Bank of Russia

Monetary Policy Guidelines for 2020–2022

Moscow

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INTRODUCTION

The Bank of Russia's monetary policy is aimed at maintaining price stability in the Russian economy. Keeping inflation sustainably low is of paramount importance to public welfare, favourable business environment, higher accessibility of long-term financial resources and confidence in the national currency.

Setting a quantitative inflation target near 4% and inflation steadily anchored at a sustainably low level significantly raise the certainty of economic conditions for all economic agents and ease financial and investment planning, as well as decision-making on saving and borrowings.

In the Monetary Policy Guidelines for 2020–2022, the Bank of Russia's strategic document, the regulator explains goals, key principles and approaches towards the conduct of monetary policy, and presents medium-term macroeconomic forecast scenarios.

Alongside the consistency of goals and principles and the continuity of approaches, the Bank of Russia's consistent and timely measures aimed at the delivery on the inflation target are key to households' and businesses' trust in monetary policy and the near 4% inflation target.

Inflation has been at its all-time lows in recent years in Russia; however, economic participants' inflation expectations remain elevated, with credibility in the target and monetary policy measures remaining yet to be fully built. Only sustainably low inflation close to 4% can emerge as a reliable benchmark.

In this context, the Bank of Russia's preventive action made the difference back in 2018, when the decision was made to raise the key rate in response to a host of pro-inflationary factors. This helped check their influence on inflation, and – after short-term growth in consumer prices – ensured steady deceleration in their growth so that in the middle of this year it was possible to switch to the key rate cutting policy. Annual inflation moved close to 4% by autumn 2019; the Bank of Russia forecasts that it is to reside close to 4%. The Bank of Russia will make every effort to anchor annual inflation to the target. Alongside key rate decisions, the Bank of Russia's communication policy is a core monetary policy tool. It makes a tangible impact, helping shape both interest rates in the financial market and inflation expectations.

At the same time, the Bank of Russia is focused on the factors which will have a significant influence on the development of the Russian economy and inflation dynamics over the forecast horizon. External factors include world economic growth prospects which have deteriorated considerably amid a rise in trade tensions and other geopolitical factors in 2019. Internal factors include approaches to the pursuit of fiscal policy, including the use of liquid assets of the National Wealth Fund exceeding 7% of GDP. That said, the pace and structure of economic growth over a three-year horizon and the nature of the impact of economic dynamics on inflation will largely depend on the implementation of national projects and the effects of other structural measures. The Bank of Russia includes these internal and external factors in the calculation of its baseline scenario, the assessment of related risks, and the elaboration of supplementary scenarios.

When articulating its medium-term view, the Bank of Russia also takes into account the fact that economic development and a rise in the efficiency of the monetary policy transmission mechanism will be fostered by the Bank of Russia's measures to develop the financial market, enhance the accessibility of financial resources, instruments and services, and maintain overall stability of the financial sector.

In the years to come, a steady rise in the Russian economic growth pace driven by internal development sources, is only possible if all public authorities work together, the private and public sectors join their efforts at all levels, and the business climate, of which price stability is an integral element, improves.

1. MONETARY POLICY GOALS, PRINCIPLES AND TOOLS

CONTRIBUTION OF MONETARY POLICY TO ECONOMIC DEVELOPMENT

The main goal of monetary policy is to support price stability, that is, sustainably low inflation. Low inflation ensures a stable purchasing power of the national currency. Price stability is an important element of an environment that is favourable for living and doing business.

Low and predictable inflation protects income and savings in the national currency. Price stability protects wages, pensions and other income, as well as national currency-denominated savings of households and businesses from unpredictable depreciation. This allows households to, among other things, maintain the living standards and plan spending, including long-term, with a greater confidence.

Price stability is paramount for social stability. Low income households are the main beneficiaries of low and steady inflation. Such families choose inexpensive staple goods and cannot switch to their cheaper substitutes if prices rise considerably. High inflation forces them to reduce consumption to the detriment of their quality of life. All else being equal, high inflation causes income differentiation and aggravates social inequality. Low inflation is, therefore, an important prerequisite for social stability.[1]

Low and sustainable inflation is also favourable for businesses. It makes debt financing more affordable for companies. High inflation and/or significant price volatility are a risk source for economic agents, including banks. When inflation rises, the cost of bank liabilities grows faster than the return on bank assets. In this environment, banks have to raise the cost of borrowing or reduce the maturity of loans to mitigate risks.[2] In contrast, low and steady inflation brings down the inflation premium included in banks' interest rates and allows lenders to expand the supply of long-term loans. This creates favourable conditions for businesses to borrow. Not only Russian banks, but also domestic investors (individuals and firms) and foreign investors are more inclined to lend in countries with a predictable economic environment of which sustainably low inflation is an integral part.

Price stability also helps businesses ease financial and investment planning. Low inflation lays the groundwork for investment growth and, consequently, sustainable and balanced economic growth. Thereby, monetary policy contributes to the common goal of current economic policy aimed at speeding up economic growth through a rise in investments.

Boosting confidence in the national currency, low and stable inflation paves the way for a smaller share of foreign currency in assets and liabilities in the economy. This, in turn, decreases the influence of external conditions on the economy.

Public opinion polls and company surveys also suggest that low and stable inflation is an important part of an environment which is favourable for living and doing business. According to surveys, households and corporates cite inflation as one of the problems deteriorating living conditions and

[1] *For details of the effect of inflation on social inequality refer to Appendix 3 of the Monetary Policy Guidelines for 2018–2020.*

[2] *As a result of high and volatile inflation of the early 2000s, short-term loans (for up to one year) accounted for more than 50% of banks' corporate loan portfolio. Currently, the figure holds within 20%.*

the business environment and impairing the competitiveness of Russian goods.

Monetary policy lays the groundwork for economic development; however, it cannot be a source of a sustainable rise in economic potential. In the long term, the main factors determining the outlook for economic growth include developments in labour and capital productivity and an innovation pace. The central bank cannot impact the efficiency of production factors and the introduction of technologies through its monetary policy tools. In its efforts to underpin price stability, the central bank influences domestic demand and, consequently, the use of production factors. Thereby, monetary policy impacts the deviations of the economic growth rate from the potential, rather than the economic potential itself.

Given the above, any efforts to boost economic growth in Russia through monetary policy measures by means of an unreasonable key rate cut would lead to large-scale negative consequences in current conditions. In the short term, an unreasonable reduction of the key rate would stimulate accelerated lending growth and raise investment and consumer demand. In addition, such growth can have inflation implications as it will outpace potential production capacity expansion. This is associated with the fact that this period of time gives no opportunity to substantially raise production because the economy is close to its potential. When companies register a rise in demand, they will compete for the labour force and raise wages. This will also expand consumer demand. Meanwhile, many industries will need time to increase fixed assets through the implementation of investment projects. As a result, the rise in domestic demand, coupled with the lack of internal opportunities to satisfy it, will considerably accelerate inflation in two ways. First, as wages and loans increase demand amid an insufficient supply of domestically-produced goods, their prices will go up. Second, the insufficiency of domestically-produced goods will boost demand for imports; this will weaken the ruble and push inflation upwards. High inflation will depreciate incomes, bring considerable uncertainty and hamper business planning. Soaring inflation will discourage depositors from placing their funds at low rates, and banks will have to raise their interest rates. In order to cover losses from rising costs of deposit sourcing, banks will increase lending rates. This will further constrain investment and undermine economic growth. Thereby, the efforts to unreasonably ease monetary policy will not ensure a sustainable acceleration of economic growth and will bring inflation upwards.

KEY MONETARY POLICY PRINCIPLES

Setting a permanent public quantitative inflation target

Under its inflation targeting strategy, the Bank of Russia sets a quantitative inflation target and publicly announces it for households, businesses and financial market participants to take it into account in their planning and decision-making. The Bank of Russia pursuits its monetary policy to deliver on the inflation target.

The monetary policy goal is to keep annual inflation close to 4% on a permanent basis. ‘Close to 4%’ means that inflation may slightly deviate from the target. Such deviations are natural, given that prices are shaped by multiple factors, and complex interconnections exist in the economy. At the same time, monetary policy influences price dynamics indirectly during a certain period of time; therefore, its measures are insufficient to deliver on the target to a great precision.

The inflation target is set for the annual consumer price growth rate, that is, a change in prices of goods and services consumed by households over the past 12 months. The consumer price growth rate is determined based on the consumer price index (CPI) calculated for Russia by Rosstat. Price growth rates may fluctuate around 4% in the markets of different goods and services across regions due to specific local factors.

The Bank of Russia seeks to permanently keep inflation close to 4%. If inflation deviates from the target, the Bank of Russia will assess the causes and length of such deviation and decide accordingly on the need to resort to monetary policy measures so as to bring inflation back to the target. The pace of inflation returning to the target will be chosen taking into account the scale of the deviation and the impact of key rate decisions on the economic activity. Furthermore, if financial stability risks materialise, the Bank of Russia may factor in the sustainability of financial sector actors and financial stability when making this choice.

A floating exchange rate is an essential condition for monetary policy's effective influence on the economy under the inflation targeting regime. When exchange rate flexibility is low, the central bank's foreign exchange interventions affect banking sector liquidity and lead to high dependence of the money market and other segments of the financial market on external economic developments. This makes it harder for the central bank to independently steer interest rates and may render monetary policy less efficient.

A floating exchange rate acts as a 'built-in stabiliser' allowing the economy to adjust to changing external conditions and smoothing their impact.[3] In the pursuit of a floating exchange rate regime, the Bank of Russia has refrained from interventions in the domestic foreign exchange market aimed at sustaining a certain exchange rate or its rate of change. Having said that, the Bank of Russia may conduct foreign currency transactions in the domestic market if a threat to financial stability emerges and in order to replenish (use) foreign currency reserves to deliver on the Ministry of Finance's fiscal rule.

Key rate and communication as monetary policy instruments

Under the inflation targeting regime, **the key rate is the main instrument of the Bank of Russia's monetary policy**. The Bank of Russia Board of Directors makes key rate decisions on a regular basis, eight decisions a year in accordance with the approved and released schedule (see Appendix 5 'Bank of Russia Board of Directors' monetary policy meetings and related events in 2020'). With its key rate revisions the Bank of Russia impacts interest rates in the economy; their movements, in turn, influence domestic demand and inflation. For the key rate to translate into financial market rates, overnight money market rates should form near the key rate. This is enabled by the Bank of Russia's operational procedure under which the central bank carries out operations with commercial banks at an interest rate that is close to the key rate on a regular basis (for details, refer to Section 4).

In the case of long-term equilibrium in the economy, that is, if inflation and inflation expectations hold close to the target and the economy grows at the rate close to potential, monetary policy should not exert either a constraining or accommodative effect on the economy, that is, this policy should be neutral. If the economy is in equilibrium, the key rate is neutral (see the Box 'Neutral interest rate'). The neutral level is determined by multiple factors and can

[3] *For details of the role of a floating exchange rate as a 'built-in stabiliser' of the economy, refer to Appendix 9 of the Monetary Policy Guidelines for 2018–2020.*

be estimated in different ways. Depending on the key rate reading relative to the neutral level, its effect on economic activity and price dynamics, monetary policy can be accommodative, contractionary or neutral.

Accommodative monetary policy is resorted to when an economy grows below potential (i.e. the output gap is negative[4]). If this is the case, inflation tends to deviate persistently downwards from the target or there are risks that such deviations may emerge. In order to bring the inflation rate back to the target and eliminate the negative output gap, the key rate should be set below the neutral level.

In contrast, contractionary monetary policy is resorted to when an economy is overheated, that is it grows above potential (i.e. the output gap is positive). If this is the case, inflation tends to deviate persistently upwards from the target or there are risks that such deviations may emerge. In order to bring the inflation rate back to the target and eliminate the positive output gap, the key rate should be set above the neutral level.

A key rate decision always comes with an explanation of its logic and reasons, and is generally accompanied with a signal of possible monetary policy moves which may be made if the economic development and inflation dynamics are close to the Bank of Russia's baseline forecast. Thereby, the monetary policy signal is conventional in nature and demonstrates the intents which may be effectuated if the central bank's baseline scenario materialises. The monetary policy signal is no less important than the key rate decision itself, because it impacts market participants' expectations for further moves by the central bank and the shape of the yield curve. That said, the Bank of Russia may use the signal of intentions to both communicate its monetary policy outlook to the public, and adjust expectations of financial market participants. This is essential if market expectations for interest rates considerably deviate from the central bank's estimate of their possible movements.

The Bank of Russia's explanation of its decisions and intentions is an important instrument for steering inflation expectations, their so-called anchoring to the inflation target. Inflation expectations influence both inflation dynamics and interest rates in the economy. The level and movement of inflation expectations determine, among other things, the risk premium included in interest rates. The anchoring of inflation expectations of both households and businesses to the inflation target is critical for the efficiency of the central bank's measures. Therefore, it is important that economic agents be confident in monetary policy aimed at keeping inflation close to the target level. To shape this confidence, it is essential that the inflation target be successfully achieved and economic agents understand the central bank's policy, its goals, approaches and measures taken to deliver on the target. Such explanations are especially important when certain factors cause a temporary deviation of inflation from the target, and the central bank takes measures to bring it back to the target level. This makes the Bank of Russia focus on its information policy, while transparency is one of the core monetary policy principles (see the Transparency subsection).

Monetary policy decision-making based on the macroeconomic forecast and analysis of a wide range of information

The Bank of Russia takes monetary policy decisions based on its macroeconomic forecast. The effect of monetary policy on

[4] *For details of the output gap, refer to Appendix 1, the Box 'Concept of economic equilibrium and deviations of key macroeconomic variables from such equilibrium (gaps)'.*

price dynamics is not immediate: it takes time and a long chain of interconnections known as the transmission mechanism. The main channel of influence is interest rates. The revision of the Bank of Russia key rate impacts market interest rates on which saving and lending activity depends. The propensity to save or spend (consume / invest) shapes domestic demand in the economy that influences price dynamics. It takes from two months to three quarters for a key rate revision to translate into interest rates on loans and deposits with various maturities. In the light of this, the key rate pass-through to demand and price dynamics takes from three to six quarters (for details, refer to Appendix 1 'Bank of Russia monetary policy transmission mechanism'). Therefore, the assessment of the effect of a key rate decision on the economy and inflation requires a macroeconomic forecast. The Bank of Russia employs up-to-date macroeconomic models in its forecasting.

When preparing a macroeconomic forecast the Bank of Russia estimates the duration of factors affecting the economy and prices, and the stability of emerging economic trends. Given the long pass-through of monetary policy measures on the economy, **the Bank of Russia is guided by sustainable economic trends and long-term factors in its key rate decision-making.** The Bank of Russia revises the key rate if current trends point to a persistent deviation from the target on the forecast horizon or if long-term factors are in place which are highly likely to lead to such a persistent deviation. The Bank of Russia abstains from monetary policy measures if inflation is expected to return to the target reading over a short-term horizon despite its current deviation. If the Bank of Russia takes measures in response to such a short-term deviation, they will continue to affect price dynamics after inflation returns to the target. This may push inflation to the opposite side, which contradicts the task of keeping annual inflation close to 4%.

At the same time, factors, which are short-term in nature, may have a longer impact if they affect inflation expectations. Inflation dynamics are largely determined by inflation expectations, as they guide economic agents in their decision-making regarding procurement, wage and price-setting. For instance, households may respond to inflation acceleration triggered by short-term factors with elevated demand for goods, expecting that their prices may soon go up. This process may affect both the goods that have become more expensive and other products, particularly staples. In this environment producers may decide to raise prices for a wider range of goods and services. Inflationary pressure will rise and inflation deviation from the target will become more persistent. Such a situation may call for monetary policy measures. In contrast, when inflation expectations are low and anchored to the inflation target, consumers limit their purchases of goods in response to accelerated price growth, as they expect inflation to slow down and return to the target. Thus, when inflation expectations are anchored, demand is more sensitive to price increase, and limits inflation growth triggered by pro-inflationary factors.

The Bank of Russia conducts an in-depth analysis of a wide range of information when preparing its macroeconomic forecast. The Bank of Russia analyses, among other things, current statistics for the Russian economy and the state of global commodity and financial markets, information on economic policies in major foreign economies, 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 forecast scenarios – external and internal economic factors which may have a tangible

effect on the Russian economy and inflation dynamics, and estimates inflation risks.

When formulating assumptions for the macroeconomic forecast and estimating current risks, the Bank of Russia takes a conservative approach with a focus on pro-inflationary factors and risks. Price expectations of households and businesses alike remain elevated and sensitive to short-term factors. At the same time, their response to price movements is asymmetrical. Households and businesses are more responsive to price growth acceleration than slowdown. Therefore, at the current stage, underestimation of pro-inflationary factors and risks may lead to persistent and long-lasting deviations of inflation upwards from the target.

In order to change the nature of inflation expectations, it is essential to anchor inflation at the target. The reduction and anchoring of inflation expectations will, in turn, help support price stability. Therefore, when formulating forecast assumptions, the Bank of Russia deeply analyses pro-inflationary factors and seeks to factor in inflation risks in the forecast if they are highly likely to manifest themselves.

Measures in other domestic economic policy directions as well as economic policy measures in major foreign economies are all important factors for the Bank of Russia to consider in its macroeconomic forecast building. They all have a bearing on the current state of the Russian economy and price movements; hence the need to take them into account in implementing Bank of Russia monetary policy.

In accordance with the legislation, the Bank of Russia is responsible for several areas of economic policy. Along with monetary policy, these areas include, among other things, financial stability, sustainability and development of the banking sector, financial market and national payment system. Cross-impact and mutually consistent measures are attained through a decision-making process at the Bank of Russia Board of Directors, as well as by engaging representatives of multiple activities in the operations of field-specific committees and working groups within the Bank of Russia.

Monetary policy and fiscal policy. Fiscal policy makes a considerable impact on monetary policy conditions: economic growth rates and structure, movements in prices for goods and services. The Bank of Russia, therefore, takes into account fiscal policy measures in its macroeconomic forecast and in making key rate decisions.

The budget formation approach is a key driver behind price movements. Maintaining a balanced fiscal policy is an indispensable condition that ensures absence of inflationary pressure along the fiscal channel. In contrast, imbalanced fiscal flows and a considerable build-up of budget expenditure may have inflation consequences.

One of the key elements of the fiscal strategy is a fiscal rule. It works to smooth out the impact of changes in the external climate on the domestic economic environment, including exchange rate movements and demand in the economy. This results in a lower volatility of the exchange rate and prices, which, in turn, enables the successful conduct of monetary policy.

The running fiscal rule alongside foreign currency market operations acts to reduce fluctuations of the real ruble exchange rate, triggered by a changing commodity price environment. This promotes increased competitiveness of Russian goods, enabling the advent of domestic conditions for industrial development in non-commodity sectors and, therefore, gradual change in the economic structure.

Under the fiscal rule, the federal budget's excess oil and gas revenue to be used for

foreign currency purchases to replenish the National Wealth Fund (NWF) or the volume of foreign currency out of the NWF to be allocated for subsequent transfer to the budget are both calculated by the Ministry of Finance. The Bank of Russia carries out fiscal rule-based transactions in the FX market in such a manner that exerts only minor influence on exchange rate dynamics. Furthermore, the Bank of Russia may temporarily suspend these operations if volatility in the domestic FX market is elevated, among other things, due to materialisation of external risks or financial stability threats.

Government investment targeting the development of specific economic sectors of relevance may drive structural changes in the economy. If they help overcome structural constraints in the economy, this contributes to the expansion of the production capacity. As a result, accelerated economic growth driven by the rise in public expenditures will not exert upward pressure on inflation.

The nature and specifics of the effect of budget expenditures on the economic activity and inflation in the short term depend not only on their structure and performance, but also on their uniformity over time.

Moreover, tax policy measures may influence price dynamics. Revisions of taxes, chiefly indirect ones, entail one-off price adjustments and call for no monetary policy response provided that economic entities' inflation expectations are anchored at a low level. However, inflation expectations currently remain substantially sensitive to pro-inflationary drivers. Steadily growing inflation expectations against the backdrop of tax increases may lead to inflation deviating upwards from the target – a factor the Bank of Russia takes into account in the conduct of its monetary policy.

Thus, long-term priorities, the strategy and specific measures of fiscal and structural policy have a significant impact on the Bank of Russia's macroeconomic forecast and its estimate of the balance of risks for inflation. In turn, this has a significant effect on choosing the monetary policy stance needed to deliver on the inflation target.

Russia's Ministry of Finance and Ministry of Economic Development, in preparing a draft federal budget and the social development outlook, also take into account the inflation target and the influence of monetary policy on the economy and price movements. Cross-impact and mutually consistent monetary and fiscal policy measures are attained through continual interaction between the Bank of Russia, the Ministry of Finance of Russia and the Ministry of Economic Development of Russia. In particular, regular joint meetings are held to enable macroeconomic forecast discussions and the cross-checking of estimates and factors impactful on key macroeconomic indicators. At the same time, central to improved credibility and efficiency of monetary and fiscal policies are consistent communications on related matters.

Monetary policy and other types of state policy. A number of other government bodies' measures contribute towards efforts to support price stability. Their impact is a factor the Bank of Russia considers in its macroeconomic forecast building. Efforts to reduce the impact of non-monetary factors on price movements are critical in curbing price growth and volatility. The Bank of Russia alone is unable to make a difference here. Having said that, the influence of these factors may bring about marked inflation fluctuations, which, in turn, may have a negative effect on inflation expectations.

Government bodies' measures help weaken the influence of non-monetary factors on inflation. The Bank of Russia is involved in these efforts, providing its own expertise to analyse the markets of goods and services and proposing ways to address problems. At the regional level, the Bank of Russia's regional branches cooperate with public authorities on a regular basis on these issues.

Other currently applied state policy measures aimed at reducing the effect of non-monetary factors on prices include the improvement of the infrastructure of the agricultural produce and food market, measures to promote competition, among other things, in the motor fuel market, and regulation of utility rates (see the Box 'Effect of non-monetary factors on inflation' in Section 3).

The implementation of agricultural policy measures will help reduce the negative effect of agricultural produce supply-side factors on inflation, exchange rate movements and developments in global commodity markets. This will result in a decrease in food price volatility which remains the highest of the key inflation components and has a tangible effect on inflation expectations.

Measures to reduce the monopolisation of goods and service markets will also reduce the negative effect of non-monetary factors on prices. Business in a weak competitive environment has fewer incentives to improve efficiency and cut costs, which leads to higher prices. For example, when unfavourable factors push costs upwards, monopolies increasingly pass them on to customers. In a more competitive environment, companies will seek to keep their market share and pass increased costs on to ultimate retail prices only partially, although reducing their profits. At the same time, they will try to increase their efficiency and cut costs – otherwise they will have to leave the market. Ultimately, unfavourable factors will have a weaker effect on the price level in a more competitive market.

A critical framework to reduce the effect of imperfect competition on price formation is 'The Standard for Promotion of Competition in the Constituent Territories of the Russian Federation' (further referred to as the Standard). Bank of Russia representatives participate in the operations of collegial bodies established in compliance with the Standard. In order to reveal commodity markets in the constituent territories of the Russian Federation where high market concentration curbs the reduction of inflationary pressure and to overcome this phenomenon, the Bank of Russia expands cooperation with the Federal Antimonopoly Service of the Russian Federation and extensively improves the Standard.

An additional effect on prices may be exerted by domestic institutional factors associated with the regulation of individual markets, including the revision of required ratios, commissions, and approaches to rate-setting. Despite the fact that their effect on inflation is usually minor and sporadic, it may prove significant for certain markets and regions, as well as for inflation expectations of households and businesses. In the light of this, the Bank of Russia continues to focus on the actual and planned changes in this field and discuss their effects with businesses, the financial community and authorities.

The majority of the said measures aimed at smoothing the effect of non-monetary factors on inflation takes time to deliver. The Bank of Russia will take the changes in consumer price dynamics caused by these measures into account when building its macroeconomic forecast and making its policy decisions.

Monetary policy and financial sector stability. The Bank of Russia adheres to the principle of independent target setting

for monetary policy and financial sector stability policy. Within this strategy, the Bank of Russia uses monetary policy and the key rate as its core mechanism to maintain the inflation rate close to the target, while the financial sector stability is secured through other policy measures. Firstly, this is regulation of bank and non-bank financial institutions (microprudential regulation), supervision, financial resolution measures aiming at sustainability of financial institutions and preservation of depositors' and creditors' funds. Secondly, this is macroprudential policy supporting the stability of the financial system in general and helping mitigate crisis events and their adverse economic consequences. Thus, a key priority of monetary policy is maintaining price stability.

In today's international practice, central banks more often pursue the strategy of independent target setting for the two policies (see the Box 'Monetary policy and financial stability policy: striving for balance'). Global experience shows that price stability does not guarantee financial stability. Thus, systemic risks emerging in individual segments may accumulate in the financial sector as a whole amid generally stable macroeconomic conditions. However, if such risks materialise in future, this may entail major economic losses. In other words, there can be a mismatch between financial cycle and business cycle phases. And they can also substantially differ by their intensity. These effects were most pronounced in the 2000s when overheating in global financial markets against the backdrop of a stable economic growth and low inflation caused considerable losses for the real economy. Therefore, to maintain financial stability it is essential to enhance microprudential regulation by implementing special macroprudential policy measures that would successfully prevent accumulation of systemic risks.

At the same time, the stability of the financial sector is a prerequisite for an efficient monetary policy transmission. Thus, a stable financial sector ensures smooth operation of payment systems and transformation of savings into investments. 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 changes in financial conditions, including due to external factors, macroprudential measures enable the financial sector to stably perform its core functions and help mitigate negative effects for the real economy. All this promotes trust towards the national financial sector, its attractiveness for all groups of participants, and, consequently, influences the level of risk premiums, the depth and liquidity of financial markets, and the financial sector expansion and development. As a result, the financial sector stability policy ensures a sustainable and efficient transmission of the impact of key rate decisions into dynamics of main macroeconomic indicators.

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. In addition, modifications in microprudential regulation are generally neutral in relation to monetary policy conditions. However, at the stage of extensive alterations in the approaches to regulation (e.g. introduction of the Basel III requirements), analysis can identify that they do significantly affect parameters of financial institutions' operations. In such conditions, the Bank of Russia takes into account such impact when making decisions on necessary adjustments to the operational procedure of monetary policy.

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 decisions on how to limit systemic risks through macroprudential policy, the Bank of Russia assesses the intensity of their impact on dynamics of the financial sector indicators and, where necessary, takes such influence into account when approving monetary policy decisions.

Other measures aiming at stable operation of the financial sector can also influence the monetary policy environment. Thus, financial resolution measures cause liquidity provision to credit institutions to increase a surplus or reduce a deficit of banking sector liquidity. The Bank of Russia takes these changes into account when it sets the limits on operations to absorb or provide liquidity, thereby setting off their possible impact on monetary conditions.

Pursuing the policy of independent target setting, the Bank of Russia normally changes the key rate only in response to macroeconomic developments affecting inflation. A situation where systemic risks ultimately materialise generally requires a closer coordination in the implementation of monetary policy and financial stability policy. In such cases, making key rate decisions the Bank of Russia can take into account the need to both stabilise financial markets and maintain the sustainability of the financial sector as a whole.

