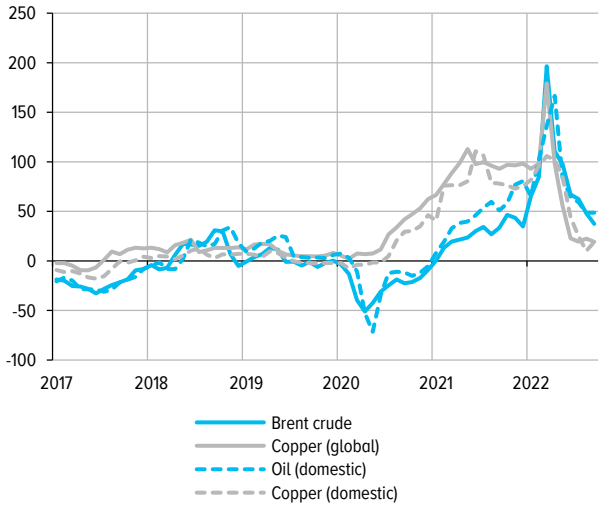
(% growth on the 2017–2019 average)



Sources: UN Food and Agriculture Organization, Rosstat, Bank of Russia calculations.

GLOBAL AND DOMESTIC OIL AND COPPER PRICES (IN RUBLES) *Chart A-3-7*

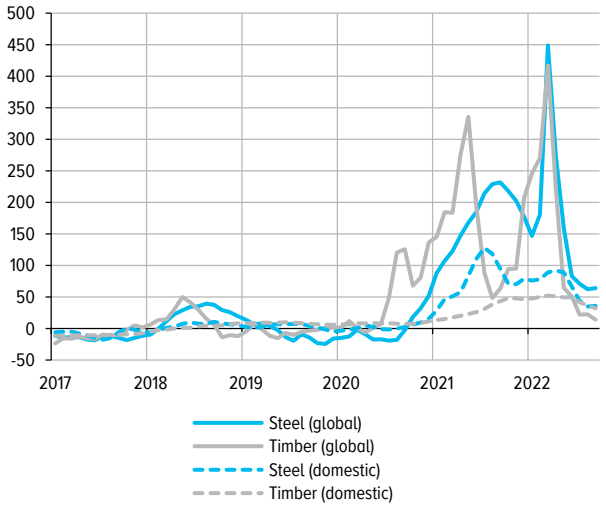
(% growth on the 2017–2019 average)



Sources: Bloomberg, Investing, Rosstat, Bank of Russia calculations.

GLOBAL AND DOMESTIC STEEL AND TIMBER PRICES (IN RUBLES) *Chart A-3-8*

(% growth on the 2017–2019 average)



Sources: Bloomberg, Investing, Rosstat, Bank of Russia calculations.

Additional measures were taken to mitigate the impact of non-monetary proinflationary factors

The permanent system of state regulation of prices and tariffs for infrastructure companies' goods and services, as well as in foreign trade played an important role helping mitigate the negative impact of external factors.

Furthermore, to prevent local shortages, in 2022, the Government introduced additional restrictions on exports (grains, sunflower oil, and grist), set zero duties on imports of a large number of goods, and legalised parallel imports of a range of goods. Besides, temporary administrative measures were implemented, including fertiliser price caps, mark-up caps (in retail and metals trade). The Government granted financial aid (subsidies, subsidised loans and tariffs, and tax deferrals) to Russian producers and made decisions to facilitate business operations (reduce administrative burden, simplify reporting, customs, transportation and certification procedures, and develop digital platforms).

It should be noted that administrative interventions in pricing help stabilise price movements only over a short-term horizon. In the longer run, they can entail serious negative implications. Direct price regulation in the market segment distorts signals for manufacturers and consumers about the balance of demand and supply, which involves risks of local shortages, a weakening of the stimuli to invest and, consequently, a trend towards a decrease in output and production efficiency and a rise in the pressure of costs on prices. In the medium term, basic conditions for a steady deceleration of inflation are formed by an increase in production capacity and economic efficiency. This is driven by price and financial stability ensured by the policy pursued by the Bank of Russia.

APPENDIX 4. QUANTITATIVE ANALYSIS OF REASONS FOR THE INFLATION DEVIATION FROM THE TARGET OVER 2017–2021

The Bank of Russia implements its monetary policy under the inflation targeting framework since 2015. The objective of monetary policy is to maintain annual inflation close to 4% on a ongoing basis. That said, inflation might naturally slightly hover around 4% – these fluctuations are associated with a continuous adjustment of relative prices for goods and services due to multiple reasons. These factors, including also monetary policy, might have a diverse effect.

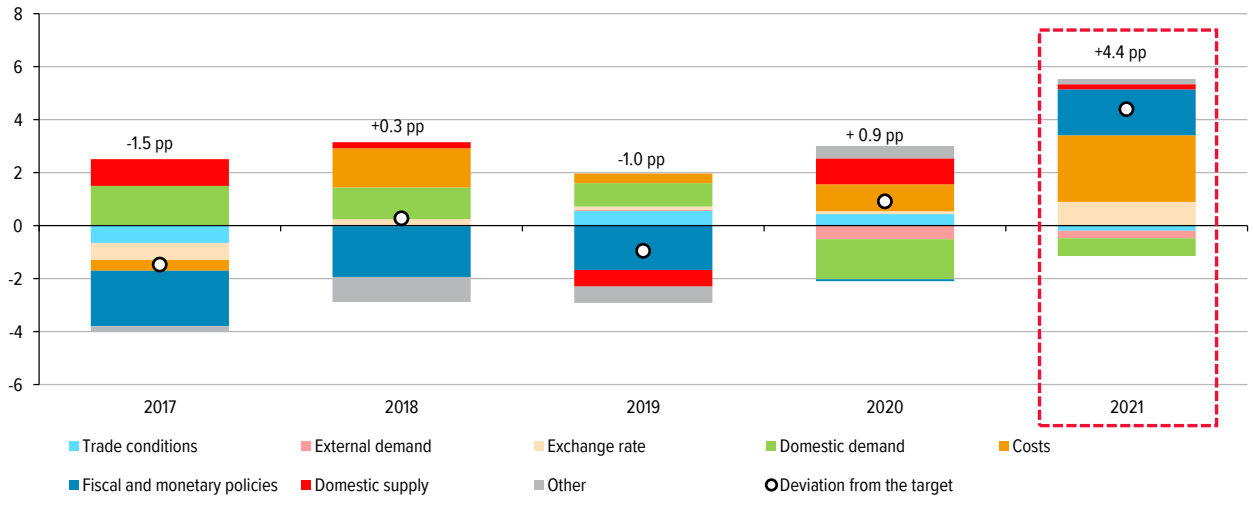
The Bank of Russia carried out a quantitative analysis of reasons behind the deviation of inflation from the 4% target over the period of 2017–2021. The chart shows the contributions of individual proinflationary and disinflationary shocks measured on the basis of historical data using a quarterly projection model.[1] Such decomposition provides a retrospective view of the sources of inflation in the Russian economy.

2021. A considerable positive deviation of inflation from the target was caused by the impact of both one-off and steady price growth factors.

Cost shocks added 2.5 pp to annualised inflation, which is comparable with the overall contribution of all other shocks. Additional costs in the tradable sector of the economy occurred due to the persistent growth of global prices in certain food markets and the residual consequences of disruptions in supply chains provoked by the coronavirus pandemic.

Exchange rate shocks. The proinflationary contribution of the exchange rate weakening to annual inflation approximated 0.9 pp.

DEVIATION OF INFLATION FROM THE 4% TARGET *Chart A-4-1*



Source: Bank of Russia calculations.

[1] *The decomposition into the shocks is presented within the framework of the logic of the quarterly projection model. A similar decomposition was given in a box in the Monetary Policy Report in April 2021 (http://www.cbr.ru/Collection/Collection/File/32261/2021_02_ddcp_e.pdf).*

Domestic demand shocks. A quick rebound of domestic demand after the decline caused by anti-pandemic restrictions, considering the time-lag effects of the transmission of shocks, still had a slight disinflationary effect on prices, but much weaker than expected at the beginning of the year.

Fiscal and monetary policy shocks, combined, formed a positive deviation of inflation from the target assessed as 1.7 pp. The rise in costs was more significant than forecast when monetary policy decisions had been made. Concurrently, demand expanded more than predicted and, accordingly, its disinflationary impact was weaker. As a result, the policy easing was more significant than needed taking into account the actual combination of factors.

Domestic supply shocks associated with the decline in potential output during the period of restrictions on economic activity exhausted their proinflationary effect in 2020 and no longer put any notable pressure on prices.

External demand and trade shocks had no serious impact on prices alike as the movements of these indicators were close to the model-based fundamentally justified values and the time-lag effects of the transmission of previous periods' shocks were exhausted.

2017–2020 (for reference)

Trade shocks. The situation in the oil market was generally more favourable for economic activity in Russia over the entire period under review, except the episode of the slump in global demand for commodities and commodity prices during the coronavirus pandemic. The disinflationary impact of trade shocks in 2017 was associated with the residual effect of the transmission of the decrease in oil prices over 2015–2016. The proinflationary influence in 2019–2020 caused by the effect of revenues was related to the rise in oil prices above the predicted equilibrium level.

External demand shocks. The aggregate growth rate in the economies – Russia's trading partners over 2017–2019 was close to its potential. External economic activity affected by the aftermath of the coronavirus pandemic in 2020 was progressively rebounding in 2021, which had a disinflationary effect.

Exchange rate shocks. Following the rise in prices for commodity exports, the real exchange rate strengthened in 2017, which ensured the disinflationary effect of the exchange rate shock. The gradual weakening of the exchange rate in 2018–2019 did not have any significant influence on inflation dynamics.

Domestic demand shocks. Economic agents' rising incomes and improved sentiment became additional drivers of consumer demand in 2017–2019, including owing to expanded lending. Companies' investment activity also increased confidently amid higher corporate revenues and better sentiment in the real sector of the economy. However, in 2020, domestic demand temporarily turned into a disinflationary factor as a result of the anti-coronavirus measures implemented by the Russian Government, due to which operations in a number of industries were suspended.

Domestic supply shocks influencing the dynamics of potential output in the economy predominantly had a proinflationary impact over the period under review. This was associated with a temporary worsening of labour productivity during the crisis and post-crisis periods, disruptions in supply chains and companies' adjustment to the conditions of the anti-pandemic restrictions.

Cost shocks. Overall, both one-off and steady unexpected price growth factors contributed to the positive deviation of inflation from the target. Those factors included the growth of global prices for food, spurred by considerable fluctuations of both demand and supply in certain food markets, and the rise in VAT in early 2019 that affected inflation expectations already in 2018.

Fiscal and monetary policy shocks. The gradual transition from moderately tight to neutral monetary policy was associated with the decrease in inflation expectations following the actual inflation rate, relatively stable exchange rate dynamics, and the absence of serious external shocks. The notable inertia of the monetary policy decisions made in 2017–2019 was explained by the commitment to bring inflation back to the 4% target and stabilise inflation expectations. In 2020, the decisions on monetary policy were made amid high uncertainty. Monetary policy was aimed at containing inflation, considering the dynamics of economic activity.

According to the Bank of Russia's assessments, in the conditions of the gradual reduction in the budget deficit within the fiscal consolidation, the contribution of fiscal policy to the dynamics of aggregate output over 2017–2019 became negative, which had a disinflationary effect. After the outbreak of the pandemic, social payments made to mitigate the adverse consequences of the lockdown had a slight proinflationary impact.

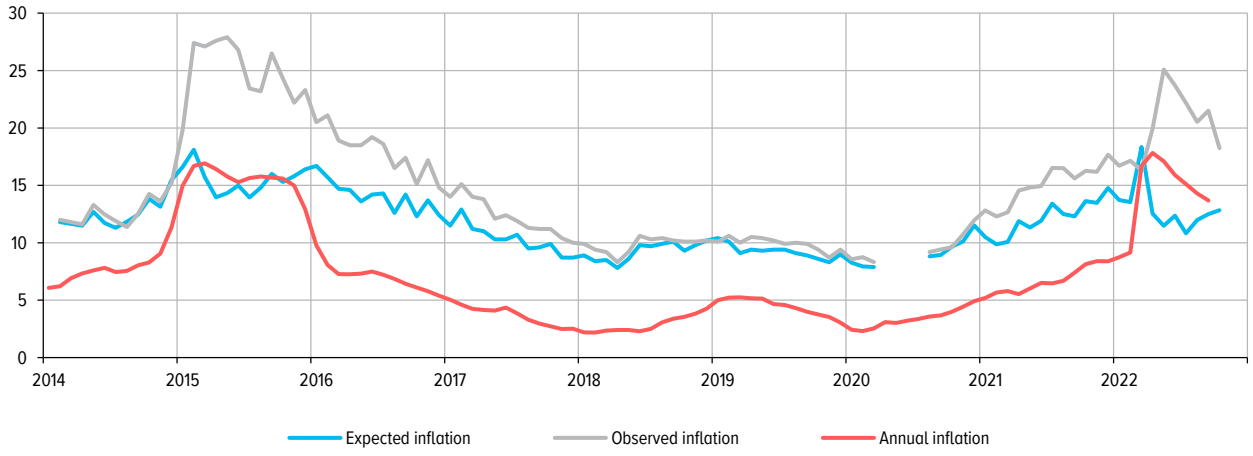
APPENDIX 5. HOUSEHOLDS' AND BUSINESSES' PERCEPTION OF INFLATION: SURVEY RESULTS

The analysis of economic agents' inflation expectations plays an important role in the implementation of the Bank of Russia's monetary policy. The Bank of Russia considers a decrease in the sensitivity of inflation expectations to one-off fluctuations of prices for some goods and services and their stabilisation close to the target as the main criteria of their anchoring. When inflation expectations are not anchored, their volatility might cause a deviation of inflation from the target in the medium term and, consequently, require a monetary policy response. Contrastingly, the anchoring of inflation expectations close to the target will make it possible to maintain price stability more effectively.

The Bank of Russia relies on the findings of its own monitoring to analyse companies' price expectations and on InFOM's survey commissioned by the Bank of Russia – to analyse households' inflation expectations. Additional sources of data on economic agents' inflation expectations include analysts' inflation forecasts and estimates of implied inflation for inflation-indexed federal government bonds (OFZ-IN).

In March 2022, as a result of the drastic weakening of the ruble and increased uncertainty in the economy, households' inflation expectations soared. The median equalled 18.3% and was the second highest level on record (the survey is conducted since April 2010). After peaking in March, the median estimate of inflation expectations then started to edge down and, by September 2022, stabilised close to the level of September 2021, reaching 12.5%. This was owing to the ruble strengthening and normalisation of the expectations about the country's economic prospects. However, in October, households' inflation expectations rose slightly to 12.8% due to higher uncertainty about the future. Besides, the fluctuations of inflation expectations moderated over a shorter period than during the 2015 crisis. This can be evidence that the Bank of Russia has achieved certain success in its efforts to anchor inflation expectations (including the implementation of a consistent

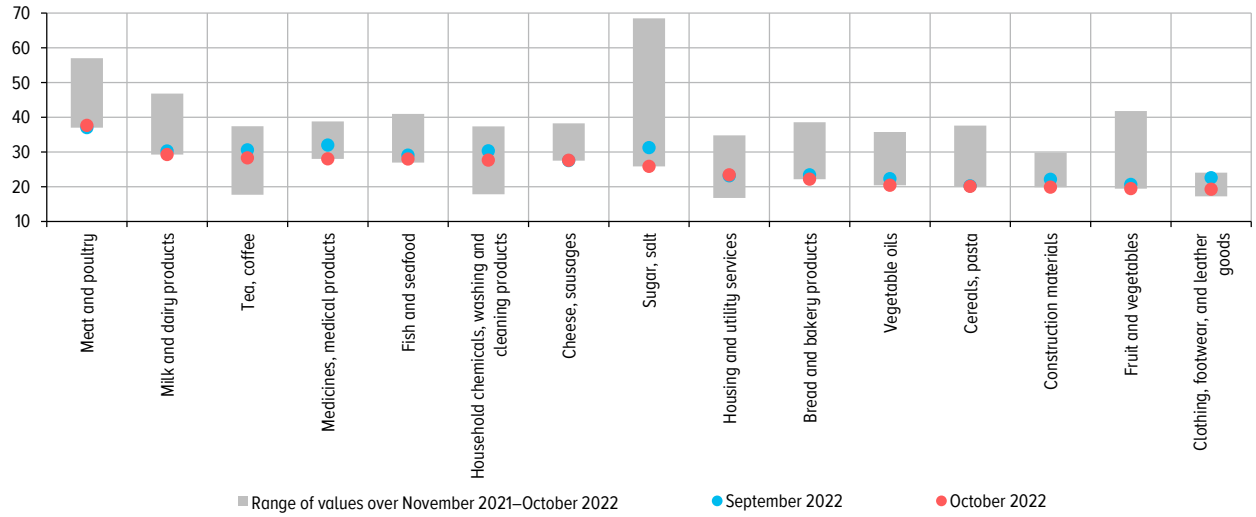
INFLATION OBSERVED AND EXPECTED BY HOUSEHOLDS (MEDIAN ESTIMATE) *Chart A-5-1*
(%)



Sources: InFOM, Rosstat, Bank of Russia calculations.

DISTRIBUTION OF RESPONDENTS' ANSWERS TO THE QUESTION 'WHAT MAIN PRODUCTS AND SERVICES SHOWED VERY HIGH GROWTH RATES OVER THE PAST MONTH?'
(% of all respondents)

Chart A-5-2



Sources: InFOM, Rosstat, Bank of Russia calculations.

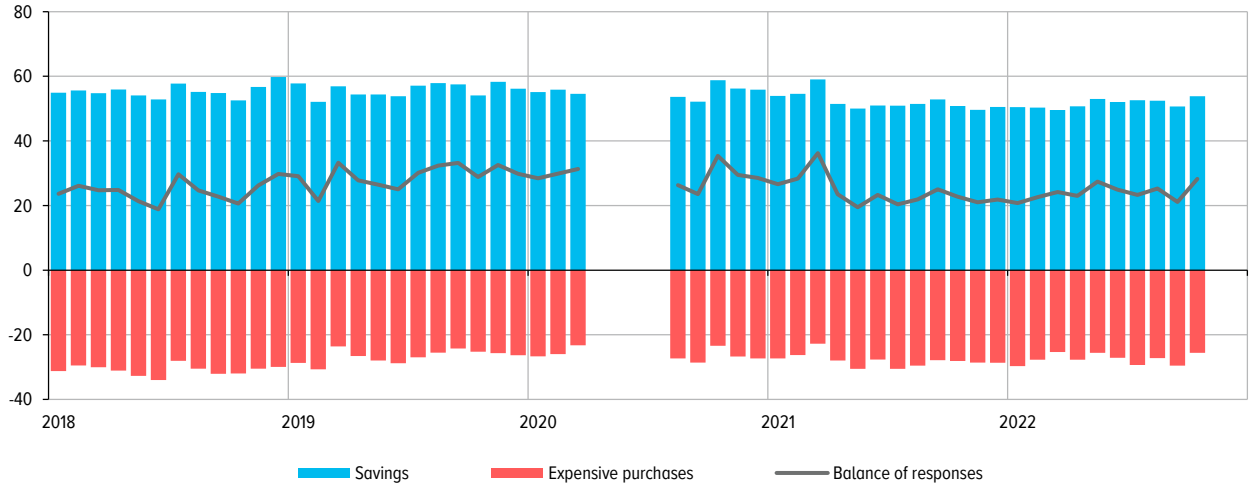
monetary policy aimed at ensuring price stability and communication policy within the principle of information transparency). Nevertheless, inflation expectations are still weakly anchored, and their decrease after the surge in March might be unsteady. The structural transformation of the economy that started recently involves high risks of occurrence of multiple factors causing short-term price fluctuations that might entail further fluctuations of inflation expectations.

Throughout 2021 and until February 2022, **the estimate of inflation observed by households** generally rose in line with inflation expectations. Respondents' worries about the observed price growth started to soar since March 2022 and, after peaking in May, observed inflation decreased to 18.2% in October. In March–May 2022, according to households' estimates, prices for non-perishable products (sugar, salt, tea, coffee, cereals, and pasta) and some non-food goods (household electrical appliances, household chemicals, and cleaning products) increased most considerably. This was induced by the depreciation of the ruble and soaring demand amid high uncertainty about the sanctions enacted by foreign states. However, already in July, prices for these goods stabilised as the earlier effects were exhausted. In October, respondents noted that prices for a range of food products (fruit and vegetables, milk and dairy products, bread and bakery products, cereals and pasta, and vegetable oils) and some groups of non-food goods (construction materials, medicines, and medical products) were at the lowest level over the year.

When inflation expectations are sensitive to short-term price fluctuations, changes in price trends have a significant influence on saving behaviour. This is essential for the implementation of monetary policy as it affects consumer demand and, accordingly, inflation movements. Specifically, according to InFOM's surveys, amid the spike in inflation expectations and observed inflation, in March 2022, households started to **save** less than over the previous months of the year. The percentage of respondents opting to consume rather than save declined alike. Besides, after the surge in March, inflation expectations then started to go down, while the saving ratio, on the contrary, began to rise. In October 2022, the proportion of respondents preferring to save edged up to 53.8% (the highest level since March 2021) due to highly uncertain expectations about their future in the new

DISTRIBUTION OF RESPONSES TO THE QUESTION 'WHAT IS YOUR OPINION ABOUT THE BEST WAY TO USE AVAILABLE MONEY: MAKE SAVINGS OR PURCHASE EXPENSIVE GOODS?'
(% of all respondents)

Chart A-5-3



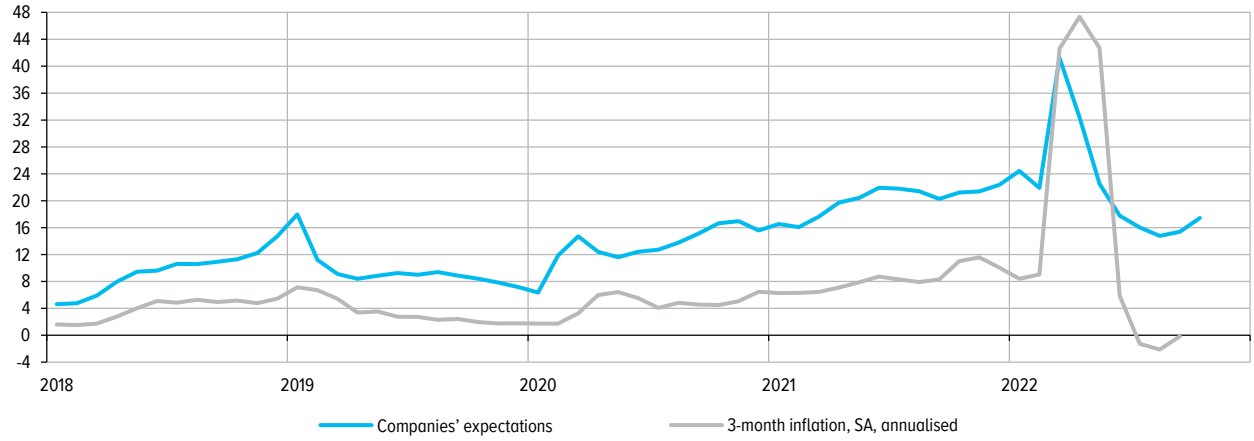
Sources: InFOM, Rosstat, Bank of Russia calculations.

conditions and a reduction in consumption amid high inflation. Moreover, already in October, households' propensity to consume declined to the level of May 2022. The percentage of respondents preferring to purchase expensive goods rather than save equalled 25.6% in October.

According to the Bank of Russia's monitoring of businesses,[1] over the period from 2021 to February 2022, **companies' price expectations** for the next three months predominantly edged up following the increase in prices for commodities, materials, and components. In March 2022, enterprises' price expectations surged in almost all industries (most strongly – in retail). Consequently, price expectations reached a record high since January 2000. Explaining this rise, companies referred primarily to the ruble weakening, higher

COMPANIES' PRICE EXPECTATIONS, BALANCE OF RESPONSES
(%)

Chart A-5-4



Sources: Bank of Russia, Rosstat.