In addition, if there is any threat to financial stability, the Bank of Russia may carry out foreign exchange transactions in the domestic FX market. The Bank of Russia sees as a threat to financial stability such situation in the FX market which may cause a considerable shrinkage in domestic FX market liquidity, the emergence of persistent devaluation expectations coming with elevated demand for foreign exchange, an increased share of foreign currency in the economy in general, and a short-term increase in risks to sustainability of credit institutions and businesses.

Monetary policy and financial market development. A mature financial market enables effective redistribution of financial resources, which in turn creates conditions for growing investment activity and national economic development. The Bank of Russia-implemented financial market development strategy and its priority of maintaining price stability through monetary policy measures promote better availability of funding for a wide range of economic agents. Furthermore, the financial market is one of major transmission links for the key rate signal to be transmitted into the economy. The greater the size and liquidity of the financial market, the more impactful and quicker is the transmission of key rate changes into economic indicators. A mature financial market is therefore essential for the successful conduct of monetary policy.

In order to widen the circle of financial market participants and involve them in an extensive exchange of financial resources, the Bank of Russia takes action to extend the line of financial services, enhance their availability, improve the financial inclusion in remote and hard-to-reach areas, including through digital channels. In particular, this will be promoted by the initiated mechanism of individuals' biometric identification for remote provision of financial services, the Faster Payments System (FPS) enabling clients to instantly transfer funds to one another, even if their accounts are with different banks participating in the FPS, and the elaboration of the Marketplace, a project granting individuals access to the services of various financial institutions through a single point of contact.

The Bank of Russia deploys innovative technology and platform solutions in the financial market, which improves its accessibility, reduces market participants' costs, speeds up operations in the financial sector, and favours the competitive environment enabling small and regional financial institutions to offer their services to a broad range of consumers.

Mutual trust among market participants, information transparency and consumer protection are also essential for encouraging investors' and borrowers' interest in financial market transactions. In view of the above, the Bank of Russia implements measures to counteract unfair practices, prevent and suppress violations, improve conduct supervision and the quality of corporate governance, enhance the institute of business reputation, and raise the qualification requirements for financial institutions' key officials.

The Bank of Russia takes action to improve financial literacy of the general public focusing on various social groups in order to help households navigate the services offered in financial markets and to use them more extensively. These efforts are focused on the development of citizens' skills for efficient personal financial management, adequate risk assessment and expansion of their knowledge about various financial products.

Generally, the measures taken to develop the financial market will contribute to a higher engagement of domestic private investors in the financial market operation, which will become a driver for the evolution of the long-term money institute and economic growth and will also help increase the efficiency of monetary policy.[5] However, the financial market development package will take time to deliver. Hence, decisions within this lane have no major implications for the conduct of monetary policy in the short term. As the financial market evolves, the changes unfolding in it will gradually modify the monetary policy transmission mechanism.

Monetary policy and economic policies in major countries. Given its openness, the Russian economy is strongly influenced by global financial and commodity market developments. These are shaped by, among other things, economic policies in key advanced economies and, in the first place, central bank policy measures. Major central banks' decisions first and utmost shape domestic economic developments. Developments in major economies shape global demand and, consequently, prices in global goods and services markets including commodity markets. Given Russia's extensive involvement in global trade, prices for global goods and services markets are among factors driving domestic price movements.

Changes in major central banks' interest rates are also drivers for change in financial asset prices across global markets, investor risk appetite, country risk premiums and exchange rate movements. With cross-border capital flows unrestricted, Russian economic entities' borrowings in foreign markets, Russian entities' overseas investment, as well as foreign investment in the Russian economy are dependent on global financial market developments. The Bank of Russia builds its macroeconomic forecast taking into account the versatile effect of economic policy measures in developed countries on the state of the Russian economy.

Transparency

The Bank of Russia's monetary policy transparency aims to enhance the understanding and credibility of its current monetary policy stance and enable

[5] *For details of the financial market development measures and their effects, refer to the Guidelines for the Development of the Russian Financial Market in 2019–2021.*

the emergence of a predictable economic environment for all economic agents. In turn, a credible monetary policy stance which is socially understood helps achieve better efficiency and successful sustainability of price stability. If households and businesses are confident that inflation will stay low and that the Central Bank is capable to support price stability, then in response to short-term fluctuations in prices or to the emergence of pro-inflationary factors, they keep their inflation expectations largely unchanged. Furthermore, the understanding of the Central Bank's decisions and its signals helps in their sooner and more accurate account by economic agents as the latter form their interest rate expectations and make decisions regarding loans, savings, wage indexation and pricing. As a result, the impact of monetary policy on the economy and inflation amplifies, the scale and duration of inflation deviation from the target decline, and so does the need for a strong monetary policy response.

Information transparency is critical in today's practices of central banks. Therefore, communication policy is becoming an independent tool of monetary policy. To efficiently manage expectations of a wide range of economic agents, establishment of the quantitative inflation target and its stable achievement through key rate decisions are not the only measures needed, as was earlier believed. It is also essential to take active targeted efforts to deliver the information on inflation and monetary policy to various audiences. This is proved by modern empirical studies carried out using extensive data arrays on different countries. A key element of information policy is the signal of future changes in monetary policy. Along with actual key rate decisions, such signal directly influences interest rates in the economy, primarily longer-term rates (see the Appendix 'Bank of Russia monetary policy transmission mechanism').

Information delivered by the Central Bank is especially important for forming expectations of households and the non-financial sector due to their lower motivation and opportunities for accessing and processing specialised economic information (in contrast to professional financial market participants). Thus, today the Central Bank's information policy should take into account the specifics and needs of various target audiences.

As part of its transparency policy, the Bank of Russia seeks, in the first place, to disclose, as soon and as full as possible, information about its monetary policy goals, principles, measures and results, as well as about its view of the current economic situation and outlook. Key monetary policy goals and principles are set forth in the Monetary Policy Guidelines. On the day the Bank of Russia Board of Directors makes its key rate decision, the Bank of Russia posts a press release elaborating on the specifics and rationale for this decision. Four times a year following the Board's key rate decision, a live press conference of the Bank of Russia Governor is held, supplemented by a publication of the Monetary Policy Report. It presents a more detailed account of the Bank of Russia's view of current economic developments and its mid-term outlook based on which key rate decisions are made. The Bank of Russia on a monthly basis publishes its commentaries on the state of the economy, inflation dynamics and inflation expectations.

Also, the Bank of Russia works towards expanding the outreach of monetary policy and further specifying the target audience. The Bank of Russia increases the frequency and content of its communications, the number of publications, making use of non-conventional communication channels. For

this purpose, the Bank of Russia takes into account the degree to which the audience is knowledgeable about monetary policy and general economic issues, selecting the most appropriate channels and tools to send its message, information complexity, granularity, the extent of disclosure and communication format. In view of the above, the Bank of Russia publishes a sufficiently broad range of materials, from research papers to educational cartoons for various audiences, including schoolchildren.[6]

Aiming to expand the coverage of its communications and specify their target audience, the Bank of Russia develops, among other things, information policy at a regional level.

The Bank of Russia will continue to raise efficiency of its monetary policy communications, employing the complete range of instruments at its disposal and improving their use taking into account the specifics of the audience.

[6] *The Monetary Policy section of the Bank of Russia website contains materials which clearly explain key monetary policy issues (http://www.cbr.ru/DKP/).*
Furthermore, the Bank of Russia website provides summaries of the Monetary Policy Guidelines (http://www.cbr.ru/publ/ondkp/on_2020_2022/) and Monetary Policy Reports (http://www.cbr.ru/publ/ddcp/).
Educational materials of general interest are also posted on the Financial Culture website (fincult.info).

Neutral interest rate

The neutral interest rate (natural rate of interest, equilibrium interest rate) has been one of the key macroeconomic concepts since it was first introduced by Knut Wicksell in 1898.

The natural rate of interest is the interest rate (in particular, a central bank's policy rate and interbank overnight loan rates forming near the policy rate) that supports the economy (1) at full employment (maximum output) while (2) keeping inflation at the target level. The neutral interest rate is a benchmark relative to which the monetary policy stance should be estimated and an average interest should be set in the economy over long horizons.[1]

The real neutral interest rate is determined by the economy's structure, the level of risks from investments in financial and non-financial assets and economic agents' risk appetite. In particular, the following important factors are of note here:

- *Total factor productivity growth*. The higher growth, the higher the neutral interest rate because, all else being equal, businesses invest more extensively and, consequently, they are ready to pay more to raise additional capital.
- *Demography*. Population composition and size (both overall and in individual age groups) influence both the economic growth rate (and, subsequently, investment activity) and the savings rate. Thus, if the share of middle-aged population with a higher savings rate increases, the neutral interest rate goes down.
- *Financial sector maturity and its regulation*. More mature banking sector and capital markets boost the savings rate in the economy and, hence, reduce the neutral interest rate. Similar effect is achieved when the planning horizon of economic agents is extended; this makes the future gain in importance compared with the present and, thus, boosts savings.
- *Neutral interest rates in other economies*. In an open economy with free capital movement, the neutral interest rate is comparable to the neutral rate in the global financial market, adjusted for the country risk premium and inflation volatility premium. The country risk premium characterises the differences in economic agents' perception of sovereign credit risks and predictability of economic conditions in the country compared with key economies where conditions determine the global neutral rate.

The *nominal* neutral rate, in turn, equals the sum of the real neutral rate and *expected* inflation. If inflation expectations are anchored to the target, expected inflation coincides with the central bank's target (4% p.a. for the Bank of Russia).

However, the central bank *cannot* bring inflation to the target only by keeping the policy rate equal to the neutral rate. An economy is quite a complex system susceptible to continuous influence of competing and often poorly predictable (internal and external) factors which can deviate both output and inflation from potential and the target respectively. Thus, if the output in the economy is currently above (below) potential on the back of certain factors, this usually accelerates (decelerates) inflation. Inflation may deviate from the target for reasons not associated with output fluctuations (e.g., changes in external conditions and the exchange rate). If the central bank has reasons to think that these changes may cause a significant upward (downward) deviation of inflation, it should set the policy rate above (below) the neutral rate to bring inflation back to the target.

Unfortunately, the neutral interest rate is a value that cannot be measured directly but can only be approximated based on other economic indicators and their movements. The range of such estimates is significantly wide.

The first group of methods uses macroeconomic models that are based on structural relations between key economic variables (output, inflation, interest and exchange rates) and, depending on their past dynamics, generate a range of estimates for non-observable values, including the neutral interest rate.

[1] *Economists distinguish between a longer-run neutral rate (trend interest rate) and a shorter-run neutral rate. Here we only discuss the longer-run neutral rate which is determined by structural factors. The shorter-run neutral rate fluctuates around the longer-run neutral rate depending on the effects of cyclical factors (e.g., external conditions, current business activity and fiscal policy measures). The shorter-run neutral rate is also influenced by the extent to which inflation expectations are anchored at the inflation target and other factors. It is the shorter-run neutral rate that should be used to discuss the current monetary policy stance. The shorter-run neutral rate is problematic to quantify even in the economies with a longer inflation targeting history than the Russian Federation and central banks avoid disclosing such quantifications (Bank of England (2018), Brainard (2018)). However, when making monetary policy decisions central banks take into account in what direction and to what extent the shorter-run neutral rate deviates from the longer-run rate in present and how it will change in future.*

Obtaining robust estimates requires extended (20 to 30 years) data series for the economy in question. That said, if during the period which is used as the basis for generating a neutral rate estimate the economy faced material structural shifts, including significant changes in a monetary policy regime, the variation of obtained model estimates for the neutral rate will be quite high.

The other group of methods is based on the above-mentioned relationship between the neutral interest rate in the open economy with the neutral rate in key economies. These methods, however, are rougher and assess financial investors' perception whether interest rates in a certain country are adequate (considering all risks) vs interest rates in key economies. Effectively, they measure the relative attractiveness of financial assets denominated in the national currency. These estimates cannot explicitly account for the specifics of the economy in question; therefore, they can only indirectly signal the existence of any relation between interest rates, inflation and economic growth. If these methods are used, the final estimate largely depends on the assumptions regarding the nature and size of the country premium in relation to the global neutral rate. This is exacerbated by the uncertainty of neutral rate estimates for key economies that are used as the calculation basis. On the positive side, these methods allow obtaining estimates in a relatively narrow range.

Therefore, it is of note that, although the neutral interest rate level is an important notion for macroeconomic analysis as a whole and monetary policy in particular, in practice it can only be calculated very approximately. Moreover, this level is not constant: it fluctuates as the economy structure (in particular, the above-mentioned factors) varies and economic agents adapt to the inflation targeting regime.

The large variation and instability of neutral interest rate estimates are used, among other things, by critics of the use of the neutral rate to determine the level of monetary policy tightness (softness). Indeed, the neutral interest rate is a convenient tool to explain monetary policy decisions, including to the general public. However, the uncertainty of its estimates even in advanced economies points to a high price of errors of such communication.

Quantitative estimates of the longer-run neutral interest rate for Russia available in research publications gravitate towards the 1–3% range. For example, Kreptsev et al. (2016) – 1.0-3.2% (various models); IMF (2019) – 1–3% (various models); Isakov (2019) – 1.5–2.5% (various parameters). At the same time, the above estimates are characterised by wide confidence intervals. Although these estimates can be potentially useful as a general-purpose benchmark and must form part of any central bank's toolkit, it is very important to be aware of their limited practical applicability for the regulator due to their high uncertainty.

Today, the Bank of Russia considers the interval estimate of the longer-run real neutral interest rate to be in the range of 2% to 3%. With the inflation target at 4%, the respective estimate for the nominal neutral rate lies in the range of 6% to 7%. However, it does not mean that the key rate will eventually end up in this range. The level of the shorter-run real neutral interest rate, which strongly affects the current level of the key rate, can be higher or lower than the longer-run rate. The Bank of Russia key rate is currently located in close proximity to the estimated interval of the longer-run neutral rate after five years of moving towards anchoring of inflation and inflation expectations to the target level of 4%. Therefore, although a central bank might formally have empirical estimates of the neutral interest rate, it should take them with a grain of salt and use them together with a large number of other factors related to observed economic dynamics and characterising monetary conditions in the economy.

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Monetary policy and financial stability policy: striving for balance

The balance between monetary policy and financial stability policy is still a matter of discussion because it is hard to unambiguously assess the benefits and drawbacks of using monetary policy for limiting financial stability risks. However, most central banks follow the principle of independent target setting and do not use the key rate as an instrument for limiting systemic risks. Instead, they opt for macroprudential instruments to address the financial stability maintenance task.

Along with this, some central banks actually took into account the financial stability issues when making policy decisions,[1] simultaneously applying macroprudential instruments to limit the emergence of imbalances in financial markets. In addition, they intentionally extended the inflation target horizon, assuming a longer-term inflation deviation from the target as compared to the situation where the key rate is used for the monetary policy purposes.

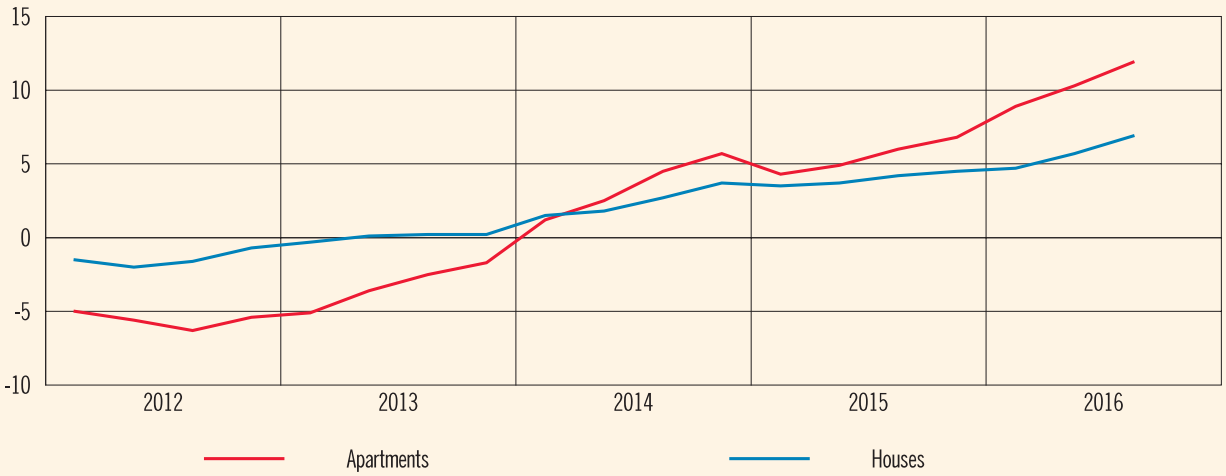
Imbalances occurring in various economies may be similar (this is often relevant for the real estate market and households' borrowings). Yet, the macroeconomic context and the decision-making authorities' assessments of the costs required for implementing a particular strategy for combining monetary policy and macroprudential policy may differ. Below are several examples of how central banks implement in practice different approaches to maintaining price and financial stability.

Monetary policy and financial stability policy pursued independently

The ***Czech National Bank*** adheres to the principle of independent target setting in monetary policy and financial stability policy. In 2013–2017, on the back of its loose monetary policy (the two-week repo rate stayed at the level of 0.05%), the Czech Republic needed macroprudential measures to limit risks in the overheated domestic market segments. The expansion of mortgage lending was accompanied by growing real estate prices that had increased by approx. 30% during the period of 2013–2016 (Chart 1).

To limit risks in the financial sector, the Czech National Bank set a 1% countercyclical capital buffer.[2] In addition, the Czech National Bank continued to maintain accommodative monetary conditions to achieve the inflation target and increase economic activity that had remained relatively moderate after the 2008–2009 global recession (Chart 2).

REAL ESTATE PRICES IN THE CZECH REPUBLIC *Chart 1*
(% change vs the same quarter of the previous year)

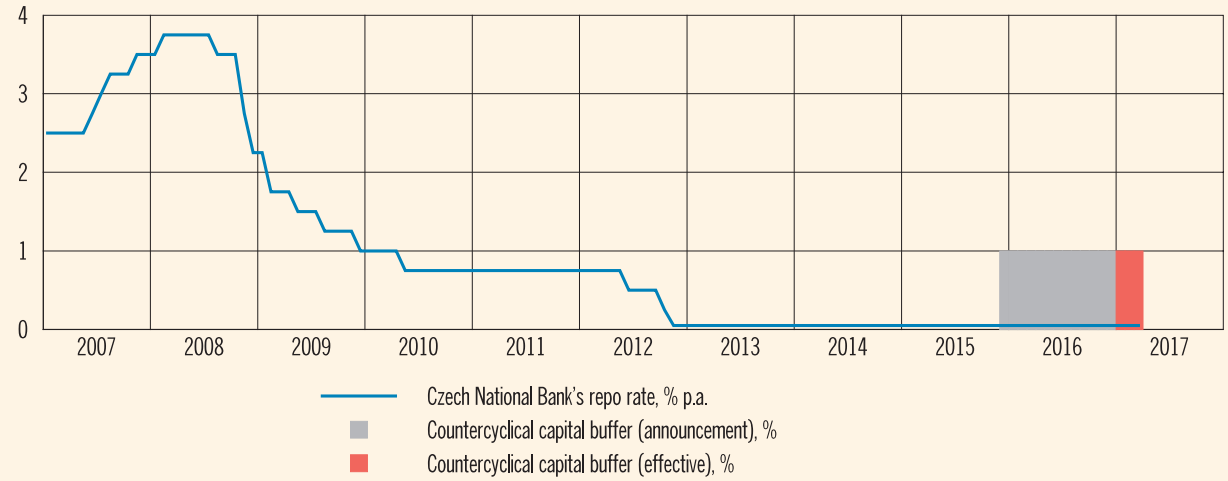


Source: Czech National Bank.

[1] *Theoretical approaches to considering financial stability in the monetary policy function are devised within integrated inflation targeting regimes (see Agenor, da Silva – 'Integrated Inflation Targeting – Another Perspective from the Developing World', BIS, CEMLA, February, 2019) and financial stability-oriented monetary policy (see Borio – 'Towards a Financial Stability – Oriented Monetary Policy Framework?' Speech at the Oesterreichishe Nationalbank conference 'Central banking in times of change', Vienna, 2016).*

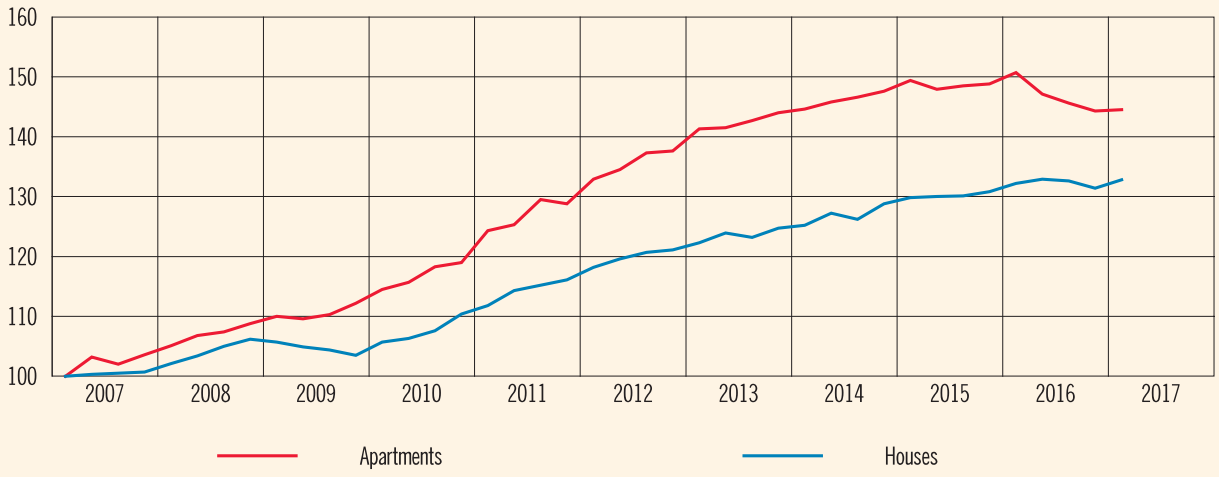
[2] *Macroprudential policy instrument establishing additional requirements for a credit institution's capital ratio.*

CZECH NATIONAL BANK'S MONETARY AND MACROPRUDENTIAL POLICY *Chart 2*



Source: Czech National Bank.

REAL ESTATE PRICES IN SWITZERLAND *Chart 3*
(2007 = 100%)



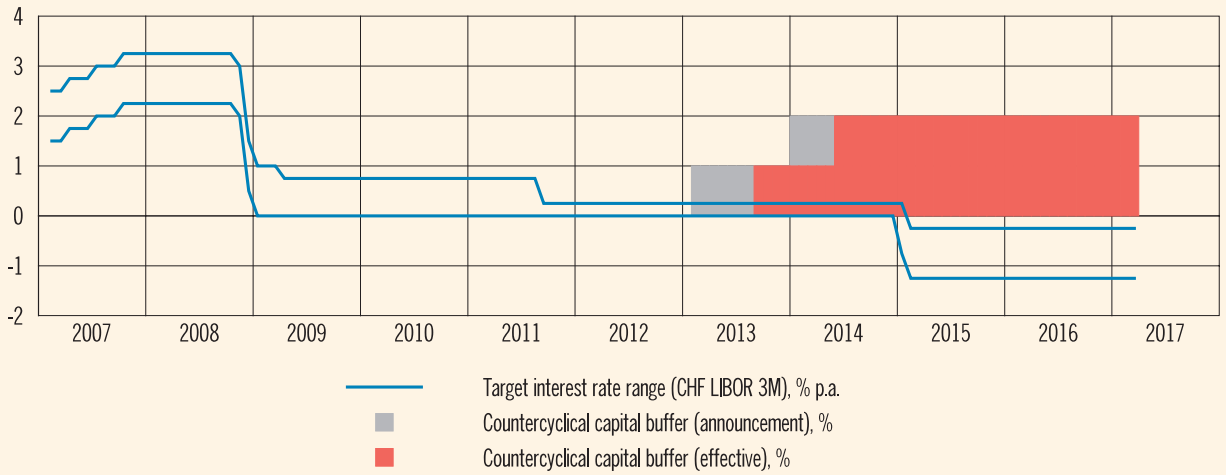
Source: Swiss National Bank.

The ***Swiss National Bank*** also follows the principle of independent target setting in its monetary policy and financial stability policy. Having faced the threat of deflation in the post-crisis period, the Swiss National Bank switched to a super-loose monetary policy by first lowering the target interest rates down to zero and further on limiting the appreciation of the national currency.

Such conditions caused imbalances in financial markets: real estate prices were annually increasing by nearly 5% for several years, while the inflation rate was close to zero, mortgage lending growth quickly accelerated, and banks started to lower their requirements for mortgage borrowers. As a result, the Swiss banking sector saw the emergence of elevated risks associated with mortgage lending (Chart 3).

Maintaining the super-loose monetary policy, the Swiss National Bank made the decision in 2013 to limit systemic risks by introducing a 1% sectoral countercyclical capital buffer, and in early 2014 increased that buffer to 2%. While tightening its macroprudential policy, the Swiss National Bank still continued to ease monetary policy by terminating to limit the exchange rate dynamics and introducing negative interest rates in March 2015 (Chart 4).

SWISS NATIONAL BANK'S MONETARY AND MACROPRUDENTIAL POLICY *Chart 4*



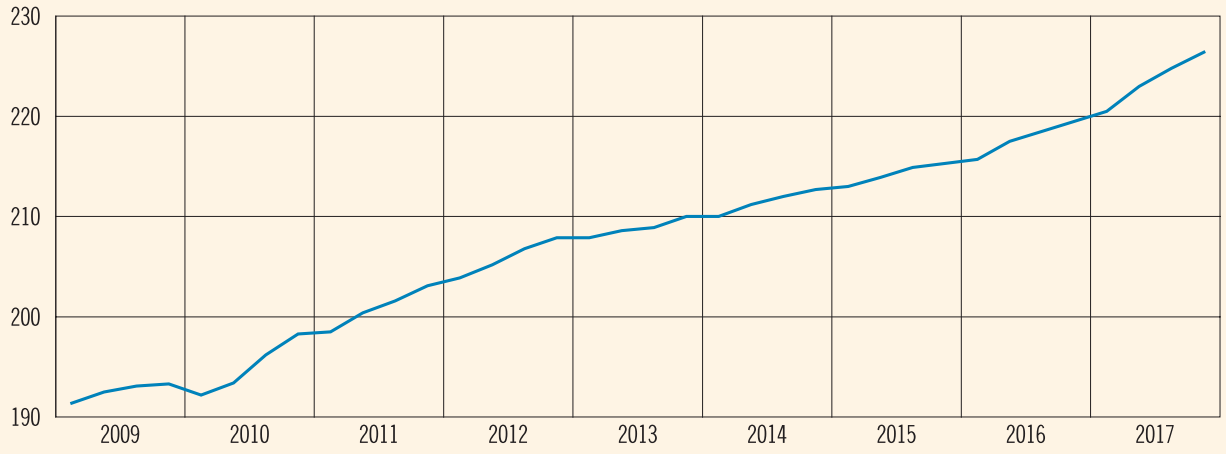
Source: Swiss National Bank.