[1] *See Appendix 6 'The Bank of Russia's monitoring of companies and the use of its findings for the purposes of monetary policy'.*

input prices, and the contraction of stocks. Businesses' price expectations in all industries lowered in April–August 2022, but then slightly rose in September–October, while staying below the level of early 2021. This was mainly associated with the contraction of demand, a slower increase in costs, including owing to a stronger ruble, and lower prices for motor fuels. Furthermore, companies reported a decelerated rise in risks to business activity and more positive estimates of the economic situation and finished product inventories, as compared to March 2022.

Thus, as a result of one-off proinflationary factors, businesses' and households' inflation expectations trended upwards from early 2021 to February 2022. In March 2022, in the conditions of external sanctions and high uncertainty, inflation expectations soared. However, already in April–May 2022, inflation expectations edged down among both households and businesses as they gradually adjusted to the new situation. This decrease in households' and businesses' inflation expectations created the conditions for a weakening of steady inflation pressure and became one of the reasons behind the key rate decrease in April–September 2022. Nevertheless, the structural transformation of the economy that began recently involves high risks of occurrence of factors causing short-term price fluctuations, which might entail their higher volatility amid weakly anchored inflation expectations.

APPENDIX 6. THE BANK OF RUSSIA'S MONITORING OF COMPANIES AND THE USE OF ITS FINDINGS FOR THE PURPOSES OF MONETARY POLICY

The Bank of Russia, just as many foreign central banks, regularly surveys non-financial companies (monitoring of businesses). This survey is unique in terms of its coverage and history. For over twenty years, the Bank of Russia has been surveying executives of more than 14,000 enterprises in all Russian regions. The sample includes both large corporates and small- and medium-sized businesses in all key industries (industrial production, construction, transportation and storage, agriculture, and services).

Already before the release of official statistics based on the estimates of business executives, the Bank of Russia receives an understanding of the current situation and development prospects in the economy and its key industries and tracks the progress of companies' adaptation to the changed internal and external conditions. The findings of the survey can be broken down in multiple ways (by region/industry/group of companies), which significantly increases their value and enables an in-depth analysis. This is critical during the period of elevated uncertainty in the economy and limited access to certain indicators of official statistics. The questionnaires of the survey and the methodology for the monitoring of businesses are available on the Bank of Russia website in the Monitoring of Businesses section.

Making its monetary policy decisions, the regulator especially focuses on the dynamics of companies' price expectations. This indicator is measured monthly based on business executives' responses to the question of the market questionnaire 'How will prices for the company's finished products (services) change in the next three months?' (possible responses: 'will increase', 'will remain unchanged', and 'will decrease'). The Bank of Russia has been publishing companies' price expectations on its website beginning from December 2018 (for details on their changes, see Appendix 5 'Households' and businesses' perception of inflation: survey results').

In May 2022, the Bank of Russia started to release its monthly information and analytical commentary based on the monitoring of businesses, as well as expanded the list of the findings of the survey published. In addition to companies' price expectations, the Bank of Russia now also publishes the estimates of changes in the Bank of Russia's Business Climate Index (BCI), output and demand both across Russia in general and in the key industries.

The Business Climate Index is one of the main indicators providing prompt and reliable information about the state of the Russian economy. This is an aggregated indicator averaging responses to the questions about actual changes and expectations for the next three months with respect to demand and output.

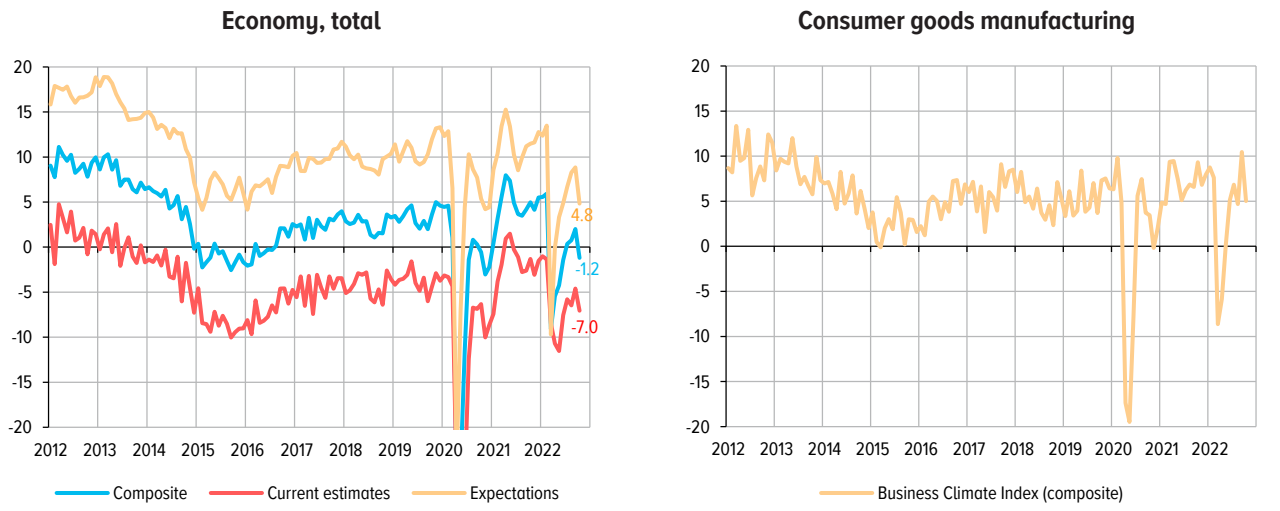
The BCI comprises three indicators:

- the composite index (a leading indicator of business activity);
- the current situation index (showing the current state of the economy and including assessments of changes in output and demand); and
- the business expectations (sentiment) index.

According to official statistics, business activity slowed down only in April 2022, whereas the Bank of Russia's surveys carried out in early March showed that the composite BCI had already turned negative as companies expectations had worsened considerably amid

BANK OF RUSSIA'S BUSINESS CLIMATE INDEX
(points, SA)

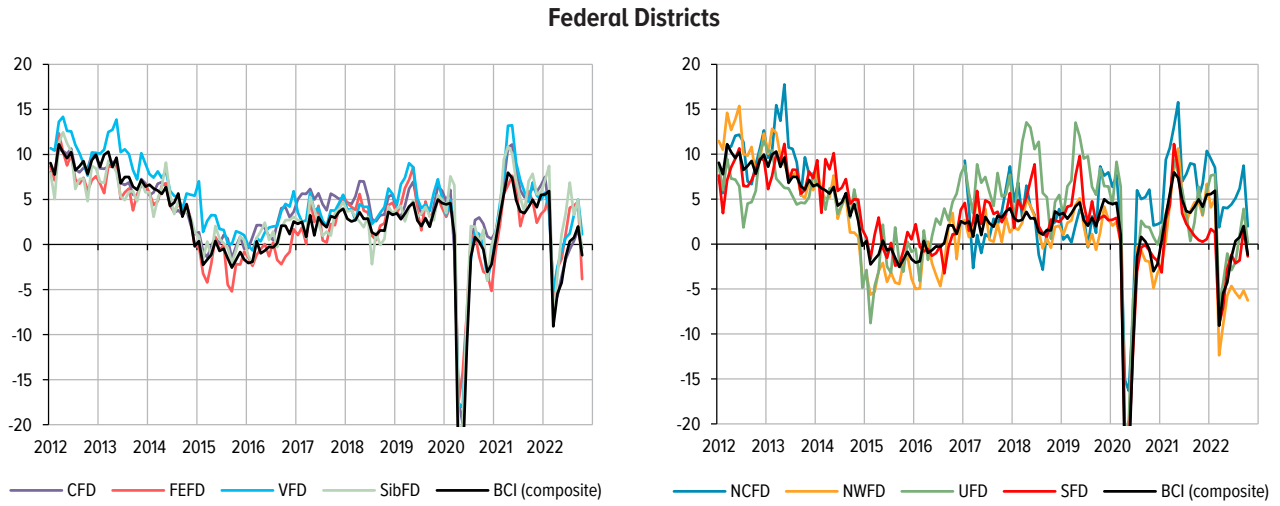
Chart A-6-1



Source: Bank of Russia.

BANK OF RUSSIA'S BUSINESS CLIMATE INDEX
(points, SA)

Chart A-6-2



Source: Bank of Russia.

the tightening of the sanctions and the uncertainty existing in local and global markets. The slump in the BCI was typical of both the economy in general and its key industries. Over the next months, companies' expectations were improving. This was largely because businesses managed to promptly adjust to the new economic conditions by finding alternative suppliers and new sales market and the Government implemented support measures.

The decrease in the BCI to -1.2 points (from 2.0 points in September), according to the results of the October survey, was associated with the worsening of both the current assessments of the business climate and companies' short-term expectations. The unfavourable changes were caused by the contraction of demand in the accessible

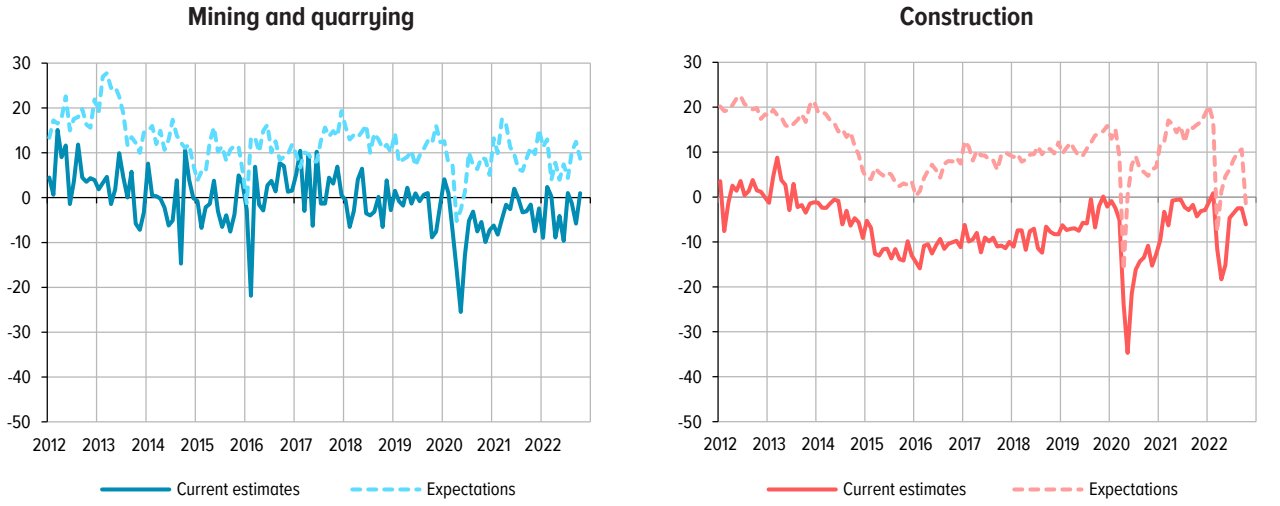
sales markets and rising economic uncertainty, including due to the announced partial mobilisation. The exacerbation of the problem of qualified personnel shortages was an important factor for many companies.

In October 2022, the BCI worsened across all federal districts. Nevertheless, this index did not turn negative in the Volga, Urals and North-Western Federal Districts.

According to the October survey, there was a pause in the recovery of production activity observed in April–September amid the partial settlements of the problems with the supplies of raw materials and components in a number of industries. Manufacturers of consumer and intermediate goods, as well as retailers noted most significant negative changes. Mining and quarrying output has not stabilised yet. Its dynamics are affected

ESTIMATES OF OUTPUT CHANGES
(points, SA)

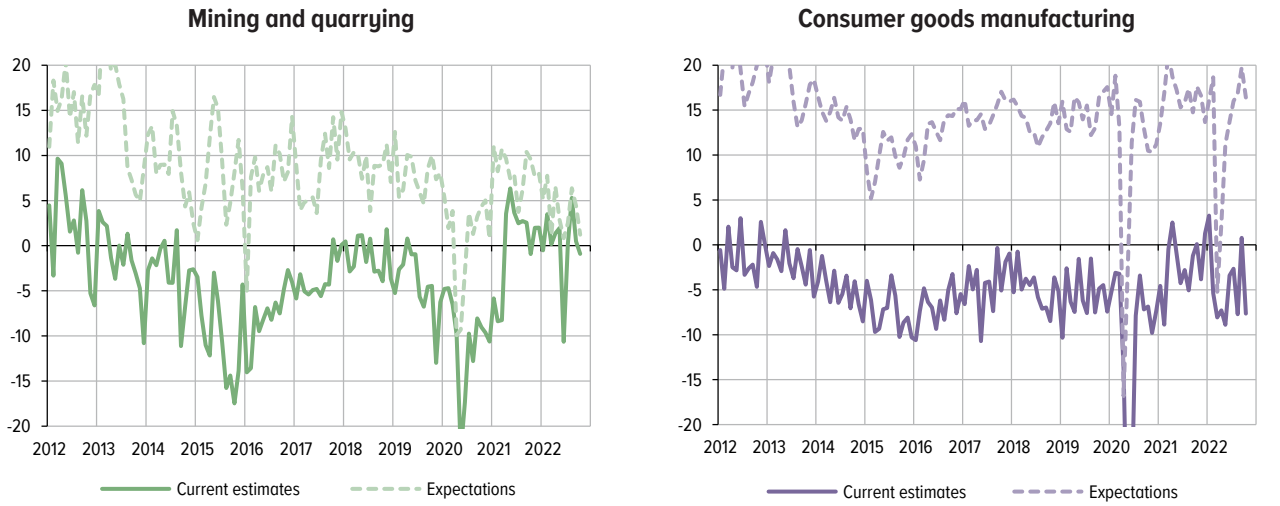
Chart A-6-3



Source: Bank of Russia.

ESTIMATES OF DEMAND CHANGES
(points, SA)

Chart A-6-4



Source: Bank of Russia.

by the partial embargo on Russian hydrocarbons imposed by unfriendly states and the reduction in the purchases of hydrocarbons, primarily by European counterparties.

In October, companies became less optimistic about future demand trends as compared to the previous three months when their expectations had been steadily improving. In the short term, companies in the majority of industries, including consumer and intermediate goods manufacturing, expect demand to contract further.

APPENDIX 7. IMPACT OF THE DIGITAL RUBLE ON MONETARY POLICY

In 2022, the Bank of Russia continued to design the digital ruble, which is the third, new form of the Russian ruble. In terms of its features, the digital ruble will be similar to both cash and balances in bank accounts. First and foremost, digital rubles, just as cash, will be the Bank of Russia's obligation. However, the Bank of Russia will issue them only in the digital form which is typical of banks' non-cash funds.

The introduction of the digital ruble will ensure a number of benefits, namely better financial inclusion, including in remote and scarcely populated areas, the possibility to access a digital wallet via any financial institution and despite limited access to the internet, as well as the development of new payment infrastructure. However, the key advantage is that the third form of the Russian ruble will help optimise the cost of settlements. This will reduce transaction costs and support the competitiveness of the Russian economy. This is becoming especially relevant amid the growing digitalisation of payment services and the adoption of central bank digital currencies in other countries. Besides, the issue of the digital ruble will enable the implementation of the 'colouring' technology, that is, it will be possible to choose the target use for digital rubles, e.g., types of goods and services that may be paid for with 'coloured' digital rubles. As a result, the efficiency of targeted government expenditures will improve, including within government procurements and state contracts. As a component of money supply, 'coloured' digital rubles will be equivalent to other digital rubles and cash and will be used for settlements in a similar way.

In 2020–2021, the Bank of Russia carried out public consultations on the digital ruble concept, following which it selected a two-tier retail model for the implementation of the digital ruble project.[1] This means that the structure of the banking system will not change: banks will still issue loans, raise deposits, and process the largest part of payments in the economy. The Bank of Russia will continue to regulate the financial sector, conduct operations with the banking sector to pursue its monetary policy and exercise all its other functions, issue cash, and process government payments.

Additionally, the Bank of Russia will become the issuer of digital rubles and the operator of the digital ruble platform. Rubles in individuals' and businesses' digital wallets will be accounted for on the Bank of Russia's balance sheet and will be its obligation just as cash. The Bank of Russia will process payments in digital rubles and maintain accounting of digital rubles in clients' wallets. However, within this model, clients will interact with the Bank of Russia not directly, but through commercial banks. Clients will apply to banks (including via payment applications) to open a digital wallet, make a payment in digital rubles, or find out the balance in their digital wallets. Banks will exchange funds in bank accounts for digital rubles. Besides, banks will be able to offer additional services using digital rubles to their clients. Such a model will not only preserve the existing two-tier financial system, but also use its advantages and the infrastructure of financial institutions to provide services to clients.

The issue of the digital ruble will influence economic agents' demand for cash and funds in bank accounts. Although the total demand for money will not change, the digital ruble

[1] *This is the D model in the digital ruble concept. Digital Ruble Concept. Bank of Russia. 2021.*

will partially replace other forms of money. The ratio between different forms of money will depend of a number of factors, including the convenience of their use, transaction costs and restrictions on conversions from one form of money into another, and the level of interest rates on bank deposits influencing the attractiveness and competitive advantages of banks' non-cash funds.[2] Households' and businesses' demand for various forms of money will primarily depend on the effect of the digital ruble on the financial system and the economy.

The Bank of Russia will be introducing the digital ruble gradually. In 2022, the Bank of Russia carries out the testing of the digital ruble platform, and, already in 2023, the Bank of Russia plans to start the piloting of C2C, C2B and B2C settlements 'on real money'. Furthermore, in 2023, a limited number of participants will receive the opportunity to conclude and perform smart contracts on the digital ruble platform, that is, transactions that are automatically conducted upon the occurrence of certain conditions stipulated by the parties. These functions of the digital ruble platform will help optimise business processes related to the interaction between the counterparties and reduce the time and costs of the transaction. In 2024, the Bank of Russia will start to connect all credit institutions to the digital ruble platform on a stage-by-stage basis, increase the number of options for payments and transactions based on smart contracts. As the Federal Treasury completes the preparations, it will become possible to make payments in digital rubles to both the state budget and from the state budget to the benefit of individuals and legal entities (C2G, B2G, G2C, and G2B). The Bank of Russia will cooperate with other central banks developing their own digital currencies to conduct cross-border and foreign exchange operations with digital currencies. In 2025, the Bank of Russia plans to introduce the offline mode of the digital ruble and connect non-bank financial intermediaries, financial platforms, and exchange infrastructure. The stage-by-stage implementation of the digital ruble will allow market participants to adapt to the new conditions.

The influence of the digital ruble on banking sector liquidity and the operational procedure of monetary policy

Economic agents' demand for the digital ruble will become an additional factor of banking sector liquidity. Specifically, when the digital ruble is issued, credit institutions' funds in correspondent accounts will be credited to digital wallets in the form of the digital ruble.

However, banks are not interested in buying digital rubles to hold them in their wallets. Banks buy digital rubles to then transfer them to the digital wallets of their clients, including both individuals and legal entities. The impact of digital rubles on the banking sector will depend on the increase in the amount of digital rubles in individuals' and legal entities' wallets.

For instance, if a client plans to replenish the digital wallet on the Bank of Russia's platform from cash, he/she should first replenish the non-cash account with the bank and then the bank will exchange the funds from this non-cash account for digital rubles. As a result, the balance of cash in the credit institution's cash office will grow, while funds in its digital wallet on the Bank of Russia's platform will decrease. Simultaneously, the balance in the client's digital wallet will increase, whereas the overall amount of issued digital rubles will remain the same.

---

[2] *Грищенко В. «Цифровой рубль: оценка спроса со стороны домохозяйств» (V. Grishchenko. Estimating Households' Demand for the Digital Ruble). Cbonds Review, No. 2, 2022.*

PURCHASE OF DIGITAL RUBLES BY CREDIT INSTITUTIONS FROM THE BANK OF RUSSIA* *Table A-7-1*

Bank of Russia	
Asset	Liability
Cash in a vault	Issued cash
Claims on a credit institution	Credit institution's correspondent account
	Credit institution's digital wallet (+100)
	Customer's digital wallet
Change in the balance sheet	0

Credit institution	
Asset	Liability
Cash in a vault	Customer's deposit / account (non-cash funds)
Credit institution's correspondent account (-100)	Liabilities to the Bank of Russia
Digital wallet on the digital ruble platform (+100)	
Loans issued to a customer	
Change in the balance sheet	0

Customer	
Asset	Liability
Cash	Raised bank loan
Digital wallet on the digital ruble platform	
Customer's deposit / account with a credit institution (non-cash funds)	
Change in the balance sheet	0

** Hereinafter, the tables of Appendix 7 show the resulting effect of transactions on economic agents' balance sheets. The identical categories of assets and liabilities are highlighted in the same colour.*
Source: Bank of Russia.

However, banks have no reasons to hold a too large amount of cash in their cash offices. Hence, banks can be expected to collect vault cash and transfer it to the Bank of Russia, receiving funds to their correspondent accounts.

Hence, as the digital ruble replaces cash, the structure of the Bank of Russia's obligations will change: the proportion of digital rubles will grow, but credit institutions' balances will remain unchanged.

Credit institutions' balances will change as a result of the transfer of funds from clients' bank accounts to the digital wallets with the Bank of Russia.

This will involve an outflow of liquidity from the banking sector. The Bank of Russia will take into account this outflow when conducting its liquidity management operations, reducing the amount of liquidity absorption or increasing the amount of its provision in order to maintain control over interest rates in the money market.

REPLENISHMENT OF A CUSTOMER'S WALLET WITH CASH (USING NON-CASH ACCOUNTS) *Table A-7-2*

Bank of Russia	
Asset	Liability
Cash in a vault	Issued cash
Claims on a credit institution	Credit institution's correspondent account
	Credit institution's digital wallet (-100)
	Customer's digital wallet (+100)
Change in the balance sheet	0

Credit institution	
Asset	Liability
Cash in a vault (+100)	Customer's deposit / account (non-cash funds)
Credit institution's correspondent account	Liabilities to the Bank of Russia
Digital wallet on the digital ruble platform (-100)	
Loans issued to a customer	
Change in the balance sheet	0

Customer	
Asset	Liability
Cash (-100)	Raised bank loan
Digital wallet on the digital ruble platform (+100)	
Customer's deposit / account with a credit institution (non-cash funds)	
Change in the balance sheet	0

Source: Bank of Russia.

TRANSFER OF CASH BY A CREDIT INSTITUTION TO THE BANK OF RUSSIA *Table A-7-3*

Bank of Russia	
Asset	Liability
Cash in a vault (+100)	Issued cash
Claims on a credit institution	Credit institution's correspondent account (+100)
	Credit institution's digital wallet
	Customer's digital wallet
Change in the balance sheet	100

Credit institution	
Asset	Liability
Cash in a vault (-100)	Customer's deposit / account (non-cash funds)
Credit institution's correspondent account (+100)	Liabilities to the Bank of Russia
Digital wallet on the digital ruble platform	
Loans issued to a customer	
Change in the balance sheet	0

Customer	
Asset	Liability
Cash	Raised bank loan
Digital wallet on the digital ruble platform	
Customer's deposit / account with a credit institution (non-cash funds)	
Change in the balance sheet	0

Source: Bank of Russia.

As a result of the transfer of funds from bank accounts to digital rubles, the banking sector might shift to a structural liquidity deficit. However, this only implies that, by providing the required amount of liquidity to banks, the Bank of Russia might turn from the net borrower of the banking sector on monetary policy operations into the net lender. This situation is normal and does not involve any failures or disruptions in the functioning of the banking sector. This is confirmed by the experience of both the Bank of Russia (2012–2016) and a large number of other central banks. The Bank of Russia possesses a broad range of liquidity providing instruments, which will help fully offset a possible outflow of liquidity associated with the transfer of funds from clients' bank account to digital wallets.

If the Russian banking sector shifts to a structural liquidity deficit, the Bank of Russia will change its operational procedure in terms of quantity rather than quality. This is because the Bank of Russia will still seek to ensure the balance between the demand for and supply of liquidity in the banking sector in order to achieve its operational objective. To this end,

REPLENISHMENT OF A CUSTOMER'S WALLET WITH FUNDS IN THE CUSTOMER'S ACCOUNT *Table A-7-4*

Bank of Russia	
Asset	Liability
Cash in a vault	Issued cash
Claims on a credit institution	Credit institution's correspondent account
	Credit institution's digital wallet (-100)
	Customer's digital wallet (+100)
Change in the balance sheet	0

Credit institution	
Asset	Liability
Cash in a vault	Customer's deposit / account (non-cash funds) (-100)
Credit institution's correspondent account	Liabilities to the Bank of Russia
Digital wallet on the digital ruble platform (-100)	
Loans issued to a customer	
Change in the balance sheet	-100

Customer	
Asset	Liability
Cash	Raised bank loan
Digital wallet on the digital ruble platform (+100)	
Customer's deposit / account with a credit institution (non-cash funds) (-100)	
Change in the balance sheet	0

Source: Bank of Russia.

where needed, the Bank of Russia will change the direction and amounts of its operations with credit institutions. Besides, it might further expand the list of assets that may be accepted as collateral for the Bank of Russia's liquidity providing operations. Nevertheless, when needed, the Bank of Russia is ready to set quantitative limits on operations with the digital ruble, including on the amount of funds in the digital wallet, the amount of transactions, etc.

The influence of the digital ruble on the monetary policy transmission mechanism

Most probably, the influence of the digital ruble on the monetary policy transmission mechanism will be minor and extended over time. In the course of the introduction of the digital ruble, rising uncertainty about the flows of clients' funds and possible changes in the structure of banks' balance sheets might have a distorting effect on the transmission of the monetary policy signal to the economy. However, in the long run, the effectiveness of the monetary policy transmission to the economy can improve as a result of better financial inclusion and a higher speed of servicing owing to the use of the digital ruble by a wide range of consumers.

The influence of the digital ruble on financial stability

The issue of the digital ruble and the transfer of clients' funds from their bank accounts to their digital wallets on the Bank of Russia's platform do not involve any risks to financial stability.

Firstly, a gradual introduction of the digital ruble which will be extended over time will help mitigate the risk of a considerable outflow of liquidity from the banking sector. This will enable credit institutions to adjust to changes in the structure of their balance sheets. The Bank of Russia in turn will fully offset the outflow of liquidity from banks using the existing monetary policy instruments.

Secondly, risks to financial stability stemming from the transfer of funds from bank deposits to digital rubles as a result of the so-called flight to quality appear to be minor. Such episodes repeated in history when economic agents became concerned about the stability of the banking sector. In such conditions, funds can be transferred from less to more reliable financial instruments, including cash, gold, and stable foreign currencies. However, as a result of higher resilience of the Russian banking system and greater confidence in it on the part of economic agents, and the shift towards inflation targeting and a floating exchange rate, a rise in risks in the economy did not entail a steady flight to quality, and the past episodes of the increase in the amount of cash in circulation (2014, 2020, and 2022) were short-term. The existing deposit insurance system protects bank deposits. However, in contrast to funds in digital wallets, the advantage of funds in bank accounts is the income accrued on them. Keeping this in mind and aiming to prevent competition with the banking sector, the Bank of Russia made the decision not to accrue interest on funds in digital wallets on the Bank of Russia's platform.

The possibility to accrue interest on balances in digital currencies as an additional advantage is considered by the central banks who have established close-to-zero or negative interest rates and thus exhausted the potential of conventional monetary policy instruments. In such a situation, these central banks will acquire an additional instrument for regulating interest rates in the economy and promote market activity. However, the Bank of Russia possesses efficient monetary policy instruments, whereas interest accrued

on funds in digital wallets would only intensify the transfer of funds from bank accounts to digital rubles.

Therefore, there are no grounds to expect that the issue of the digital ruble will cause a massive outflow of funds from bank deposits, the attractiveness of which is ensured by interest income or bonus programmes. Furthermore, the competition for banks in the form of another inexpensive and convenient payment instrument will become another incentive to make bank accounts more attractive. Overall, the adoption of the digital ruble will create conditions for increasing competition in the banking sector, more efficiently redistribute financial resources in the economy, and redistribute revenues in the banking sector in favour of the credit institutions offering more beneficial terms on their products.

Moreover, the issue of the digital ruble will help maintain financial stability. Firstly, this will reduce the vulnerability of the Russian banking sector and the economy as a whole, considering the rapid development of digital financial technologies and the spread of digital currencies of foreign central banks. Secondly, the additional payment infrastructure to be established for the digital ruble will promote the resilience, reliability, and smooth functioning of the payment system and money settlements in general. This is a critical condition to maintain financial stability as a failure in the functioning of large credit institutions' payment instruments, considering a high level of concentration in the Russian banking sector, might have an extremely negative effect on the payment market as a whole.

Hence, in the first place, the introduction of the digital ruble will not affect the fundamentals of the functioning of the banking system and the principles for pursuing monetary policy. A two-tier retail model for the implementation of the digital ruble project will make it possible to preserve credit institutions' functions, first of all, lending to the economy and the formation of stable savings instruments, and to use credit institutions' infrastructure to provide services to clients. Secondly, the issue of the digital ruble will create conditions for increasing competition in the banking sector and redistributing revenues in favour of more efficient financial intermediaries, as well as developing payment infrastructure. Thirdly, in the case of the transfer of funds from bank accounts to digital rubles and a structural liquidity deficit, the Bank of Russia is prepared to promptly respond to the situation and take all necessary measures to maintain short-term interest rates close to the key rate and support the resilience of the banking system and financial stability.

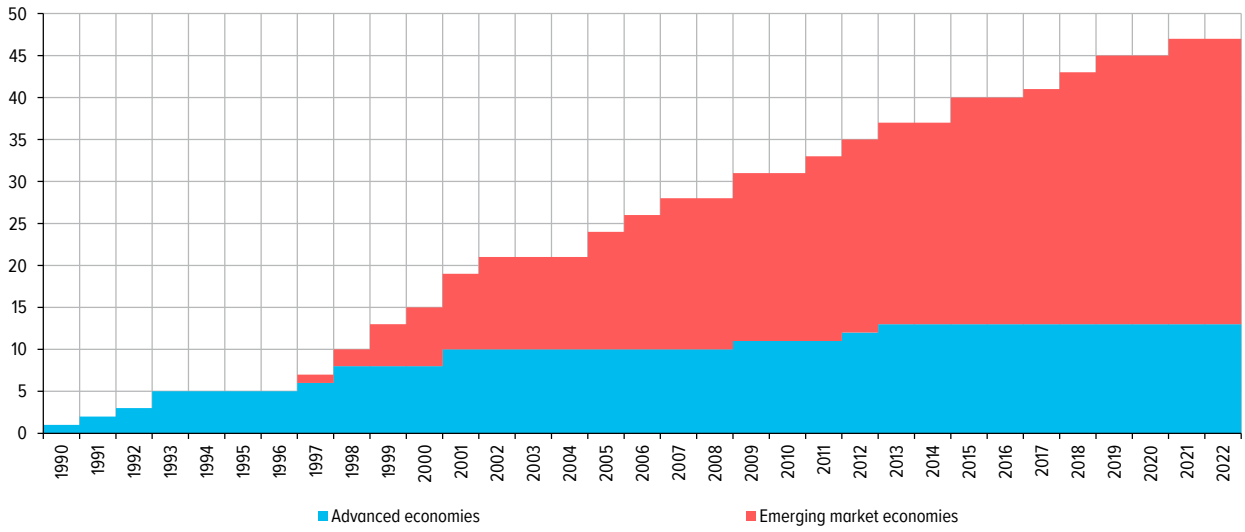
APPENDIX 8.
INFLATION AND MONETARY POLICY: CROSS-COUNTRY COMPARISONS

Inflation targeting countries in the global economy

According to the IMF,[1] 47 countries are currently conducting their monetary policy within the framework of the inflation targeting strategy, whether de jure or de facto. According to assessments as of 2021, these countries account for approximately 70% of global GDP. The first country to switch to inflation targeting in 1989 was New Zealand, which was followed by other countries making such a decision due to insufficient effectiveness of the existing monetary policy regimes. In particular, targeting of macroeconomic indicators, other than the inflation rate, (for instance, monetary aggregates or exchange rates) hindered the national economies from absorbing internal and external shocks as efficiently, could not ensure the required predictability of macroeconomic conditions, and generally limited the flexibility[2] of monetary policy. In 1997, the first emerging market economy to shift towards inflation targeting was the Czech Republic.[3] Russia switched to inflation targeting in 2015. As of 2021, 34 EMEs were inflation targeters (hereinafter, targeting countries).

Today, the objective of maintaining low and stable inflation is the basis for the implementation of monetary policy among central banks of almost all largest economies

INFLATION TARGETING COUNTRIES *Chart A-8-1*
(number of countries)



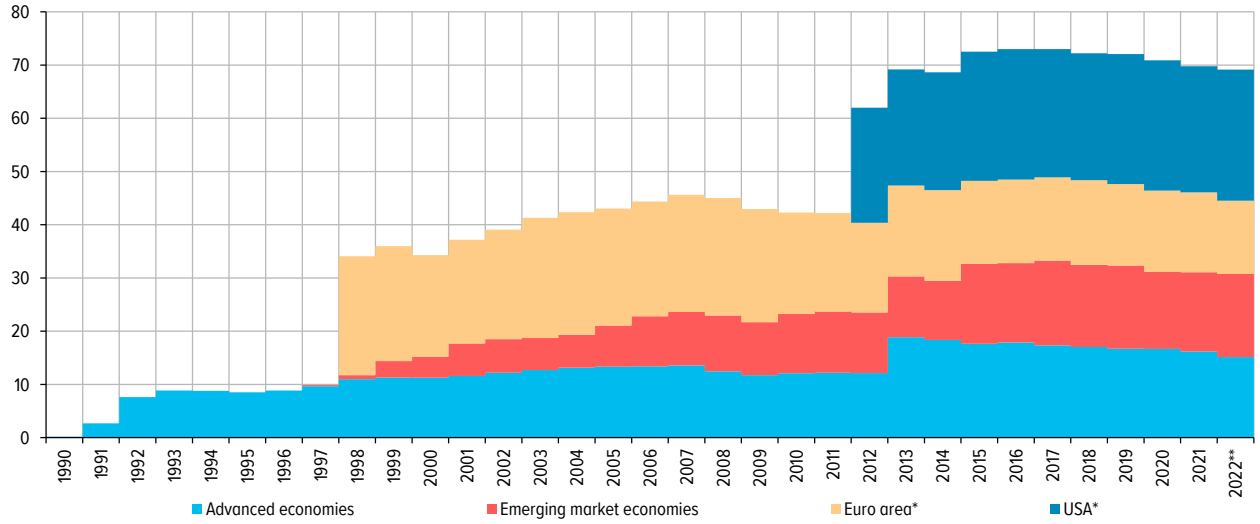
Sources: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER), 2021.

[1] *Refer to the Annual Report on Exchange Arrangements and Exchange Restrictions 2021.*

[2] *A greater flexibility of monetary policy in the inflation targeting environment is largely achieved through the anchoring of inflation expectations of the real economy and financial market participants to the central bank's inflation target. As a result, the central banks of targeting countries can pursue a more explicit and efficient countercyclical policy to mitigate the scale of cyclical fluctuations in the economy and stabilise inflation close to the target. This benefit is especially relevant to EMEs where central banks were often forced to tighten rather than ease monetary policy in times of crises, which exacerbated the scale of economic downturns.*

[3] *The IMF started to classify the Czech Republic as an advanced economy as late as 2009 (World Economic Outlook, October 2009).*

PROPORTION OF INFLATION TARGETING COUNTRIES IN THE WORLD ECONOMY *Chart A-8-2*
(share in the global GDP, %)



** The USA established its inflation target in 2012, and the euro area – after the introduction of the euro in 1999.*
*** Forecast values.*
Sources: IMF, Bank of Russia calculations.

worldwide. Specifically, although the USA and the euro area have not declared themselves as targeting countries, the US Federal Reserve System and the European Central Bank have all key elements of inflation targeting, including publicly announced targets, floating exchange rates, policy rates, and communication as the main instruments of their monetary policies. As to the BRICS member states, in addition to the Bank of Russia, the inflation targeting strategy is officially implemented by the Reserve Bank of India, the Central Bank of Brazil, and the South African Reserve Bank. The People's Bank of China, although it cannot be considered an inflation targeter, has significantly adjusted its approaches to pursuing monetary policy in recent decades, predominantly at the level of its monetary policy instruments, aligning them somewhat with the approaches used within the inflation targeting strategy, and continues its further development in this area.[4]

[4] *A specific feature of the monetary policy of the People's Bank of China (PBC) is its multiple objectives, intermediate benchmarks, and policy instruments. Such a complex structure is largely the legacy of the planned economy, reflects the specifics of the development of markets (rapid yet uneven), and the institutional environment. Over recent decades (particularly after 2015), amid China's progressive transition to a market economy, the PBC has made a leap forward in enhancing the efficiency of the transmission mechanism of its monetary policy. In the first place, this regards the development of the system of liquidity management instruments to manage money market rates (a sort of the interest rate corridor) and the overall simplification of the interest rate system of monetary policy. Additionally, the state authorities have decreased their direct participation in the pricing of banking products in the economy, including through interventions in banks' transfer pricing. Finally, the PBC has reduced the significance of the required reserve ratio in the course of the monetary policy implementation and has enhanced communication transparency to promote market participants' confidence. Despite the already achieved success, many experts believe that there is still sufficient room for enhancement, which is also noted by the PBC itself. In particular, making their official statements, PBC representatives emphasise their commitment to further develop interest rate policy based on market mechanisms and increase transparency. Besides, in the conditions of the multiplicity of its objectives, the PBC also has an effective inflation target that is established by the State Council of the People's Republic of China and announced by the country's premier each spring. Beginning from 2015, the target is 'close to 3%'. However, according to the PBC's official communication, the inflation target is asymmetrical and is rather a 'ceiling' for inflation. The PBC seeks to avoid considerable deviations of inflation downwards from the target to a much lesser extent than upward deviations.*

Over the more than 30 years of its history, inflation targeting worldwide has proven its high effectiveness, not only by supporting the purchasing power of national currencies through low and stable inflation, but also by creating conditions ensuring better quality of economic growth. In particular, numerous empirical studies demonstrate that inflation targeting makes the use of production factors in the economy more efficient and, generally, improves the stability of economic growth.[5]

Setting inflation targets and their achievement after the introduction of the inflation targeting regime

The central banks of targeting countries normally set inflation targets taking into account the structural and institutional specifics of the economy. In particular, advanced economies are steadier, and monetary authorities there have a longer-lasting experience of inflation targeting[6] and high confidence in their monetary policies. This enables them to maintain inflation expectations, interest rates in the economy, and inflation itself at a lower level than in EMEs. Therefore, inflation targets in advanced economies are about 2% for the most part (except in Iceland and Australia). Markets in EMEs are generally more volatile, which complicates the task of stabilising inflation at the levels comparable with those in advanced economies. For this reason, inflation targets in EMEs are usually higher than in advanced economies and most often set within the range of 3–4%.

The world experience of inflation targeting shows that it might take several years to bring high inflation down to the target level; therefore, some central banks set interim annual targets for inflation at the initial stage. Although targeting countries' policies may rely on common approaches, such aspects of the regime as the existence or absence of a range of permissible deviations and a particular time horizon for bringing inflation back to the target, and the specifics of their operational mechanisms may differ depending on the maturity of financial markets and the specifics of a particular country in general.

In practice, inflation may significantly deviate from the target during certain periods, but ultimately most central banks of targeting countries (both advanced economies and EMEs) manage to successfully maintain inflation close to the targets. Over the entire inflation targeting period, inflation deviated from the target (a point or the middle of the range) by no more than 2 pp on average in most advanced targeting countries and by no more than 2 pp – in most EMEs. The experience of inflation targeting is essential as well: in the absolute majority of targeting countries having more than 20-year experience, inflation stays within the target values on average. In countries with shorter experience, the variance of inflation is slightly higher.

Reasons for steadily low inflation worldwide after the 2007–2008 global financial crisis

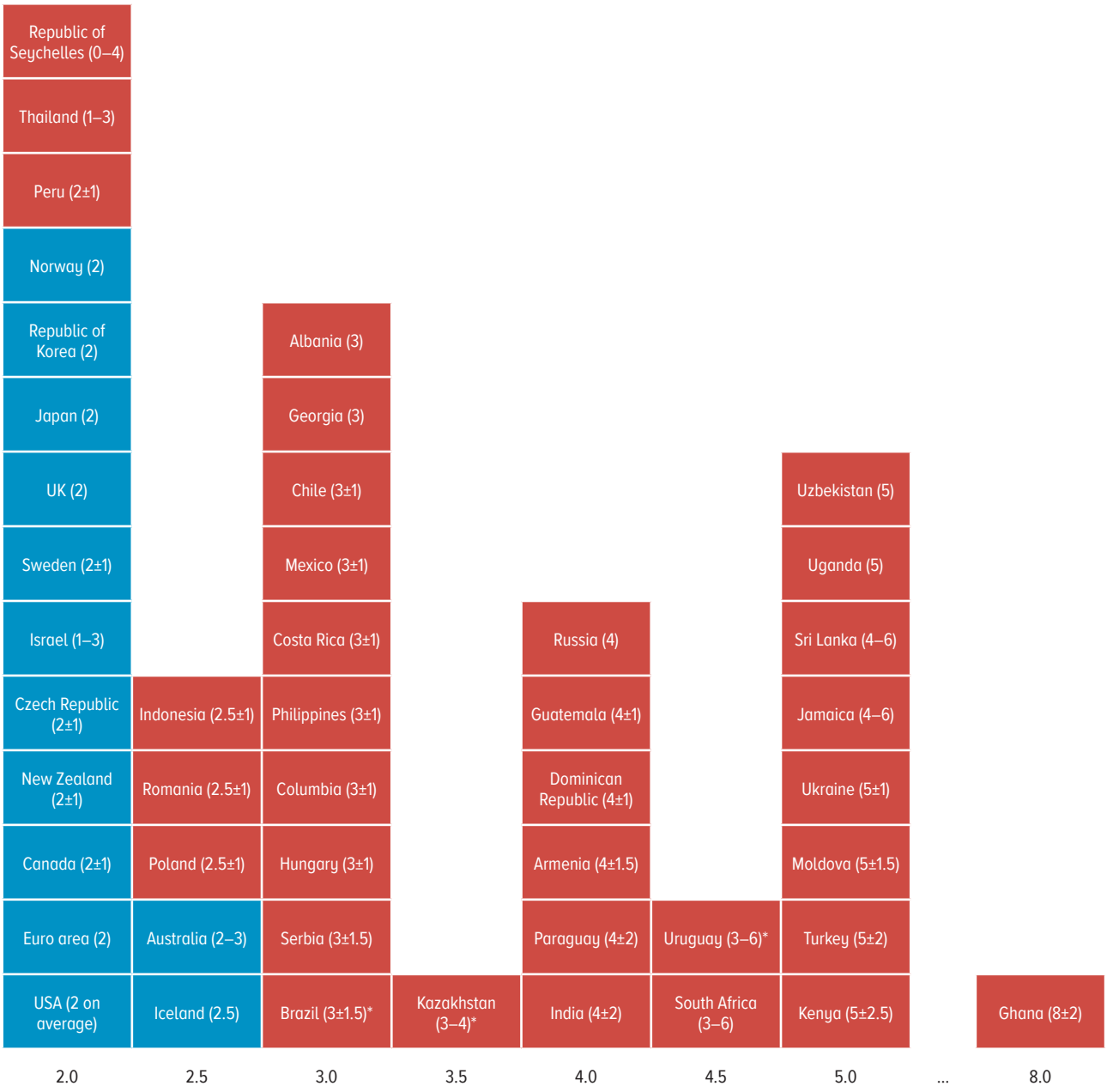
The decade after the 2007–2008 global financial crisis (GFC) was a period of steadily low inflation at the level of the world economy. Although inflation trends in EMEs varied across countries and regions, an important contributor consolidating the overall trend towards lower inflation in this group of countries was rising confidence in the macroeconomic

---

[5] *Refer to, for instance, the meta-analysis of the studies investigating the performance of inflation targeting: Hippolyte W. Balima, Eric G. Kilama, René Tapsoba. Inflation targeting: Genuine effects or publication selection bias? (http://doi.org/10.1016/j.euroecorev.2020.103520). European Economic Review. Volume 128, 2020.*

[6] *In particular, the average inflation targeting period in advanced countries totals 24 years against 13 years in EMEs.*

INFLATION TARGETS IN INFLATION TARGETING COUNTRIES *Chart A-8-3*
(%)



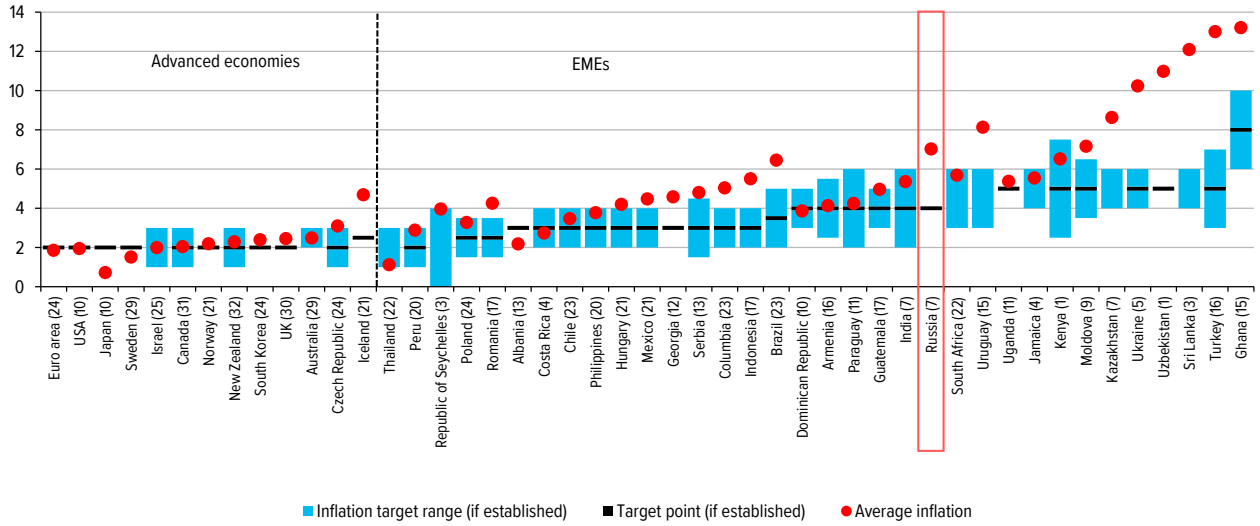
** The inflation target of Bank Indonesia for 2024 (the target for 2022 is 3%±1 pp), the inflation target of the Bank of Brazil for 2024 (the target for 2022 is 3.5%±1.5 pp), the inflation target of the National Bank of Kazakhstan since 2025 (the target for 2022 is 4–6%), the inflation target of the Central Bank of Uruguay since September 2022 (until September the range was 3–7%).*
Note. The red colour – EMEs, the blue colour – advanced economies.
Sources: central banks' websites, IMF Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER, 2021).

policy pursued, considering, among other factors, the growing number of inflation targeting central banks in EMEs. The weakening of inflationary pressure in advanced economies was especially notable. In many of them, inflation stayed even below the target during a long period after the GFC despite a considerable easing of monetary policies by these countries' central banks.