Conduct of monetary policy with account of financial stability

Pursuing its monetary policy, the ***Norges Bank*** takes into account financial stability as a continuous goal. The Norges Bank's strategic document stipulating the key monetary regime parameters reads as follows: 'To some extent, monetary policy can contribute to counteracting the build-up of financial imbalances and thereby reduce the risk of sharp economic downturns further ahead. If there are signs that financial imbalances are building up, the consideration of high and stable output and employment may in some situations suggest keeping the policy rate somewhat higher than would otherwise be the case.'[3]

In the post-crisis period, the Norwegian economy faced imbalances in the real estate market: beginning from late 2009, housing prices were annually growing by 5–15%, and households' borrowings were increasing (Chart 5).

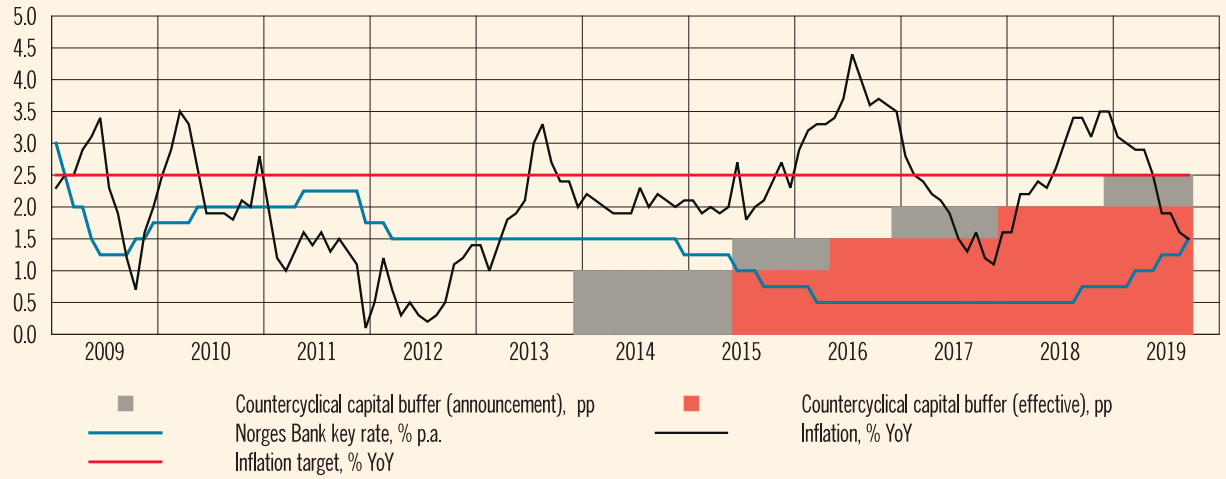
HOUSEHOLDS' BORROWINGS IN NORWAY *Chart 5*
(household debt to household disposable income ratio)



Source: Norges Bank.

[3] *Norges Bank, Monetary Policy Objectives and Instruments, https://www.norges-bank.no/en/topic/Monetary-Policy/Mandate-Monetary-Policy.*

NORGES BANK KEY RATE AND INFLATION *Chart 6*



Source: Norges Bank.

In addition, inflation was below the 2.5% target ranging from 1% to 2% (Chart 6). In such conditions, the Norges Bank approved the decision to maintain an increased monetary policy rate assuming that its reduction might entail higher risks of imbalances. Thus, in its Monetary Policy Report published in March 2012, the Norges Bank noted: '…household debt has continued to rise faster than disposable income. Debt burdens are high. <…> A prolonged low interest rate level can amplify house price inflation and lending growth and induce households and enterprise to take excessive risks and accumulate excessive debt.'[4]

The monetary policy measures limiting systemic risks in Norway were then enhanced with a range of macroprudential measures: at the end of 2013, the central bank set the requirement for Norwegian banks to form a countercyclical capital buffer in the amount of 1% of the value of risk-weighted assets, and later on increased the buffer to 2.5%.

The **Riksbank** took account of financial stability aspects in its monetary policy for several years. During that period, inflation ranged from 1% to 1.5% while the target was 2%. In such conditions, the Swedish central bank increased the monetary policy rate (repo rate) by 1.75 pp. The Riksbank conducted such monetary policy in order to maintain financial stability on the back of a substantial growth in households' debt burden and increased activity in the mortgage lending market. In its Monetary Policy Report published in February 2011, the Riksbank commented on one of its decisions involving a repo rate increase: 'A gradual rise in the repo rate reduces the risk of imbalances building up in the Swedish economy, and may also contribute to a slower growth in household borrowing.'[5] (Chart 7).

According to expert estimates, those measures resulted in at least 0.5 pp unemployment growth in the Swedish economy in 2010–2011, while the rate increase did not significantly impact mortgage lending growth rates and households' debt burden. In 2012, the Swedish economy also faced the deflation problem, and the central bank ceased to pursue a very tight monetary policy.

Later on, Sweden used macroprudential instruments to limit systemic risks. In 2014, on the back of persisting imbalances, Sweden introduced the countercyclical capital buffer. Initially, it was set at 1% to be increased to 2.5% later (Chart 8).

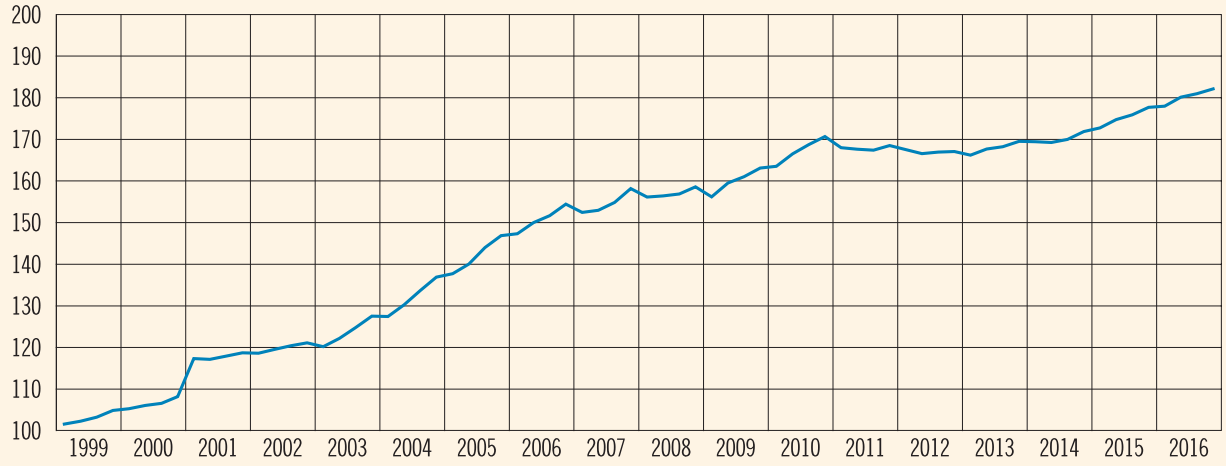
Drawbacks of using monetary policy for securing financial stability. Most experts agree that an extension of the inflation target horizon is a considerable drawback of using the key rate as an instrument limiting systemic risks. Merged target setting and a prolonged inflation deviation from the target due to keeping increased interest rates may adversely affect the level of confidence in monetary policy, especially for central banks that have switched to the inflation targeting regime only recently. There may also be

[4] *Norges Bank, Monetary Policy Report (March, 2012), https://norges-bank.no/en/news-events/news-publications/Reports/Monetary-Policy-Report-with-Financial Stability-Assessment/2012/112-Monetary-Policy-Report.*

[5] *Riksbank, Monetary Policy Report (February, 2011).*

HOUSEHOLDS' BORROWINGS IN SWEDEN
(household debt to household disposable income ratio, %)

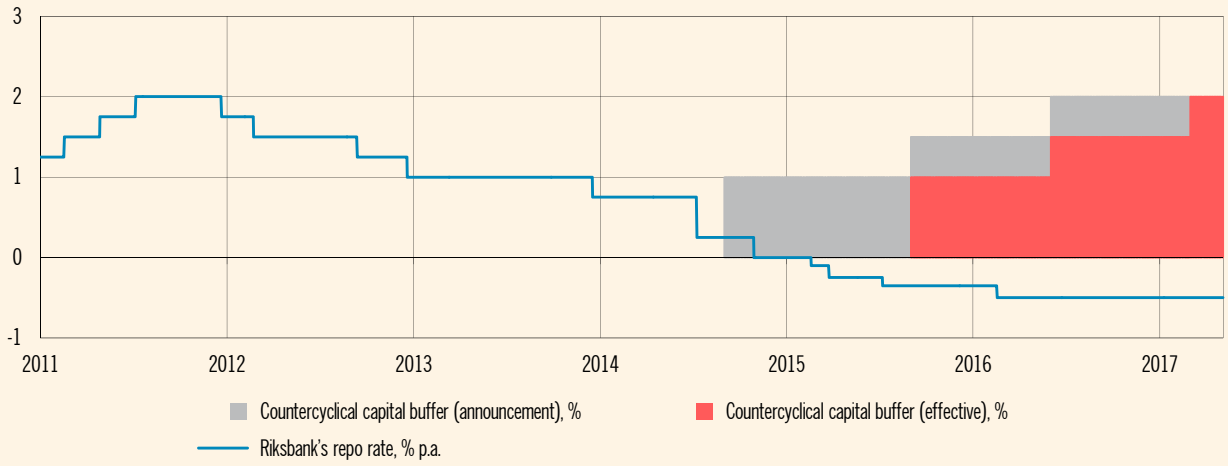
Chart 7



Source: Riksbank.

RIKSBANK'S MONETARY POLICY AND MACROPRUDENTIAL MEASURES

Chart 8



Source: Riksbank.

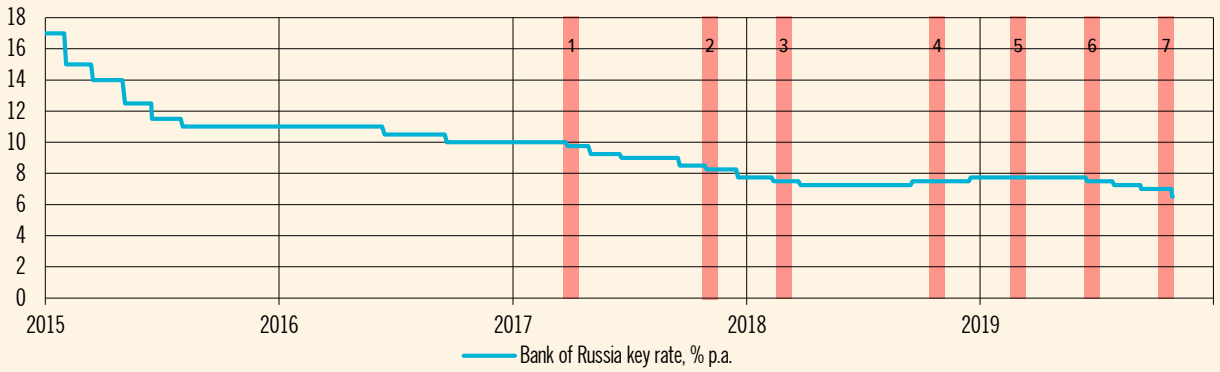
losses in economic growth that could have been achieved in case of a lower interest rate. In addition, imbalances basically occur in individual segments of the financial market, while the monetary policy rate impacts the market in general, including segments without imbalances. This also entails negative effects caused by monetary policy measures aimed at limiting systemic risks.

As regards the strategy of independent target setting, experts consider that it is hard to implement largely because macroprudential policy in general is still in the making and there is no adequate experience of using macroprudential instruments for limiting systemic risks.

Approach applied by the Bank of Russia to combine monetary policy and financial stability policy. The Bank of Russia adheres to the principle of independent target setting in its monetary policy and macroprudential policy. While the Bank of Russia's monetary policy is focused on maintaining price stability, financial stability risks are limited through macroprudential measures.

During the period of 2015–2019, the Bank of Russia has managed to substantially decelerate inflation to the level close to 4%. As major macroeconomic indicators stabilised and monetary policy gradually eased,

BANK OF RUSSIA KEY RATE AND MACROPRUDENTIAL POLICY MEASURES *Chart 9*
(% p.a.)



[1,2,4,6] Risk-based buffers for consumer loans depending on total credit costs
[3,5] Risk-based buffers for mortgage loans depending on a down payment amount
[7] Risk-based buffers for consumer loans depending on total credit costs and debt burden

Source: Bank of Russia.

some market segments saw a significant increase in credit activity: annual growth of unsecured consumer and mortgage lending reached 25%, while real disposable household income slightly reduced.

Assuming that retail lending expansion had been associated with additional risks accepted by the banking sector, beginning from 2017 the Bank of Russia started using the following macroprudential instruments to maintain the financial system stability: risk ratio buffers depending on total consumer loan costs (and from 1 October 2019 – depending on debt burden) and the collateral coverage ratio for mortgage loans (Chart 9). In addition, the Bank of Russia has been gradually lowering the key rate, having decreased it from 10% p.a. in 2017 to 6.50% p.a. in October 2019.

2. MACROECONOMIC SCENARIOS AND MONETARY POLICY IN 2020-2022

The Bank of Russia considers three scenarios within its mid-term economic development forecast: the baseline scenario which is the main one being the basis for monetary policy decisions, and two alternative scenarios: high oil price scenario and risk scenario. These macroeconomic scenarios differ primarily in the assumptions regarding external conditions that may affect the Russian economy. The baseline scenario factors in a slowdown in global economic growth and a downturn in oil prices. In the high oil price scenario, external demand and energy prices are expected to grow faster than in the baseline scenario. The risk scenario assumes a marked and prolonged deterioration in external conditions over the entire forecast horizon, including a plunge in oil prices.

In its forecast scenarios, the Bank of Russia assumes that, in addition to external factors, economy dynamics and inflation over the forecast horizon will also be impacted by internal factors, including the current economic policy. The Bank of Russia's monetary policy decisions aimed at stabilising annual inflation close to 4% will largely depend on the approaches to economic policy, including fiscal policy. The assumptions and parameters of the baseline and alternative scenarios of the Bank of Russia's macroeconomic forecast are provided below in this section.

Key rate decisions rely on the baseline scenario and the analysis of related uncertainties and risks. Therefore, the baseline scenario will be published four times a year in the press release following the meetings of the Bank of Russia's Board of Directors on the key rate and in the Monetary Policy Report. Alternative scenarios will be published once a year in the Monetary Policy Guidelines. It is determined by the essence of these scenarios that remains almost unchanged across the meetings.

BANK OF RUSSIA'S MEDIUM-TERM FORECAST IN THE FOLLOW-UP TO THE BOARD OF DIRECTORS POLICY MEETING ON 25 OCTOBER 2019

KEY PARAMETERS OF THE BANK OF RUSSIA'S FORECAST UNDER THE BASELINE SCENARIO *Table 1*
(growth as % of previous year, unless indicated otherwise)

	2018 (actual)	Baseline scenario			
		2019	2020	2021	2022
Urals price, average for the year, US dollars per barrel	69.8	63	55	50	50
Inflation, as % in December year-on-year	4.3	3.2–3.7	3.5–4.0	4.0	4.0
Inflation, average for the year, as % year-on-year	2.9	4.5–4.6	3.1–3.5	4.0	4.0
Gross domestic product	2.3	0.8–1.3	1.5–2.0	1.5–2.5	2.0–3.0
Final consumption expenditure	1.8	1.3–1.8	1.5–2.0	1.5–2.0	1.8–2.3
– households	*2.3*	*1.5–2.0*	*2.0–2.5*	*2.0–2.5*	*2.0–2.5*
Gross capital formation	0.8	0.5–1.5	3.5–4.5	3.5–4.5	2.5–3.5
– Tier 1 capital	*2.9*	*0.0–1.0*	*3.5–4.5*	*3.5–4.5*	*2.5–3.5*
Exports	5.5	-(1.3–1.8)	2.0–2.5	2.0–2.5	2.5–3.0
Imports	2.7	0.0–0.5	3.0–3.5	3.5–4.0	2.5–3.0
Money supply in national definition	11.0	8–11	7–12	7–12	7–12
Banking system claims on the economy in rubles and foreign currency*	11.5	8–11	7–12	7–12	7–12
– corporates, annual growth, %	*8.4*	*5–8*	*6–10*	*6–10*	*6–10*
– households, annual growth, %	*22.0*	*17–20*	*10–15*	*10–15*	*10–15*

** Banking sector claims on the economy mean all claims of the banking system on non-financial organisations and financial institutions and households in the currency of the Russian Federation, foreign currency, and precious metals, including loans extended (including overdue loans), overdue interest on loans, investments of credit institutions in debt and equity securities and promissory notes, other forms of stakeholding in the capital of non-financial organisations and financial institutions, and other receivables under settlement operations with non-financial organisations and financial institutions and households.*
Source: Bank of Russia.

RUSSIA'S BALANCE OF PAYMENTS INDICATORS UNDER THE BASELINE SCENARIO* *Table 2*
(billions of US dollars)

	2018 (actual)	Baseline scenario			
		2019	2020	2021	2022
Current account	**113**	**75**	**52**	**34**	**23**
Balance of trade	194	162	138	122	116
Exports	*443*	*412*	*392*	*385*	*392*
Imports	*249*	*250*	*254*	*263*	*277*
Balance of services	-30	-33	-35	-37	-40
Exports	*65*	*63*	*63*	*65*	*67*
Imports	*95*	*97*	*98*	*101*	*107*
Primary and secondary income account	-51	-53	-51	-52	-53
Current and capital account balance	**112**	**75**	**52**	**34**	**23**
Financial account (net of reserve assets)	**77**	**14**	**14**	**9**	**9**
General government sector and central bank	9	-23	-6	-6	-6
Private sector	68	37	20	15	15
Net errors and omissions	**2**	**3**	**0**	**0**	**0**
Change in foreign currency reserves ('+' is increase, '-' is decrease)	**38**	**63**	**38**	**25**	**14**

** As per the 6th edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6). In financial account, '+' denotes net lending and '-' denotes net borrowing.*
Note: Final values may differ from the total of the respective values due to rounding.
Source: Bank of Russia.

KEY PARAMETERS OF THE BANK OF RUSSIA'S FORECAST UNDER THE ALTERNATIVE SCENARIOS *Table 3*
(growth as % of previous year, unless indicated otherwise)

	2018 (actual)	High oil price scenario				Risk scenario			
		2019	2020	2021	2022	2019	2020	2021	2022
Urals price, average for the year, US dollars per barrel	69.8	63	65	75	75	63	25	31	35
Inflation, as % in December year-on-year	4.3	3.2–3.7	3.5–4.0	4.0	4.0	3.2–3.7	6.5–8.0	3.0–4.0	3.0–4.0
Inflation, average for the year, as % year-on-year	2.9	4.5–4.6	3.1–3.5	4.0	4.0	4.5–4.6	6.0–7.5	4.0–5.0	3.0–4.0
Gross domestic product	2.3	0.8–1.3	2.0–2.5	2.0–3.0	2.0–3.0	0.8–1.3	-(1.5–2.0)	1.0–2.0	3.5–4.5
Final consumption expenditure	1.8	1.3–1.8	2.0–2.5	1.8–2.3	1.8–2.3	1.3–1.8	-(1.3–1.8)	2.3–2.8	3.5–4.0
– households	*2.3*	*1.5–2.0*	*2.3–2.8*	*2.0–2.5*	*2.0–2.5*	*1.5–2.0*	*-(1.5–2.0)*	*2.7–3.2*	*4.0–4.5*
Gross capital formation	0.8	0.5–1.5	4.5–5.5	4.0–5.0	2.5–3.5	0.5–1.5	-(14-15)	1.0–2.0	8.0–9.0
– Tier 1 capital	*2.9*	*0.0–1.0*	*3.5–4.5*	*4.0–5.0*	*2.5–3.5*	*0.0–1.0*	*-(5.5 – 6.5)*	*1.0–2.0*	*8.0–9.0*
Exports	5.5	-(1.3–1.8)	2.7–3.2	2.7–3.2	2.5–3.0	-(1.3–1.8)	0–0.5	-(0.8–1.3)	1.5–2.0
Imports	2.7	0.0–0.5	3.3–3.8	4.0–4.5	2.5–3.0	0.0–0.5	-(12.5–13.0)	2.3–2.8	4.7–5.2
Money supply in national definition	11.0	8–11	8–13	8–13	8–13	8–11	2–7	3–8	4–9
Banking system claims on the economy in rubles and foreign currency*	11.5	8–11	7–12	7–12	7–12	8–11	6–11	4–9	8–13
– corporates, annual growth, %	*8.4*	*5–8*	*6–10*	*6–10*	*6–10*	*5–8*	*10–15*	*3–8*	*7–12*
– households, annual growth, %	*22.0*	*17–20*	*11–16*	*10–15*	*10–15*	*17–20*	*-(5) – 2*	*7–11*	*9–14*

** Banking sector claims on the economy mean all claims of the banking system on non-financial organisations and financial institutions and households in the currency of the Russian Federation, foreign currency, and precious metals, including loans extended (including overdue loans), overdue interest on loans, investments of credit institutions in debt and equity securities and promissory notes, other forms of stakeholding in the capital of non-financial organisations and financial institutions, and other receivables under settlement operations with non-financial organisations and financial institutions and households.*
Source: Bank of Russia.

RUSSIA'S BALANCE OF PAYMENTS INDICATORS UNDER THE ALTERNATIVE SCENARIOS* *Table 4*
(billions of US dollars)

	2018 (actual)	High oil price scenario				Risk scenario			
		2019	2020	2021	2022	2019	2020	2021	2022
Current account	**113**	**75**	**80**	**108**	**101**	**75**	**12**	**4**	**1**
Balance of trade	194	162	169	199	200	162	59	63	65
Exports	*443*	*412*	*433*	*484*	*503*	*412*	*236*	*262*	*284*
Imports	*249*	*250*	*264*	*284*	*303*	*250*	*177*	*199*	*219*
Balance of services	-30	-33	-36	-36	-42	-33	-15	-26	-32
Exports	*65*	*63*	*66*	*74*	*75*	*63*	*58*	*60*	*63*
Imports	*95*	*97*	*102*	*110*	*118*	*97*	*73*	*86*	*94*
Primary and secondary income account	-51	-53	-53	-55	-56	-53	-32	-33	-33
Current and capital account balance	**112**	**75**	**80**	**108**	**101**	**75**	**12**	**4**	**1**
Financial account (net of reserve assets)	**77**	**14**	**18**	**24**	**29**	**14**	**50**	**30**	**16**
General government and the central bank	9	-23	-6	-6	-6	-23	10	0	0
Private sector	68	37	25	30	35	37	40	30	16
Net errors and omissions	**2**	**3**	**0**	**0**	**0**	**3**	**0**	**0**	**0**
Change in foreign currency reserves ('+' is increase, '-' is decrease)	**38**	**63**	**62**	**84**	**72**	**63**	**-38**	**-26**	**-15**

** As per the 6th edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6). In financial account, '+' denotes net lending and '-' denotes net borrowing.*
Note: Final values may differ from the total of the respective values due to rounding.
Source: Bank of Russia.

2.1. BASELINE SCENARIO AND FORECAST UNCERTAINTY FACTORS

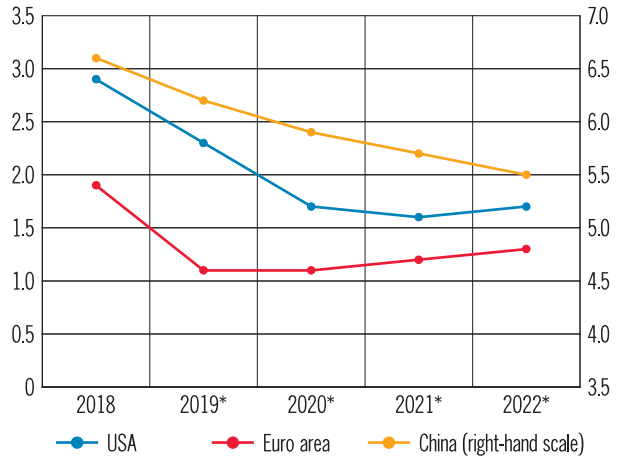
Forecast assumptions

Global economic growth. Given the slowdown in the global economy observed since the second half of 2018, the Bank of Russia assumes in its baseline scenario that global economic growth will continue to decelerate over the medium-term forecast horizon (Chart 2.1.1). The forecast suggests that the slowdown in the global economy during the period of 2019–2022 will be mainly related to the continuing expectations of further tightening of the foreign trade restrictions, which affect business, investment and consumer sentiment worldwide. Against this background, the baseline scenario assumes a transition to a later phase of the economic cycle in the USA, the preservation of moderate economic activity in the euro area, and a smooth slowdown in China's economy that will be mainly structural in nature.

Oil price. The Bank of Russia's baseline scenario assumes that the Urals crude oil price will gradually drop to $50 per barrel by early 2021 and remain close to this level further on (Chart 2.1.2). Thus, the average oil price in the baseline scenario will amount to $63 per barrel in 2019, will decline to $55 per barrel in 2020 and stay at the level of $50 per barrel in 2021–2022.