Inflation in advanced economies was affected by both cyclical and structural factors. Specifically, the recovery of the largest advanced economies after the GFC was slow. This could be largely attributed to the following: the launch of the global banking regulation

EFFICIENCY OF INFLATION TARGETING ACROSS COUNTRIES: TARGETS (%) AND AVERAGE INFLATION (% YOY)

Chart A-8-4



Note. Average inflation was calculated for the period since the transition to inflation targeting through September 2022. Respective inflation measures were applied for each of the counties: PCE – for the USA, CPIF – for Sweden, and core CP1 – for Uganda. The period of inflation targeting in years is given in the brackets of the horizontal axis. The countries were grouped by the inflation target: the point or the middle of the target range (where the middle was not set officially, it was calculated depending on the size of the established range). Within the groups, the countries were graded by the average rate of inflation.
Sources: central banks' websites, statistical agencies' websites, Bank of Russia calculations.

reform[7] aimed at enhancing the resilience of banking systems to financial crises; a significant decrease in risk appetite among various economic agents (households, businesses, and others);[8] and a gradual phasing-out of fiscal stimulus measures[9] after the completion of the acute stage of the GFC and amid the exacerbating problems with sovereign debt burden, especially after the European debt crisis of 2009–2010.[10] Besides, downward pressure on prices was put by the strengthening of global competition in retail due to the rapid development of online retail (the so-called Amazon effect).[11] In addition, a slower increase in total factor productivity[12] and low risk appetite among economic agents, together, caused a substantial decrease in neutral interest rates of monetary policies in this group of countries.[13] This means that monetary policies of advanced economies' central banks that reduced their policy rates after the start of the GFC to near-zero levels actually did not have a sufficient accommodative influence to offset the effects of a broad range of disinflationary factors. Aiming to increase monetary stimulus to support the recovery of the economies and prevent steady deflation, the central banks of the largest advanced economies turned to unconventional monetary policy instruments, first of all, the expansion

[7] *Refer to Codruta Boar, Leonardo Gambacorta, Giovanni Lombardo, Luiz Pereira da Silva. What are the effects of macroprudential policies on macroeconomic performance? BIS Quarterly Review. September 2017.*

[8] *Refer to, for instance, Brad Jones. Uncertainty and Risk Aversion – Before and After the Pandemic. Reserve Bank of Australia.*

[9] *Refer to Fiscal consolidation targets, plans and measures in OECD countries. Restoring public finances, 2012.*

[10] *Refer to Rebecca M. Nelson, Paul Belkin, Derek E. Mix, Martin A. Weiss. The Eurozone Crisis: Overview and Issues for Congress. Congressional Research Service, 2012.*

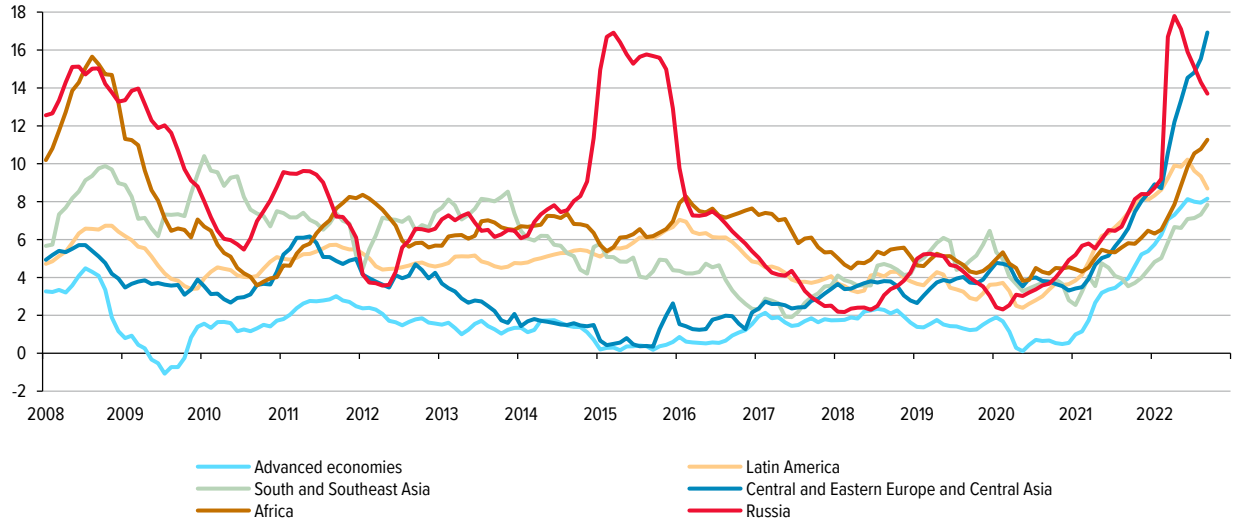
[11] *Refer to Janet L. Yellen's speech at the conference Prospects for Growth: Reassessing the Fundamentals. 2017.*

[12] *Refer to Dieppe, Alistair. 2021. Global Productivity. Trends, Drivers, and Policies. Washington, DC. World Bank.*

[13] *Refer to Holston K., Laubach, T., & Williams, J.C. (2017). Measuring the natural rate of interest: International trends and determinants. Journal of International Economics, 108.*

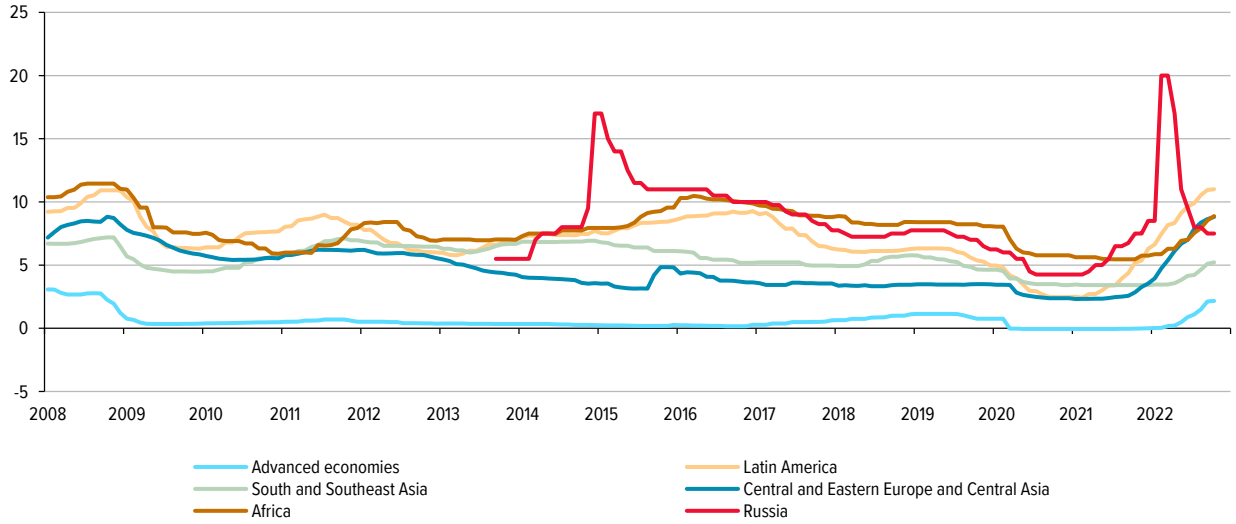
of balance sheets through asset purchase programmes. However, even considering the combined effect of conventional and unconventional monetary stimulus measures, the growth of money supply in major advanced economies remained low until the outbreak of the coronavirus pandemic.

INFLATION LEVEL BY GROUP OF COUNTRIES *Chart A-8-5*
(%)



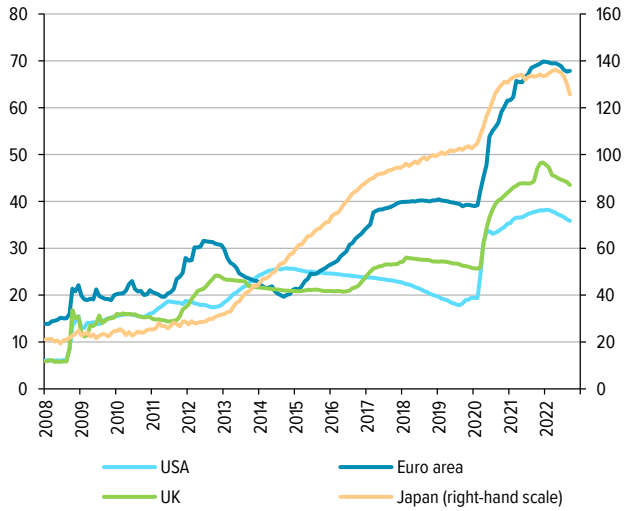
Note. The calculations are based on the inflation average weighted by GDP (in current prices in US dollars over the relevant year) within each group.
Groups of countries: advanced economies – the USA, the euro area, Japan, the UK, Canada, Norway, Sweden, Australia, New Zealand, Israel, Iceland, South Korea, and the Czech Republic; Latin America – Mexico, Columbia, Peru, Brazil, Chile, the Dominican Republic, Jamaica, Costa Rica, Guatemala, Paraguay, and Uruguay; South and Southeast Asia – Thailand, Indonesia, India, the Philippines, and Sri Lanka; Central and Eastern Europe and Central Asia – Poland, Hungary, Romania, Serbia, Albania, Moldova, Kazakhstan, Armenia, Georgia, and Uzbekistan; Africa – South Africa, the Republic of Seychelles, Ghana, Uganda, and Kenya.
Sources: Cbonds, World Bank, Bank of Russia calculations.

CENTRAL BANKS' WEIGHTED AVERAGE POLICY RATES BY REGION *Chart A-8-6*
(%)

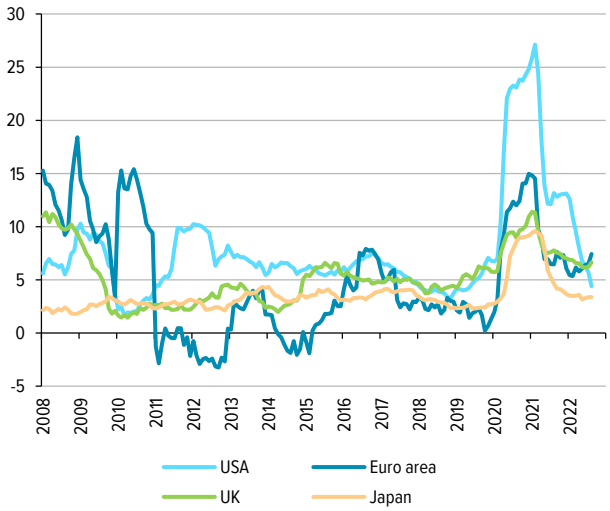


Note. The policy rate was calculated as the value of the central bank's policy rate weighted by a country's GDP in the region (in current prices in US dollars over the relevant year) for the period since January 2008 through 21 October 2022. Groups of countries: advanced economies – the USA, the euro area, Japan, the UK, Canada, Norway, Sweden, Australia, New Zealand, Israel, Iceland, South Korea, and the Czech Republic; Latin America – Mexico, Columbia, Peru, Brazil, Chile, the Dominican Republic, Jamaica, Costa Rica, Guatemala, Paraguay, and Uruguay; South and Southeast Asia – Thailand, Indonesia, India, the Philippines, and Sri Lanka; Central and Eastern Europe and Central Asia – Poland, Hungary, Romania, Serbia, Albania, Moldova, Kazakhstan, Armenia, Georgia, and Uzbekistan; Africa – South Africa, the Republic of Seychelles, Ghana, Uganda, and Kenya.
Sources: Cbonds, Bank of Russia calculations.

RATIO OF THE CENTRAL BANK'S BALANCE SHEET TO GDP IN THE G4 COUNTRIES (%) *Chart A-8-7*



MONEY SUPPLY (M2) IN G4 COUNTRIES (% YoY) *Chart A-8-8*



Note. Chart A-8-7 shows the ratio of the central bank's balance sheet to the country's average GDP over the last four quarters.
Sources: Cbonds, Bank of Russia calculations.

UNCONVENTIONAL MONETARY POLICY MEASURES

The main instrument used by central banks to attain their inflation targets is the policy rate, close to which central banks seek to maintain short-term money market rates. The policy rate enables a central bank to influence monetary conditions within a very wide range. However, the opportunities for easing monetary conditions through a lower policy rate are limited by the effective lower bound (ELB). The ELB is the point at which further cuts of the policy rate no longer provide the desired effect due to lower effectiveness of the monetary policy transmission mechanism (e.g., deposit rates cease to decline following a decrease in the policy rate). The ELB varies depending on economic conditions and is frequently equal to zero (the zero lower bound, ZLB). When the policy rate is already close to the ELB and pronounced disinflationary or even deflationary risks persist in the economy, or inflation steadily deviates downwards from the target, the required easing of monetary conditions is achieved through unconventional instruments, including:

Asset purchases (within quantitative easing (QE) programmes or yield curve control (YCC) – purchases by a central bank of financial assets (e.g., government bonds) in the open market within pre-set (in the case of QE) or unlimited (in the case of YCC) amounts. This mechanism helps reduce medium- and long-term interest rates thus easing monetary conditions.

Forward guidance (FG) is a central bank's signal about its future monetary policy intentions. By using this instrument, a central banks seeks to impact economic agents' expectations and decisions, including to decrease uncertainty in the market that might involve elevated interest rates or their volatility. In the conditions of unconventional monetary policy, a central bank uses a reinforced form of FG signalling longer-term conditions or time for a possible start of policy rate increases or changes in the parameters of asset purchase programmes.

In the absolute majority of cases globally, unconventional monetary policy instruments are employed by the central banks of advanced economies (the USA, the UK, the euro area, etc.), many of which faced the problem of the ELB amid the risks of steady deflation after the 2007–2008 global financial crisis, as well as after the outbreak of the coronavirus pandemic in spring 2020. Asset purchases within quantitative easing are used most extensively and are

a relatively effective instrument to maintain aggregate demand when there is little or no room for conventional monetary policy.[1] However, the use of such instruments might involve high risks due to a possible distortion of market-based pricing in financial markets. This makes the consequences of the tapering of asset purchase programmes for financial markets and the economy in general more unpredictable, among other things.

[1] *Refer to Andrew Bailey, Jonathan Bridges, Richard Harrison, Josh Jones and Aakash Mankodi. The central bank balance sheet as a policy tool: past, present and future. Bank of England Staff Working Paper, 2020.*

Inflation acceleration worldwide in 2021–2022 and central banks' response

A long period of very low inflation after the GFC strengthened the conviction of advanced economies' central banks about the steady decreases in neutral interest rates and the flattening of the Phillips curve.[14] Amid low inflation expectations, this flattening implied, among other things, that any changes in economic activity do not translate into inflation movements to the same extent as was estimated before the GFC. This view of the conditions of the implementation of macroeconomic policy largely predetermined the response of central banks and governments in advanced economies to the crisis provoked by the outbreak of the coronavirus pandemic in 2020. In response to the pandemic, monetary and fiscal policies were eased in the majority of both EMEs and advanced economies. However, advanced economies took unprecedentedly large-scale stimulus measures, reflecting expectations of a considerable and long-lasting deviation of the economies downwards from their potential and of inflation – downwards from the targets.

In practice, as the epidemic situation in the world changed, it became clear that the magnitude of disinflationary pressure expected at the initial stage was overestimated. The coronavirus pandemic provoked demand and supply gaps globally. Disruptions in production and logistics chains resulted in persistent supply-side bottlenecks. Simultaneously, fiscal and monetary support measures ensured a quick rebound of demand. Coupled with changes in the structure of consumption (from services towards goods), this caused a fast increase in inflationary pressure worldwide beginning from late 2020.[15]

Despite some common trends, inflation dynamics after the outbreak of the pandemic varied across the globe. Inflation sped up most considerably in Central and Eastern Europe and in Latin America. As to South and Southeast Asia, the pressure on prices was rising there, but still stayed moderate for a longer period amid the slump in economic activity and a slower recovery of demand due to anti-pandemic restrictions.[16] Price growth in the major advanced economies peaked to 40-year highs in 2022.

The unprecedented acceleration of inflation worldwide was the reason why many countries decided to tighten their monetary policies, but the time when this tightening started differed. The largest EMEs (Brazil and Russia) began monetary policy normalisation already in March 2021. These countries started to raise their policy rates amid a steady rebound of demand and a faster increase in inflation and inflation expectations than in

[14] *Refer to Andrew G. Haldane' speech at the National Science and Media Museum. Bradford, 2017.*

[15] *Refer to the BIS Annual Economic Report 2022.*

[16] *Refer to Asian Development Outlook (ADO) 2021: Financing a Green and Inclusive Recovery.*

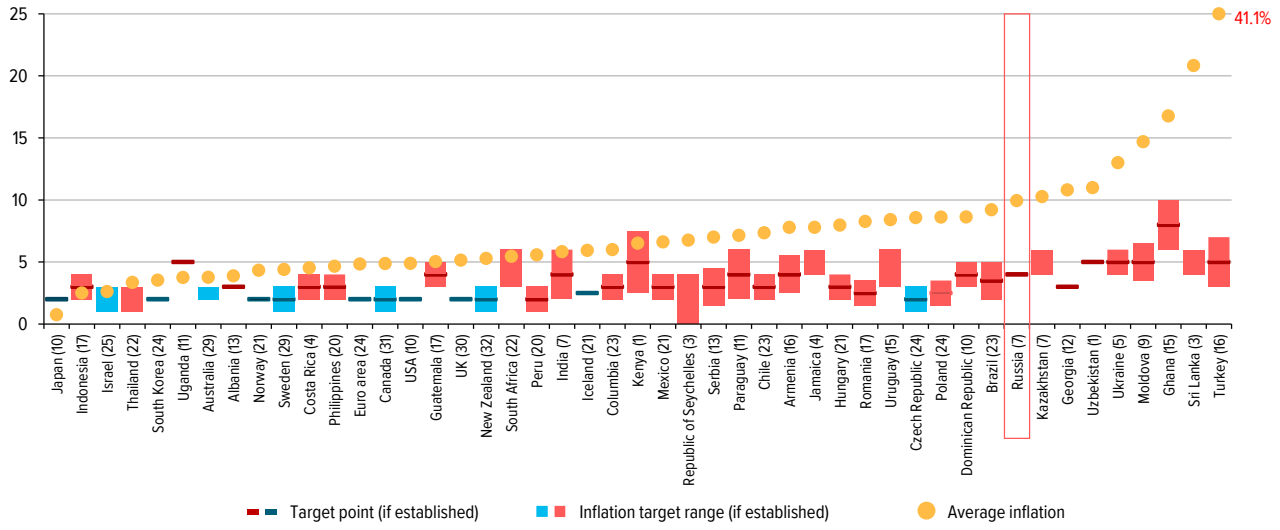
other economies. Asia continued accommodative monetary policy longer because of a weak recovery of economic activity and low inflation.

At the early stages of the inflation acceleration, advanced economies' central banks believed that excessive inflationary pressure would exhaust itself in the short term without any monetary policy response and steady inflationary pressure would remain low. However, inflation was speeding up, hitting new highs amid rising prices for energy commodities and persistent demand and supply gaps.[17] As more signs of persistent inflationary pressure emerged, advanced economies' central banks started to adjust their signals regarding the time of monetary policy normalisation and then scale back their asset purchase programmes launched or expanded during the pandemic, switching to the cycle of policy rate increases.[18]

In these conditions, central banks of both advanced economies and EMEs began to alter substantially their forecasts for bringing inflation back to the targets. EMEs recognised the need for monetary policy tightening to stabilise inflation in the medium term as early as the beginning of 2021. As advanced economies underestimated the persistence of inflation factors, these countries had to drastically shift their forecast paths upwards.

Due to a considerable and long-lasting price growth, fuelled by, among other factors, persistent supply shocks, it became more complicated for banks to find a trade-off between inflation stabilisation and economic activity: a too fast increase in policy rates

TARGETS (%) AND AVERAGE INFLATION (% YOY) IN 2021–2022 *Chart A-8-9*



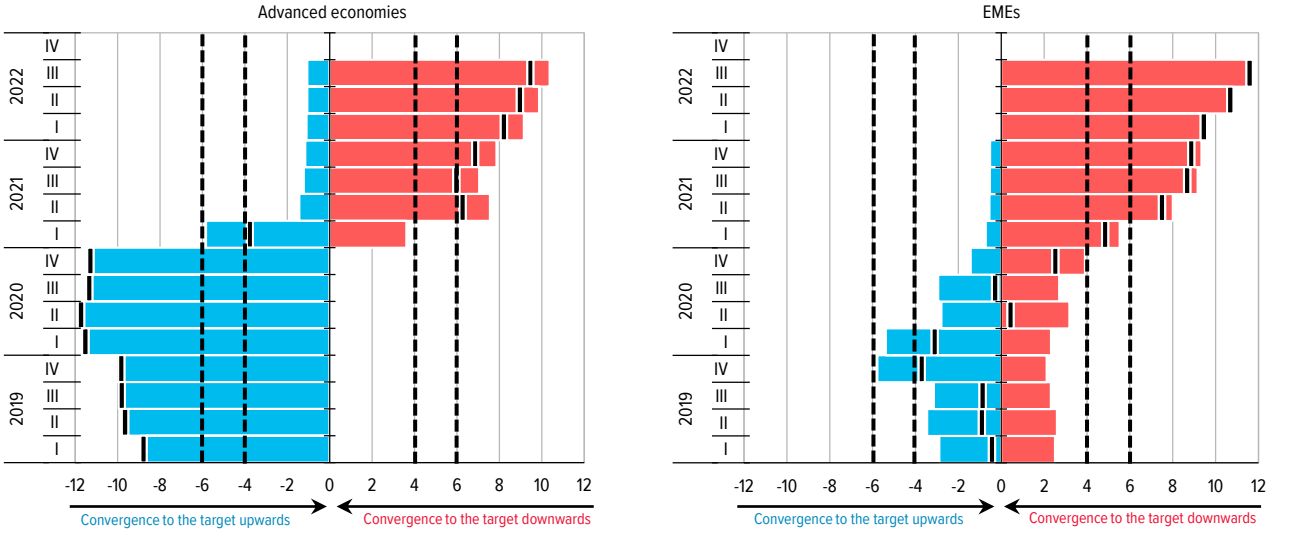
Note. The average was calculated based on the data for the period since January 2021 through September 2022. Respective inflation measures were applied for each of the counties: PCE – for the USA, CPIF – for Sweden, and core CP1 – for Uganda. The period of inflation targeting in years is given in the brackets of the horizontal axis. The countries were graded by the average rate of inflation. Advanced economies are highlighted in blue and EMEs – in red.
Sources: central banks' websites, statistical agencies' websites, Bank of Russia calculations.

[17] *Refer to The International Monetary Fund, World Economic Outlook: Recovery during a Pandemic – Health Concerns, Supply Disruptions, Price Pressures. 2021.*

[18] *When unconventional measures are used, policy normalisation usually starts from their phasing-out. The gradual tapering of QE was started in April 2021 by the Bank of Canada. New Zealand was the first country to terminate the QE programme (in July 2021). The G4 countries continued their programmes the longest. Iceland, the Czech Republic, the Republic of Korea, and Norway, that had not been implementing QE programmes, were the first to start raising their policy rates (in May, June, August and September 2021, respectively).*

DECOMPOSITION OF THE TIME NEEDED TO BRING INFLATION TO THE TARGET OVER THE FORECAST HORIZON, BY GROUP OF COUNTRIES
(number of quarters)

Chart A-8-10



Note. The dotted line signifies the time horizon of the influence of monetary policy (from four to six quarters). Countries are divided into groups by the direction of bringing inflation to the target – upwards or downwards. The time needed to bring inflation to the target was calculated considering the weight of a country's GDP (in current prices in US dollars over the relevant year) in the corresponding group and the weight of the group in the total sample. The horizontal axis signifies the time for bringing inflation back to the target point set by the central bank (or – in the case of a target range – to its middle), and the vertical axis – the quarter when the forecast was prepared. Advanced economies include the USA, the euro area, Japan, the UK, Canada, Norway, Sweden, Australia, New Zealand, Israel, Iceland, Sough Korea, and the Czech Republic. EMEs include Thailand, Peru, Poland, Chile, Romania, the Philippines, Georgia, Hungary, Serbia, Mexico, Columbia, Brazil, Paraguay, Armenia, Guatemala, India, Russia, South Africa, Jamaica, Moldova, Uganda, Uruguay, Ukraine, Turkey, and Ghana.
Sources: central banks' reports on inflation (monetary policy reports), World Bank, Bank of Russia calculations.

to tamper inflation could provoke a recession and higher volatility of output, whereas a too long accommodative monetary policy could entail an uncontrollable rise in prices, a decrease in confidence in monetary policy,[19] and, consequently, persistent growth and unanchoring of inflation expectations. Moreover, it was difficult to make any decisions due to extremely high uncertainty of the estimates of a further spread of the pandemic and its impact on economic potential. In this situation, central banks were striving to maintain a flexible approach, thoroughly assessing all the information they received. Hence, at the first stage, many countries were normalising their monetary policies slowly, seeking to find a well-balanced path for returning inflation to the targets. However, inflationary pressure intensified in early 2022, and the dramatic escalation of geopolitical tensions exacerbated the supply shocks that had occurred during the pandemic, due to which inflation started to rise even faster. This also prolonged the time needed to bring inflation back to the targets in the future: the expected period for returning inflation to the targets in both advanced economies and EMEs in 2022 Q2 exceeded two years (from nine to ten quarters), which is considerably longer than the standard time horizon of the influence of monetary policy (from four to six quarters).