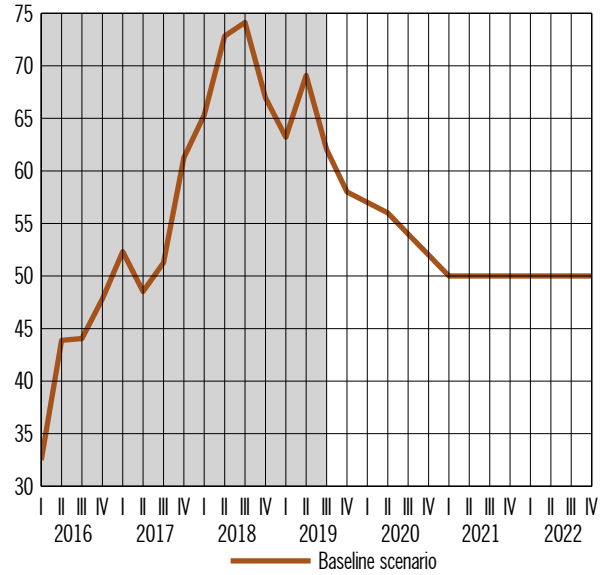
This trajectory is based on the assumptions that global economic growth will gradually slow down and that supply in the oil market will be slightly above demand over the forecast horizon from 2020, including due to a significant increase in oil production outside OPEC+ countries. Yet, oil prices in 2019–2020 will be supported by the continuing expectations of a decrease in oil production and exports from Iran and Venezuela amid political tensions and by

GDP GROWTH INDICATORS OF THE LARGEST GLOBAL ECONOMIES IN THE BASELINE SCENARIO *Chart 2.1.1*
(growth as % year-on-year)



** Forecast.*
Source: Bank of Russia calculations.

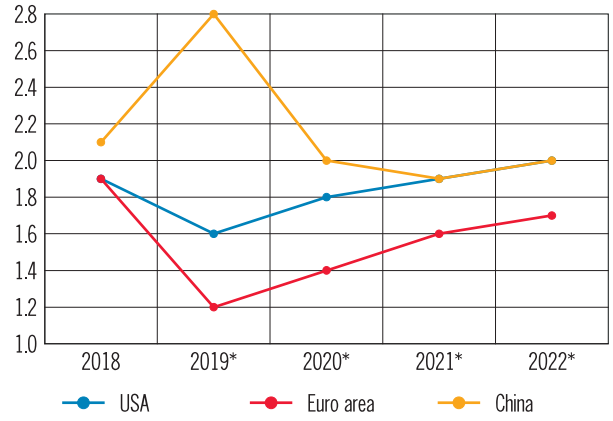
OIL PRICE TRAJECTORY* IN THE BASELINE SCENARIO *Chart 2.1.2*
(US dollars per barrel)



** Nominal prices for Urals crude oil.*
Source: Bank of Russia calculations.

INFLATION INDICATORS OF THE LARGEST GLOBAL ECONOMIES IN THE BASELINE SCENARIO *Chart 2.1.3*

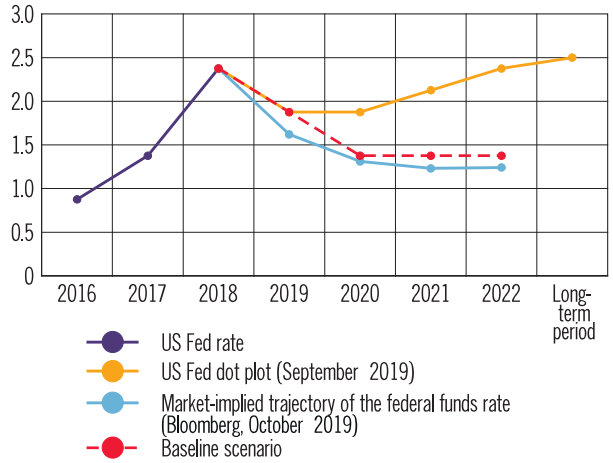
(% change YoY as of the period-end)



** Forecast.*
Note: PCE Price Index is forecast for the US, HICP – for the euro area, and CPI – for China.
Source: Bank of Russia calculations, Bloomberg.

EXPECTED PATHS OF THE US FEDERAL FUNDS RATE *Chart 2.1.4*

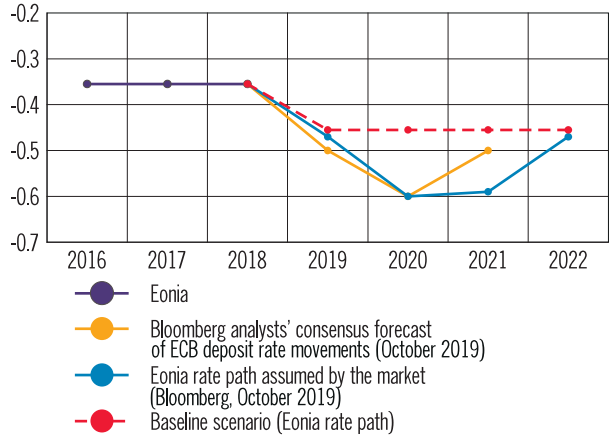
(% p.a.)



Note: values are given as of the end of each period.
Sources: Bank of Russia calculations, Bloomberg.

EXPECTED PATHS OF INTEREST RATES IN THE EURO AREA *Chart 2.1.5*

(% p.a.)



Note: values are given as of the end of each period.
Sources: Bank of Russia calculations, Bloomberg.

the extension of the OPEC+ agreement on crude oil production cuts until March 2020.

Inflation abroad. In its baseline scenario, the Bank of Russia assumes a gradual inflation increase in advanced economies in 2020–2022 after its slowdown in 2019. Monetary policy of the US Fed and the ECB amid a slower growth of the global economy and declining oil prices will gradually bring inflation in the USA and the euro area closer to their targets. However, inflation in the USA and the euro area during this period will remain below the targets, given that in the baseline scenario the economic growth rates in the USA and the euro area will stay below potential in 2020–2021 and a decline in oil prices will contribute to a low inflationary pressure. In turn, the expected deceleration of China's economy in the baseline scenario will result in a gradual decrease of inflation in China and its stabilisation at a low level by the end of the forecast horizon (Chart 2.1.3).

Monetary policies of foreign central banks. In its baseline scenario, the Bank of Russia assumes that monetary policy in the USA and the euro area will loosen in 2019–2022 and that accommodative monetary policy will be pursued further on over the forecast horizon. Such interest rate path in the USA and the euro area factors in the current year reduction of the US Fed base rate (in July and September) and the ECB deposit rate (in September), and the softening of the US Fed's and the ECB's rhetoric on the monetary policy prospects in the context of the ongoing global economic slowdown; also, it is overall consistent with market participants' expectations. In the baseline scenario, the Bank of Russia factors in two more cuts of the US Fed base rate until mid-2020 and its preservation at a constant level in the future (Chart 2.1.4). As for the interest rate path in the euro area, in its baseline scenario the Bank of Russia expects it to hold in the future at the level achieved

by the end of 2019 Q3 (Chart 2.1.5). In its baseline scenario, the Bank of Russia also takes into account the ECB's September announcement of the resumption of asset purchases under the quantitative easing programme from 1 November 2019, which will enhance the accommodative nature of monetary policy pursued in the euro area.

Global financial markets. In its baseline scenario, the Bank of Russia assumes that the US dollar will gradually weaken against the euro over the forecast horizon. Such dynamics of the US dollar against the euro mainly reflect the ratio of interest rate trajectories in the USA to that in the euro area assumed by the Bank of Russia in the baseline scenario. The easing of monetary conditions in 2019–2020 and their further maintenance in advanced economies will limit the risks of steady capital outflows from emerging market economies (EMEs).

The equilibrium country risk premium conjectured in the Bank of Russia's baseline scenario for EMEs in general and Russia in particular takes into account the actual dynamics of risk premiums since early 2019 and the assumptions regarding the external environment. The equilibrium risk premium for Russia is supposed to be slightly higher than for EMEs in general, primarily due to geopolitical factors.

Geopolitical factors. In its baseline scenario, the Bank of Russia expects that the international sanctions imposed on Russia in 2014–2019 will hold over the entire forecast horizon. This involves instituting a country risk premium for Russia at a slightly higher level than in a situation without any sanction restrictions. Relying on the conservative risk premium assumptions, the Bank of Russia's baseline scenario takes into account potential volatility in financial markets in case of short-term increases in geopolitical tensions.

Economic policy of the Russian Government. Among the key internal assumptions, the Bank of Russia takes into account the effect of the fiscal rule over the entire forecast horizon that smooths out the impact of oil price dynamics on the domestic economic environment. The forecast also assumes that funds of the National Wealth Fund will be invested in liquid low-risk FX instruments (see the Box 'Investing money of the National Wealth Fund'). In addition to the fiscal rule, the monetary policy environment in 2019–2022 will be affected by the following measures of the Russian Government:[1] past and expected changes in taxation; measures for overcoming the structural constraints of the Russian economy, including national projects; and measures of the federal and regional authorities designed to reduce the impact of non-monetary factors on inflation and implemented with the participation of the Bank of Russia (for details, see the Box 'Effect of non-monetary factors on inflation' in Section 3).

Among the key tax policy measures, the Bank of Russia assumes changes in excise duties for certain products in the consumer basket[2] and the oil and gas tax manoeuvre to take place in 2019–2024. According to the Bank of Russia's estimates, the latter will have a nearly zero contribution to annual inflation in 2019–2022.

The range of the government measures taken into account by the Bank of Russia in its baseline scenario primarily includes additional investment spending and expenses for human capital development within national projects.[3] These measures are aimed at alleviating the existing structural constraints in the Russian economy. If implemented successfully, they will help accelerate potential economic

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[1] *Pursuant to the Guidelines for the Fiscal, Tax, and Customs and Tariff Policy for 2020 and the 2021–2022 Planning Period and the Tax Code of the Russian Federation.*

[2] *Alcohol and alcohol-containing products, main types of motor fuel, tobacco, and other types of products.*

[3] *Social and economic measures under Decree of the President of the Russian Federation No. 204, dated 7 May 2018, scheduled for implementation in 2019–2024.*

growth. These measures may influence potential growth through renewal of fixed assets and infrastructure, investment climate improvement, human capital and labour productivity increase, better quality of management at all levels (both in the public and private sectors), diversification of the Russian economy, and reduction of its commodity dependence.

The implementation of the above measures basically requires a long time, while their targets, including the institutional and structural parameters of the economy and the demographic trends, change slowly. In this regard, the Bank of Russia assumes that the scheduled fiscal and structural measures will have a significant impact on the growth rates and structure of the Russian economy only towards the end of the forecast horizon. These measures will have the greatest effect beyond the forecast period.

The Bank of Russia assumes that the positive contribution of the planned state policy measures to economic growth acceleration will not be accompanied by additional upward pressure on inflation if there is an adequate expansion in the production capacity of the Russian economy.

The Bank of Russia also takes into account the phased increase in the retirement age planned by the Government in the baseline scenario and retains its assessment of the impact of this measure on potential economic growth:[4] about 0.1 pp in 2019 and about 0.2-0.3 pp in 2020-2022.

Other types of the Bank of Russia's policy. The Bank of Russia's measures aimed at a balanced development of the financial market, minimisation of the probability of systemic risks in it, and efficient transformation of household savings into long-term domestic investment will facilitate the creation of favourable conditions driving higher investment and economic activity over the forecast horizon. These measures comprise the launch and enhancement of incentive-based regulation in the banking sector, boosting competition in the financial market, development of the long-term financial resource segment, improving the quality of corporate governance, better investor protection, and development of the insurance sector and the trust management and collective investment segment, as well as macroprudential policy measures.[5] The Bank of Russia reckons that these measures are both cyclical and structural.

The Bank of Russia's efforts to enhance financial inclusion and financial literacy[5] will help increase the share of households actively using financial products and services, thereby contributing to a more effective transformation of domestic savings into domestic investment. This also creates conditions for the enhancement in efficiency of the monetary policy transmission mechanism.

Medium-term forecast

Inflation. In the baseline scenario, the Bank of Russia forecasts that after 3.2–3.7% in 2019 annual inflation will come in at 3.5–4.0% in 2020 to stay close to 4% later on (Chart 2.1.6). Moreover, annual inflation will be slightly below 3% in 2020 Q1 when the effect of the VAT rate increase in 2019 is factored out from the calculation of annual inflation. Inflation will hold steadily close to 4% over the forecast horizon primarily thanks to the Bank of Russia's monetary policy.

Inflation pressure will be moderate over the forecast horizon amid decelerating external demand and balanced domestic demand

[4] *Estimates published in the baseline forecast in the Monetary Policy Guidelines for 2019-2021.*

[5] *For details about the financial market development measures planned by the Bank of Russia, refer to the Guidelines for the Development of the Russian Financial Market in 2019–2021, http://cbr.ru/Content/Document/File/71220/main_directions.pdf.*

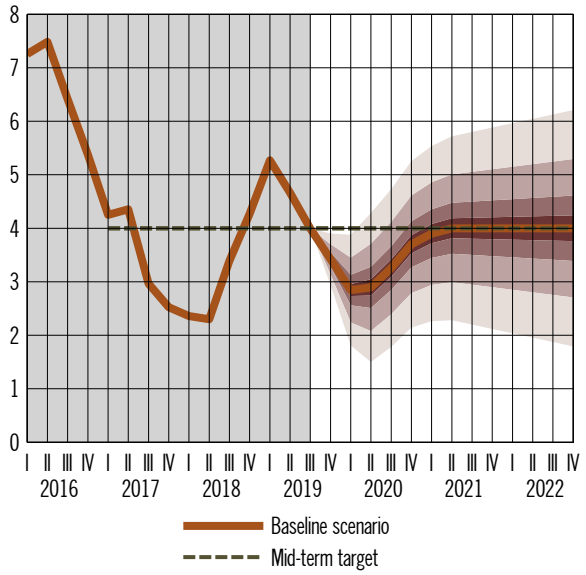
dynamics. The forecast takes into account the indexation of administered prices and tariffs by the inflation rate close to 4%, which implies that this factor will not exert excessive upward pressure on prices. The assumption regarding higher investments as a main goal of the Government's measures for economic growth acceleration implies that investments are not expected to have notable pro-inflationary effects over the mid-term horizon.

Given the annual inflation path forecast in the baseline scenario, moving average inflation will come in at 3.1–3.5% in 2020 after a hike to 4.5–4.6% in 2019 on the back of temporary pro-inflationary factors. In 2021–2022, it will stabilise near 4%.

Economy. According to the Bank of Russia's baseline scenario, growth of the Russian economy will come in at 0.8–1.3% in 2019 (vs 2.3% in 2018), given the weak economic activity observed since the beginning of this year. Economic growth in 2019 will be restrained by a number of factors. Thus, the ongoing slowdown in the global economy, as well as the OPEC+ agreement on oil production cuts will cause a 1.3–1.8% reduction in export quantities in annual terms after their 5.5% increase in 2018. The growth rate of gross fixed capital formation, which totalled 2.9% in 2018 being supported by a range of large-scale infrastructure projects, including state-supported ones, will decrease to 0.0–1.0% in 2019 as the implementation of a number of national projects planned by the Government is slower than expected. In addition, annual growth of import quantities will slow down from 2.7% in 2018 to 0.0–0.5% in 2019 amid reducing investment imports.

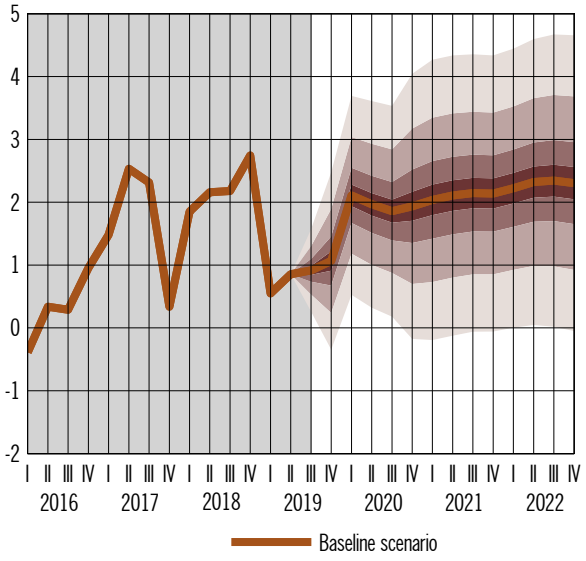
The Bank of Russia forecasts that in 2020 growth of the Russian economy will accelerate to 1.5–2.0%. An increase in public investment spending explained by the transition to the active stage of the

INFLATION PATH IN THE BASELINE SCENARIO *Chart 2.1.6*
(% change on the same period of the previous year)



Note: shaded areas on the forecast horizon show the probability of different inflation values. Colour gradation reflects probability intervals.
Confidence intervals are symmetrical and based on historical estimates of inflation uncertainty.
Source: Bank of Russia calculations.

GDP GROWTH PATH IN THE BASELINE SCENARIO *Chart 2.1.7*
(% change on the same period of the previous year)



Note: shaded areas on the forecast horizon show the probability of different GDP growth values. Colour gradation reflects probability intervals.
Confidence intervals are symmetrical and based on historical estimates of GDP growth uncertainty.
Source: Bank of Russia calculations.

implementation of national projects will be the major contributor to higher economic growth rates. In this context, annual growth of gross fixed capital formation will speed up to 3.5–4.5% in 2020. This will also impact the dynamics of import quantities: their annual growth rate will increase to 3.0–3.5%. Economic growth in 2020 will also be supported by a slight consumer demand expansion owing to better household income dynamics and the exhaustion of the restraining effect of the VAT increase. This will speed up annual growth of households' final consumption expenditure to 2.0–2.5% (vs 1.5–2.0% in 2019). However, the slowdown in the global economy assumed in the baseline scenario will limit growth of Russian exports over the forecast horizon. The Government's measures to stimulate non-commodity exports within the International Cooperation and Exports national project will help mitigate this impact. In these circumstances, annual export growth in the baseline scenario will only increase to 2.0–2.5% in 2020.

The baseline scenario assumes that in 2021–2022 growth of the Russian economy will accelerate to 1.5–2.5% and 2.0–3.0% respectively (Chart 2.1.7). This will be driven by a gradual accumulation of the positive effect of the planned fiscal policy measures and national projects, provided they are implemented successfully, as well as the consumption dynamics. Yet, the growth rates of export quantities will not exceed 2.0–2.5% in 2021 and 2.5–3.0% in 2022. The Government plans to reduce the non-oil and gas deficit of the federal budget[6] over the mid-term forecast horizon. In this regard, growth of gross fixed capital formation is expected to slow down to 2.5–3.5% in 2022 (vs 3.5–4.5% in 2020–2021). This will result in, among other things, a lower growth rate of import quantities: it will fall to 2.5–3.0% in 2022 (vs 3.0–3.5% in 2020 and 3.5–4.0% in 2021).

Monetary policy. In October, the Bank of Russia decided to reduce the key rate by 50 bp to 6.50% p.a. Under these conditions, the key rate has reached the middle of the Bank of Russia's range of neutral rate values: 2–3% p.a. in real terms, 6–7% p.a. in nominal terms (taking into account the inflation target of near 4%). If the situation develops in line with the baseline forecast, the Bank of Russia will consider the necessity of further key rate reduction. In its key rate decision-making, the Bank of Russia will take into account actual and expected inflation dynamics relative to the target and economic developments over the forecast horizon, as well as risks posed by domestic and external conditions and the reaction of financial markets. Throughout the forecast horizon, the Bank of Russia will pursue monetary policy in such a way as to ensure inflation stabilisation close to 4%.

Monetary indicators. According to the Bank of Russia's baseline forecast, monetary conditions in the Russian economy will continue to gradually moderate and will get generally neutral over the forecast horizon. This will be mainly facilitated by the completion of the adjustment of credit and deposit rates in the economy to the 2019 key rate decrease and by the easing of non-price bank lending conditions.

The banking system's claims on the economy in 2020–2022 in the baseline scenario will sustainably grow as a result of a gradual economic growth acceleration and better household income dynamics, as well as under the influence of monetary conditions forming over the forecast horizon. As regards the banking system's claims on households for 2019, the baseline scenario of monetary indicators takes into account a faster growth of these claims at the beginning of the year with its gradual slowdown from the middle of this year.

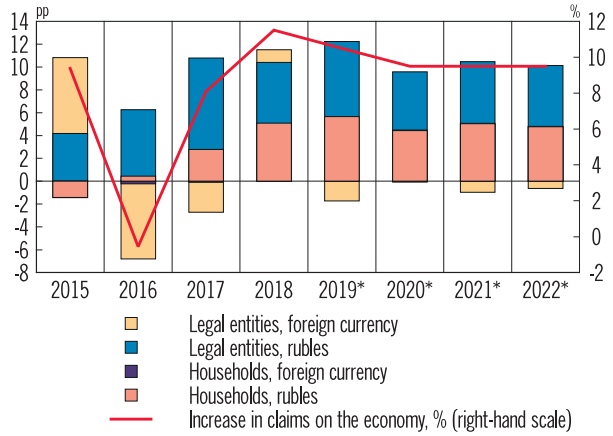
[6] *In accordance with the budget forecast of the Russian Federation for the period until 2036 (Ministry of Finance).*

Moving forward, the Bank of Russia expects a smooth deceleration of retail lending growth, including due to the measures aimed at limiting the increase in debt burden of households in general and of particular categories of borrowers, as well as due to the saturation of the retail credit market. In turn, the gradual easing of price lending conditions will support stable growth in corporate and mortgage lending. Non-price lending conditions will slowly moderate, reflecting banks' conservative approach to borrower assessment and risk acceptance.

Given the effect of all of the above factors, lending activities will continue to grow overall in 2020–2022 at a pace that corresponds to the increasing effective demand and does not pose any risks to price stability (Chart 2.1.8). The debt burden of the economy will rise smoothly holding at levels that do not threaten financial stability in the economy (Charts 2.1.9 and 2.1.10). Lending will remain the key driver of money supply movements, and in these conditions money supply growth will be close to the growth rates of claims on the economy (Chart 2.1.11).

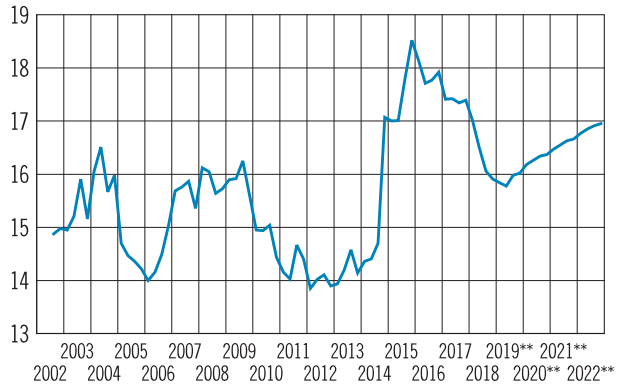
Balance of payments. The forecast of the balance of payments indicators takes into account the actual data on the main components of the balance of payments since the beginning of this year and the expected trajectory of oil prices and GDP growth rates in 2019–2022. The Bank of Russia forecasts a decrease in the current account surplus to $75 billion in 2019 (vs $113 billion in 2018) and a reduction in the financial account balance of the private sector to $37 billion (vs $68 billion in 2018). Given the actual inflow of foreign investor funds to the OFZ market year-to-date and the successful placements of Russian eurobonds, the financial account deficit of the public sector (in BPM6 signs, i.e. net capital inflow) will total $23 billion in 2019,

DECOMPOSITION OF INCREASE IN CLAIMS ON THE ECONOMY IN THE BASELINE SCENARIO *Chart 2.1.8*
(contribution to annual growth, pp)



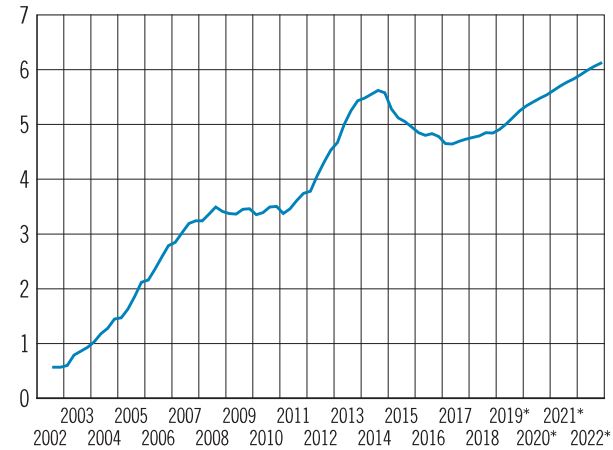
** Forecast. Decomposition is shown for the increase in claims on the economy corresponding to the middle of the forecast range in the baseline scenario.*
Source: Bank of Russia calculations.

CORPORATE DEBT BURDEN *Chart 2.1.9*
(debt service ratio*, as % of GDP)



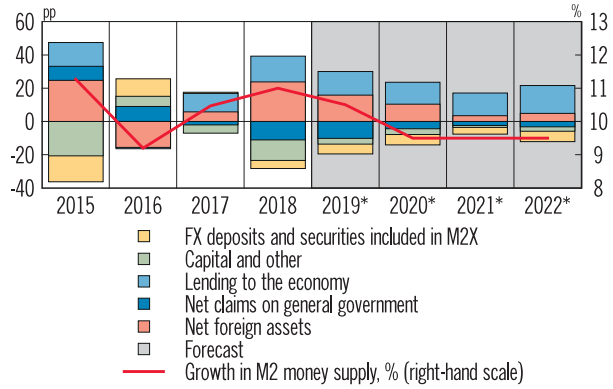
** The debt service ratio was calculated based on the methodology described by S.A.Donets, A.A. Ponomarenko. Debt burden indicators. Money and Credit, No. 4, 2017. 2019 Q1 value – Bank of Russia estimate.*
*** Forecast. Debt burden was calculated for the credit corresponding to the middle of the forecast range in the baseline scenario.*
Source: Bank of Russia calculations.

HOUSEHOLD DEBT BURDEN *Chart 2.1.10*
(debt service ratio, as % of GDP)



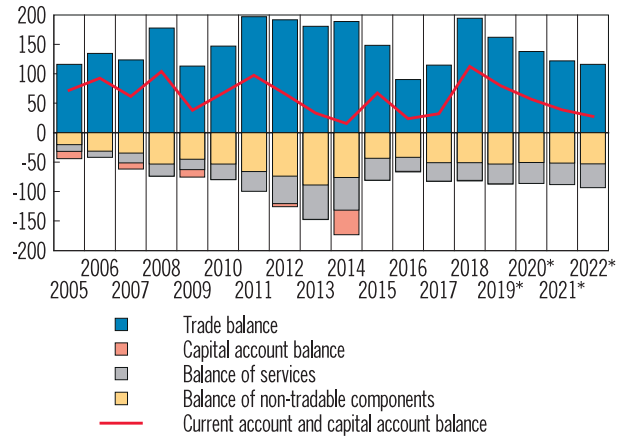
** Forecast. Debt burden was calculated for the credit corresponding to the middle of the forecast range in the baseline scenario.*
Source: Bank of Russia calculations.

DECOMPOSITION OF GROWTH OF MONEY SUPPLY IN NATIONAL DEFINITION IN BASELINE SCENARIO *Chart 2.1.11*
(contribution to annual growth, pp)



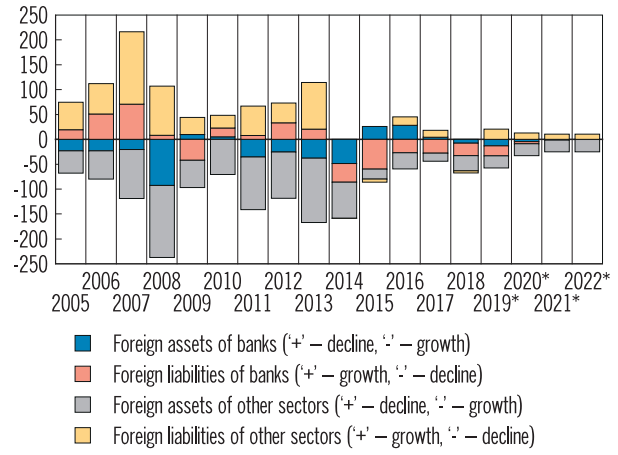
** Forecast. Decomposition is shown for the money supply growth in the national definition corresponding to the middle of the forecast range in the baseline scenario.*
Source: Bank of Russia calculations.

MAJOR CURRENT ACCOUNT COMPONENTS IN THE BASELINE SCENARIO *Chart 2.1.12*
(billions of US dollars)



** Forecast.*
Source: Bank of Russia calculations.

MAJOR PRIVATE SECTOR FINANCIAL ACCOUNT COMPONENTS IN THE BASELINE SCENARIO *Chart 2.1.13*
(billions of US dollars)



** Forecast.*
Source: Bank of Russia calculations.

after the net capital outflow in 2018 in the amount of $9 billion.