In this situation, the period when inflation will return to the central banks' targets worldwide remains uncertain. Rising risks of a stagflation in the world economy[20] and even a recession in certain countries made it even more complicated to find a trade-off between inflation and economic activity. Nonetheless, the central banks of the targeting countries clearly announced combating inflation as their absolute priority, despite an inevitable

[19] *Refer to, for instance, the speech by Catherine L. Mann, an external member of the Monetary Policy Council of the Bank of England, at the Market News International Connect event. 2022.*

[20] *Refer to The World Bank. Global Economic Prospects. June 2022.*

increase in costs for the economy. Delays in monetary policy tightening in the future might be even more expensive for overall macroeconomic stability, undermining confidence in central banks and provoking a persistent rise in long-term inflation expectations of a broad range of economic agents.[21]

INFORMATION ON INFLATION TARGETING COUNTRIES
(as of September 2022)

Table A-8-1

No.	Country	Date of shifting to the inflation targeting regime	Target type	Target level*	Width of the target range, pp	Average annual inflation after the transition to inflation targeting, %**	Root-mean-square deviation of inflation from the target, pp***
Advanced economies							
Europe							
1	UK	1992	Point	2%		2.4	1.3
2	Iceland	2001	Point	2.5%		4.7	4.0
3	Norway	2001	Point	2%		2.2	1.4
4	Czech Republic	1997	Point with permissible deviation limits	2% ± 1 pp		3.1	3.0
5	Sweden	1995	Point	2% ± 1 pp		1.5	1.9
Asia							
6	South Korea	1998	Point	2%		2.4	1.4
7	Japan	2013	Point	2%		0.7	1.7
Australia and Oceania							
8	Australia	1993	Range	2–3%	1 pp	2.5	1.4
9	New Zealand	1990	Point with permissible deviation limits	2% ± 1 pp		2.3	1.8
North America							
10	Canada	1991	Point with permissible deviation limits	2% ± 1 pp		2.0	1.3
Middle East							
11	Israel	1997	Range	1–3%	2 pp	2.0	2.1
Emerging market economies							
Europe							
12	Albania	2009	Point	3%		2.2	1.7
13	Hungary	2001	Point with permissible deviation limits	3% ± 1 pp		4.2	2.9
14	Moldova	2013	Point with permissible deviation limits	5% ± 1 pp		7.2	7.1
15	Poland	1998	Point with permissible deviation limits	2.5% ± 1 pp		3.3	3.1
16	Russia	2015	Point	4%		7.0	5.4

[21] *Refer to the speech by US Fed Chair Jerome Powell in Jackson Hole on 26 August 2022, as well as the media briefing of Claudio Borio, Head of the BIS Monetary and Economic Department, on 16 September 2022.*

No.	Country	Date of shifting to the inflation targeting regime	Target type	Target level*	Width of the target range, pp	Average annual inflation after the transition to inflation targeting, %**	Root-mean-square deviation of inflation from the target, pp***
17	Romania	2005	Point with permissible deviation limits	2.5% ± 1 pp		4.3	3.3
18	Serbia	2009	Point with permissible deviation limits	3% ± 1.5 pp		4.8	3.7
19	Turkey	2006	Point with permissible deviation limits	5% ± 2 pp		13.0	15.5
20	Ukraine	2017	Point with permissible deviation limits	5% ± 1 pp		10.2	6.7
Latin America and the Caribbean							
21	Brazil	1999	Point with permissible deviation limits	2022: 3.50% ± 1.5 pp		6.5	3.6
				2023: 3.25% ± 1.5 pp			
				2024: 3.0% ± 1.5 pp			
22	Guatemala	2005	Point with permissible deviation limits	4% ± 1 pp		5.0	2.4
23	Dominican Republic	2012	Point with permissible deviation limits	4% ± 1 pp		3.9	2.6
24	Colombia	1999	Point with permissible deviation limits	3% ± 1 pp		5.0	2.0
25	Costa Rica	2018	Point with permissible deviation limits	3% ± 1 pp		2.7	2.8
26	Mexico	2001	Point with permissible deviation limits	3% ± 1 pp		4.5	1.8
27	Paraguay	2011	Point with permissible deviation limits	4% ± 2 pp		4.2	2.4
28	Peru	2002	Point with permissible deviation limits	2% ± 1 pp		2.9	2.0
29	Uruguay	2007	Range	2013 – 08.2022: 3 – 7%	4 pp	8.1	3.5
				c 09.2022: 3 – 6%	3 pp		
30	Chile	1999	Point with permissible deviation limits	3% ± 1 pp		3.5	2.4
31	Jamaica	2018	Range	4 – 6%	2 pp	5.5	2.7

No.	Country	Date of shifting to the inflation targeting regime	Target type	Target level*	Width of the target range, pp	Average annual inflation after the transition to inflation targeting, %**	Root-mean-square deviation of inflation from the target, pp***
Asia							
32	India	2016	Point with permissible deviation limits	4% ± 2 pp		5.4	2.2
33	Indonesia	2005	Point with permissible deviation limits	3% ± 1 pp		5.5	3.0
34	Thailand	2000	Range	1 – 3%	2 pp	1.1	1.7
35	Philippines	2002	Point with permissible deviation limits	3% ± 1 pp		3.8	1.9
36	Sri Lanka	2019	Range	4 – 6%	2 pp	12.1	18.6
Middle East and Central Asia							
37	Armenia	2006	Point with permissible deviation limits	4.0% ± 1.5 pp		4.1	3.4
38	Georgia	2009	Point	3%		4.6	4.7
39	Kazakhstan	2015	Range	2021 – 2022: 4 – 6%	2 pp	8.6	4.6
				2023 – 2024: 4 – 5%	1 pp		
				c 2025: 3 – 4%			
40	Uzbekistan	2021	Point	2022–2023: 5%		11.0	6.0
Africa							
41	Ghana	2007	Point with permissible deviation limits	8% ± 2 pp		13.2	6.7
42	Uganda	2011	Point	5%		5.4	4.7
43	South Africa	2000	Range	3 – 6%	3 pp	5.7	2.8
44	Republic of Seychelles	2019	Range	0 – 4%	4 pp	4.0	4.1
45	Kenya	2021	Point with permissible deviation limits	5.0% ± 2.5 pp		6.5	1.9

** The inflation target is usually set for the overall consumer price index. Countries may use its value in the current month compared to the same month of the previous year, as of the end of the year, or its average over the year.*

*** Average annual inflation is calculated by month.*

**** It shows the average deviation of inflation from the target in percentage points over the entire period of inflation targeting. For the countries that have changed the targets since their transition to inflation targeting, the calculation takes into account those targets that were effective during respective time periods. The target means the point or the middle of the range with a point announced by the central bank. If the inflation target was set only as a range, the calculated middle of this range is used as the target.*

Sources: IMF, central banks' websites, statistical agencies' websites, Bank of Russia calculations.

APPENDIX 9. MONETARY PROGRAMME

The main goal of the Bank of Russia's monetary policy is to ensure the strength of the ruble by maintaining price stability, including for creating conditions for balanced and steady economic growth. The operational objective is to maintain interest rates in the unsecured overnight segment of the interbank money market close to the key rate. This strategy does not provide for setting and delivery on quantitative benchmarks for any other economic indicators, including monetary ones. The Bank of Russia calculates the monetary programme indicators in addition to the banking sector liquidity forecast and includes them in the forecast figures taken into account in the course of the development and implementation of the Bank of Russia's monetary policy.

Entry 1 'Monetary base (narrow definition)'

Changes in the monetary base in 2022–2025 will depend on the dynamics of the amount of cash in circulation. In its baseline forecast, the Bank of Russia assumes that the demand for cash will increase and the growth path of cash in circulation will be in line with nominal GDP trends in 2023–2025. However, as before, the dynamics of this indicator over the forecast horizon will be substantially restrained by a gradual expansion of the practice of cashless payments.

FORECAST OF KEY INDICATORS FOR MONETARY AUTHORITIES' ACCOUNTS (MONETARY PROGRAMME INDICATORS)* *Table A-9-1*
(as of the end of the period, trillions of rubles, unless indicated otherwise)

	2021 (actual)	Baseline			
		2022	2023	2024	2025
1. Monetary base (narrow definition)	**14.6**	**15.7**	**16.4**	**17.0**	**17.5**
1.1. Cash in circulation (outside the Bank of Russia)	14.1	15.6	16.1	16.6	17.1
1.2. Required reserves**	0.5	0.1	0.3	0.4	0.4
2. Net international reserves	**45.0**	**44.0**	**44.0**	**44.0**	**44.0**
– billions of US dollars***	605	592	592	592	592
3. Net domestic assets	**-30.4**	**-28.3**	**-27.6**	**-27.0**	**-26.5**
3.1. Net credit to general government	-9.8	-8.9	-7.7	-6.7	-6.1
3.2. Net credit to banks	-4.0	-5.7	-7.1	-8.2	-9.0
3.2.1. Gross credit to banks	1.5	1.0	0.5	0.5	0.5
3.2.1.1. Claims on refinancing operations****	1.1	0.7	0.2	0.2	0.2
3.2.2. Credit institutions' correspondent accounts with the Bank of Russia	-2.7	-2.4	-4.5	-5.0	-5.4
3.2.3. Credit institutions' deposits with the Bank of Russia and coupon OBRs	-2.8	-4.3	-3.1	-3.7	-4.2
3.3. Other net non-classified assets*****	-16.6	-13.7	-12.9	-12.2	-11.4

** Monetary programme indicators calculated at a fixed exchange rate are based on the official exchange rate of the ruble as of the beginning of 2022.*
*** Credit institutions' required reserves deposited with the Bank of Russia in ruble-denominated accounts (do not include funds in credit institutions' correspondent accounts with the Bank of Russia taken into account within the required reserves averaging procedure).*
**** The forecast change in net international reserves takes into account operations of Russia's Ministry of Finance to buy (sell) foreign currency in the domestic foreign exchange market, as well as the reduction in banks' liabilities on Bank of Russia refinancing operations in foreign currency, operations of the Bank of Russia to buy monetary gold, and settlements within USD/RUB sell/buy FX swaps.*
***** Include claims on refinancing operations in rubles, including secured loans, repos, and the Bank of Russia's USD/RUB and EUR/RUB buy/sell FX swaps.*
****** Include operations with the use of funds of the State Corporation Deposit Insurance Agency and the Fund of Banking Sector Consolidation, the Bank of Russia's net interest expenses, operations of Russia's Ministry of Finance to invest the NWF's resources, the growth of required reserves for foreign currency liabilities held in special accounts, and foreign currency revaluation of assets.*
Source: Bank of Russia.

The change in the amount of required reserves for ruble liabilities held in special accounts with the Bank of Russia takes into account the assumption about a rise in the required reserve ratios in line with the expected dynamics of the structural liquidity surplus over the forecast horizon and the increase in money supply (according to the national definition). This will lead to an increase in balances in these accounts with the Bank of Russia. The change in required reserves for foreign currency liabilities, also held in special accounts, is given in Entry 3.3 'Other net non-classified assets'.

Entry 2 'Net international reserves'

Changes in Entry 2 'Net international reserves' take into account the actual foreign currency transactions over 2022 H1.

Entry 3 'Net domestic assets'

Entry 3.1 'Net credit to general government'

Entry 3.1 'Net credit to general government' takes into account the assumption about the financing of a part of budget expenditures from the NWF.

Entry 3.2 'Net credit to banks'

The value in Entry 3.2 'Net credit to banks' will remain negative throughout the period under review.

Entry 3.2.1.1 'Claims on refinancing operations' includes banks' operations to raise funds for longer terms, including through the use of specialised refinancing instruments.

As before, the forecast for the value in Entry 3.2.2 'Credit institutions' correspondent accounts with the Bank of Russia' implies a uniform trajectory of required reserves averaging by credit institutions. The forecast factors in the assumption about a rise in the required reserve ratios in line with the expected path of the change in the structural liquidity surplus over the forecast horizon, as well as the expansion of the required reserves proportionately to the change in money supply (according to the national definition).

Entry 3.2.3 'Credit institutions' deposits with the Bank of Russia and coupon OBRs' is a balancing component of the monetary programme in the context of the liquidity surplus. As a result of changes in other items of the monetary programme, the amount of deposits and coupon OBR placements may reach 4.2 trillion rubles by the end of 2025, according to the baseline scenario.

Entry 3.3 'Other net non-classified assets'

The changes in Entry 3.3 over the forecast horizon take into account the Bank of Russia's payment of interest on standard liquidity absorbing and refinancing operations and the operations of Russia's Ministry of Finance to invest the NWF's resources, foreign currency revaluation of assets and the growth of required reserves for foreign currency liabilities held in special accounts due to a rise in the required reserve ratios and an increase in money supply (according to the national definition).

APPENDIX 10. CALENDAR OF KEY RATE DECISIONS FOR 2023

Date	Event
10 February 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate with the medium-term forecast
	Press conference by the Governor of the Bank of Russia
20 February 2023	Monetary Policy Report
17 March 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate
	Press conference by the Governor of the Bank of Russia
28 April 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate with the medium-term forecast
	Press conference by the Governor of the Bank of Russia
11 May 2023	Monetary Policy Report
9 June 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate
	Press conference by the Governor of the Bank of Russia
21 July 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate with the medium-term forecast
	Press conference by the Governor of the Bank of Russia
31 July 2023	Monetary Policy Report
15 September 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate
	Press conference by the Governor of the Bank of Russia
27 October 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate with the medium-term forecast
	Press conference by the Governor of the Bank of Russia
7 November 2023	Monetary Policy Report
15 December 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate
	Press conference by the Governor of the Bank of Russia

Note. The dates in bold are those of the core meetings of the Bank of Russia Board of Directors on the key rate that are held four times a year (once a quarter). The core meetings are followed by the release of a medium-term forecast within the baseline scenario. After each core meeting, the Bank of Russia also publishes its Monetary Policy Report.

APPENDIX 11. MACROECONOMIC AND BANKING STATISTICS

CONSUMER PRICE DYNAMICS ACROSS GROUPS OF GOODS AND SERVICES *Table A-11-1*
(% growth YoY)

	Inflation	Core inflation	Growth of food prices	Growth of food prices[1]	Growth of fruit and vegetable prices	Growth of non-food prices	Growth of prices for non-food goods, excluding petrol	Growth of service prices
2020								
January	2.42	2.66	1.99	2.54	-2.58	2.53	2.70	2.84
February	2.31	2.40	1.77	2.25	-2.23	2.31	2.41	3.01
March	2.54	2.61	2.20	2.70	-1.89	2.54	2.65	2.97
April	3.09	2.86	3.52	3.40	3.98	2.80	2.96	2.88
May	3.02	2.85	3.26	3.44	1.59	2.84	3.05	2.95
June	3.21	2.89	3.94	3.61	6.01	3.01	3.23	2.46
July	3.37	2.95	4.19	3.71	7.62	3.14	3.28	2.52
August	3.58	3.11	4.33	3.72	9.75	3.39	3.54	2.71
September	3.67	3.27	4.37	3.80	9.84	3.78	3.97	2.52
October	3.99	3.58	4.83	4.41	8.96	4.15	4.40	2.58
November	4.42	3.87	5.76	5.03	12.39	4.51	4.81	2.52
December	4.91	4.21	6.69	5.44	17.40	4.79	5.10	2.70
2021								
January	5.19	4.55	7.03	5.87	16.33	5.10	5.36	2.84
February	5.67	5.04	7.72	6.54	16.63	5.67	5.88	2.91
March	5.79	5.38	7.58	6.98	11.87	5.92	6.02	3.20
April	5.53	5.47	6.55	6.77	4.75	6.16	6.19	3.30
May	6.02	6.04	7.40	7.24	8.23	6.68	6.74	3.29
June	6.50	6.55	7.90	7.42	11.16	7.04	7.17	3.95
July	6.46	6.78	7.43	7.59	6.15	7.55	7.78	3.83
August	6.68	7.07	7.70	7.92	6.05	7.97	8.09	3.78
September	7.40	7.61	9.21	8.56	15.17	8.06	8.26	4.22
October	8.13	8.03	10.89	9.25	25.60	8.17	8.31	4.36
November	8.40	8.71	10.81	9.83	19.38	8.32	8.35	5.15
December	8.39	8.89	10.62	10.24	13.98	8.58	8.54	4.98
2022								
January	8.73	9.24	11.09	10.48	15.96	8.73	8.72	5.38
February	9.15	9.74	11.46	10.86	16.05	8.96	9.09	6.10
March	16.69	18.69	17.99	15.70	34.83	20.34	22.27	9.94
April	17.83	20.37	20.48	18.78	33.00	20.19	22.20	10.87
May	17.10	19.87	20.05	19.20	26.35	19.20	21.13	10.03
June	15.90	19.18	17.98	18.95	11.63	17.92	19.76	10.17
July	15.10	18.40	16.76	18.26	6.04	16.50	18.26	10.75
August	14.30	17.71	15.77	17.50	2.07	15.51	17.30	10.45
September	13.68	17.11	14.20	16.49	-3.89	14.94	16.57	11.01

[1] *Excluding fruit and vegetables.*
Sources: Rosstat, Bank of Russia calculations.

CONSUMER PRICE DYNAMICS ACROSS GROUPS OF GOODS AND SERVICES *Table A-11-2*
(% growth MoM, SA)

	Inflation	Core inflation	Growth of food prices	Growth of food prices[1]	Growth of fruit and vegetable prices	Growth of non-food prices	Growth of prices for non-food goods, excluding petrol	Growth of service prices
2020								
January	0.13	0.07	0.07	0.08	0.01	0.25	0.26	0.06
February	0.18	0.14	0.12	-0.01	1.11	0.05	0.05	0.43
March	0.50	0.41	0.78	0.71	1.28	0.45	0.50	0.19
April	0.78	0.44	1.49	0.91	5.93	0.45	0.54	0.24
May	0.28	0.31	0.21	0.45	-1.39	0.28	0.32	0.39
June	0.28	0.34	0.46	0.42	0.71	0.42	0.37	-0.15
July	0.43	0.44	0.75	0.39	3.43	0.38	0.31	0.05
August	0.47	0.38	0.53	0.31	2.17	0.41	0.43	0.45
September	0.22	0.28	0.10	0.26	-1.22	0.47	0.53	0.04
October	0.42	0.40	0.34	0.60	-1.91	0.58	0.64	0.33
November	0.60	0.49	0.91	0.67	2.99	0.52	0.58	0.32
December	0.55	0.45	0.81	0.54	3.11	0.43	0.47	0.34
2021								
January	0.37	0.43	0.33	0.49	-0.90	0.55	0.50	0.22
February	0.61	0.58	0.71	0.63	1.24	0.59	0.54	0.51
March	0.59	0.74	0.64	1.12	-2.71	0.69	0.63	0.39
April	0.53	0.51	0.53	0.71	-0.72	0.67	0.70	0.33
May	0.79	0.85	1.04	0.91	1.96	0.77	0.84	0.45
June	0.78	0.81	0.98	0.60	3.70	0.76	0.78	0.51
July	0.43	0.67	0.36	0.55	-0.92	0.86	0.89	-0.05
August	0.69	0.67	0.79	0.63	2.04	0.80	0.72	0.41
September	0.88	0.76	1.50	0.84	6.88	0.56	0.69	0.42
October	1.05	0.80	1.82	1.22	6.61	0.69	0.70	0.43
November	0.82	1.11	0.81	1.20	-2.07	0.67	0.62	1.05
December	0.53	0.64	0.61	0.90	-1.54	0.67	0.65	0.21
2022								
January	0.67	0.72	0.71	0.71	0.75	0.69	0.66	0.57
February	0.98	1.04	1.00	0.97	1.20	0.78	0.88	1.20
March	7.51	8.94	6.51	5.52	13.02	11.22	12.80	3.95
April	1.49	1.94	2.62	3.39	-2.03	0.54	0.63	1.16
May	0.17	0.42	0.66	1.25	-3.06	-0.06	-0.05	-0.26
June	-0.23	0.25	-0.74	0.39	-8.10	-0.34	-0.36	0.70
July	-0.26	0.03	-0.70	-0.02	-5.67	-0.35	-0.38	0.55
August	-0.05	0.10	-0.20	-0.01	-1.77	-0.05	-0.09	0.15
September	0.28	0.25	0.03	-0.01	0.53	0.08	0.07	0.88

[1] *Excluding fruit and vegetables.*
Sources: Rosstat, Bank of Russia calculations.

MACROECONOMIC INDICATORS
(% growth YoY, unless indicated otherwise)

Table A-11-3

	GDP[1]	KII[2]	Industrial output	Agriculture	Construction	Freight turnover	Retail turnover	Wholesale turnover	Real household disposable money income[1]	Real wages	Unemployment (% of labour force, SA)[3]
2018											
January		4.4	2.7	2.6	15.2	1.3	3.0	4.4		11.0	5.0
February		4.3	3.2	2.7	10.8	2.2	2.1	5.0		10.5	4.9
March	2.6	2.9	2.7	2.8	-2.5	4.4	3.0	4.9	1.3	8.7	4.9
April		4.8	3.2	2.6	10.2	4.9	3.2	8.3		7.6	4.8
May		4.8	3.5	2.5	8.5	3.0	2.9	8.7		7.6	4.8
June	2.7	2.4	2.1	1.3	3.9	2.0	3.4	3.2	0.7	7.2	4.8
July		4.0	3.5	2.1	9.3	4.1	2.8	3.5		7.5	4.8
August		1.9	2.8	-10.3	3.5	2.4	3.0	4.7		6.8	4.7
September	2.6	1.3	2.3	-4.2	3.9	1.7	2.3	3.8	0.8	4.9	4.6
October		4.6	5.3	12.2	5.5	1.4	2.2	1.5		5.2	4.8
November		2.3	4.4	-5.5	3.2	2.2	3.3	-1.6		4.2	4.7
December	3.2	5.5	6.4	0.5	9.2	3.1	2.7	1.2	-0.1	2.9	4.8
2019											
January		-0.1	2.7	0.9	-8.9	2.4	2.2	-8.1		1.1	4.7
February		2.0	4.2	1.2	0.1	1.9	2.3	-5.8		0.0	4.7
March	1.4	1.0	2.7	1.7	3.4	2.5	2.4	-5.7	-1.9	2.3	4.6
April		3.0	5.2	1.6	2.2	2.8	2.0	-1.6		3.1	4.7
May		-0.4	1.0	1.2	2.9	1.2	1.9	-6.1		1.6	4.6
June	1.4	1.8	3.2	1.3	3.1	0.7	1.8	-1.8	0.8	2.9	4.5
July		3.4	4.3	6.4	3.6	-0.7	1.5	6.1		3.0	4.5
August		2.9	3.9	3.6	2.7	-0.2	1.1	3.5		2.4	4.5
September	2.8	4.6	5.0	5.8	5.3	0.6	0.9	6.1	2.6	3.1	4.6
October		4.9	4.4	5.4	6.7	0.4	1.9	10.1		3.8	4.6
November		1.8	1.5	6.0	-1.4	-1.1	2.6	8.6		2.7	4.6
December	3.1	2.4	2.6	5.8	0.2	-1.2	1.8	6.7	3.0	6.9	4.5
2020											
January		2.1	1.6	2.7	2.3	-3.9	2.8	7.4		6.5	4.5
February		5.2	5.1	2.9	5.2	-0.5	4.9	7.2		5.7	4.5
March	1.5	2.6	2.8	2.8	0.8	-6.8	6.9	6.6	2.6	5.9	4.6
April		-8.8	-4.4	2.9	-6.1	-6.1	-22.0	-13.2		-2.0	5.7
May		-9.1	-7.7	3.0	-4.0	-9.2	-17.5	-10.7		1.0	6.1
June	-7.4	-6.1	-6.6	2.8	-2.9	-9.5	-6.1	0.2	-6.1	0.6	6.3
July		-3.9	-5.6	4.0	-1.8	-7.8	-0.5	1.2		2.9	6.4
August		-2.5	-3.9	4.0	0.4	-4.5	-0.7	-0.8		0.1	6.6
September	-3.3	-1.4	-3.5	2.1	3.9	-3.3	-1.2	1.3	-3.9	2.2	6.5
October		-4.2	-5.3	-4.7	0.9	-3.6	-0.4	-2.5		0.5	6.2
November		-0.5	-1.0	-1.9	3.9	-1.8	-2.4	-0.1		0.2	6.1
December	-1.3	3.8	3.7	0.3	4.1	-1.4	-2.2	5.2	-0.5	4.6	5.8
2021											
January		-1.5	-1.6	0.0	1.5	-2.1	1.1	2.4		0.1	5.6
February		-2.1	-2.4	0.1	0.0	-0.6	-0.7	3.5		2.0	5.6
March	-0.3	3.4	2.9	-0.1	6.3	4.1	-2.5	8.0	-4.0	1.8	5.3
April		13.7	9.0	-0.3	9.5	6.3	36.3	24.8		7.8	5.2
May		14.3	13.1	-0.4	9.8	11.4	28.0	16.9		3.3	5.0
June	10.5	11.3	11.5	-0.3	12.1	13.3	11.5	9.8	7.0	4.9	4.8
July		6.2	7.9	0.0	4.9	9.5	5.7	1.6		2.2	4.6
August		4.0	5.6	-10.3	5.5	6.2	5.8	2.4		1.5	4.6
September	4.0	4.1	7.9	-6.4	1.1	5.4	6.2	1.9	8.9	2.0	4.4
October		6.0	8.3	4.9	1.7	5.9	4.6	1.7		0.6	4.3
November		7.0	7.9	12.0	8.7	5.7	3.6	1.7		3.4	4.3
December	5.0	5.6	7.5	1.3	8.4	2.9	5.6	2.8	0.0	3.6	4.2
2022											
January		7.7	8.0	0.8	1.6	7.8	3.1	7.9		1.9	4.3
February		4.8	5.4	1.1	5.0	1.1	5.5	2.9		2.6	4.0
March	3.5	1.6	2.3	3.0	5.9	3.6	2.0	-0.5	-1.2	3.6	4.1
April		-2.9	-2.6	3.2	7.9	-1.4	-9.8	-11.9		-7.2	4.0
May		-3.5	-2.4	2.1	3.6	-1.8	-10.1	-15.5		-6.1	4.0
June	-4.1	-4.7	-2.4	2.1	0.1	-5.9	-9.6	-18.3	-0.8	-3.2	4.0
July		-2.9	-0.5	0.8	6.6	-5.2	-8.7	-25.3		-3.2	3.9
August		-1.6	-0.1	8.8	7.4	-4.2	-8.8	-20.3			3.9

[1] *Quarterly data.*
[2] *Key Industry Index.*
[3] *Bank of Russia assessment.*
Source: Rosstat.

INTEREST RATES ON BANKS' MAIN DEPOSIT AND CREDIT OPERATIONS IN RUBLES AND YIELDS ON MAIN INSTRUMENTS OF THE GOVERNMENT SECURITIES MARKET

Table A-11-4

(% per annum)

	Loans to non-financial organisations		Household loans		Household deposits		Government bond yields		
	For up to one year	For more than one year	For up to one year	For more than one year	For up to one year[1]	For more than one year	1-year	5-year	10-year
2018									
January	9.14	8.61	18.99	13.52	5.72	6.66	6.66	7.03	7.51
February	8.81	9.23	18.29	13.42	5.57	6.37	6.49	6.79	7.20
March	8.77	9.22	17.41	13.39	5.59	6.21	6.19	6.67	7.18
April	8.66	8.51	16.14	13.25	5.39	5.84	6.55	6.96	7.38
May	8.75	8.61	17.79	13.20	5.46	5.98	6.57	7.04	7.49
June	8.82	8.45	17.72	13.00	5.20	5.69	6.80	7.35	7.71
July	8.75	8.61	17.12	12.94	5.13	5.73	6.90	7.47	7.80
August	8.72	9.05	17.74	12.87	5.04	5.70	7.40	8.23	8.48
September	9.00	9.24	17.50	12.50	5.21	6.02	7.56	8.60	8.91
October	8.84	9.16	17.99	12.50	5.66	6.56	7.55	8.50	8.75
November	8.94	9.45	17.82	12.38	5.98	6.75	7.71	8.59	8.86
December	9.20	9.17	17.87	12.50	5.64	6.83	7.78	8.56	8.82
2019									
January	9.25	9.56	15.95	13.10	6.10	6.91	7.59	8.21	8.47
February	9.29	9.74	15.54	13.08	6.24	7.02	7.69	8.07	8.36
March	9.32	9.85	14.91	13.29	6.12	7.07	7.40	8.06	8.38
April	9.25	9.63	15.06	13.37	5.82	6.92	7.61	7.99	8.33
May	9.22	9.66	15.41	13.63	5.73	6.85	7.31	7.84	8.16
June	9.11	9.35	15.25	13.35	5.79	6.75	7.21	7.46	7.67
July	8.82	9.51	14.93	13.34	5.41	6.69	6.95	7.21	7.42
August	8.61	8.97	14.60	13.05	5.27	6.49	6.82	7.10	7.37
September	8.29	9.01	14.23	12.83	5.11	6.28	6.62	6.80	7.15
October	8.17	9.30	13.74	12.67	4.99	6.16	6.25	6.46	6.79
November	7.88	9.03	15.13	12.39	4.58	5.84	5.81	6.20	6.56
December	7.83	8.26	14.83	12.05	4.74	5.56	5.58	6.16	6.53
2020									
January	7.47	8.43	15.00	12.38	4.56	5.48	5.39	5.95	6.33
February	7.47	8.03	14.60	12.09	4.32	5.18	5.31	5.81	6.21
March	7.84	8.20	14.19	11.84	4.32	4.89	6.21	6.94	7.30
April	7.71	9.01	14.81	11.77	4.83	5.00	5.54	6.19	6.56
May	7.28	8.26	14.39	11.59	4.11	4.90	4.79	5.20	5.83
June	6.89	7.13	13.95	11.39	4.00	4.74	4.30	5.13	5.79
July	6.27	7.42	13.63	10.85	3.51	4.31	4.21	5.17	5.99
August	6.02	6.97	13.47	10.72	3.24	4.07	4.22	5.32	6.19
September	6.15	6.81	13.72	10.36	3.32	4.10	4.23	5.53	6.39
October	6.02	7.04	13.82	10.07	3.30	4.13	4.31	5.42	6.26
November	5.94	6.58	13.77	10.29	3.25	4.15	4.35	5.33	6.17
December	6.25	6.78	13.41	10.05	3.42	4.17	4.35	5.39	6.19
2021									
January	6.10	6.98	13.51	10.63	3.42	4.18	4.29	5.63	6.44
February	6.01	7.23	13.55	10.21	3.21	4.26	4.56	6.00	6.79
March	6.03	6.98	13.08	10.17	3.25	4.20	5.00	6.58	7.10
April	6.11	7.08	13.65	10.10	3.36	4.49	5.27	6.80	7.27
May	6.49	7.21	13.73	10.45	3.33	4.48	5.59	6.69	7.23
June	6.65	7.64	13.42	10.18	3.43	4.76	6.15	6.93	7.24
July	7.21	7.69	13.82	10.75	3.64	5.14	6.50	6.99	7.15
August	7.98	8.37	14.19	10.79	3.87	5.80	6.61	6.86	7.07
September	7.99	8.36	14.34	10.66	4.14	5.93	6.92	7.04	7.22
October	8.14	8.69	14.71	10.76	4.34	6.07	7.48	7.65	7.71
November	8.45	8.52	15.18	10.83	4.60	6.50	8.40	8.50	8.28
December	9.01	8.85	15.04	10.73	5.05	7.44	8.36	8.60	8.47
2022									
January	9.84	9.77	15.33	11.50	5.08	7.67	9.21	9.24	9.11
February	11.46	10.53	15.48	11.39	6.37	8.13	10.60	10.37	10.03
March	18.70	13.15	24.32	11.41	18.79	9.63	15.72	13.23	12.85
April	15.20	12.90	25.79	15.20	14.03	9.31	11.84	10.75	10.67
May	13.60	11.97	24.65	15.14	8.06	8.20	10.45	10.12	10.12
June	11.43	9.71	21.23	13.90	6.97	8.52	8.99	8.97	8.96
July	10.57	9.75	18.08	12.56	6.21	7.44	7.92	8.74	8.98
August	9.81	8.44	18.48	12.26	5.06	6.75	7.48	8.52	8.97

[1] *Excluding demand loans and deposits.*

Source: Bank of Russia.

MONETARY INDICATORS[1]
(% growth YoY)[2]

Table A-11-5

	Money supply (M2)	Broad money	Non-bank sector's[3] deposits in rubles		Non-bank sector's[3] deposits in foreign currency[4]		Banking system's net foreign assets[4]	Claims on the economy	Claims on households	Claims on organisations
			Households	Organisations	Households	Organisations				
2018										
01.01.2018	10.5	8.6	12.6	7.9	-2.2	9.2	13.8	9.1	12.1	8.3
01.02.2018	9.4	7.4	11.3	7.4	-1.3	5.1	13.4	8.6	13.9	7.1
01.03.2018	9.3	6.6	11.8	5.6	-2.0	0.0	11.9	8.8	14.7	7.1
01.04.2018	9.9	7.6	12.6	5.3	-2.7	4.1	12.7	9.1	15.8	7.1
01.05.2018	11.5	8.5	14.0	7.5	-7.6	5.4	11.7	9.2	16.3	7.1
01.06.2018	10.3	7.7	13.2	4.7	-8.1	6.4	8.1	9.1	17.6	6.7
01.07.2018	11.4	8.3	12.8	8.4	-8.0	5.5	7.9	9.1	18.4	6.3
01.08.2018	11.8	8.1	13.3	8.8	-6.4	1.2	6.9	9.5	19.3	6.6
01.09.2018	12.6	8.2	13.0	11.3	-7.4	-1.6	7.1	9.0	19.9	5.9
01.10.2018	11.8	8.2	12.0	10.8	-7.4	2.3	8.1	9.0	20.8	5.5
01.11.2018	11.5	7.9	12.7	9.1	-7.1	2.6	9.0	9.0	21.4	5.3
01.12.2018	11.9	7.9	11.3	13.3	-5.7	-0.7	10.5	8.0	22.1	3.8
2019										
01.01.2019	11.0	7.9	10.9	11.5	-4.7	1.9	11.2	8.7	21.8	4.8
01.02.2019	9.9	6.5	10.1	9.6	-3.0	-2.3	9.0	10.7	23.9	6.6
01.03.2019	9.9	7.9	9.7	11.0	-0.6	6.2	11.2	10.7	24.1	6.6
01.04.2019	8.9	7.0	9.0	10.4	2.3	3.8	11.1	10.7	23.5	6.8
01.05.2019	7.7	6.6	9.6	6.7	6.7	4.7	11.4	10.5	23.9	6.3
01.06.2019	8.0	6.7	9.4	8.7	8.8	2.3	15.1	10.5	23.6	6.4
01.07.2019	7.3	6.4	8.9	7.7	10.4	2.5	20.1	10.8	23.1	6.9
01.08.2019	7.8	7.0	8.4	10.8	10.2	3.4	17.5	10.0	22.2	6.1
01.09.2019	7.2	7.3	9.4	7.0	10.6	8.3	18.6	10.0	21.7	6.2
01.10.2019	9.1	8.0	10.4	11.1	12.3	1.2	18.7	10.2	21.1	6.6
01.11.2019	8.7	7.9	9.6	10.9	12.6	2.1	20.6	9.4	20.1	5.9
01.12.2019	9.6	8.3	10.7	11.0	10.5	1.0	17.8	10.2	19.0	7.3
2020										
01.01.2020	9.7	7.6	10.4	12.4	10.6	-4.3	15.4	10.1	19.0	7.1
01.02.2020	10.7	8.0	11.0	13.6	6.9	-5.2	14.2	7.5	16.4	4.4
01.03.2020	11.0	7.9	10.8	13.9	3.0	-5.4	11.9	7.9	16.6	4.9
01.04.2020	13.4	9.1	10.2	18.0	-4.0	-4.8	10.8	9.1	16.8	6.3
01.05.2020	14.0	9.6	8.9	18.9	-5.7	-3.9	11.9	8.6	14.0	6.7
01.06.2020	13.6	9.3	8.6	15.5	-5.3	-3.3	10.2	8.2	12.6	6.7
01.07.2020	14.9	10.4	9.6	16.9	-6.3	-3.5	4.4	8.8	12.0	7.6
01.08.2020	15.5	11.1	10.1	16.4	-6.7	-1.2	10.3	9.0	12.4	7.7
01.09.2020	16.2	11.7	9.1	20.6	-6.4	-0.3	9.3	9.3	12.6	8.1
01.10.2020	16.1	11.8	8.9	19.9	-8.5	1.9	6.2	9.3	12.9	8.0
01.11.2020	16.2	11.8	7.6	21.5	-8.6	1.2	4.2	9.8	14.0	8.2
01.12.2020	14.1	11.6	6.2	17.2	-6.5	9.7	5.8	10.2	13.3	9.0
2021										
01.01.2021	13.5	12.6	7.0	14.1	-4.6	19.3	6.7	10.9	12.9	10.2
01.02.2021	13.8	12.7	5.7	16.0	-4.6	18.1	4.6	11.5	13.0	10.9
01.03.2021	13.4	12.6	4.7	17.0	-2.7	19.1	2.9	11.7	13.2	11.1
01.04.2021	11.3	11.0	4.8	14.1	1.5	16.6	1.3	10.2	13.5	8.9
01.05.2021	11.8	11.7	6.7	15.6	3.5	16.8	2.6	11.6	16.4	9.9
01.06.2021	11.5	11.6	5.2	19.7	3.1	17.6	4.1	13.2	18.6	11.2
01.07.2021	9.5	9.9	3.3	18.1	3.7	17.0	1.7	13.1	20.4	10.3
01.08.2021	8.6	9.1	3.3	16.1	3.3	16.6	0.4	13.5	20.7	10.8
01.09.2021	8.2	9.5	3.7	14.6	4.0	22.2	0.9	13.7	20.7	11.0
01.10.2021	8.2	10.2	4.2	13.7	7.2	25.5	2.1	14.3	20.7	11.9
01.11.2021	8.8	10.7	5.8	14.4	8.9	24.4	4.1	14.7	20.5	12.5
01.12.2021	11.0	11.0	6.7	20.0	4.3	15.6	2.8	14.3	20.7	11.9
2022										
01.01.2022	13.0	11.1	7.5	25.7	1.0	7.2	1.9	13.9	22.0	10.7
01.02.2022	13.4	11.6	8.4	25.8	-1.0	9.9	1.8	14.2	22.1	11.1
01.03.2022	14.6	10.8	5.7	28.9	-10.6	3.6	5.2	16.1	22.5	13.6
01.04.2022	17.1	11.0	8.1	33.7	-20.1	-2.2	7.4	15.7	20.2	14.0
01.05.2022	15.7	10.7	9.5	31.3	-20.8	2.5	3.5	14.1	17.0	12.9
01.06.2022	16.6	11.8	12.4	30.3	-18.5	3.1	3.5	12.4	14.4	11.6
01.07.2022	16.8	12.5	14.0	28.9	-19.7	6.3	5.9	11.5	12.2	11.1
01.08.2022	19.3	13.6	14.8	35.8	-22.7	3.1	2.8	10.9	11.3	10.8
01.09.2022	22.6	14.6	15.6	44.2	-26.2	-6.6	0.8	11.3	10.3	11.6

[1] Calculated based on the Banking System Survey. Refer to the Bank of Russia Statistical Bulletin (http://www.cbr.ru/eng/statistics/bbs/) and the Statistics section (http://www.cbr.ru/eng/statistics/) on the Bank of Russia website.
[2] Adjusted for foreign currency revaluation.
[3] Individuals – residents, non-financial and financial (other than bank) organisations – residents.
[4] Calculated based on data in US dollar terms.
Source: Bank of Russia.

MONETARY INDICATORS[1]

Table A-11-6

(billions of rubles, unless indicated otherwise)

	Money supply (M2)	Broad money	Non-bank sector's[2] deposits in rubles		Non-bank sector's[2] deposits in foreign currency, billions of US dollars		Banking system's net foreign assets, billions of US dollars	Claims on the economy	Claims on households	Claims on organisations
			Households	Organisations	Households	Organisations				
2018										
01.01.2018	42,442	54,667	20,643	13,353	89.0	116.5	513.6	56,984	13,169	43,815
01.02.2018	41,597	54,171	20,252	13,182	90.0	126.3	539.4	56,907	13,330	43,578
01.03.2018	42,045	54,047	20,636	13,109	89.5	118.8	539.2	57,042	13,440	43,603
01.04.2018	42,377	54,727	20,857	13,077	88.3	120.1	546.7	57,803	13,708	44,095
01.05.2018	43,122	56,221	21,279	13,131	85.3	119.5	546.9	59,125	13,921	45,204
01.06.2018	43,257	56,646	21,288	13,198	84.0	123.5	540.5	59,403	14,173	45,230
01.07.2018	44,127	57,208	21,651	13,530	84.1	118.5	544.3	59,631	14,432	45,200
01.08.2018	43,910	56,823	21,751	13,106	84.8	115.9	541.3	60,303	14,693	45,609
01.09.2018	44,369	57,978	21,745	13,474	83.7	112.2	541.0	61,460	15,029	46,431
01.10.2018	44,255	57,613	21,642	13,474	83.2	116.8	547.7	61,582	15,314	46,268
01.11.2018	44,218	57,520	21,850	13,320	82.7	116.5	546.7	62,439	15,562	46,877
01.12.2018	44,892	58,430	21,835	14,076	83.7	116.9	559.0	62,628	15,905	46,723
2019										
01.01.2019	47,109	61,402	22,886	14,884	84.8	118.7	571.4	63,551	16,065	47,485
01.02.2019	45,721	59,779	22,290	14,441	87.3	123.4	588.0	64,307	16,537	47,770
01.03.2019	46,213	60,469	22,638	14,544	89.0	126.2	599.7	64,500	16,699	47,801
01.04.2019	46,141	60,147	22,726	14,435	90.4	124.7	607.5	65,022	16,943	48,078
01.05.2019	46,436	60,481	23,311	14,011	91.0	125.1	609.4	65,662	17,259	48,403
01.06.2019	46,735	60,959	23,284	14,341	91.4	126.3	622.4	65,967	17,523	48,444
01.07.2019	47,349	60,927	23,585	14,572	92.9	121.5	653.8	66,121	17,769	48,352
01.08.2019	47,351	60,924	23,573	14,523	93.4	119.9	636.1	66,424	17,962	48,463
01.09.2019	47,584	61,867	23,799	14,418	92.6	121.4	641.7	67,414	18,285	49,130
01.10.2019	48,267	61,955	23,889	14,966	93.4	118.3	650.1	67,689	18,538	49,151
01.11.2019	48,082	61,679	23,951	14,777	93.2	118.9	659.3	68,085	18,689	49,396
01.12.2019	49,195	62,732	24,182	15,619	92.4	118.1	658.3	68,724	18,923	49,801
2020										
01.01.2020	51,660	64,536	25,268	16,734	93.8	113.6	659.2	69,012	19,100	49,912
01.02.2020	50,623	63,918	24,734	16,400	93.4	117.0	671.2	68,764	19,247	49,517
01.03.2020	51,314	65,484	25,085	16,559	91.6	119.4	670.9	69,761	19,471	50,291
01.04.2020	52,327	68,323	25,047	17,039	86.8	118.6	673.1	72,522	19,811	52,711
01.05.2020	52,952	68,158	25,382	16,658	85.8	120.2	681.9	72,431	19,691	52,740
01.06.2020	53,068	67,856	25,292	16,566	86.5	122.1	685.7	72,095	19,740	52,356
01.07.2020	54,393	68,710	25,839	17,038	87.0	117.3	682.4	72,770	19,910	52,860
01.08.2020	54,687	69,795	25,960	16,910	87.1	118.5	701.4	73,624	20,217	53,407
01.09.2020	55,294	70,823	25,959	17,384	86.7	121.0	701.6	74,687	20,603	54,084
01.10.2020	56,024	72,458	26,012	17,939	85.5	120.5	690.2	75,864	20,957	54,907
01.11.2020	55,872	72,193	25,765	17,949	85.1	120.4	686.7	76,643	21,344	55,300
01.12.2020	56,123	72,528	25,688	18,300	86.5	129.5	696.2	77,169	21,465	55,704
2021										
01.01.2021	58,652	75,285	27,034	19,094	89.5	135.4	703.4	78,058	21,589	56,469
01.02.2021	57,598	74,938	26,152	19,017	89.1	138.1	702.4	78,294	21,775	56,519
01.03.2021	58,178	75,407	26,269	19,371	89.1	142.2	690.3	78,818	22,053	56,765
01.04.2021	58,262	75,406	26,248	19,444	88.1	138.3	681.9	79,641	22,488	57,153
01.05.2021	59,206	76,266	27,084	19,263	88.8	140.4	699.9	80,953	22,929	58,024
01.06.2021	59,194	76,333	26,612	19,829	89.1	143.7	713.9	81,972	23,413	58,559
01.07.2021	59,584	76,053	26,682	20,115	90.2	137.2	694.1	82,561	23,969	58,592
01.08.2021	59,380	76,079	26,811	19,630	90.0	138.2	704.5	83,533	24,399	59,134
01.09.2021	59,817	77,339	26,923	19,925	90.2	147.9	708.0	84,771	24,867	59,904
01.10.2021	60,606	78,285	27,116	20,403	91.6	151.3	704.8	85,897	25,292	60,605
01.11.2021	60,814	77,916	27,252	20,541	92.7	149.8	714.8	86,853	25,702	61,151
01.12.2021	62,313	80,311	27,406	21,952	90.2	149.8	715.5	88,121	25,913	62,208
2022										
01.01.2022	66,253	83,761	29,051	24,002	90.4	145.2	716.9	88,937	26,347	62,591
01.02.2022	65,310	83,995	28,355	23,928	88.3	151.8	715.3	89,584	26,587	62,997
01.03.2022	66,660	85,635	27,777	24,969	79.7	147.4	726.2	92,659	27,021	65,638
01.04.2022	68,204	85,495	28,368	26,001	70.4	135.2	732.3	93,262	27,048	66,214
01.05.2022	68,475	83,695	29,667	25,290	70.3	143.9	724.7	91,901	26,815	65,086
01.06.2022	68,993	82,927	29,923	25,837	72.7	148.1	738.8	90,736	26,767	63,969
01.07.2022	69,623	80,802	30,407	25,923	72.5	145.9	735.1	89,271	26,864	62,407
01.08.2022	70,825	83,829	30,782	26,653	69.6	142.4	724.1	91,188	27,142	64,046
01.09.2022	73,333	85,693	31,125	28,727	66.6	138.1	713.7	92,706	27,424	65,282

[1] Calculated based on the Banking System Survey. Refer to the Bank of Russia Statistical Bulletin (http://www.cbr.ru/eng/statistics/bbs/) and the Statistics section (http://www.cbr.ru/eng/statistics/) on the Bank of Russia website.