Over the medium-term forecast horizon, despite the gradual decline in oil prices and a generally small increase in export quantities against the backdrop of a slowdown in the global economy, the current account balance of the balance of payments will gradually decline remaining steadily positive: approx. 3% of GDP in 2020 and 1.0–2% of GDP in 2021–2022 (vs approx. 4.5% of GDP in 2019). The Government's measures aimed at stimulating non-commodity exports will support growth of export quantities, which will smooth out the effects of the expected oil price drop and global economy slowdown (Chart 2.1.12).

The financial account balance in the private sector will decrease from approx. 2% of GDP in 2019 to approx. 1.0 of GDP in 2020–2022 (vs 4% of GDP in 2018) on the backdrop of reducing external debt payments and a slight reduction of the possibilities for Russian companies to accumulate foreign assets amid a downturn in prices for core Russian exports (Chart 2.1.13).

In 2019–2022, the Bank of Russia will continue to replenish the foreign currency reserves under the fiscal rule. The forecast also factors in foreign currency purchases in the domestic market suspended in 2018 that should be completed in early 2022.

Factors of uncertainty in the forecast

External conditions. Since the beginning of 2019, pro-inflationary risks associated with specific external factors have been decreasing. Thus, the downward revision of the expected interest rate paths in the USA and the euro area since the beginning of the year, the reduction of the US Fed base rate (in July and September) and the ECB deposit rate (in September), and the resumption of quantitative easing in the euro area along with the softening in the rhetoric of the US Fed and the ECB, mitigate the risks of

a significant capital outflow from emerging market economies.

However, other external risks remain significant. In particular, there are continuing risks that the economic growth slowdown observed in most key economies since mid-2018 may persist for a longer period and turn out to be steadier than assumed in the baseline scenario. Global economy growth may be adversely affected by unfavourable developments related to a range of geopolitical factors, including the potential Brexit parameters and outcomes, as well as further tightening of the mutual foreign trade restrictions between the USA and America's key trade partners (first of all, China). Thus, the imposition of new foreign trade restrictions, primarily between China and the USA, may negatively affect advanced economies and EMEs, including Russia, both as a result of deterioration of the economic growth outlook because of shrinking external demand and due to declining demand for high-risk assets and increasing risk premiums amid rising volatility in financial markets. In the short run, the deteriorating environment in financial markets of emerging economies may cause pro-inflationary risks through the dynamics of national currencies and exchange rate expectations. However, in the mid-run, a slower growth of the global economy due to potential deepening of trade tensions may generally have a disinflationary effect for most economies, including EMEs.

Future movements of oil prices remain a source of uncertainty. Being affected by mostly supply-side factors, their increased volatility may persist. As a result, oil prices over the forecast horizon may move below or above the baseline scenario level.

In this context, the Bank of Russia sticks to the conservative approach when forming its baseline scenario assumptions related to external factors. In addition, the Bank of Russia also considers the high oil price scenario and the risk scenario that assumes a combination of adverse external events.

Inflation expectations. Inflation expectations are highly sensitive to increases in prices for certain goods and services and are not anchored. This continues to pose significant risks of an upward deviation of inflation away from the baseline forecast.

Non-monetary inflation factors. Over the forecast horizon, inflation may also be affected by non-monetary factors, including those influencing food and motor fuel prices (see Section 1 and the Box 'Effect of non-monetary factors on inflation' in Section 3). While having a significant impact on inflation movements, non-monetary factors are outside the scope of monetary policy.

The Bank of Russia will take into account the specifics of pricing for certain goods and services and will closely communicate at the expert level with the Russian Government in order to devise and implement measures helping reduce the sensitivity of price dynamics to non-monetary factors.

Economic policy measures of the Russian Government. The scope and influence of the complex of fiscal and structural policy measures planned by the Government are a factor of uncertainty for the economic growth outlook over the forecast horizon, primarily starting from 2020. They will depend on the pace and efficiency of implementation of the planned changes.

Fiscal policy may cause a meaningful impact on inflation dynamics over both the short- and medium-term horizons. In particular, at the early stages, extensive implementation of Government-planned national projects may have a positive effect on consumer demand through households' income. This will create conditions under which the expansion of demand in the economy will outpace the expansion of production capacity and

bring additional inflationary pressure. If the rise in the economic growth pace in 2020–2022, driven by the increase in public expenditure, continues to significantly outpace production capacity, the upward pressure on inflation may hold over the entire medium-term forecast horizon. However, if investment project funding is further delayed, domestic demand will grow at a slower pace than the baseline scenario assumes, thus, increasing disinflationary pressure in the economy.

In turn, a gradual elimination of the structural constraints in the Russian economy may simultaneously reduce the sensitivity of domestic prices to particular external and internal factors and have a downward effect on inflation in case of faster-than-expected growth of the Russian economy. This may occur as a result of reduced dependence of the Russian economy on exports of energy resources, increased competition, and the development of transport and logistics infrastructure.

An additional factor of uncertainty over the forecast horizon is the structure of investment of the liquid portion of NWF funds above the threshold amount set at 7% of GDP in the Budget Code (see the Box 'Investing money of the National Wealth Fund'). According to the Bank of Russia's baseline scenario, this threshold will be reached in 2020.

The Bank of Russia will pay great attention to assessing the short- and long-term effects of the planned fiscal measures by clarifying their scope and how they impact the economy and inflation as they are elaborated in greater detail and implemented.

Demographic trends. The expected demographic trends may influence the medium-term inflation dynamics and economic growth. Due to the current age structure of the population, the economically active population will continue to decrease in the near future. This will remain a factor limiting potential economic growth in 2020–2022, even with account of the positive contribution of the retirement age increase. Supply shortage in the labour market can affect the dynamics of wages and household consumption and put an upward pressure on inflation. Yet, the impact of the demographic factor on potential output and inflation can be mitigated if the decrease in Russia's economically active population is substantially offset owing to a higher labour market flexibility, reduction of non-productive jobs and migration from other countries. Migration flows will depend not only on the Government's migration policy, but also on the overall attractiveness of the Russian economy for foreign labour force as compared with other states.

Other factors. According to the Bank of Russia's estimate, risks associated with the dynamics of wages, as well as possible changes in consumer behaviour remain moderate over the forecast horizon.

2.2. HIGH OIL PRICE SCENARIO

Forecast assumptions

Global economic growth. Higher growth rates of the world economy over the mid-term forecast horizon is the key difference between the high oil price scenario and the baseline scenario (Chart 2.2.1). Thus, in the high oil price scenario, the Bank of Russia assumes a slight decrease in the global economic growth rates only in 2019–2020. However, starting in 2021, the scenario provides for a gradual stabilisation in global economic growth as trade disputes between the world's largest economies are settled and the global economy adjusts to changed terms of international trade, as well as against the background of the positive impact of possible macroeconomic

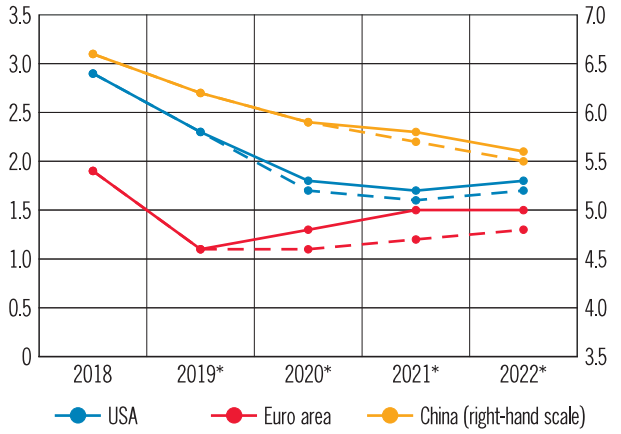
and structural stimulus measures in China, the euro area and the USA.

Oil price. As compared to the baseline scenario, in the high oil price scenario, global oil prices converge toward $75 per barrel by early 2021 and remain close to this level in the future (Chart 2.2.2). The said trajectory in this scenario is driven not only by higher growth rates of the world economy facilitating a steady increase in oil demand, but also by the influence of energy supply-side factors. The restrained supply growth in the oil market in this scenario may be associated with tougher restrictions on production under OPEC+ agreements compared to the baseline scenario, a greater decline in production in Iran because of the sanctions, and a more substantial and prolonged drop in oil production in Venezuela in the context of the ongoing economic and political crisis in that country.

Other assumptions. High oil prices will increase inflationary pressure caused by expenditure in the real sector of oil exporting countries (Chart 2.2.3). As a result, the assumed interest rate paths in advanced economies will be higher than in the baseline scenario. In the high oil price scenario, the Bank of Russia assumes that the US Fed base rate will hold at the current level throughout the forecast horizon (Chart 2.2.4) As for the interest rate path in the euro area, in its high oil price scenario the Bank of Russia expects it to remain at the current level in 2019–2020 and then start to rise in the first half of 2021 (Chart 2.2.5). Also, in contrast to the baseline scenario, the Bank of Russia's high oil price scenario assumes that the ECB's new quantitative easing programme, which is to be launched from 1 November 2019, will be completed no later than early 2021.

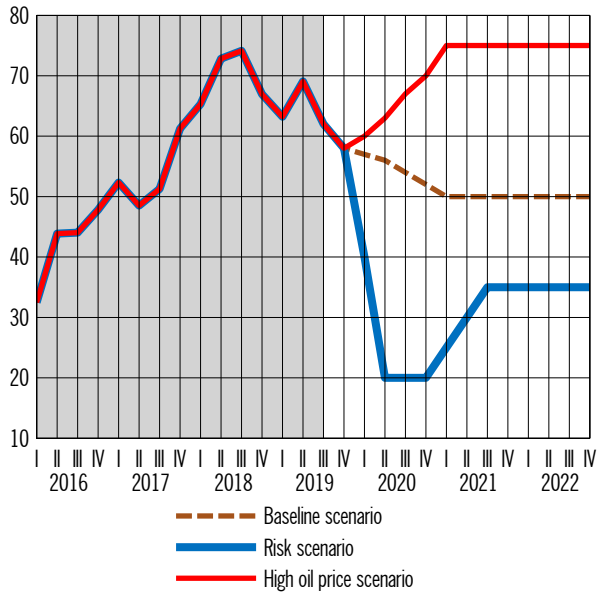
In the high oil price scenario, the contribution of the oil and gas tax manoeuvre to the annual inflation dynamics

GDP GROWTH IN MAJOR ECONOMIES IN THE HIGH OIL PRICE SCENARIO *Chart 2.2.1*
(growth as % year-on-year)



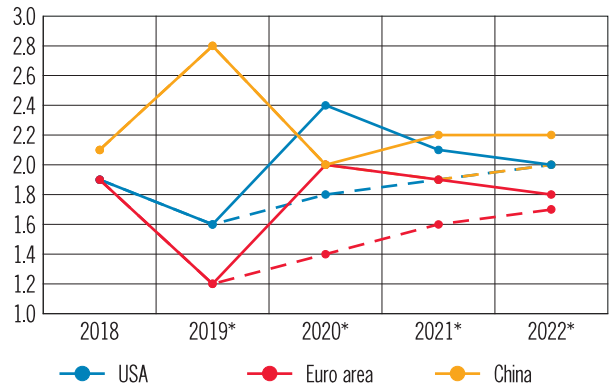
** Forecast. The dashed line reflects the baseline scenario.*
Source: Bank of Russia calculations.

OIL PRICE TRAJECTORY* IN ALTERNATIVE SCENARIOS *Chart 2.2.2*
(US dollars per barrel)



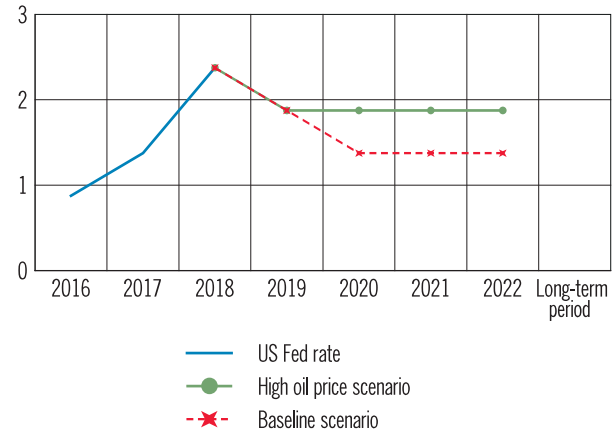
** Nominal prices for Urals crude oil.*
Source: Bank of Russia calculations.

INFLATION INDICATORS IN MAJOR ECONOMIES IN THE HIGH OIL PRICE SCENARIO *Chart 2.2.3*
(% change YoY as of the period-end)



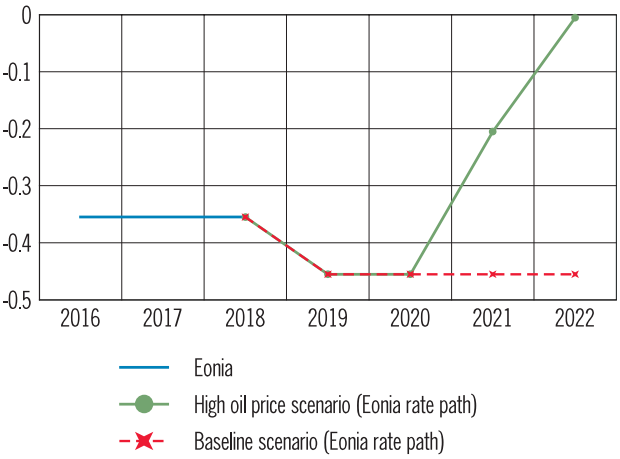
** Forecast. The dashed line reflects the baseline scenario.*
Note: PCE Price Index is forecast for the US, HICP – for the euro area, and CPI – for China.
Sources: Bank of Russia calculations, Bloomberg.

MOVEMENTS OF THE US FEDERAL FUNDS RATE IN THE HIGH OIL PRICE SCENARIO *Chart 2.2.4*
(% p.a.)



Note: values are given as of the end of each period.
Sources: Bank of Russia calculations, the US Fed, Bloomberg.

MOVEMENTS OF INTEREST RATES IN THE EURO AREA IN THE HIGH OIL PRICE SCENARIO *Chart 2.2.5*
(% p.a.)



Note: values are given as of the end of each period.
Sources: Bank of Russia calculations, Bloomberg.

in 2020–2022 will also be slightly positive as compared to the baseline scenario.

Other external and internal assumptions in the high oil price scenario mostly coincide with the baseline scenario.

Medium-term forecast

Inflation. The inflation forecast under the high oil price scenario is generally close to the baseline forecast. A faster expansion of domestic demand, than in the baseline scenario, along with the oil and gas tax manoeuvre, will have a slight upward pressure on inflation in 2020. In this context, given the pursued monetary policy, annual inflation in 2019–2020 will remain within the same range in the high oil price scenario as in the baseline scenario, and will be close to 4% over the entire forecast horizon (Chart 2.2.6).

At the same time, an additional factor of the forecast uncertainty in the high oil price scenario as compared to the baseline scenario is possible inflationary pressure caused by petroleum product prices in the conditions where world oil prices remain high. The scope of this pressure will depend not only on oil producers' pricing policy, but also on the efficiency of the current excise duty redemption framework and other possible state regulation measures intended to smooth out price dynamics in the petroleum product market.

Economy. The growth rate of the Russian economy in 2020–2022 in the high oil price scenario will be slightly higher than in the baseline scenario (Chart 2.2.7). This is mainly associated with more favourable external conditions over the forecast horizon. An increase in oil prices and generally higher global economic growth rates in comparison to the baseline scenario will provide additional support to business sentiment, consumer and investment activity.

However, the effect of the fiscal rule over the mid-term forecast horizon will smooth

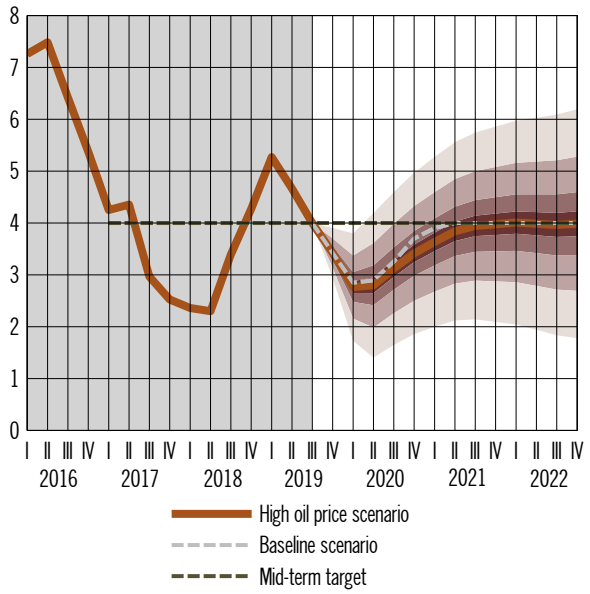
out the impact of oil price fluctuations on domestic economic conditions. Thus, in 2021–2022 oil price dynamics will not have a significant extra impact on the growth rates of the Russian economy as long as the oil price remains the same during this period both in the high oil price scenario and in the baseline scenario.

Monetary policy. Pro-inflationary factors will have somewhat higher effect over the forecast horizon in the high oil price scenario compared with the baseline scenario. This is mainly due to higher growth rates of the global and Russian economy influencing business, investment and consumer sentiment. In such conditions, the key rate path in the high oil price scenario will be slightly higher than in the baseline scenario, which will help maintain annual inflation close to the Bank of Russia's 4% target over the entire forecast horizon.

Monetary indicators. In the high oil price scenario, monetary conditions will basically be similar to monetary conditions in the baseline scenario. Dynamics of credit and monetary aggregates will generally stay close to the baseline scenario levels and will not cause any risks for price and financial stability. There will be a slight difference in the growth rate of the banking system's claims on the economy over the forecast horizon. They will be a little higher than in the baseline scenario, following the dynamics of income which will grow faster owing to more favourable external conditions. Retail lending will demonstrate a smoother slowdown. In addition, under the influence of a more rapid increase in the banking system's net foreign assets, money supply may grow throughout the forecast horizon slightly faster than claims on the economy and, accordingly, faster than in the baseline scenario.

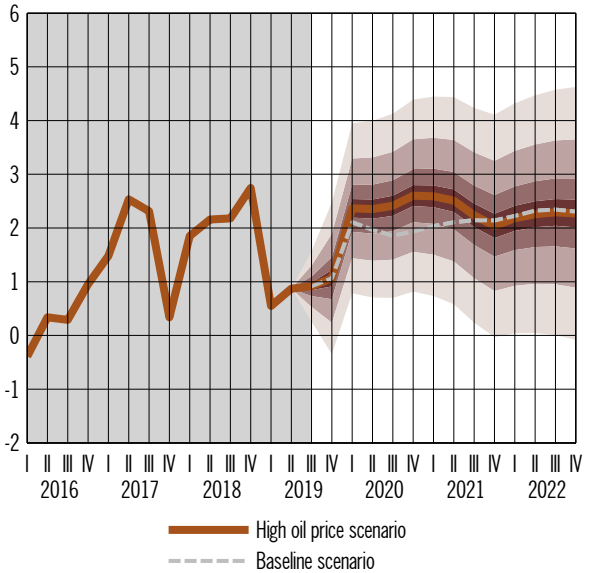
Balance of payments. The difference of the balance of payments indicators from the baseline scenario is associated with a

INFLATION PATH IN THE HIGH OIL PRICE SCENARIO *Chart 2.2.6*
(% change on the same period of the previous year)



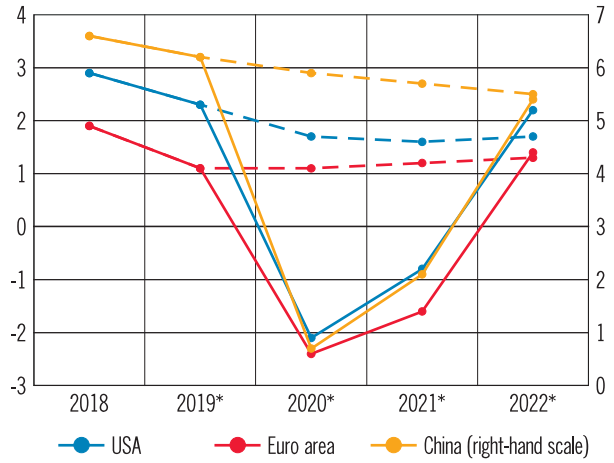
Note: shaded areas on the forecast horizon show the probability of different inflation values. Colour gradation reflects probability intervals.
Confidence intervals are symmetrical and based on historical estimates of inflation uncertainty.
Source: Bank of Russia calculations.

GDP GROWTH PATH IN THE HIGH OIL PRICE SCENARIO *Chart 2.2.7*
(% change on the same period of the previous year)



Note: shaded areas on the forecast horizon show the probability of different GDP growth values. Colour gradation reflects probability intervals.
Confidence intervals are symmetrical and based on historical estimates of GDP growth uncertainty.
Source: Bank of Russia calculations.

GDP GROWTH INDICATORS OF THE LARGEST GLOBAL ECONOMIES IN THE RISK SCENARIO *Chart 2.3.1*
(growth as % year-on-year)



** Forecast. The dashed line reflects the baseline scenario.*
Source: Bank of Russia calculations.

significant positive influence of high global oil prices on export volumes in 2020–2022 in the conditions of a faster world economy growth than in the baseline scenario. In 2020–2022, the current account balance will exceed the level assumed in the baseline scenario and will approximate 5% of GDP. The private sector's financial account balance will also be slightly higher than in the baseline scenario and will amount to about 1.5% of GDP in 2020–2022. This will be facilitated by a slightly greater expansion of foreign assets held by Russian companies and banks amid a more significant increase in export revenues. The high oil price scenario also assumes that foreign currency reserves will show a more sizeable increase compared to the baseline scenario owing to larger foreign currency purchases under the fiscal rule.

2.3. RISK SCENARIO

Forecast assumptions

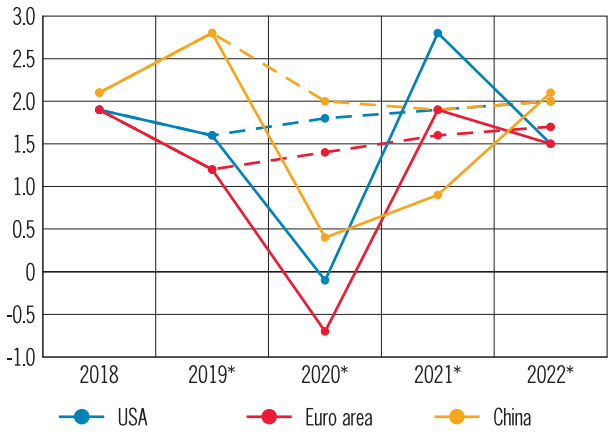
External conditions. The risk scenario assumes a considerable deterioration in external conditions throughout the forecast horizon beginning from 2020 Q1. These developments proceed from a more substantial slowdown in the world economy than in the baseline scenario that can be characterised as a marked cyclical recession with a delayed recovery partially provoked by trade controversies (Chart 2.3.1). Deceleration of global economic growth will be accompanied by a significant rise of volatility in global financial markets, decline in global risk appetite, and a plunge in global oil prices. The risk scenario assumes that global oil prices will drop to $25 per barrel in 2020 (in the most acute crisis phase, to as low as $20 per barrel) due to a significant decrease in demand for energy products worldwide and a substantial deterioration of expectations regarding world economy

growth prospects. In addition, further anchoring of global oil prices in 2021–2022 at a low level (about $30–35 per barrel) might result from supply-side factors, namely deterioration in the coordination of oil production within OPEC+ amid a considerable non-OPEC oil production (Chart 2.2.2).

Given the significant slowdown in the global economy and the downturn in oil prices, the risk scenario also assumes a lower inflationary pressure in the USA and the euro area in 2020 (Chart 2.3.2). Therefore, the Bank of Russia suggests a significant easing of monetary policy by the US Fed and the ECB in the risk scenario. Thus, the Bank of Russia's risk scenario involves a reduction of the US Fed base rate almost to zero by the end of 2020 and its maintenance at this level in the future (Chart 2.3.3). In the euro area, the expected interest rate path is similar to that in the baseline scenario (Chart 2.3.4); however, the Bank of Russia also assumes in its risk scenario that the ECB will prolong and extend the use of unconventional monetary policy instruments by increasing asset purchases under the quantitative easing programme (compared with the baseline scenario).

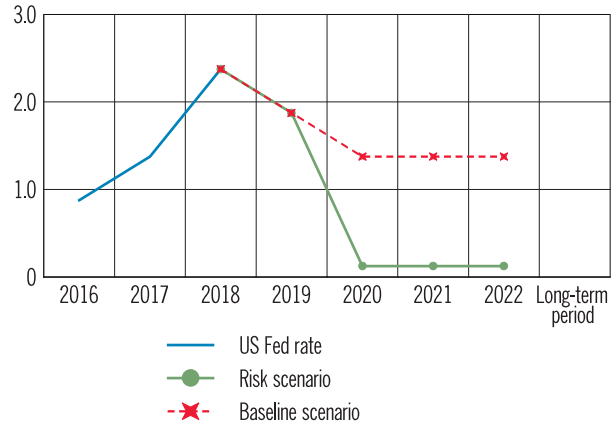
Such significant changes in the external environment may adversely affect EMEs, including Russia. In the risk scenario, the Russian economy, as well as other EMEs, may face a deterioration in the economic growth outlook, a significant rise in the country risk premium and an increase in capital outflows. An additional factor increasing the scale of capital outflow is the further escalation of geopolitical tension expected in the risk scenario. However, the fiscal rule will smooth the impact of deteriorating trade conditions on public finance, the economy and the exchange rate.

INFLATION INDICATORS OF THE LARGEST GLOBAL ECONOMIES IN THE RISK SCENARIO *Chart 2.3.2*
(% change YoY as of the period-end)



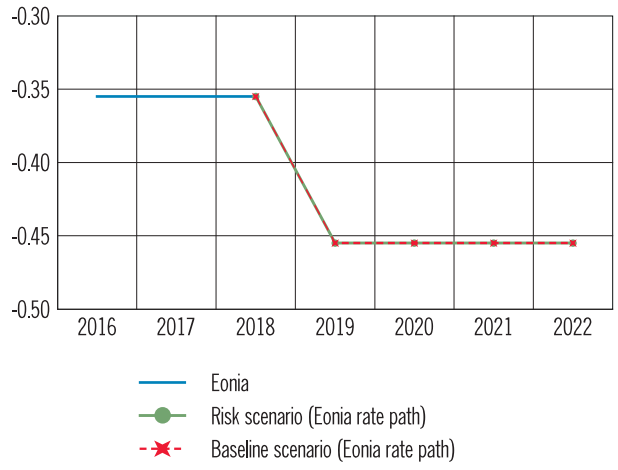
** Forecast. The dashed line reflects the baseline scenario.*
Sources: Bank of Russia calculations, Bloomberg.

MOVEMENTS OF THE US FEDERAL FUNDS RATE IN THE RISK SCENARIO *Chart 2.3.3*
(% p.a.)