[2] Individuals – residents, non-financial and financial (other than bank) organisations – residents.

Source: Bank of Russia.

BALANCE OF PAYMENTS INDICATORS: CURRENT ACCOUNT

Table A-11-7

	Current account	Goods and services	Exports	Imports	Balance of primary and secondary income	Current account	Goods and services exports	Goods and services imports
	billions of US dollars					% of GDP		
2017								
Q1	21.1	29.2	94.8	65.6	-8.1			
Q2	1.5	17.4	98.5	81.1	-15.8			
Q3	-3.4	10.7	99.7	89.0	-14.0			
Q4	12.9	26.0	117.5	91.5	-13.1			
Year	32.2	83.2	410.5	327.2	-51.1	2.0	26.1	20.8
2018								
Q1	30.2	37.4	115.5	78.1	-7.2			
Q2	18.4	37.7	125.5	87.8	-19.3			
Q3	28.1	39.1	128.0	88.9	-11.0			
Q4	39.0	50.7	139.6	88.8	-11.8			
Year	115.7	165.0	508.6	343.6	-49.3	7.0	30.6	20.7
2019								
Q1	33.7	41.1	116.3	75.2	-7.5			
Q2	10.5	31.0	117.2	86.2	-20.5			
Q3	10.7	26.4	119.8	93.4	-15.7			
Q4	10.8	30.8	128.4	97.5	-20.0			
Year	65.7	129.4	481.7	352.3	-63.7	3.9	28.4	20.8
2020								
Q1	23.9	27.5	103.2	75.6	-3.7			
Q2	1.3	14.6	80.7	66.1	-13.3			
Q3	3.8	15.1	89.7	74.6	-11.3			
Q4	6.5	19.5	107.9	88.4	-13.0			
Year	35.4	76.7	381.5	304.8	-41.3	2.4	25.6	20.4
2021								
Q1	22.4	25.7	104.8	79.1	-3.3			
Q2	17.3	34.8	127.9	93.2	-17.5			
Q3	35.5	47.4	146.2	98.9	-11.9			
Q4	47.0	62.2	171.0	108.8	-15.2			
Year	122.3	170.1	550.0	379.9	-47.8	6.9	30.9	21.4
2022								
Q1	69.8	79.3	168.1	88.8	-9.5			
Q2	76.7	90.3	162.2	71.9	-13.6			
Q3[1]	51.9	68.4	153.0	84.6	-16.5			

[1] *Estimate.*
Sources: Bank of Russia, Rosstat.

BALANCE OF PAYMENTS INDICATORS: FINANCIAL ACCOUNT[1]

Table A-11-8

	Financial account including reserve assets	Net incurrence of liabilities	Net acquisition of financial assets, including reserve assets	Net errors and omissions	Financial account balance
	billions of US dollars				% of GDP
2017					
Q1	22.1	-1.5	20.6	0.9	
Q2	5.5	6.1	11.5	4.1	
Q3	-4.2	6.4	2.2	-0.8	
Q4	11.2	-8.0	3.2	-1.7	
Year	34.6	2.9	37.5	2.6	2.2
2018					
Q1	32.0	4.7	36.7	2.1	
Q2	21.1	-15.5	5.7	2.9	
Q3	29.9	-15.8	14.1	1.8	
Q4	33.6	-9.9	23.7	-4.7	
Year	116.7	-36.5	80.2	2.1	7.0
2019					
Q1	31.1	11.9	43.0	-2.6	
Q2	11.5	13.8	25.3	1.1	
Q3	9.0	-0.7	8.2	-1.7	
Q4	11.8	3.8	15.6	1.2	
Year	63.4	28.7	92.1	-2.0	3.7
2020					
Q1	24.3	-13.8	10.5	0.5	
Q2	1.5	-2.9	-1.3	0.3	
Q3	6.3	-13.3	-7.1	2.5	
Q4	7.0	-9.5	-2.5	0.5	
Year	39.1	-39.5	-0.4	3.8	2.6
2021					
Q1	22.7	-0.3	22.3	0.0	
Q2	18.3	2.8	21.1	1.0	
Q3	33.6	32.1	65.7	-1.9	
Q4	47.8	2.8	50.6	0.8	
Year	122.4	37.4	159.8	0.0	6.9
2022					
Q1	66.6	-34.6	32.1	-3.2	
Q2	79.0	-53.3	25.7	1.6	
Q3[2]	49.6	-2.7	46.9	-2.2	

[1] *Signs according to BPM6.*
[2] *Estimate.*
Sources: Bank of Russia, Rosstat.

KEY ECONOMIC INDICATORS OF G20 COUNTRIES
(GDP, INFLATION, INTEREST RATES, BUDGET DEFICIT)

Table A-11-9

Country	GDP growth, % change on the same quarter of the previous year	Inflation, % change on the same month of the previous year	Policy (target) rate of the central bank, % per annum	Budget surplus/deficit in 2022, % of GDP
Argentina	6.9	83.0	75.00	-3.5
Australia	3.6	6.1	2.60	-3.4
Brazil	3.2	7.2	13.75	-5.8
UK	4.4	10.1	2.25	-4.3
Germany	1.7	10.0	1.50	-3.3
India	13.5	7.4	5.90	-9.9
Indonesia	5.4	6.0	4.75	-3.9
Italy	5.0	8.9	1.50	-5.5
Canada	2.9	6.9	3.75	-2.2
China	3.9	2.8	3.65	-8.9
Mexico	2.0	8.7	9.25	-3.8
Russia	-4.1	13.7	7.50	-2.3
Saudi Arabia	12.2	3.1	3.75	5.5
USA	1.8	8.2	3.25	-4.0
Turkey	7.6	83.5	10.50	-4.2
France	4.2	5.6	1.50	-5.1
South Korea	2.9	5.6	3.00	-1.8
South Africa	0.2	7.5	6.25	-4.9
Japan	1.6	3.0	-0.10	-7.9
Euro area	4.1	9.9	1.50	-3.8

Note. GDP: data are given for 2022 Q2 (China – for 2022 Q3). Inflation: data are given for August–September 2022. Policy rate: the ECB's deposit rate is given for Germany, France, and Italy; and the deposit rate (-0.1%) – for Japan. Budget surplus or deficit in 2022: according to the IMF's World Economic Outlook, October 2020.
Sources: tradingeconomics.com, IMF.

APPENDIX 12. STATISTICS ON THE USE OF MONETARY POLICY INSTRUMENTS

REQUIRED RESERVE RATIOS

Table A-12-1

(%)

Type of liabilities	Effective period							
	01.12.2017 – 31.07.2018	01.08.2018 – 31.03.2019	01.04.2019 – 30.06.2019	01.07.2019 – 02.03.2022[1]	03.03.2022 – 31.03.2022[2]	01.04.2022 – 30.04.2022[3]	01.05.2022 – 31.07.2022[4]	C 01.08.2022[5]
Banks with a universal licence								
To households in rubles	5.00	5.00	4.75	4.75	2.00	2.00	2.00	3.00
Other liabilities in rubles								
To non-resident legal entities in rubles								
To households in foreign currency	6.00	7.00	7.00	8.00			4.00	5.00
To non-resident legal entities in foreign currency	7.00	8.00	8.00					
Other liabilities in foreign currency								
Non-bank credit institutions								
To households in rubles	5.00	5.00	4.75	4.75	2.00	2.00	2.00	3.00
Other liabilities in rubles								
To non-resident legal entities in rubles								
To households in foreign currency	6.00	7.00	7.00	8.00				5.00
To non-resident legal entities in foreign currency	7.00	8.00	8.00					
Other liabilities in foreign currency								
Banks with a basic licence								
To households in rubles	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other liabilities in rubles								
To non-resident legal entities in rubles	5.00	5.00	4.75	4.75	2.00	2.00	4.00	5.00
To households in foreign currency	6.00	7.00	7.00	8.00				
To non-resident legal entities in foreign currency	7.00	8.00	8.00					
Other liabilities in foreign currency								

[1] *Bank of Russia Ordinance No. 5158-U, dated 31 May 2019. Refer to the press release, dated 31 May 2019, on the Bank of Russia website.*
[2] *Bank of Russia Ordinance No. 6082-U, dated 3 March 2022. Refer to the press release, dated 2 March 2022, on the Bank of Russia website.*
[3] *Bank of Russia Ordinance No. 6099-U, dated 23 March 2022. Refer to the press release, dated 21 March 2022, on the Bank of Russia website.*
[4] *Bank of Russia Ordinance No. 6135-U, dated 29 April 2022. Refer to the press release, dated 29 April 2022, on the Bank of Russia website.*
[5] *Bank of Russia Ordinance No. 6208-U, dated 27 July 2022. Refer to the press release, dated 25 July 2022, on the Bank of Russia website.*
Source: Bank of Russia.

REQUIRED RESERVE AVERAGING RATIO

Table A-12-2

Type of credit institutions	Effective date				
	01.07.2019[1]	03.03.2022[2]	01.04.2022[3]	01.05.2022[4]	01.08.2022[5]
Banks with a universal licence and banks with a basic licence	0.8	0.9	0.9	0.9	0.9
Non-bank credit institutions	1.0	1.0	1.0	1.0	1.0

1 Bank of Russia Ordinance No. 5158-U, dated 31 May 2019, 'On Required Reserves'.
[2] *Bank of Russia Ordinance No. 6082-U, dated 3 March 2022, 'On Required Reserves'.*
[3] *Bank of Russia Ordinance No. 6099-U, dated 23 March 2022, 'On Required Reserves'. From 1 August 2004 through 31 March 2022, credit institutions meeting certain criteria are entitled to calculate the averaged amount of required reserves using the averaging ratio not above the averaging ratios established by the Bank of Russia. From 1 April 2022, unified averaging ratios are mandatory.*
[4] *Bank of Russia Ordinance No. 6135-U, dated 29 April 2022, 'On Required Reserves'.*
[5] *Bank of Russia Ordinance No. 6208-U, dated 27 July 2022, 'On Required Reserves'.*
Source: Bank of Russia.

INTERESTRATES ON MONETARY POLICY INSTRUMENTS[1]
(% per annum)

Table A-12-3

Purpose	Instrument type	Instrument	Maturity	Frequency	Spread between interest rates and the key rate(pp)	From 20.12.2021	From 14.02.2022	From 28.02.2022	From 01.03.2022	From 25.03.2022	From 11.04.2022	From 04.05.2022	From 27.05.2022	From 14.06.2022	From 25.07.2022	From 19.09.2022
Liquidity provision	Standing facilities	Overnight loans, lombard loans, loans secured by non-marketable assets, repos, FX swaps[2]	1 day	Daily	+1.00	9.50	10.50	21.00	21.00	21.00	18.00	15.00	12.00	10.50	9.00	8.50
		Lombard loans	From 2 to 90 days[3]		+1.00	-	-	-	-	21.00	18.00	15.00	12.00	10.50	9.00	8.50
		Loans secured by non-marketable assets	From 2 to 90 days[3]		+1.00[4]	10.25	11.25	21.75	21.00	21.00	18.00	15.00	12.00	10.50	9.00	8.50
			From 91 to 549 days[3]		+1.75	10.25	11.25	21.75	21.75	21.75	18.75	15.75	12.75	11.25	9.75	9.25
	Open market operations (minimum interest rates)	Auctions to grant loans secured by non-marketable assets	3 months[4]	Monthly[5]	+0.25	8.75	9.75	20.25	20.25	20.25	17.25	14.25	11.25	9.75	8.25	7.75
		Repo auctions	1 year[4]													
			1 month		+0.10	8.60	9.60	20.10	20.10	20.10	17.10	14.10	11.10	9.60	8.10	7.60
			1 week	Weekly[6]	0.00	8.50 (key rate)	9.50 (key rate)	20.00 (key rate)	20.00 (key rate)	20.00 (key rate)	17.00 (key rate)	14.00 (key rate)	11.00 (key rate)	9.50 (key rate)	8.00 (key rate)	7.50 (key rate)
			From 1 to 6 days	On a non-regular basis[7]												
		FX swap auctions[2]	From 1 to 2 days													
Liquidity absorption	Open market operations (maximum interest rates)	Deposit auctions	From 1 to 6 days													
			1 week	Weekly[6]												
	Standing facilities	Deposit operations	1 day	Daily	- 1.00	7.50	8.50	19.00	19.00	19.00	16.00	13.00	10.00	8.50	7.00	6.50

[1] Interest rates established by the Bank of Russia Board of Directors.
[2] The interest rate is given for the ruble leg, the US dollar interest rate equals SOFR, the euro interest rate equals €STR; operations were suspended due to changes in external economic conditions.
[3] Loans and repos at a floating interest rate linked to the Bank of Russia key rate.
[4] Loan auctions are not held from April 2016; repo auctions were launched in May 2020.
[5] Depending on the liquidity situation, either a repo auction or a deposit auction is held.
[6] Fine-tuning operations.
[7] From 1 March 2022; previously – '+1.75'.
Note. From 1 January 2016, the value of the Bank of Russia refinancing rate equals its key rate as of the relevant date.
Source: Bank of Russia.

USE OF MONETARY POLICY INSTRUMENTS
(billions of rubles)

Table A-12-4

Purpose	Instrument type	Instrument	Maturity	Frequency	Bank of Russia claims under liquidity providing instruments and liabilities under liquidity absorbing instruments							
					As of 01.01.2021	As of 01.04.2021	As of 01.07.2021	As of 01.10.2021	As of 01.01.2022	As of 01.04.2022	As of 01.07.2022	As of 01.10.2022
Liquidity provision	Standing facilities	Overnight loans	1 day	Daily	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Repos			0.1	0.4	0.4	10.6	2.6	91.6	9.9	9.5
		FX swaps[1]			118.4	0.0	0.0	0.0	0.0	-	-	-
		Lombard loans	From 1 to 90 days		0.0	0.0	0.0	0.0	0.0	38.7	47.3	91.4
		Loans secured by non-marketable assets	From 1 to 549 days		5.1	246.1	5.4	35.2	790.1	55.5	52.1	1,211.5
	Open market operations	Auctions to grant loans secured by non-marketable assets	3 months	Monthly[2]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Repo auctions	1 year		36.7	52.6	47.9	47.9	15.6	75.1	70.0	166.0
			1 month		810.2	50.2	100.4	60.3	100.8	11.1	100.7	0.0
			1 week	Weekly[3]	0.0	0.0	0.0	0.0	0.0	2,212.2	0.0	0.0
			From 1 to 6 days	On a non-regular basis[4]								
Liquidity absorption	Open market operations	Deposit auctions	From 1 to 6 days		843.9	1,650.0	1,190.7	780.0	1,,625.9	0.0	1,838.4	1,663.9
			1 week	Weekly[3]								
		Auctions for placing coupon OBRs	Up to 3 months	Weekly[5]	574.9	645.1	626.4	603.4	0.0	0.0	0.0	0.0
	Standing facilities	Deposit operations	1 day	Daily	376.7	122.1	123.5	243.1	1,177.9	3,107.8	1,341.1	1,291.0

[1] Suspended from February 2022 due to changes in external economic conditions.
[2] Loan auctions are not held from April 2016.
[3] Depending on the liquidity situation, either a repo auction or a deposit auction is held.
[4] Fine-tuning auctions.
[5] Basically, a new OBR issue is offered once a month and subsequently – on a weekly basis. If the reporting date falls on a weekend or a holiday, the amount of outstanding OBRs at face value should be specified including the coupon yield accrued as of the first business day following the reporting date. Beginning from 19 October 2021, auctions for placing OBRs are not held.
Source: Bank of Russia.

BANK OF RUSSIA'S SPECIALISED REFINANCING FACILITIES
(billions of rubles)

Table A-12-5

		01.01.2021	01.04.2021	01.07.2021	01.10.2021	01.01.2022	01.03.2022	01.04.2022	01.07.2022	01.10.2022
Support of non-commodity exports[1]		44.9	38.8	36.8	42.5	45.0	45.7	39.3	54.7	43.5
Support of large investment projects[2] secured by claims[3]		68.0	64.7	61.1	55.8	52.6	49.5	49.0	45.4	41.6
Support for small and medium-sized businesses	secured by claims under loan agreements of JSC SME Bank[4]	4.2	3.8	3.2	2.9	2.2	1.8	1.7	1.4	1.1
	secured by sureties from JSC RSMB Corporation[5]	42.5	43.2	57.1	75.8	75.0	73.7	71.1	98.7	94.1
	unsecured[6]	-	-	-	-	-	-	129.9	257.3	112.1
Mechanisms to support the economy during the coronavirus pandemic[7]		454.4	454.3	172.0	10.9	26.8	26.4	50.2	56.5	49.7

[1] Bank of Russia loans collateralised by claims on loans secured by insurance contacts of EXIAR.
[2] Projects shall be selected in accordance with the rules established by Resolution of the Government of the Russian Federation No. 1016, dated 14 December 2010, 'On the Rules to Select Investment Projects and Principals for the Provision of the Russian Federation State Guarantees on Loans or Bonded Loans Raised to Carry Out Investment Projects' or Resolution of the Government of the Russian Federation No. 1044, dated 11 October 2014, 'On the Programme to Support Investment Projects Implemented in the Russian Federation Based on Project Financing'.
[3] Bank of Russia loans collateralised by claims on loans issued for the implementation of investment projects that are secured by state guarantees of the Russian Federation.
[4] Claims on loans issued by JSC SME Bank to its partner banks and microfinance organisations under the SME Financial Support Programme for lending to SMEs, as well as claims on loans issued by JSC SME Bank to its partner leasing companies for property leasing to SMEs (loans are not issued from 23 August 2021).
[5] Sureties provided by JSC Russian Small and Medium Business Corporation under the SME Lending Support Programme.
[6] Issued from 11 March through 30 December 2022.
[7] Bank of Russia loans without collateral issued to support SME lending (issued from 23 March through 30 September 2020), Bank of Russia loans without collateral or secured by sureties from JSC Russian Small and Medium Business Corporation that were issued to support lending for urgency needs and for maintaining employment (issued from 23 March through 30 November 2020), as well as Bank of Russia loans secured by sureties from JSC Russian Small and Medium Business Corporation that were issued to support SMEs operating in the industries of the Russian economy hardest hit by the coronavirus pandemic (issued from 1 November through 30 December 2021 and from 24 January through 31 March 2022).

APPENDIX 13. SCHEDULE OF BANK OF RUSSIA AUCTIONS IN 2023

One-week repo and deposit auctions

In the situation of a structural liquidity surplus, the Bank of Russia is planning to hold one-week auctions in the form of deposit auctions. Should a one-week repo auction be held instead of a deposit auction, the Bank of Russia will publish relevant information on its website on the business day preceding the auction.

ONE-WEEK REPO AND DEPOSIT AUCTIONS *Table A-13-1*

Auction date	Date of funds placement by credit institutions	Date of repayment and interest payment by the Bank of Russia
10.01.2023	11.01.2023	18.01.2023
17.01.2023	18.01.2023	25.01.2023
24.01.2023	25.01.2023	01.02.2023
31.01.2023	01.02.2023	08.02.2023
07.02.2023	08.02.2023	15.02.2023
14.02.2023	15.02.2023	22.02.2023
21.02.2023	22.02.2023	01.03.2023
28.02.2023	01.03.2023	09.03.2023
07.03.2023	09.03.2023	15.03.2023
14.03.2023	15.03.2023	22.03.2023
21.03.2023	22.03.2023	29.03.2023
28.03.2023	29.03.2023	05.04.2023
04.04.2023	05.04.2023	12.04.2023
11.04.2023	12.04.2023	19.04.2023
18.04.2023	19.04.2023	26.04.2023
25.04.2023	26.04.2023	03.05.2023
02.05.2023	03.05.2023	10.05.2023
10.05.2023	10.05.2023	17.05.2023
16.05.2023	17.05.2023	24.05.2023
23.05.2023	24.05.2023	31.05.2023
30.05.2023	31.05.2023	07.06.2023
06.06.2023	07.06.2023	14.06.2023
13.06.2023	14.06.2023	21.06.2023
20.06.2023	21.06.2023	28.06.2023
27.06.2023	28.06.2023	05.07.2023
04.07.2023	05.07.2023	12.07.2023
11.07.2023	12.07.2023	19.07.2023
18.07.2023	19.07.2023	26.07.2023
25.07.2023	26.07.2023	02.08.2023
01.08.2023	02.08.2023	09.08.2023
08.08.2023	09.08.2023	16.08.2023
15.08.2023	16.08.2023	23.08.2023
22.08.2023	23.08.2023	30.08.2023
29.08.2023	30.08.2023	06.09.2023
05.09.2023	06.09.2023	13.09.2023
12.09.2023	13.09.2023	20.09.2023
19.09.2023	20.09.2023	27.09.2023
26.09.2023	27.09.2023	04.10.2023
03.10.2023	04.10.2023	11.10.2023
10.10.2023	11.10.2023	18.10.2023
17.10.2023	18.10.2023	25.10.2023
24.10.2023	25.10.2023	01.11.2023
31.10.2023	01.11.2023	08.11.2023
07.11.2023	08.11.2023	15.11.2023
14.11.2023	15.11.2023	22.11.2023
21.11.2023	22.11.2023	29.11.2023
28.11.2023	29.11.2023	06.12.2023
05.12.2023	06.12.2023	13.12.2023
12.12.2023	13.12.2023	20.12.2023
19.12.2023	20.12.2023	27.12.2023

One-month and one-year repo auctions in rubles

One-month and one-year repo auctions in rubles are aiming to improve the balance of banks' assets and liabilities in terms of their maturities amid the shrinking structural surplus of liquidity and reducing maturities of banks' liabilities.

ONE-MONTH REPO AUCTIONS *Table A-13-2*

Auction date	Date of funds provision	Date of repayment
09.01.2023	11.01.2023	15.02.2023
13.02.2023	15.02.2023	22.03.2023
20.03.2023	22.03.2023	19.04.2023
17.04.2023	19.04.2023	17.05.2023
15.05.2023	17.05.2023	21.06.2023
19.06.2023	21.06.2023	19.07.2023
17.07.2023	19.07.2023	16.08.2023
14.08.2023	16.08.2023	13.09.2023
11.09.2023	13.09.2023	11.10.2023
09.10.2023	11.10.2023	15.11.2023
13.11.2023	15.11.2023	13.12.2023
11.12.2023	13.12.2023	17.01.2024

ONE-YEAR REPO AUCTIONS *Table A-13-3*

Auction date	Date of funds provision	Date of repayment
09.01.2023	11.01.2023	17.01.2024
13.02.2023	15.02.2023	14.02.2024
20.03.2023	22.03.2023	20.03.2024
17.04.2023	19.04.2023	17.04.2024
15.05.2023	17.05.2023	15.05.2024
19.06.2023	21.06.2023	19.06.2024
17.07.2023	19.07.2023	17.07.2024
14.08.2023	16.08.2023	14.08.2024
11.09.2023	13.09.2023	11.09.2024
09.10.2023	11.10.2023	09.10.2024
13.11.2023	15.11.2023	13.11.2024
11.12.2023	13.12.2023	11.12.2024

APPENDIX 14. REQUIRED RESERVES AVERAGING PERIODS IN 2023

Table A-14

Averaging period to calculate required reserves for a corresponding reporting period	Averaging period duration (days)	Memo item	
		Reporting period	Required reserves regulation period
18.01.2023 – 14.02.2023	28	December 2022	24.01.2023 – 26.01.2023
15.02.2023 – 14.03.2023	28	January 2023	16.02.2023 – 20.02.2023 (as recalculated)
15.03.2023 – 11.04.2023	28	February 2023	17.03.2023 – 21.03.2023
12.04.2023 – 16.05.2023	35	March 2023	18.04.2023 – 20.04.2023
17.05.2023 – 13.06.2023	28	April 2023	19.05.2023 – 23.05.2023
14.06.2023 – 11.07.2023	28	May 2023	19.06.2023 – 21.06.2023
12.07.2023 – 08.08.2023	28	June 2023	18.07.2023 – 20.07.2023
09.08.2023 – 12.09.2023	35	July 2023	16.08.2023 – 18.08.2023
13.09.2023 – 10.10.2023	28	August 2023	18.09.2023 – 20.09.2023
11.10.2023 – 14.11.2023	35	September 2023	17.10.2023 – 19.10.2023
15.11.2023 – 12.12.2023	28	October 2023	17.11.2023 – 21.11.2023
13.12.2023 – 16.01.2024	35	November 2023	18.12.2023 – 20.12.2023

The required reserves averaging period as recalculated in 2023

The required reserves averaging period in 2023 for the annual recalculation of required reserves deposited in the required reserves account: 16–20 February 2023.