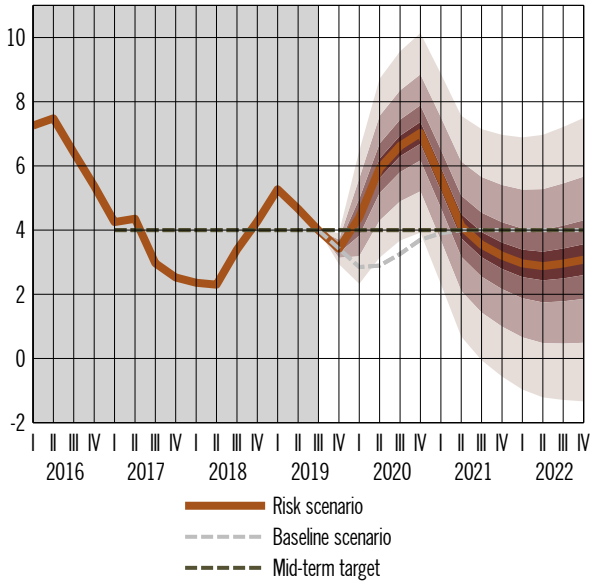
Note: values are given as of the end of each period.
Sources: Bank of Russia calculations, the US Fed, Bloomberg.

MOVEMENTS OF INTEREST RATES IN THE EURO AREA IN THE RISK SCENARIO *Chart 2.3.4*
(% p.a.)



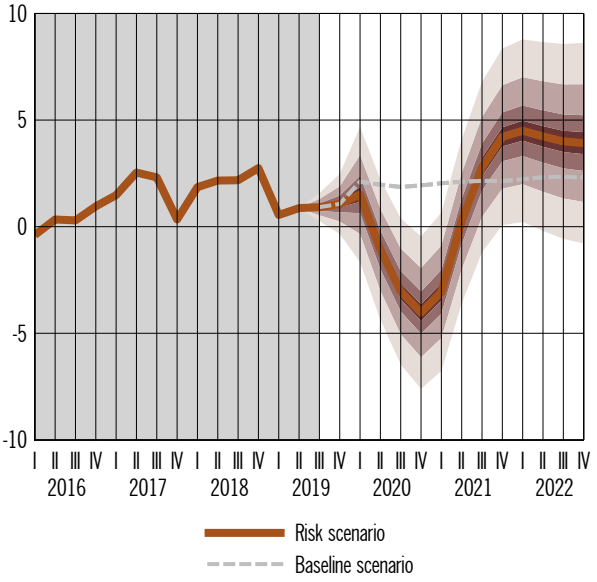
Note: values are given as of the end of each period.
Sources: Bank of Russia calculations, Bloomberg.

INFLATION PATH IN THE RISK SCENARIO *Chart 2.3.5*
(% change on the same period of the previous year)



Note: shaded areas on the forecast horizon show the probability of different inflation values. Colour gradation reflects probability intervals.
Confidence intervals are symmetrical and based on historical estimates of inflation uncertainty.
Source: Bank of Russia calculations.

GDP GROWTH PATH IN THE RISK SCENARIO *Chart 2.3.6*
(% change on the same period of the previous year)



Note: shaded areas on the forecast horizon show the probability of different GDP growth values. Colour gradation reflects probability intervals.
Confidence intervals are symmetrical and based on historical estimates of GDP growth uncertainty.
Source: Bank of Russia calculations.

Medium-term forecast

Inflation. In the risk scenario, the inflation forecast provides for a short-term, but a significant increase in annual inflation to 6.5–8.0% in 2020 (3.2-3.7% in 2019). This will be driven by the ruble weakening and growth of exchange rate and inflation expectations. However, given the decreased sensitivity of domestic prices to changes in external factors, including in the context of a consistent policy of inflation targeting and import substitution, price growth rates in 2020 will be materially lower than during the 2014–2015 crisis. With account of timely response measures within monetary policy, annual inflation will start to go down in early 2021 and will come close to 4% in the middle of 2021. However, in the conditions of the ruble strengthening after its considerable depreciation in early 2020, annual inflation will be slightly lower than 4% in 2021–2022 and will begin to go back to the target towards the end of the forecast horizon (Chart 2.3.5).

Economy. A deterioration in the external environment expected in the risk scenario from early 2020 (including a significant decline in external demand) will cause an economic downturn in 2020, following which GDP growth will come in at (-1.5)–(-2.0)% by the end of 2020 as compared to 0.8–1.3% in 2019. In addition, dynamics of consumption, investment and exports will contribute to a decrease in the output. In 2021–2022, as the economy adjusts to the changed external environment, it will start to recover and will expand in 2021 by 1.0–2.0% and by 3.5–4.5% in 2022 (Chart 2.3.6). Yet, export dynamics will remain restrained throughout the forecast horizon amid a slowly recovering global economy.

Fiscal policy will support economic activity dynamics over the forecast horizon. Thus, in 2020–2022, the ruble depreciation assumed in the risk scenario will result in

an increase in the basic oil and gas revenue of the federal budget, which, according to the fiscal rule mechanism, will trigger a rise in federal budget expenditure (as compared to 2019) financed from the NWF in the conditions of declining global oil prices below the cut-off price of $40 per barrel in real terms. In addition, fiscal rule-based foreign currency sales in the domestic market amid dropping global oil prices below the cut-off price will smooth out the impact of this factor on the domestic FX market and consumer price dynamics.

Monetary policy. In the risk scenario, the key rate path will be higher than expected in the baseline scenario, mainly over the short-term horizon. The timely response of monetary policy and the adequate adjustment of monetary conditions will limit the duration and scale of an upward deviation of inflation away from 4%.

Should financial stability risks emerge, the risk scenario assumes that the Bank of Russia has all instruments to support financial stability; their usage will allow monetary policy to focus on price stability.

Monetary indicators. A significant decrease in domestic and external demand in the risk scenario will entail a temporary slowdown in growth of credit and monetary aggregates over the forecast horizon.

In 2020–2021, the growth rate of the banking system's claims on the economy in general will slow down. However, dynamics of the banking system's claims on businesses and households will differ during this period. In 2020, a decrease in retail lending will be the main contributor to the slowdown in growth of the banking system's claims on the economy. In addition, amid a temporary reduction in household incomes and an increase in households' propensity to save, consumer lending will decline at a faster pace, demonstrating a higher sensitivity to economic cycle fluctuations. In turn, a quicker growth of the banking system's claims on businesses in 2020 will reflect to a greater extent the foreign currency revaluation of corporate loans amid the ruble depreciation assumed in the risk scenario, the substitution of external funding sources with domestic ones, and the low base effect of 2019. The risk scenario suggests that retail lending will start to recover in 2021, but corporate lending growth will slow down, given the lagging response to economic developments typical of this market segment.

In turn, the slowdown in lending in the risk scenario will cause lower money supply growth in 2020–2021, despite a potential positive contribution of fiscal policy to its increase through the use of the NWF funds to compensate for a decline in oil and gas revenues within the fiscal rule.

In 2022, as the impact of the assumed deterioration of external conditions on the Russian economy is exhausted, the growth rate of monetary indicators in the risk scenario will approach the values of the baseline scenario.

Balance of payments. A significant deterioration of the external environment in early 2020 suggested in the risk scenario will affect dynamics of the balance of payments in 2020–2022. Thus, in the conditions of a world economy slowdown and declining global oil prices, the current account balance will decrease from approx. 5% of GDP in 2019 to 1–1.5% of GDP in 2020. In 2021–2022, it will stabilise at about 0–0.5% of GDP, while remaining positive throughout the forecast horizon. In turn, due to a significant decrease in global risk appetite and deepening geopolitical tensions, the private sector's financial account balance will remain substantial in 2020 totalling $40 billion (approx. 3–3.5% of GDP). The main contributor to it over the forecast horizon until 2020 will be reducing external liabilities of banks and other economic sectors. A further

reduction in the private sector's financial account balance to approx. 2–2.5% of GDP in 2021 and its stabilisation close to 1–1.5% of GDP in 2022 will be facilitated by a gradual adjustment of the economy to the changed external environment, as well as a sustainable decrease in the current account expected over the forecast horizon in the risk scenario.

The risk scenario also assumes that Russia's foreign currency reserves will decline in 2020–2022 due to fiscal rule-based foreign currency sales on the back of a decrease in global oil prices below the cut-off price of $40 per barrel in real terms.

Investing money of the National Wealth Fund

The fiscal rule is an essential element of macroeconomic policy reducing the sensitivity of the Russian economy to fluctuations in global oil prices. Its parameters are a key assumption for preparing a macroeconomic forecast and for pursuing monetary policy over the mid-term horizon. The predictability and transparency of the fiscal rule mechanism in the coming years, both in terms of the parameters influencing the NWF's money accumulation and spending and in terms of the mechanisms and areas for investing the NWF's resources, are critical for the Bank of Russia's monetary policy decisions.

If the oil price remains above the cut-off price in 2020, the liquid part of the NWF will exceed 7% of GDP. According to the Budget Code, this will enable (but not oblige) the Government to invest the excess amount, whether in full or in part, in other financial assets, besides the customary portfolio of liquid low-risk FX instruments.

In this regard, the question is how to diversify financial assets of the NWF in the coming years and to assess macroeconomic consequences and feasibility of such diversification. This uncertainty may be a risk factor for the implementation of monetary policy.

In its configuration effective since 2017, the fiscal rule has proven to successfully ensure a significant decrease in the dependence of the exchange rate, inflation and economic growth on the oil price. The fiscal rule thus improves the stability and predictability of the key macroeconomic indicators, reduces risks of pursuing procyclical fiscal policy, and supports public finance sustainability in the long run. The current configuration of the fiscal rule is the basis for assessing other options for its implementation.

Below is the analysis of macroeconomic consequences of the following scenarios of decisions on investing the liquid part of the NWF's resources exceeding 7% of GDP (hereinafter, the excess amount):

1. Expansion of the range of FX financial instruments for investing the excess amount.

2. Investment of the entire excess amount in tied foreign currency loans granted to foreign counterparties. These loans are used to purchase products and services from Russian companies.

3. Investment of the entire excess amount in ruble assets in Russia.

4. Investment of a fixed portion (in absolute terms or as a percentage of GDP) of the excess amount in tied foreign currency loans granted to foreign counterparties.

5. Investment of a fixed portion (in terms of value or as a percentage of GDP) of the excess amount in ruble assets in Russia.

Expansion of the range of FX financial instruments. Additional use of higher-risk financial assets not affecting the Russian assets and economy will maintain the efficiency of the fiscal rule and can improve overall return on the NWF's investments, but will reduce asset liquidity and increase volatility of asset prices, as well as raise credit risks. Such assets may comprise foreign securities (including shares) involving a higher credit risk, as well as untied loans to foreign borrowers. However, as to the latter, these assets will most likely have a low liquidity and involve higher risks as compared to foreign market financial instruments.

Investment of the entire excess amount in tied foreign currency loans granted to foreign counterparties. This option implies a partial or complete abandonment of the anchoring to the base oil price and loss of the advantages ensured by the fiscal rule. This happens because foreign currency loans are used by borrowers to purchase Russian companies' products, which involves selling foreign currency for rubles in an amount

comparable to the value of raised loans. As a result, the ruble exchange rate will change accordingly, together with other macroeconomic indicators. Each year the amount by which the liquid part of the NWF's resources exceeds 7% of GDP is calculated based on oil and gas revenue, which in turn depends on the oil price. Therefore, the ruble exchange rate and other macroeconomic indicators will recover their dependence on oil price fluctuations. Consequently, macroeconomic uncertainty will rise, which will complicate the implementation of investment projects and business planning. Although GDP growth can be expected to slightly speed up in the short run owing to such investments, economic growth will further on slow down (unless amounts of new tied loans constantly grow, which is only possible in the case of a sustainable oil price increase). Mid-term economic growth rates may even become lower than those observed with the current fiscal rule mechanism in place. This will occur if an adverse impact of a higher exchange rate volatility and general macroeconomic uncertainty outweighs a potential positive secondary effect of an increase in export orders at Russian enterprises that have consolidated their positions in foreign markets owing to tied loans. Inflation dynamics will get much more volatile and dependent on oil price movements.

Investment of the entire excess amount in ruble assets in Russia. In terms of its macroeconomic consequences, this option is very similar to the second scenario. In case of investment in ruble assets, the Bank of Russia 'mirrors' the NWF's operations for foreign currency conversion into rubles, selling foreign currency in the market, or an amount exceeding 7% of GDP initially accumulates in the NWF's accounts in rubles. Should the actual oil price significantly exceed the fiscal rule-based cut-off price, the ruble will strengthen. A decline in the oil price will weaken the ruble. Consequently, inflation will follow these fluctuations.

As a result, significant oil price fluctuations will make it harder to pursue inflation targeting policy in the second and third scenarios. Fiscal policy will again become procyclical as it used to be before the launch of the fiscal rule. It will excessively accelerate economic growth in a favourable environment and exacerbate a contraction in economic activity during a downturn period. This will consequently require the Bank of Russia to more significantly alter its monetary policy stance and, accordingly, the key rate in order to return inflation to the target.

Investment of a fixed portion of the excess amount in tied foreign currency loans or in ruble assets in Russia. The fourth and fifth scenarios establish a threshold for annual investment of the liquid part of the NWF's money exceeding 7% of GDP (in absolute terms or as a percentage of GDP). Fundamentally, this is largely similar to a one-time increase in the fiscal rule-based cut-off price (in excess of the currently performed annual 2% indexation).

Due to a high volatility typical of the oil price, fluctuations of the macroeconomic indicators (exchange rate, inflation, economic activity) will increase in these scenarios as compared to the effective fiscal rule, while being lower than in the second and third options. Volatility will rise because investments from the NWF will reduce during periods when additional oil and gas revenue of the budget is below the established threshold.

Moreover, the scale of changes in macroeconomic indicators will be greater the larger is the amount of the NWF's resources allocated for investment in tied foreign currency loans or in ruble assets in Russia.

Both in the fourth and fifth scenarios, the ruble is likely to slightly grow during the year when the new investment mechanism is launched or even ahead of it. Such investment will have a direct positive effect on GDP growth only during the first year, because further on the amount invested from the NWF will remain unchanged (and only provided that the oil price is stable). An indirect long-term positive effect related to the impact of projects supported with the NWF's money on potential GDP growth rates depends on the efficiency of the selection and implementation of such projects and will become apparent with a considerable time lag due to the time needed to implement them. In addition to a higher volatility, negative consequences of the fourth and fifth scenarios involve a stronger deterioration of macroeconomic indicators in the case of a material oil price decline (as compared to the effective fiscal rule mechanism). Accordingly, the resistance of the economy to an oil price decrease will worsen.

The difference between the fourth and fifth options is insignificant. In the fourth scenario, time lags between investments and macroeconomic effects will probably be longer than in the fifth one. As to the rest, the mid-term impact on the economy in these scenarios will depend on the relative quality of the selection and implementation of export projects and projects within Russia.

In the fourth and fifth options, a greater confidence of economic agents in the stability of macroeconomic conditions (as compared to the second and third scenarios) will create the prerequisites for acceleration of potential GDP growth, provided that investments from the NWF and budget expenditure in general are efficient. However, a low efficiency of investments may hinder potential growth.

Consequences for monetary policy. Comparing all the scenarios in terms of their consequences for monetary policy, it is essential to emphasise that the current fiscal rule mechanism, along with the approach implied in the first option, may be an efficient stabilising factor for the Russian economy and will enable the Bank of Russia to pursue monetary policy suggested in the baseline scenario of the forecast. The fourth and fifth options will entail less serious consequences for pursuing monetary policy as compared to the second and third ones.

There are also other possible approaches to investing the excess amount of the NWF's resources, and it is necessary to review the entire range of macroeconomic consequences for each of them. It is critical for the Bank of Russia to be able to assess these consequences in advance in order to have enough time (comparable to the time horizon of the implementation of monetary policy measures) for adjusting monetary policy to changes, if the latter occur.

The fiscal rule has proved to be efficient. It is essential to preserve it in the future as a key element of macroeconomic policy supporting the stability of public finance and the economy in general.

3. MONETARY POLICY ENVIRONMENT AND CORE MEASURES IN 2018 H2 AND 2019

3.1. BANK OF RUSSIA KEY RATE DECISIONS

Proactive key rate increases in September–December 2018

After reaching its all-time lows in the first half of 2018, annual inflation gradually returned to the target and amounted to 4.3% at the end of 2018. Furthermore, at the beginning of 2019, its further increase was forecast as a number of pro-inflationary factors materialised in the second half of 2018. To limit the scale of the possible impact of these factors and prevent the steady anchoring of inflation at a level that substantially exceeds the Bank of Russia's target, the Bank of Russia Board of Directors made proactive decisions to increase the key rate in September and December 2018 by a total of 50 bp, to 7.75% p.a.

Depreciation of the ruble was one of the pro-inflationary factors influencing the dynamics of inflation and inflation expectations at the end of 2018. The weakening of the national currency in the second half of 2018, as well as the currencies of other emerging market economies, was mainly caused by a significant increase in the volatility of global financial markets. As major central banks normalised their monetary policy, returns increased in advanced economies; together with the manifestation of previously accumulated macroeconomic imbalances in individual emerging market economies (EMEs) this led to the outflow of capital from EMEs. In addition, the intensification of international trade tensions played a certain role in the increased volatility of global financial markets. The Russian financial market experienced additional influence from geopolitical factors and, to some extent, from the oil price downturn at the end of 2018.

The VAT increase from 1 January 2019 announced in mid-2018 made a certain contribution to inflation acceleration. Prices started to adjust to the upcoming VAT change as early as the end of 2018. The Bank of Russia estimates that the interval of the possible cumulative contribution of the VAT increase to inflation in 2018–2019 was wide enough – from 0.6 to 1.5 pp.[1] The scale of the VAT increase pass-through to prices largely depended on the reaction of producers and consumers, including a change in inflation expectations and possible secondary effects.

As the ruble weakened and the VAT rate was expected to rise, inflation expectations of businesses and households increased noticeably, reflecting their high sensitivity to temporary factors. At the end of 2018, uncertainty regarding the further dynamics of inflation expectations also remained.

The above-mentioned pro-inflationary factors could have exerted a more considerable impact on inflation amid unanchored inflation expectations. In particular, it was possible that the annual growth rate of consumer prices at the peak could exceed 5.5% and even reach 6% in the first months of 2019. To limit growth of inflationary pressure, the Bank of Russia raised its key rate in late 2018 and noted that it would evaluate the need to further increase the key rate in order to limit inflation risks and possible growth of inflation expectations.

[1] *See the Report on the Estimated Impact of the Increase of the Standard VAT Rate on Inflation (August 2018), http://www.cbr.ru/Content/Document/File/47495/201_01_nds.pdf.*

Keeping the key rate unchanged in January-April 2019

Inflation data released in the first months of 2019 reflected moderate impact of pro-inflationary factors on the dynamics of consumer prices. Annual inflation recorded a local peak of 5.3% in March 2019, below December expectations of the Bank of Russia. This allowed the Bank of Russia to revise its inflation forecast for the end of 2019 downwards from 5.0–5.5% to 4.7–5.2%.[2]

The overall moderate contribution of pro-inflationary factors to price movements was related both to the proactive decisions of the Bank of Russia and to a number of foreign and domestic factors.

Primarily, the inflationary pressure was limited by the dynamics of consumer demand. The level of interest rates on deposits ensured that real interest rates remained positive, which supported the attractiveness of savings. Furthermore, the portfolio of consumer loans continued to grow, and this had a positive contribution to the increase in consumer activity.[3] However, as real wage growth slowed down and real disposable income reduced, consumption growth remained moderate, which was reflected in the reduced growth rate of retail sales.

There was a slowdown in economic activity overall. In 2019 Q1, the annual GDP growth rate dropped to 0.5% (in 2018 Q4, 2.7%), below the expectations of the Bank of Russia. Only the release of more detailed GDP data in early July 2019 allowed to fully capture the nature of and reasons for the slowdown.

In such conditions, the price response to the VAT increase turned out to be moderate. Its contribution to annual inflation in February came in at approx. 0.6–0.7 pp, which was close to the lower bound of the Bank of Russia's estimate range. By March-April the VAT increase had already translated into prices and the absence of significant deferred effects could be noted.

Since the beginning of 2019, external developments strengthened the ruble, thus, reducing inflation. As the global economic growth forecast was revised downwards, major central banks suspended the normalisation of monetary policy and eased the rhetoric about its prospects. This limited the risk of significant capital outflow from EMEs. The ruble's appreciation was also supported by the resumed growth of oil prices.

The Bank of Russia took into account the fact that, along with exchange rate dynamics, other temporary factors had a disinflationary effect as well. In particular, in March and April, growth in certain food prices slowed down, among other things, due to the completion of adjustment of supply to demand. Due to the extension of agreements between the Russian Government and oil majors until 1 July, prices for the main types of motor fuel increased only slightly.

Although inflation expectations of households and price expectations of businesses decreased significantly in the first quarter, they remained at elevated levels.

Guided by the above factors, the Bank of Russia kept the key rate unchanged at 7.75% p.a. Moreover, more moderate than expected current inflation growth and a decrease in the risks of elevated price growth subsequently made it possible to ease the rhetoric regarding future decisions in March-April 2019, allowing for a possible reduction of the key rate in the current year.

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[2] *See Monetary Policy Report, No. 1 (25), March 2019, http://www.cbr.ru/Collection/Collection/File/18969/2019_01_ddcp.pdf.*

[3] *Simultaneous growth in the attractiveness of deposits and consumer lending can be explained by different propensities to consume of individual population groups.*

Key rate cuts in June–October 2019 and monetary policy outlook

The price dynamics and overall economic situation in May–October 2019 suggested a possible reduction of the key rate by the Bank of Russia. Annual inflation slowed down, including growth in prices for the basic components of the consumer basket. Seasonally adjusted consumer price growth slowed down to values corresponding to a decrease in inflation in 2019. Annual inflation rates reflecting the most sustainable price dynamics processes mainly declined, which confirmed moderate inflationary pressure. By September, they were close to or below 4%. In these conditions, the Bank of Russia had been progressively lowering its inflation forecast for the end of 2019: from 4.7–5.2% in June to 3.2–3.7% in October. However, as a result of all disinflationary factors, price growth rates were lower than forecast by the Bank of Russia.[4]

More detailed data on the structure of GDP growth in 2019 H1, updated information and leading indicators released in April–October evidenced that economic activity was weak and aggregate demand restrained inflation. Growth rates of the Russian economy stayed below the Bank of Russia's expectations, being affected by external and internal factors. The slowdown in the world economy turned out to be more significant than expected, and in this conditions export quantities declined in 2019 H1. Moreover, during this period fiscal policy had an extra downward pressure on the economic activity dynamics, which was associated with the VAT increase and partially with the delayed implementation of a number of national projects planned by the Russian Government. In this context, the dynamics of investment and consumer activity and of industrial output were subdued. Along with constrained demand, inflationary pressure was constrained by supply-side factors in certain food markets, ruble strengthening and inflation deceleration in Russia's trading partners, which translated into prices of imported goods.

In September–October, disinflationary factors had a more significant influence on price growth slowdown than it had been estimated before. Pro-inflationary risks related to the external environment did not materialise. In particular, volatility rose in global commodity and financial markets in August which might enhance pro-inflationary factors; however, the situation stabilised. In June–October, overall disinflationary risks exceed pro-inflationary risks over the short-term horizon. This was primarily related to the weak dynamics of domestic and external demand.

In this context, the Bank of Russia stated that a slower inflation paved the way for a future decrease in inflation expectation. Companies' price expectations generally continued to decrease, while not having reached the previous years' lows yet. Households' inflation expectations for a year ahead remained virtually unchanged in the second half of 2018 and throughout January–July 2019, holding at an elevated level. They have shown a downward trend since August 2019.

The said factors pointed to a decline in inflationary pressure. Therefore, this created the prerequisites for decreasing the Bank of Russia key rate. In June–September, the Bank of Russia's Board of Directors cut the key rate thrice – overall, by 75 bp to 7.00%. In October, the Bank of Russia reduced the key rate by 50 bp, to 6.50%, on the back of a stronger effect of disinflationary factors. In addition, the Bank of Russia noted that if the situation develops in line with the baseline scenario, it will consider the necessity of further key rate reduction at

[4] *See Monetary Policy Report, No. 2 (26), June 2019, http://cbr.ru/Collection/Collection/File/19993/2019_02_ddcp.pdf; Monetary Policy Report, No. 3 (27), September 2019, http://cbr.ru/Collection/Collection/File/23678/2019_03_ddcp.pdf.*

one of the upcoming meetings of the Board of Directors.

Thereby, the Bank of Russia key rate has entered the range assessed as a probable range of the neutral rate: 6–7% in nominal terms, or 2–3% in real terms with inflation expected to reach 4%. The value of the neutral rate of interest is estimated depending on a broad range of both domestic and global factors, as well as the monetary policy transmission mechanism, and may alter, being affected by these factors. In the future, the Bank of Russia may need time to determine the thresholds of the neutral range and to make sure that they are in line with the current estimates.

The Bank of Russia's decisions and signals, as well as a decline in returns in global financial markets, triggered a gradual easing of monetary condition in Russia. The OFZ yield curve gradually sloped downward since the beginning of the year, and bank rates on deposits have turned to decline since April, followed by lending rates in May–June.

The first half of 2019 saw growth in corporate and retail lending. Russian corporate borrowers continued to replace foreign currency loans with ruble loans. Accelerated growth in retail lending supported consumer demand. Further on, lending activity declined in all market segments on the back of, among other things, the Bank of Russia's measures which have been taken since May 2019 and aimed at containing excessive growth in certain segments of retail lending market.

In making key rate decisions and forming a signal about future monetary policy, the Bank of Russia considered medium-term risks along with short-term risks. The assessments of these risks did not change substantially and were considered significant.

As regards external conditions, risks of a future slowdown in the global economy persisted, including due to further tightening of the international trade restrictions. Geopolitical factors might lead to strengthened volatility in global commodity and financial markets, affecting exchange rate and inflation expectations.

Possible decisions on investing the liquid part of the National Wealth Fund in excess of the threshold level set at 7% of GDP may exert an upward pressure on inflation.

Risks associated with elevated and unanchored inflation expectations are still significant.

Thus, when making its key rate decisions, the Bank of Russia took into account that the factors favour inflation slowdown in 2019 and its stabilisation close to 4% in 2020. Below is more detailed information about internal and external conditions for pursuing monetary policy that were reviewed when assessing the current developments and preparing the mid-term macroeconomic forecast, being the basis for key rate decisions.

3.2. MACROECONOMIC CONDITIONS

Inflation and inflation expectations

In late 2018 – opening months of 2019, annual inflation went up, mainly under the influence of the VAT rate increase from 1 January 2019, depreciation of the ruble in the second half of 2018, and price increases in certain food markets following the adjustment of supply to demand. Moreover, in conditions of elevated and unanchored inflation expectations, risks arose of inflation anchoring at a level significantly exceeding the Bank of Russia's target.

The proactive decisions of the Bank of Russia to increase the key rate in September and December 2018 in many ways contributed to the reduction of annual inflation as early as April 2019. Consumer demand trends also constrained inflation. The effect of the VAT rate hike

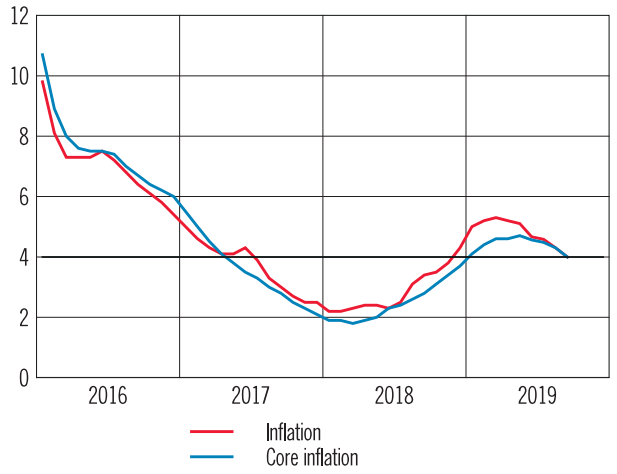
had largely abated by March–April 2019 and no considerable deferred effects could be found. Inflationary pressure was also limited by temporary factors, including the appreciation of the ruble starting in early 2019 and motor fuel price regulation, as well as specific factors in a number of food markets (see the Box 'Effect of non-monetary factors on inflation').

Inflation reached 5.3% in March to decrease to 4.0% in September (Chart 3.1). At the same time, the local peak of inflation was lower than the Bank of Russia forecast in December 2018 (5.5–6%). In February–May, seasonally adjusted monthly growth in consumer prices slowed down to the values corresponding to 4% annual inflation; however, in June–September, monthly price growth slowed further (Chart 3.2). The Bank of Russia's estimates suggest that annual consumer price growth will come in at 3.2–3.7% by the end of 2019.

Annual indicators specific to the most stable component of price dynamics also rose moderately. In May, core inflation reached 4.7%, and in June it turned to decline for the first time since March 2018, reaching 4.0% in September. The median of distribution of annual price increases peaked (4.6%) in April and subsequently also gradually decreased, to 3.9% in September (Chart 3.3).

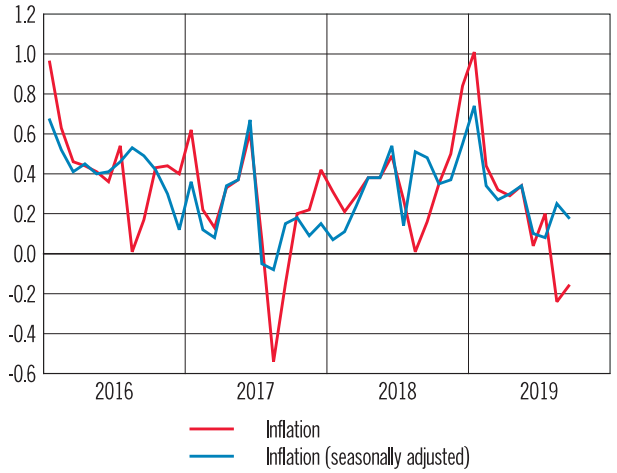
In the first months of 2019, food inflation made the most significant contribution to the change in prices for major groups of consumer goods and services. January 2019 also registered a significant acceleration of annual growth of service prices, which mostly occurred due to the indexation of utility rates in connection with the VAT change and increased rates for solid waste disposal. The increase in annual growth of non-food prices during this period was modest. In March, annual growth in prices of services and non-food goods reached 5.1% and 4.7% respectively, and then declined.

INFLATION AND CORE INFLATION *Chart 3.1*
(% growth on the same month of the previous year)



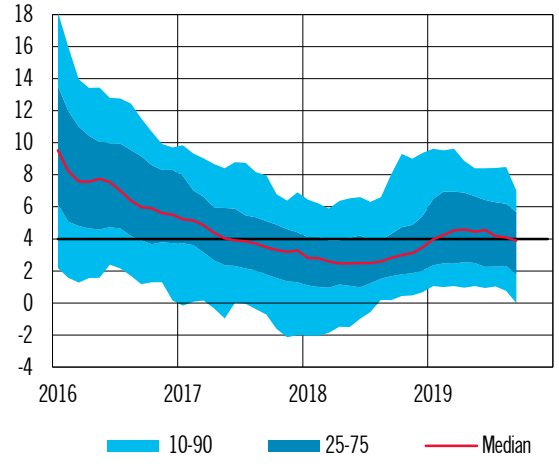
Source: Rosstat.

INFLATION *Chart 3.2*
(% growth on the previous month)



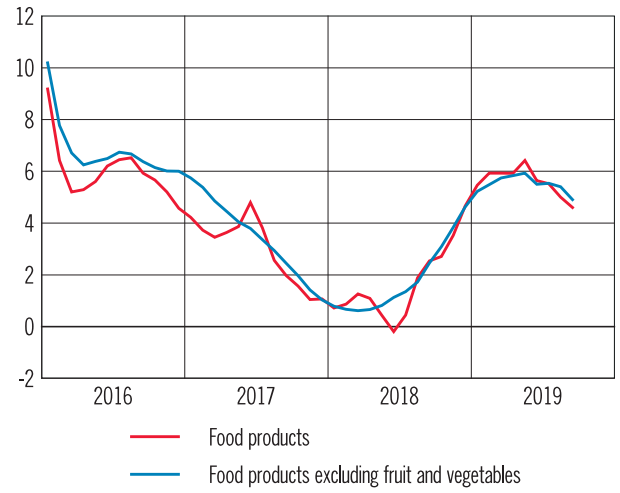
Sources: Rosstat, Bank of Russia calculations.

DISTRIBUTION OF GOODS AND SERVICE PRICE GROWTH *Chart 3.3*
(% growth on the same month of the previous year)



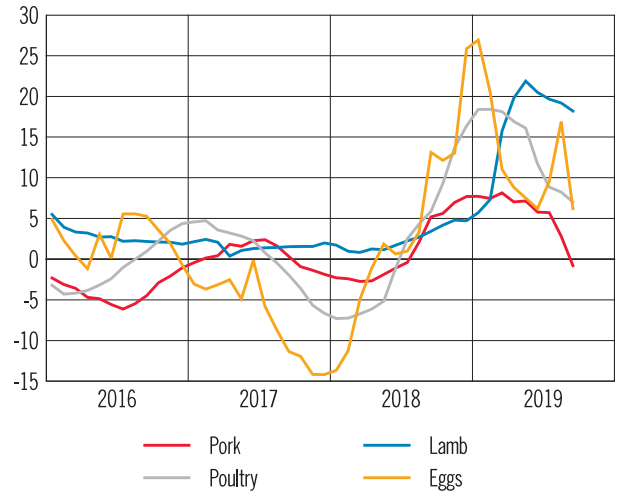
Sources: Rosstat, Bank of Russia calculations.

FOOD PRICES *Chart 3.4*
(% growth on the same month of the previous year)



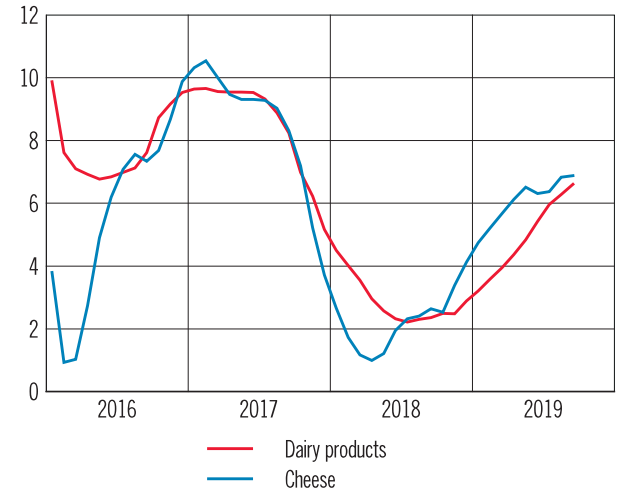
Source: Rosstat.

MEAT AND EGG PRICES *Chart 3.5*
(% growth on the same month of the previous year)



Source: Rosstat.

DAIRY PRICES *Chart 3.6*
(% growth on the same month of the previous year)



Source: Rosstat.

Food inflation started to slow down in June and decreased from 6.4% in May to 4.6% in September.

Food products (share in CPI – 37.61%). Food price dynamics were the main contributor to the increase in inflation in December 2018 – March 2019. Annual food inflation accelerated from 4.7% in December 2018 to 6.4% in May 2019 (Chart 3.4).

Growth of food prices was accelerated by a number of factors. First, the depreciation of the ruble in the second half of 2018 remained impactful in the first months of 2019. Second, the supply of certain food products continued to adjust to demand. In particular, in the markets of meat, dairy products and eggs, production grew faster than demand in 2015–2017. Starting in mid-2018, producers' efforts were aimed at reducing market oversupply and supporting profitability; this caused a price adjustment in these product categories (Chart 3.5 and 3.6). The low base effect of 2018 also made a certain contribution: in January-February 2018, annual food inflation amounted to 0.7–0.9% amid an abundant supply in certain food markets.

It should be noted that since most food products are subject to a reduced VAT rate, its increase had a limited direct effect.

In June–September, annual food inflation substantially slowed – to 4.6% in September. The greatest contribution to the drop in annual food inflation in June was made by fruit and vegetable price movements related to the earlier sowing and harvesting campaigns compared to last year (Chart 3.7).

Good crops of cereals, sunflower, potato and vegetables had a downward pressure on inflation. The decrease in inflation was largely driven by the dynamics of sugar, meat and poultry prices that formed in the context of a greater-than-expected growth of supply versus demand.

The overall high availability of agricultural raw materials and food in the Russian market creates the conditions for a moderate increase in the prices of food products at a pace corresponding to price stability.

Non-food goods (share in CPI – 34.81%). In late 2018 – opening months of 2019, non-food goods prices continued to rise at a relatively moderate pace. Having reached 4.7% in March, annual inflation in the non-food market began to decline and came in at 3.4% in September 2019 (Chart 3.8).

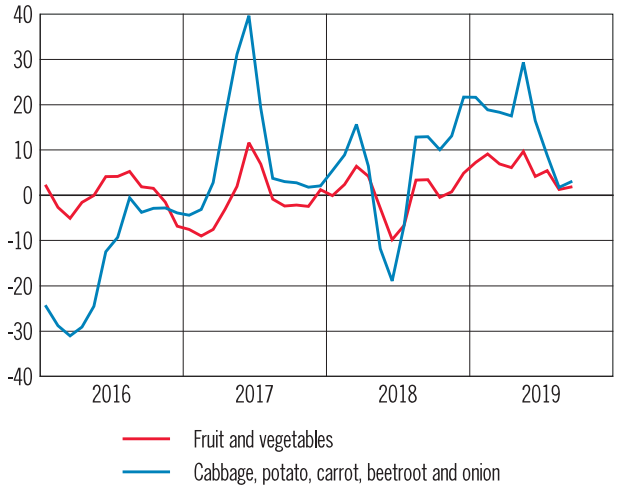
As early as February, monthly price growth in the market of non-food goods (seasonally adjusted) returned to the level of September–December 2018 after an upsurge in January due in large part to the VAT increase.

A considerable contribution to the reduction of annual growth in prices of non-food goods in April–June was made by the slowdown of price growth for petroleum products in the context of the agreements between the Russian Government and major oil companies effective from 1 November 2018 through 30 June 2019 (Chart 3.9). A slowdown in price growth was also driven by the exhaustion of the impact of the VAT increase, appreciation of the ruble and restrained consumer demand.

After the agreements restricting prices for motor fuel were terminated starting from 1 July 2019, prices for these products remained stable. The dynamics of motor fuel prices depend on the effectiveness of compensating instruments such as the reverse excise tax and the dynamics of global crude and petroleum product prices and the ruble exchange rate.

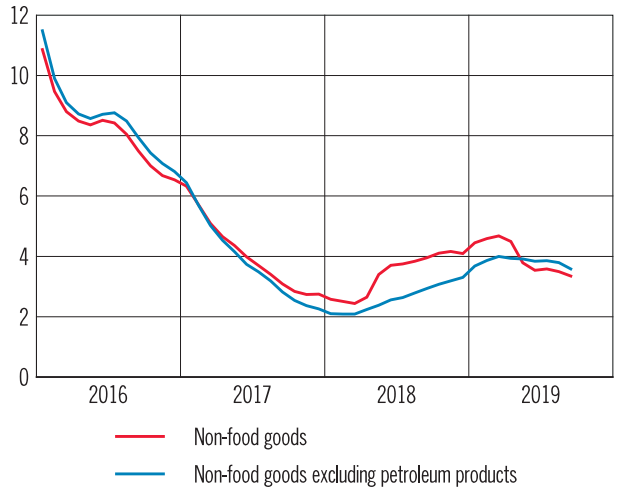
In August–September, annual growth rates of prices for various non-food groups primarily reduced, being affected by moderate demand and the ruble appreciation.

FRUIT AND VEGETABLE PRICES *Chart 3.7*
(% growth on the same month of the previous year)



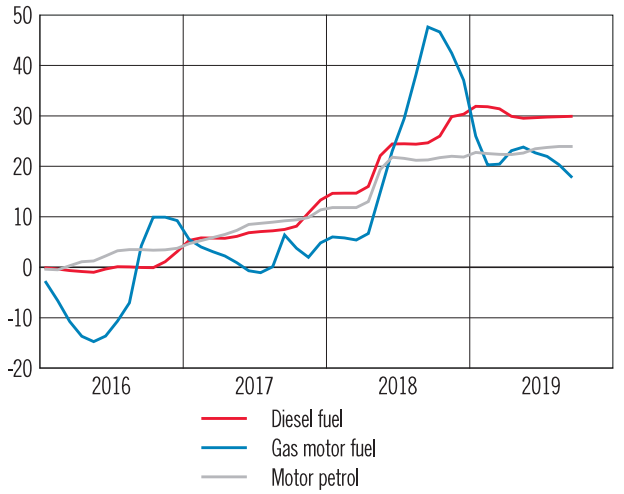
Sources: Rosstat, Bank of Russia calculations.

NON-FOOD PRICES *Chart 3.8*
(% growth on the same month of the previous year)



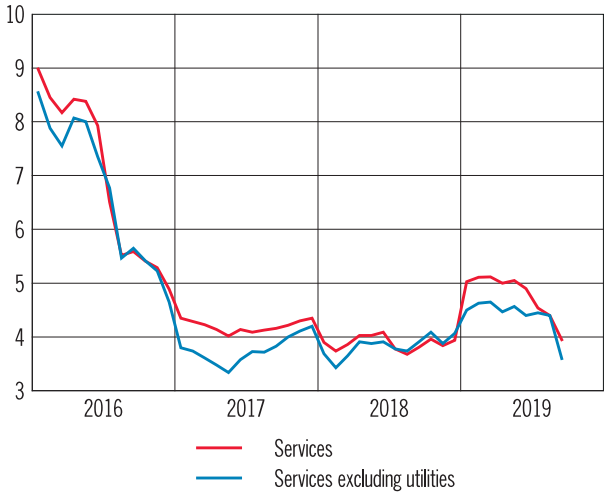
Sources: Rosstat, Bank of Russia calculations.

GROWTH OF PETROLEUM PRODUCT PRICES *Chart 3.9*
(% change on December 2015)



Sources: Rosstat, Bank of Russia calculations.

GROWTH OF SERVICES PRICES *Chart 3.10*
(% change on the same month of the previous year)



Sources: Rosstat, Bank of Russia calculations.

Services (share in CPI – 27.58%). In January 2019, the annual growth rate of service prices significantly increased to 5.0%. Later on, in February–June, it stabilised in the range of 4.9–5.1%. In July–September, it decreased to 4.0% (Chart 3.10).

The acceleration of annual growth in service prices at the beginning of the year was due, to a large extent, to the dynamics of administered prices and tariffs, mainly utility rates. In contrast to the standard scheme, in 2019 the indexation of utility rates was divided into two stages. The first one was carried out in January 2019 and was associated with the increase in the VAT rate. As is customary, the second stage completed in July.

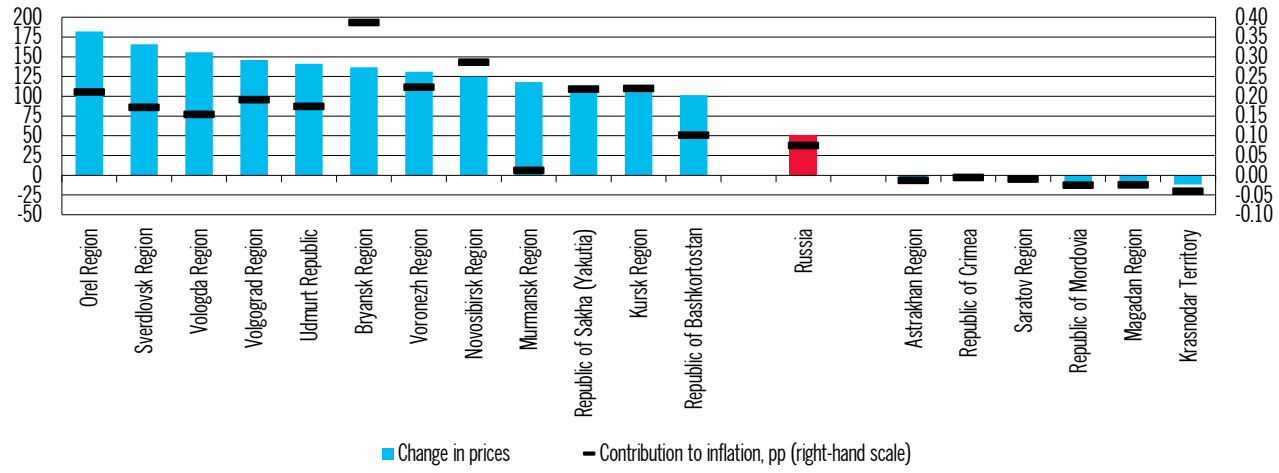
In addition, the January acceleration of the annual growth rate of service prices was caused by a significant increase in rates for solid waste disposal in many regions of the country. In some regions, rates doubled or tripled following a reform in this area (Chart 3.11).

In July, annual service price growth fell by 0.4 pp to 4.5%. This was primarily due to the fact that the indexation of utility rates from 1 July was lower than a year earlier and amounted to 2.5%. Overall, the planned indexation of utility rates during the year (net of solid waste management services) will approximate 4%.

In August–September, annual growth in service prices slowed down together with other inflation components. Along with moderate demand and ruble strengthening, service price dynamics were affected by a number of specific factors, such as the slowdown in growth of air fares and prices for higher education and outbound tourism.

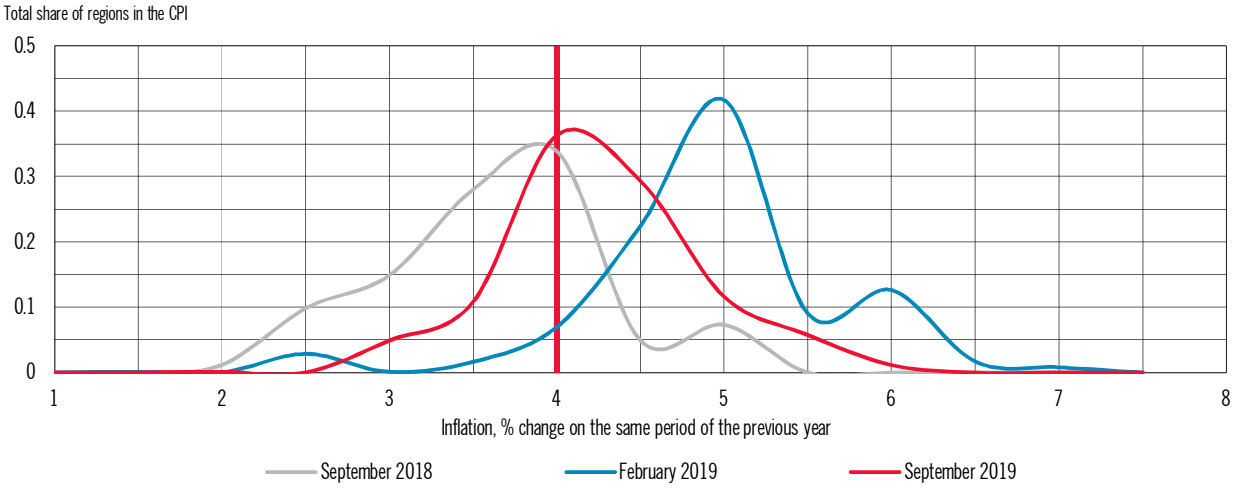
Price dynamics across regions. From late 2018 to early 2019, annual inflation accelerated in all Russian regions, but at different paces, which caused a greater dispersion of this indicator across regions

CHANGE IN SOLID HOUSEHOLD WASTE DISPOSAL PRICES *Chart 3.11*
(January 2019 as % on January 2018)



Source: Rosstat.

DISTRIBUTION OF REGIONS BY INFLATION LEVEL *Chart 3.12*

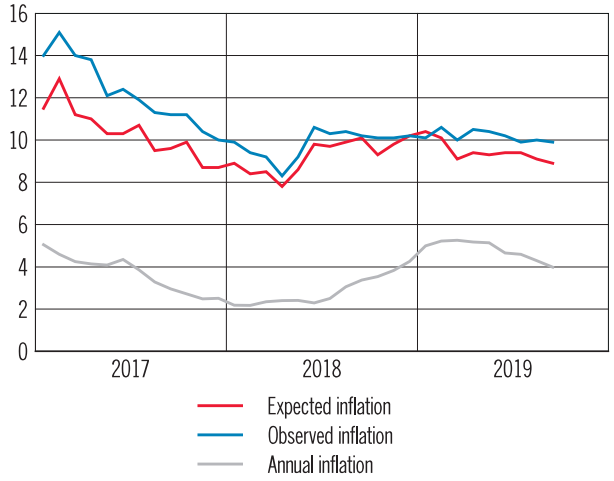


Sources: Rosstat, Bank of Russia calculations.

(Chart 3.12). The main factors behind the increase in the regional dispersion of inflation were the differences in the magnitude of pass-through of the ruble depreciation that occurred in the second half of 2018 to prices, as well as the unequal scale and speed of influence of the increased VAT rate on price dynamics in the regions. These differences are related to the geographical peculiarities of the structure of consumption and import flows and the different dynamics of demand in the regions. A significant contribution to the regional dispersion of inflation was also due to the differences in the dynamics of traditionally more volatile food prices and in the amount of adjustment of tariffs of natural monopolies at the beginning of the year.

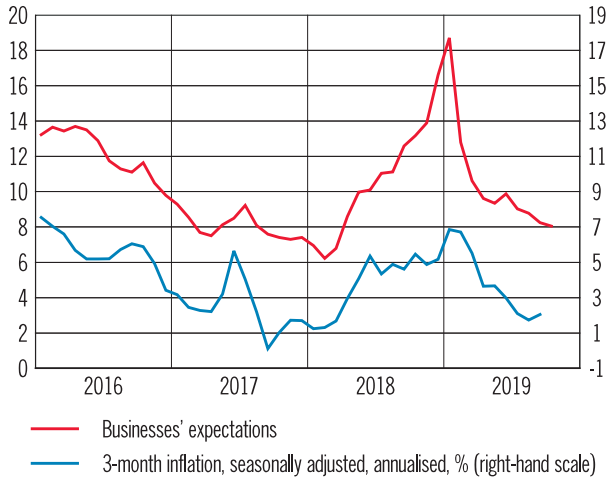
In March–May 2019, after inflation increased in all constituent territories of the Russian Federation, inflation dynamics were mixed across regions. The number of regions where inflation was slowing down in April–May exceeded half of the total number. However, the regional heterogeneity of price dynamics decreased, mainly due to a slowdown in inflation in regions where its values were highest. In June–

INFLATION OBSERVED AND EXPECTED BY HOUSEHOLDS *Chart 3.13*
(median estimate, %)



Sources: Rosstat, inFOM.

PRICE EXPECTATIONS OF BUSINESSES *Chart 3.14*
(balance of responses, pp)



Sources: Rosstat, Bank of Russia.

September 2019, inflation continued to slow down in most regions. The importance of federal-level factors of price dynamics gradually rose, whereas the effect of local factors on inflation in Russia contracted. However, local episodes of increased regional heterogeneity of inflation related to the state of individual markets and the influence of non-monetary factors in the regions are possible.

Inflation expectations. After the increase in the second half of 2018 – early 2019, economic agents' inflation expectations turned to decline by September 2019.

Households' inflation expectations remained responsive to growth in prices for certain goods and services. As inflation accelerated in late 2018 – early 2019, inflation expected by households for the next 12 months increased and peaked in February at 10.6% (Chart 3.13). In March–September, it held within the range of 8.9–9.4%, remaining at a fairly high level. Observed inflation in the previous 12 months also held at an elevated level after mid-2018.

After substantial growth in December and January, price expectations of businesses for three months ahead declined in February–October and returned to the level observed in the first half of last year (Chart 3.14). In the opening months of 2019, expectations decreased homogeneously enough across sectors supported by the completion of the pass-through of the VAT rate increase to prices. Moving forward, the dynamics was determined by specific factors.

Given the high relevance of current price dynamics for inflation expectations of households and businesses, inflation slowdown lays the groundwork for the reduction of inflation expectations in the future.

Inflation expectations of professional analysts have remained anchored throughout 2019. They expect near 4% inflation by the end of 2020. This fact

reflects the confidence of this audience that the Bank of Russia's monetary policy will anchor inflation near 4%.

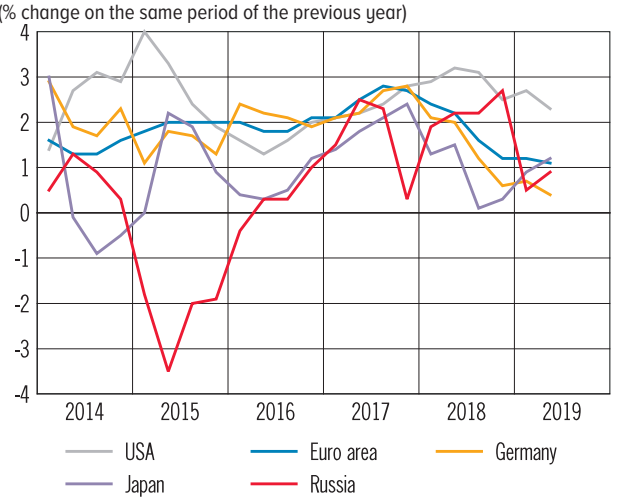
External conditions

Economic growth and inflation. The trend towards a slowdown in the global economy seen in the second half of 2018 continued in January–September 2019 (Charts 3.15 and 3.16). Furthermore, there were risks of an even more significant slowdown of the global economy related primarily to trade tensions. In May–September 2019, international organisations revised downwards their world economic growth forecasts for the upcoming years.[5]

Both in late 2018 and in January–September 2019, price pressure in the world was low largely due to the deceleration of world economic growth. Annual inflation in most major economies of the world has remained below target throughout 2019 (Chart 3.17). Low growth rates in Russia's trading partners contained growth in import prices.