APPENDIX 15. FINANCIAL MARKET DEVELOPMENT

As external financing is unavailable, in the next few years, the Russian economy will need to complete the structural transformation relying on internal resources. The financial market is expected to play an important role in this process. In August 2022, the Bank of Russia published its consultation paper Financial Market: New Challenges in Modern Conditions. It outlines 14 major objectives and a number of possible steps towards their achievement that the Bank of Russia considers and discusses with market participants and experts.

1. Ensuring financial institutions' stability and information disclosure

- If the regulatory easing granted to banks and non-bank financial institutions in response to the sanctions remains in effect for a long period, this might create a threat to financial stability. The phasing-out of these measures can be gradual while ensuring control over risks in the financial sector. For banks to be able to expand lending, possibly, capital buffers should be frozen temporarily or reduced. Simultaneously, it is necessary to limit the growth of higher-risk loans through additional adjustments to the regulation (the use of macroprudential limits to mitigate risks in unsecured consumer lending and the system of macroprudential buffers to discourage banks to issue high-risk loans in other segments).
- The Bank of Russia considers the possibility of a special procedure for accounting Russian residents' assets and liabilities to unfriendly countries' residents on the balance sheets of financial institutions themselves, as well as their separation into special-purpose companies. The Bank of Russia is ready to allow financial institutions to make provisions for the blocked assets during a longer period, as compared to other regulatory easing measures.
- The Bank of Russia will carry out analysis and develop approaches to disclosing financial statements and identify the items that might be sensitive to the sanctions, establishing the requirements for their aggregation and exclusion from the publication.

2. The banking sector: transformation of the currency structure and participation in financing of the economic development

- The process of abandoning the use of unfriendly countries' currencies in internal and external payment turnover seems to be inevitable. The Bank of Russia will take actions to accelerate the natural process of the dedollarisation of bank transactions by introducing additional regulatory measures aimed at reducing banks' transactions in 'toxic' currencies (setting new risk-weight add-ons for foreign currency loans and securities, including those differentiated by the currency issuer; and establishing, where needed, higher required reserve ratios for banks' liabilities in 'toxic' currencies). Similar regulatory measures can be applied to non-bank financial institutions.
- It is essential to increase banks' interest in and their opportunities for participation in long-term financing and implement mechanisms for risk distribution in the banking sector. As the banking sector restores its capital, the Bank of Russia will consider the possibility of introducing risk-based regulatory incentives to promote

banks' participation in economic development projects. To this end, it is necessary to develop the taxonomy (criteria) of projects ensuring technological sovereignty and the modernisation of the economy. The Bank of Russia is ready to take part in the development of this taxonomy. However, regulatory incentives for banks might be insufficient to encourage banks' engagement in the financing of development projects. Therefore, it will be possible to raise credit resources for these purposes from the banking sector by providing state guarantees or development institutes' sureties to banks or by issuing bonds secured by guarantees or sureties. Projects that generate low returns and thus cannot compete for bank financing, even with state guarantees, but are strategically important should be subsidised and/or co-financed through state development institutes' direct investment. It is necessary to provide for capital increase mechanisms for development institutes and to take this into account in the course of budgeting.

- The Bank of Russia will make actions towards expanding regional banks' potential and their opportunities for participating in lending. The Bank of Russia is ready to provide assistance in the development of approaches to establishing specialised banking associations with banks accepting joint responsibility for each other's obligations, preserving partial operational autonomy, and delegating a range of functions to the parent bank. It is possible to consider a reduction in regulatory burden and the scope of mandatory reporting for such associations.

3. Instruments of long-term savings for households

- It is necessary to create incentives encouraging individuals' voluntary pension savings, namely to complete the development of the system of guarantees for non-governmental pension schemes; create state incentives through co-financing individuals' voluntary pension contributions and providing an additional opportunity to people to use their pension savings; and expand NPFs' investment opportunities by cancelling a part of the requirements for the composition and structure of their investment portfolios (NPFs' risks can be limited by stress testing requirements, and the integrity of their decisions is ensured by the requirements for fiduciary responsibility). There is also an intention to create financial products for forming long-term savings complementing NPFs' products with the establishment for them of uniform requirements and uniform tax privileges.

4. Capital market instruments for financing economic development

- It is crucial to implement instruments enhancing investment quality and preferential treatment for the securities offerings by companies engaged in the transformation of the Russian economy and doing business in promising or top-priority industries. Such companies should be selected based on a clear set of established criteria. Support instruments can include guarantees from the state and development institutes, programmes of support for entering the stock and bond markets, and tax privileges to investors for income from such securities. It is necessary to establish complex consulting infrastructures for issuers, which will provide comprehensive information to companies about available opportunities and support measures. Individuals should be informed about opportunities for participating in the development of the Russian economy through investment in Russian companies' shares and bonds and the development of social co-financing mechanisms. Using financial platforms and unit

investment funds, it is possible to create a channel for issuers to sell standard long-term investment instruments directly to individuals. Such instruments can be offered in addition to bank deposits as a low-risk expansion of the portfolio, among other things.

- In the changed conditions, the role of partner financing may become more significant. To develop this area, an experiment is planned in certain constituent territories of the Russian Federation. The specifics of partner financing requires adequate approaches to regulation and supervision to be developed.

5. Protection of non-qualified retail investors

- The Bank of Russia considers it critical to adopt a complex of measures protecting non-qualified investors and enhancing the approaches to their admission to the capital market with regard to testing procedures, classifying individuals as qualified investors, and establishing a list of instruments that are only accessible to qualified investors.
- Besides, the Bank of Russia plans to discuss a reduction in the maximum leverage for retail investors, an improvement of the safety of non-qualified investors' assets where a broker carries out separate accounting of assets, and an increase in financial intermediaries' liability for violating requirements in the area of investor protection.
- The Bank of Russia will continue efforts towards enhancing people's investment literacy, including by focusing their attention on the fundamentals of reasonable investment behaviour, the use of digital technologies in the financial market, personal financial security, and identification of fraud and unfair practices.

6. Financing of sustainable development

- The Bank of Russia will continue efforts towards the development of the sustainable financing market as regards instruments and infrastructure, the implementation of the sustainable development agenda, and incorporation of ESG factors. Over the medium-term horizon, the Bank of Russia will study the possibility of integrating ESG risks into prudential regulation and supervision, including the implementation of incentive-based prudential regulation. For this, the financial sector should have enough time to restore their capital and stability after the losses incurred due to the imposed sanctions. An important area of the development is the implementation of the national carbon regulation system and the carbon emission trading system.

7. National system of indices in the financial and commodity markets

- The Bank of Russia plans to create conditions for the development of national information agencies / administrators ensuring the formation of financial and commodity indices in the Russian market, as well as to develop the national rating industry, putting a particular focus on the quality of the rating process and the methodologies used.

8. Derivatives market development

- To develop the derivatives market, the Bank of Russia proposes a range of measures aimed at, among other things, promoting the development of information platforms, including trade venues and platforms for revaluation of derivative transactions, and establishing the requirements for the preferred use of Russian indices (as they are developed) in instruments and transactions. The Bank of Russia will analyse

the possibility of adjusting the bank capital adequacy requirements in the case of structuring of derivative transactions or conducting hedging derivative transactions. It is necessary to expand the list of underlying assets of derivatives and enhance the process of tax administration for hedging instruments.

9. Insurance market

- The Bank of Russia is ready to provide assistance to commercial participants in creating a competitive reinsurer. Securitisation of reinsurance is considered as a possible solution. To address the problem of recognising the quality of the Russian insurance and reinsurance system, it is necessary to study the issue of recognising Russian rating agencies and establishing cooperation with reinsurers from friendly countries at the market level.

10. Ecosystem and platform regulation

- The Bank of Russia believes it crucial to continue the development of approaches to regulating ecosystem business.[1] To maintain a competitive environment, the Bank of Russia proposes introducing increased requirements for dominating market participants whose share exceeds the regulatory threshold established in the key segments of the digital market. The pace of the implementation of this regulation should depend on the level of platformisation in a particular sector and its social and economic importance. It is essential to continue government support of information technology industries, regardless of whether a specific firm is part of a bank's ecosystem or a technology company. Besides, it is necessary to introduce non-discriminatory rules for foreign platforms' operation in the Russian market.
- In the near future, the Bank of Russia plans to continue the integration into the banking regulation of a risk-sensitive limit for immobilised assets, including banks' investments in ecosystems and other types of non-financial business.

11. Implementation and development of digital infrastructure projects

- The Bank of Russia plans to further advance the Mir payment system, including to promote Mir cards at the international level.
- The Bank of Russia plans to develop the functions of the FPS for individuals by simplifying the customer journey and to enhance the accessibility of and expand the services of the system and the FPS for businesses by introducing an agent framework for connecting trade and service companies to the FPS. The Bank of Russia is studying the possibility of launching the functions for cross-border money transfers, first of all in the EAEU countries.
- The Bank of Russia will continue efforts towards increasing the number of participants in the FMS, including by connecting foreign partners of Russian companies and expanding the use of the FMS in the EAEU.
- The advancement of the UBS, the expansion of the biometric data registration mechanisms, and a broader use of the system will contribute to the digital transformation of financial, non-financial and public services.
- It is critical to continue the work aimed at creating favourable conditions for the development of DFAs and UDRs, which will promote the development of innovative

[1] *For details, refer to the consultation papers Regulation of Risks of Banks' Participation in Ecosystems and Investment in Immobilised Assets (June 2021) and Ecosystems: Regulatory Approaches (April 2021).*

investment instruments and the expansion of opportunities for raising investments. The Bank of Russia plans to continue improving the regulation in this area, including to use these instruments in cross-border operations.

- It is critical to develop a legal mechanism for the participation of conventional trade and settlement infrastructure in the circulation of digital rights.
- The Bank of Russia will continue its work for the introduction of the digital ruble (see Appendix 7 'Impact of the digital ruble on monetary policy').
- Speaking of new projects, it is planned to implement open APIs, which will create infrastructure for data exchange among market participants and streamline data exchange and the content of the most important client and publicly available (open) data, as well as to introduce the model for the regulation of non-bank institutions providing payment services developed by the Bank of Russia. Jointly with the government agencies concerned, the Bank of Russia will implement a complex of measures aimed at substituting imported software and equipment in finance.

12. Arrangement of foreign trade and financial settlements

- It is crucial to create conditions for the transition to national currencies, including the Russian ruble, in cross-border settlements. The Bank of Russia is ready to consider possible mechanisms for its participation at the initial stages of launching the segments of national currency trading in the foreign exchange market in order to support liquidity.
- The Bank of Russia will continue to expand payment and settlement infrastructure with the main trade partners from friendly states and arrange independent messaging channels, including by using the Russian FMS.
- It is essential to study possible mechanisms for bilateral and multilateral clearing of payments in national currencies and the issues of developing the correspondent relationship network, opening Russian banks' correspondent accounts with credit institutions of friendly states, and expanding medium-sized banks' opportunities in servicing international settlements.
- The successful development of the system of foreign trade and financial settlements in the new conditions depends not only on the regulator, but also on Russian business, companies, and financial intermediaries and their preparedness to use and develop new channels and revise their approaches to choosing currencies and settlement routes.

13. Configuration of foreign exchange regulation and capital controls

- The Bank of Russia considers it reasonable to differentiate approaches depending on residency and currency. Requirements for residents can be liberalised as much as possible, whereas the tightness of requirements for non-residents should vary depending on their jurisdiction. Any bans or restrictions in foreign exchange should be based on the principle of reciprocity. Approaches to foreign exchange regulation and control should encourage the transition to settlements in Russian rubles and currencies of friendly states. It is necessary to minimise administrative punishment for violations of the requirements of the foreign exchange legislation associated with the imposed sanctions.

14. Optimisation and simplification of the AML/CFT system

- The Bank of Russia, jointly with the Federal Financial Monitoring Service and other federal executive bodies concerned, is developing a range of measures that are aimed at optimising the current requirements for identification and revising operations that are subject to mandatory control.

The Bank of Russia received feedback to the paper from more than 60 financial market participants, organisations and associations of the research and expert community, as well as the representatives of businesses and other stakeholders. The results of the discussion will be taken into consideration when preparing the Russian Financial Market Development Programme for 2023–2025, with the draft to be presented in November 2022.

GLOSSARY

Balance of payments of the Russian Federation
A statistical system reflecting all economic operations between residents and non-residents of the Russian Federation over the reporting period.

Banking sector liquidity
Credit institutions' ruble-denominated funds held in correspondent accounts with the Bank of Russia primarily for making payments via the Bank of Russia's payment system and for fulfilling the reserve requirements.

Banking system's claims on the economy
The banking system's claims on non-financial and financial organisations and households in rubles, foreign currency, and precious metals, which include issued loans (including overdue loans), overdue interest on loans, credit institutions' investment in debt and equity securities and promissory notes, as well as other forms of participation in non-financial and financial organisations' equity, and other receivables under settlement operations with non-financial and financial organisations and households.

Bank of Russia key rate
The key rate is the main instrument of the Bank of Russia's monetary policy and is used to assess the stance and characteristics of monetary policy. Changes in the key rate influence credit and economic activity and, ultimately, help achieve the main goal of monetary policy. This is the interest rate on main operations carried out by the Bank of Russia to regulate the banking sector liquidity (it corresponds to the minimum interest rate at the Bank of Russia's one-week repo auctions and to the maximum interest rate at the Bank of Russia's one-week deposit auctions).

Basic balance (basic deficit)
The indicator of the federal budget execution under the fiscal rule calculated as the difference between the total of basic oil and gas revenues and non-oil and gas revenues and federal budget expenditures.

Basic oil and gas revenues
The amount of oil and gas revenues earned with the Urals crude price at an equilibrium level and used to calculate the maximum amount of federal budget expenditures within the fiscal rule.

Business Climate Index (BCI) of the Bank of Russia
An analytical measure calculated monthly based on the estimates of companies participating in the Bank of Russia's monitoring. This index is built similarly to the method of Germany's Ifo economic institute and shows both actual and expected changes in output and demand.

Consumer Price Index (CPI)
The ratio of the value of a fixed set of goods and services in current-period prices to its value in previous (reference) period prices. This index is calculated by the Federal State

Statistics Service (Rosstat). The CPI reflects changes over time in the overall level of prices for goods and services purchased by households for consumption. The CPI is calculated based on data on the actual structure of consumer spending and is, therefore, the principal indicator of the cost of living. In addition, the CPI has a range of characteristics making it convenient for common use, namely a simple and clear method of construction, monthly frequency of calculation, and timely publication.

Core inflation

An indicator of inflation characterising its most stable part. Core inflation is measured based on the Core Consumer Price Index (CCPI). The difference between the CCPI and the Consumer Price Index (CPI) is that the CCPI is calculated excluding changes in prices for certain products and services that are subject to the influence of administrative and seasonal factors (certain categories of fruit and vegetables, passenger transportation services, communication services, housing and utility services, motor fuels, etc.).

Credit default swap (CDS)

A financial instrument enabling a buyer to insure against a certain credit event (e.g., a default) related to a third party's financial obligations in exchange for regular payments of premiums (the CDS spread) to the CDS seller. The higher is the premium paid, the riskier are the obligations that are the subject of a credit default swap.

Deflation

A steady general decline in prices for goods and services in the economy for at least 12 months and negative annual growth rates of consumer prices.

Dollarisation of bank deposits (loans)

The share of foreign currency-denominated deposits (loans) in the banking sector's overall portfolio of deposits (loans).

Federal government bonds (OFZ)

Government debt securities.

Financial stability

A state of the financial system involving no systemic risks which, in the case of their materialisation, might adversely affect the transformation of savings into investment and the real economy. Financial stability improves the resilience of the economy to both internal and external shocks.

Floating exchange rate regime

An exchange rate regime where the central bank establishes no targets, including operational ones, whether for the level or movements of the exchange rate, with the latter forming under the influence of market factors. However, the central bank reserves the right to purchase foreign currency in order to replenish the country's international reserves or to sell foreign currency in the case of any threats to financial stability.

Inflation

A sustained rise in the overall level of goods and services prices in the economy. Inflation is generally associated with changes over time in the price of the consumer basket, that is, a set of food products, non-food goods, and services consumed by an average household (see also the 'Consumer Price Index (CPI)').

Inflation expectations

Economic agents' expectations regarding price growth in the future. Inflation expectations are formed by businesses, households, financial markets, and analysts. Economic agents make economic decisions and their plans for the future (including those related to consumption, saving, borrowing, investment, and loan and deposit rates) relying on their expectations. Inflation expectations impact inflation and are, therefore, a critical indicator for making monetary policy decisions.

Inflation targeting

A strategy of monetary policy based on the following principles: price stability is the key goal of monetary policy; the inflation target is clearly specified and announced; under a floating exchange rate regime, monetary policy influences the economy primarily through interest rates; monetary policy decisions are made based on the analysis of a wide range of macroeconomic indicators and their forecasts; the central bank seeks to provide clear reference points for households and businesses, including through enhancing communication transparency.

Liquidity absorbing operations

Bank of Russia reverse operations to absorb liquidity from credit institutions. These are operations either to raise deposits or place Bank of Russia bonds.

Monetary base

The total amount of the components of cash and credit institutions' funds in accounts and Bank of Russia bonds denominated in Russian rubles. In the narrow sense of the term, the monetary base comprises cash in circulation (outside the Bank of Russia) and credit institutions' funds in required reserve accounts for ruble-denominated funds raised by credit institutions. The broad monetary base includes cash in circulation (outside the Bank of Russia) and credit institutions' total funds in accounts and Bank of Russia bonds.

Money supply

The total amount of Russian residents' funds (excluding general government's and credit institutions' funds). For the purposes of economic analysis, various monetary aggregates are calculated (M0, M1, M2, and M2X).

Money supply in the national definition (M2 monetary aggregate)

The total amount of cash in circulation outside the banking system and of the balances of Russian residents (non-financial and financial (other than credit) institutions and individuals) in settlement, current and other demand accounts (including in bank card accounts), time deposits, and other raised term funds in the banking system denominated in Russian rubles, as well as interest accrued on them.

Neutral rate of interest

The interest rate (in particular, the central bank's key rate and overnight interbank interest rates forming close to the key rate) that sustainably supports the economy at full employment (the output is at its potential, and unemployment is at its 'natural' level) and maintains inflation steadily at the target level. When the key rate is neutral, monetary policy neither speeds up, nor slows down inflation.

Parallel imports

Original foreign-made goods imported into the country without the permission of the intellectual property owner.

Refinancing operations

Reverse operations conducted by the Bank of Russia to provide liquidity to credit institutions. They may be in the form of loans, repos, or FX swaps.

Required reserve ratios

Ratios that are applied to credit institutions' reservable liabilities to calculate the regulatory value of required reserves. In accordance with Federal Law No. 86-FZ, dated 10 July 2002, 'On the Central Bank of the Russian Federation (Bank of Russia)', their values may range from 0% to 20%. These ratios are established by the Bank of Russia Board of Directors.

RUONIA benchmark interest rate (Ruble OverNight Index Average)

The weighted interest rate on overnight interbank ruble loans (deposits) reflecting the cost of unsecured overnight borrowing. The Bank of Russia is in charge of the RUONIA methodology, compilation of the list of the panel banks, data collection, the calculation and publication of this interest rate.

Structural liquidity deficit / surplus of the banking sector

A structural deficit in the banking sector is a situation when credit institutions demonstrate sustainable demand for liquidity from the Bank of Russia. A structural surplus is when credit institutions have a stable excess of liquidity and the Bank of Russia needs to carry out liquidity absorbing operations. The estimated level of a structural liquidity deficit / surplus is the difference between the outstanding amount on refinancing operations and the amount of liquidity absorbing operations of the Bank of Russia.

Transmission mechanism

The mechanism through which monetary policy decisions impact the economy in general and price movements in particular; the process of a gradual transmission of the central bank's signal regarding the maintenance of or a change in the key rate and its future path from financial market segments to the real sector of the economy and, ultimately, to the inflation rate. A change in the key rate is translated into the economy through multiple channels (interest rates, credit, foreign exchange, balance sheet, inflation expectations, etc.).

ABBREVIATIONS

3MMM – three-month moving average

AIT – additional income tax

AML/CFT – anti-money laundering and combating the financing of terrorism

API – application programming interface ensuring communication between information systems

B2B – businesses-to-business payments and money transfers

B2C – business-to-consumer payments

B2G – business-to-government payments

BCI – Business Climate Index of the Bank of Russia

bp – basis point (0.01 percentage points)

BPM6 – the 6th edition of the IMF's Balance of Payments and International Investment Position Manual

C2B – consumer-to-business payments

C2C – consumer-to-consumer money transfers

C2G – consumer-to-government payments

Core CPI – Core Consumer Price Index

Coupon OBR – Bank of Russia coupon bond

CPI – Consumer Price Index

CPIF – Consumer Price Index with a Fixed Interest Rate

DFA – digital financial asset

EAEU – Eurasian Economic Union

ECB – European Central Bank

ELB – effective lower bound

EME – emerging market economy

ESG – environmental, social and corporate governance

€STR – euro short-term rate

FCS – Federal Customs Service

FG – forward guidance (a central bank's signal regarding its monetary policy)

FMS – Financial Messaging System

FPS – Faster Payments System

G2B – government-to-business payments

G2C – government-to-consumer payments

G-curve – zero coupon yield curve for federal securities

GDP – gross domestic product

GFC – global financial crisis of 2007–2008

GFCF – gross fixed capital formation

IBL – interbank lending

IIA – individual investment account

IMF – International Monetary Fund

InFOM – Institute of the Public Opinion Foundation

IRS – interest rate swap

mbd – million barrels per day

MET – mineral extraction tax

Ministry of Economic Development – Ministry of Economic Development of the Russian Federation

Ministry of Finance – Ministry of Finance of the Russian Federation

MPG 2018–2020 – Monetary Policy Guidelines for 2018–2020

MPG 2020–2022 – Monetary Policy Guidelines for 2020–2022

MPG 2022–2024 – Monetary Policy Guidelines for 2022–2024

MPG 2023–2025 – Monetary Policy Guidelines for 2023–2025

NFA – National Finance Association

NOGR – non-oil and gas revenues

NPF – non-governmental pension fund

NWF – National Wealth Fund

OFZ – federal government bond

OFZ-IN – federal government bond with an indexed par value

OGR – oil and gas revenues

PCE – personal consumption expenditures (index measuring consumer spending)

pp – percentage point

QE – quantitative easing

RUONIA – Ruble OverNight Index Average (weighted interest rate on overnight interbank ruble loans (deposits))

SA – seasonally adjusted

SAAR – seasonally adjusted annualised rate

SME – small and medium-sized enterprise

SOFR – Secured Overnight Financing Rate in US dollars

UBS – Unified Biometric System

UDR – utilitarian digital right

US Fed – US Federal Reserve System

VAT – value added tax

YCC – yield curve control

ZLB – zero lower bound

Federal districts

CFD – Central Federal District

FEFD – Far Eastern Federal District

NCFD – North-Caucasian Federal District

NWFD – North-Western Federal District

SibFD – Siberian Federal District

SFD – Southern Federal District

UFD – Urals Federal District

VFD – Volga Federal District