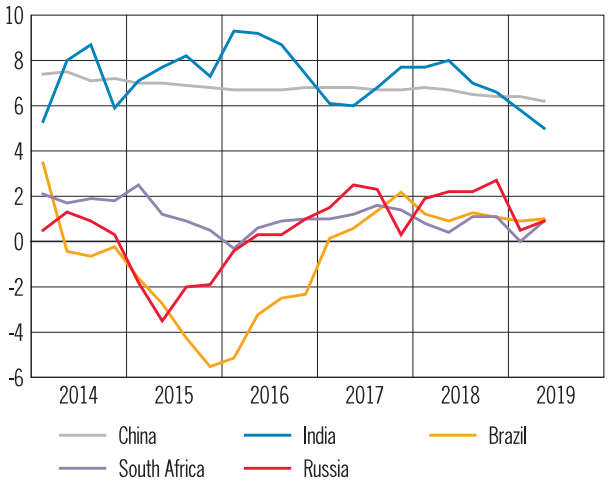
Monetary policy and other economic policies. At the end of 2018, most advanced economies continued to normalise their monetary policy. However, the slowdown of the global economy and persisting risks to economic growth subsequently eased off the rhetoric at the beginning of 2019, and later led to revision of interest rates (Chart 3.18). In particular, in March, the US Fed significantly eased its rhetoric regarding both further normalisation of the interest rate policy and the parameters of balance sheet reduction. The US Fed cut the rate twice, by a total of 50 bp, in July and September and terminated the balance sheet reduction ahead of schedule

GDP GROWTH RATES: ADVANCED ECONOMIES AND RUSSIA *Chart 3.15*
(% change on the same period of the previous year)



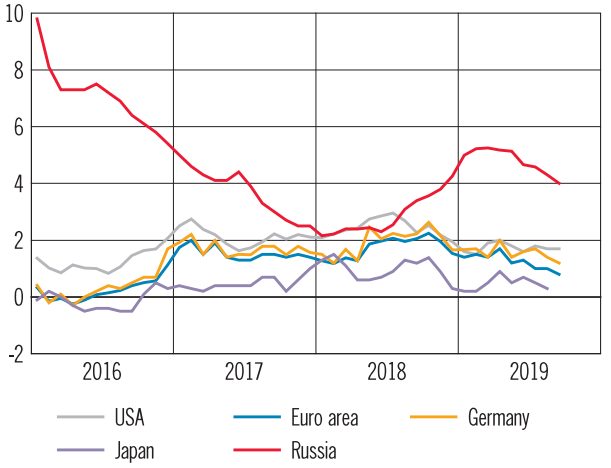
Source: Bloomberg.

GDP GROWTH RATES: EMES AND RUSSIA *Chart 3.16*
(% change on the same period of the previous year)



Source: Bloomberg.

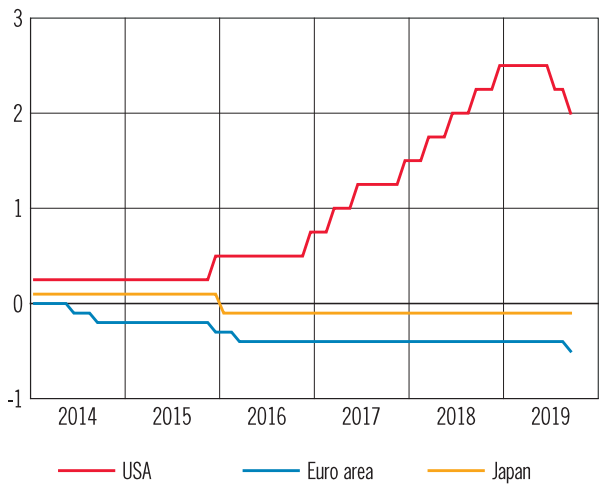
INFLATION: ADVANCED ECONOMIES AND RUSSIA *Chart 3.17*
(% change on the same period of the previous year)



Source: Bloomberg.

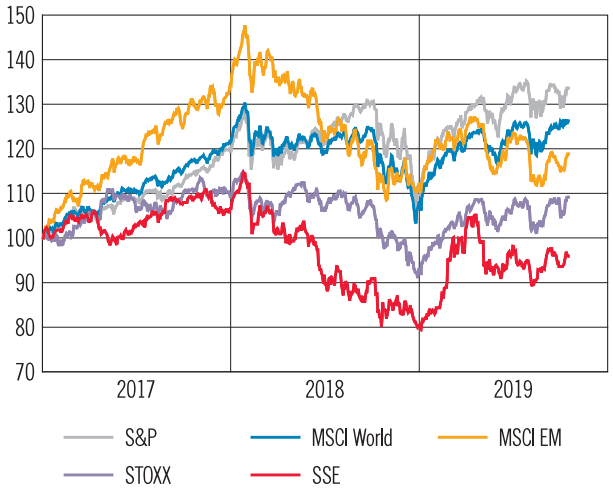
[5] *IMF – to 3.0% in 2019 and to 3.4% in 2020, World Bank – to 3.3% in 2019 and to 3.5% in 2020, OECD – to 2.9% in 2019 and to 3.0% in 2020.*

POLICY RATES, ADVANCED ECONOMIES *Chart 3.18*
(% p.a.)



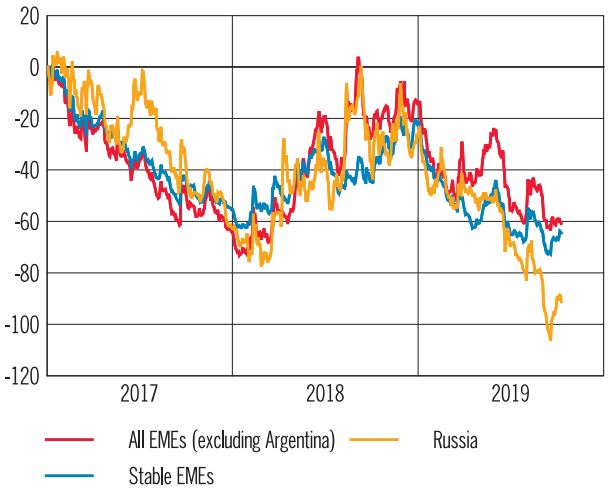
Source: Bloomberg.

STOCK INDICES *Chart 3.19*
(100 = 2.01.2017)



Source: Reuters.

CDS OF EMES *Chart 3.20*
(change on 02.01.2017, bp)



Sources: Reuters, Bank of Russia calculations.

(beginning from 1 August 2019).[6] In March, the ECB announced a new round of the Targeted Long-Term Refinancing Operations III (TLTRO III) programme. In September, the ECB reduced the deposit interest rate by 10 bp, announced that in November it would resume asset purchases in the amount of €20 billion monthly, and extended the lending period within TLTRO III from two to three years.

The changes in monetary policy of other countries at the beginning of the year were related to the specifics of their internal economic environment. Starting from April, a number of central banks reduced their policy rates amid slack growth of the global economy and low inflationary pressure.

Global financial and commodity markets. A period of increased volatility in global financial markets observed in the second half of 2018 gave way to a relative stabilisation in early 2019. Subsequently, positive dynamics prevailed. In certain months, markets saw an adjustment following trade negotiations between the USA and China and other local factors. Changes in the rhetoric of central banks of leading economies, followed by monetary easing, and a growing demand for risky assets triggered growth in global stock markets (Chart 3.19), a decrease in government bond yields and a reduction of country risk premiums of emerging market economies (Chart 3.20). However, the sustainability of this process will depend, among other things, on the world economic growth estimates.

The further easing of monetary policy in advanced economies helped lower interest rates on government debt in most large advanced economies in May–September 2019 (Chart 3.21). In some countries (in

[6] *Starting from 15 October 2019, the US Fed also launched monthly purchases of short-term Treasury bonds worth $60 billion. The purchases will be made at least until 2020 Q2. The US Fed chair emphasised that these operations are aimed at supporting the operational procedure and not related to the quantitative easing programme.*

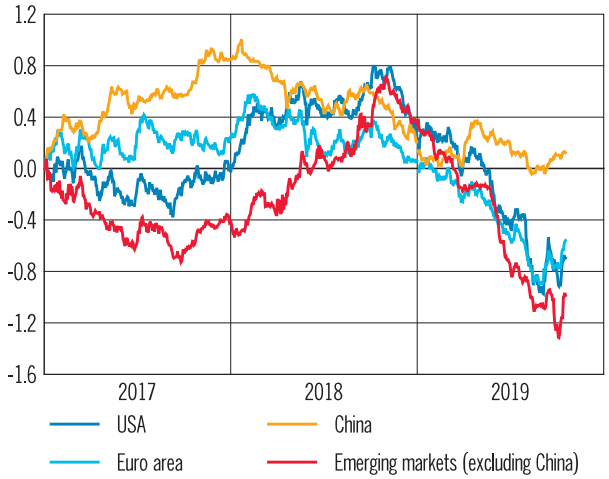
particular, in the USA and Germany), interest rates on long-term bonds declined faster than interest rates on short-term bonds, which inverted the yield curve. This may be related to fears of a further slowdown of global economic growth.

After a substantial decline at the end of 2018, the Urals crude price averaged $64 per barrel in January–October 2019, which was overall close to the level assumed in the baseline scenario of the Bank of Russia's forecast[7] (Chart 3.22). At the same time, oil prices fluctuated considerably. At the beginning of the year, oil prices were rising on the back of the oil production cut within OPEC, both under OPEC+ agreements and as a result of sanctions against Venezuela and Iran. Oil prices went down in June–August due to rising risks for global demand amid growth of trade tensions between the USA and China. In the middle of September, oil prices rose temporarily following the production cut by Saudi Arabia. Production recovered completely by early October. According to the Bank of Russia's baseline scenario, the oil price in 2019 will average $63 per barrel and may fluctuate near this level.

Prices for other commodities, bar iron ore, decreased in January–September 2019 compared to the same period of last year. This was caused both by various factors specific to the markets of the relevant goods and a general slowdown in global economic growth.

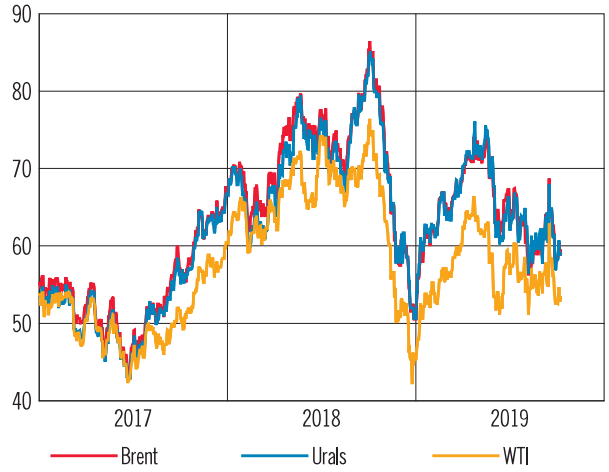
In the second half of 2018 – first months of 2019, the global food market saw a year-on-year price drop which subsequently gave way to a rise due to, among other things, growth in prices for meat products. Considering the low share of imports in consumption of a number of food goods in Russia, the dynamics of food prices in the

YIELDS ON 10-YEAR GOVERNMENT BONDS *Chart 3.21*
(change on 02.01.2017, pp)



Sources: Reuters, Bank of Russia calculations.

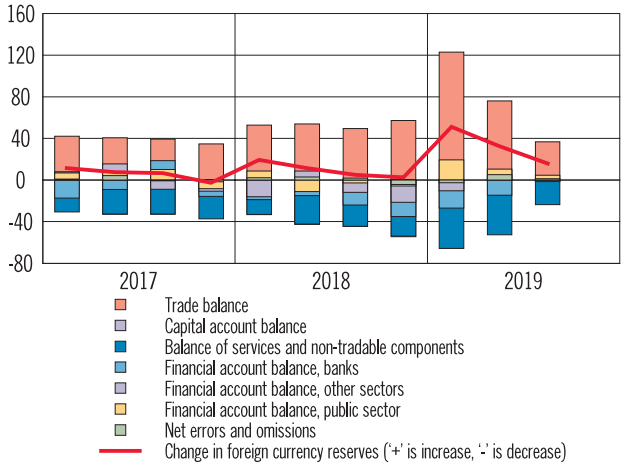
OIL PRICES *Chart 3.22*
(US dollars per barrel)



Sources: Thomson Reuters, Bloomberg.

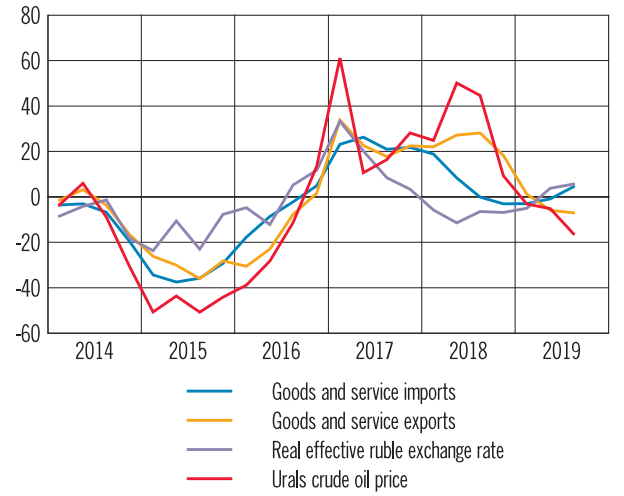
[7] *In the Monetary Policy Guidelines for 2019–2021, the baseline scenario assumed an oil price of $63 per barrel in 2019.*

RUSSIA'S BALANCE OF PAYMENTS BY QUARTER* *Chart 3.23*
(billions of US dollars)



** Signs according to BPM6. 2019 Q3 estimate.*
Source: Bank of Russia.

FOREIGN TRADE* *Chart 3.24*
(% change on the same quarter of the previous year)



** Assessment of exports and imports for 2019 Q3.*
Sources: Bank of Russia, Thomson Reuters.

period under review did not exert significant pressure on Russian inflation.

Balance of payments and exchange rate

Balance of payments. According to the Bank of Russia's estimate, the current account balance dropped to $57.2 billion in January–September 2019 compared to $75.1 billion in the same period of 2018 (Chart 3.23). Trends were mixed during this period. In January to March 2019, the balance of trade increased compared to the same period of the previous year, mainly due to the reduction of imports (Chart 3.24). In April and May, a restraining effect on the balance of trade was exerted by oil production cut under the OPEC+ agreement and a temporary suspension of oil pumping through the Druzhba pipeline. In June–September, the decrease in energy prices led to a year-on-year contraction in the balance of trade despite the resumed oil supply through the Druzhba pipeline in full since 1 July 2019.

According to the Bank of Russia's estimate, the balance of financial transactions of the private sector decreased to $24.9 billion in January–September 2019 from $29.9 billion in the corresponding period of 2018.

In January–September 2019, net lending by Russia's private sector to the rest of the world was largely formed by bank operations to increase foreign assets and reduce liabilities to non-residents.

Starting from the beginning of 2019, Russia's foreign currency reserves increased by 13%, to $530.9 billion, as of 1 October 2019. Growth of the reserves resulted mainly from foreign currency purchases under the fiscal rule and the inflow of funds from sovereign Eurobond placements.

Exchange rate. In January–July 2019, a trend toward the appreciation of the ruble took shape in the context of the improvement in global financial markets.

Amid the escalation of trade tensions and rising economic uncertainty in certain countries, EME currencies, including the ruble, depreciated in August. In the first half of September, the ruble appreciated owing to the alleviation of trade tensions and expectations for reduction of policy rates in the USA and the euro area. Moving forward, the ruble exchange rate stabilised to the levels recorded in March–early June.

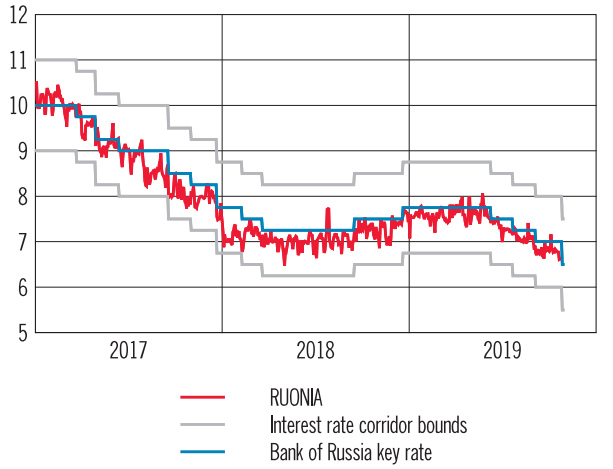
Financial sector

Money and stock markets. In January–September 2019, overnight interest rates on interbank loans formed near the key rate with a small average absolute spread (18 bp)[8] (Chart 3.25). This took place against the background of a structural liquidity surplus, which decreased from ₽3.0 trillion as of the end of 2018 to ₽2.9 trillion by the end of September 2019. Liquidity-absorbing operations of the Bank of Russia kept interbank interest rates near the key rate. In the context of the structural liquidity surplus, one-week deposit auctions are the main instruments. In order to absorb the stable portion of excess liquidity for longer periods, the Bank of Russia uses coupon bonds (coupon OBRs).

Longer-term rates in the money and stock markets were shaped by both the Bank of Russia's decisions and signals regarding the key rate and the state of global financial markets (Chart 3.26). After substantial growth in the second half of 2018 associated with the volatility of foreign financial markets, country risk premium decreased steadily in January–October 2019, which is generally consistent with the dynamics of risk premiums of other emerging market economies. In these conditions, the demand for OFZs grew, while their yield mostly declined. In addition, growth of bond quotations in July–October 2019 was supported mainly

RUONIA AND BANK OF RUSSIA INTEREST RATE CORRIDOR *Chart 3.25*

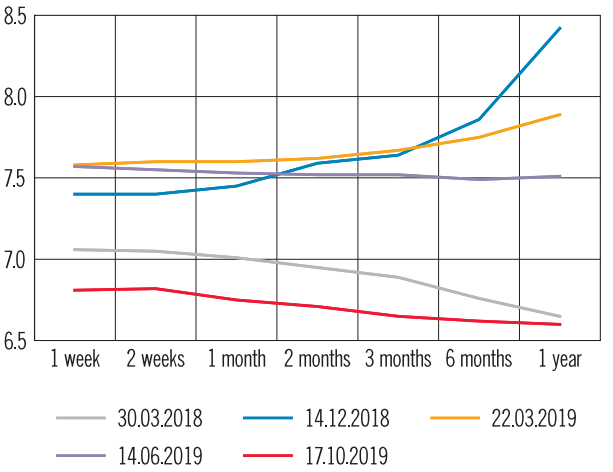
(% p.a.)



Source: Bank of Russia.

ROISFIX CURVE* *Chart 3.26*

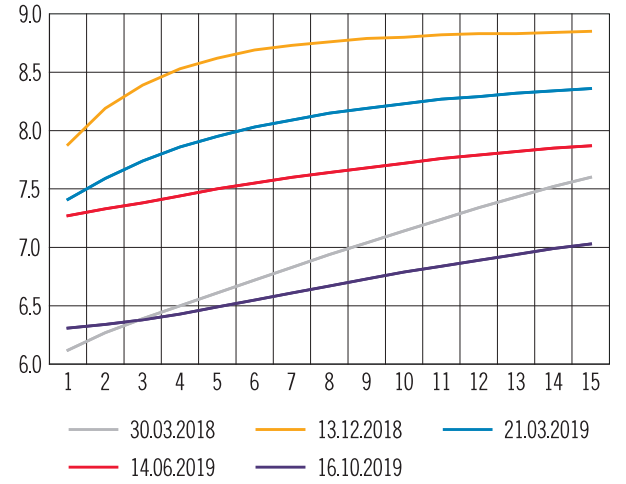
(% p.a.)



** ROISFIX (RUONIA Overnight Interest Rate Swap) is an indicative rate (fixing) for RUONIA interest swap transactions. It reflects the expected average RUONIA rate over a horizon from 1 week to 1 year.*
Source: SRO NFA.

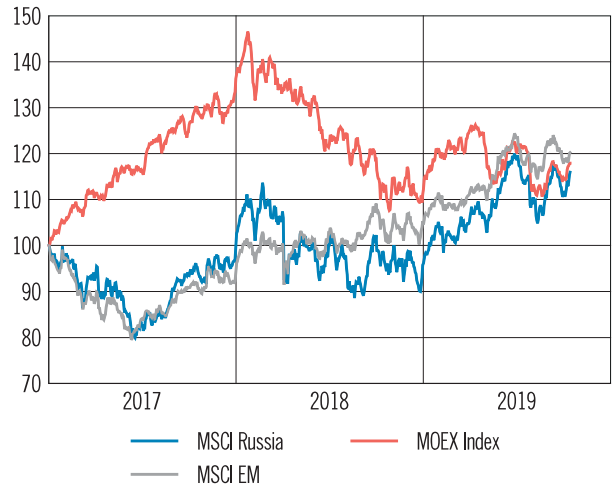
[8] *For details, see Section 4.*

OFZ ZERO COUPON YIELD CURVE *Chart 3.27*
(% p.a.)



Source: Moscow Exchange.

STOCK INDICES *Chart 3.28*
(100 = 03.01.2017)



Source: Bloomberg.

by the reduction of securities supply by the Ministry of Finance after the significant overperformance of bond placement plans in the first half of 2019. The sanctions imposed against Russia in early August 2019 only had a short-term negative effect – yields returned to the previous levels within a few days. The Bank of Russia's signals of a possible transition to key rate reduction in 2019 (22 March 2019) contributed in this context to the decline in OFZ yields and longer-term money market rates in 2019 Q2–Q3 (26 April 2019) (Chart 3.27). The decisions of the Bank of Russia to lower the key rate on 14 June, 26 July and 6 September 2019, combined with a signal of its potential further reduction at one of the upcoming meetings of the Board of Directors, consolidated these trends. Interest rates in the money market and the capital market adjusted by October along the entire length of the yield curve. In particular, in the middle of October 2019, the yields at the long end of the OFZ curve were lower than the yields seen in March 2018, while the yields at the short end approximated them.

In the Russian stock market, positive dynamics prevailed in the first half of 2019 largely due to global growth in risk appetite (Chart 3.28). Local factors operated in certain periods, including growth of dividend payouts by a number of large Russian companies and banks. Moreover, after the Moscow Exchange index reached its all-time high in June, it adjusted in July–August, primarily due to the dynamics in global financial and commodity markets, as well as the end of the dividend period. In late August–middle of October, amid the recovery of demand for high-risk assets in global markets, the Russian market partially offset the decline.

Deposit and loan market. Growth of the government bond yield and long-term money market rates in Russia in the second

half of 2018 led to higher rates in the deposit and loan market. Moreover, timely Bank of Russia decisions in September and December 2018 in response to the pro-inflationary factors limited pro-inflationary risks, which, in turn, curbed potential interest rate growth in the financial market.

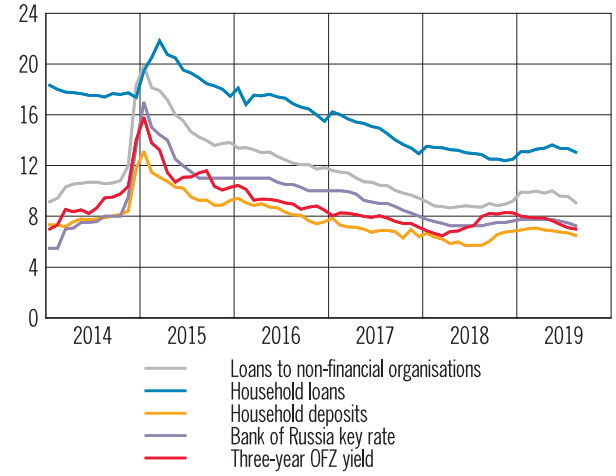
In January 2019, rates both on foreign currency and ruble deposits continued to rise, supported by competition for depositors between banks (Chart 3.29). At the same time, banks no longer expected interest rates to grow further. They gradually started to cut interest rates on foreign currency deposits in February and on ruble deposits in March amid the continuing reduction of interest rates on long-term instruments of the stock and money markets, including under the influence of expectations regarding further inflation slowdown and the decrease of the Bank of Russia key rate. As inflation returns to the target and long-term money market rates and bond yields adjust accordingly by the end of 2019, average market deposit rates can be expected to go down further.

The increase in nominal rates in late 2018 – early 2019 helped bank deposits retain attractiveness for depositors. After a temporary decrease to 5.4% in January, annual growth of household deposits rose to 8.2% at the beginning of September (Chart 3.30).[9] Also, throughout January–September 2019, there was a trend toward the replacement of short-term ruble deposits with long-term deposits.

In the corporate loan market, long-term interest rates stabilised already at the beginning of 2019. However, in the retail

INTEREST RATES ON LONG-TERM RUBLE TRANSACTIONS IN THE RUSSIAN MARKET *Chart 3.29*

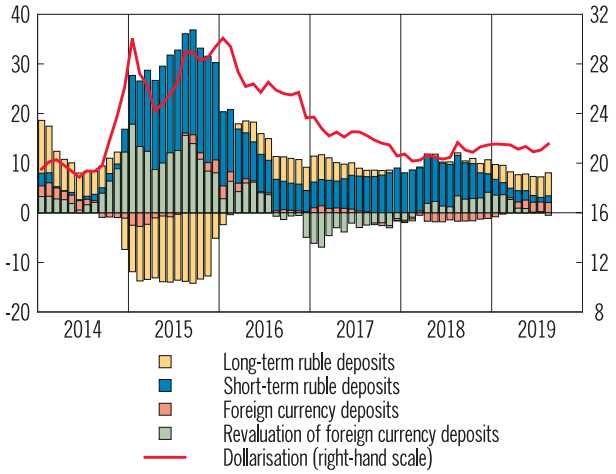
(% p.a.)



Source: Bank of Russia.

ANNUAL GROWTH IN HOUSEHOLD DEPOSITS *Chart 3.30*

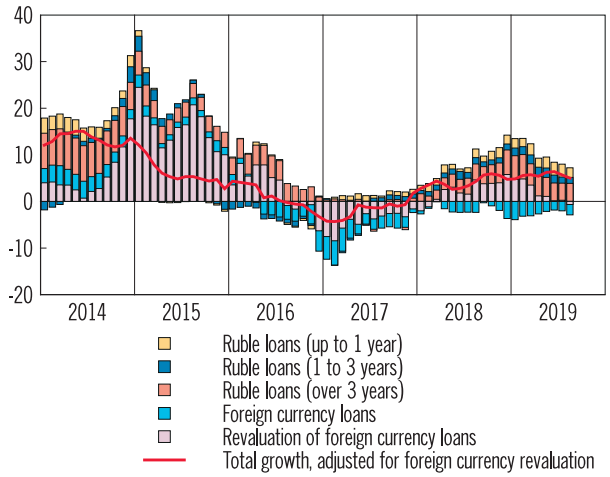
(contribution of individual elements in pp)



Source: Bank of Russia.

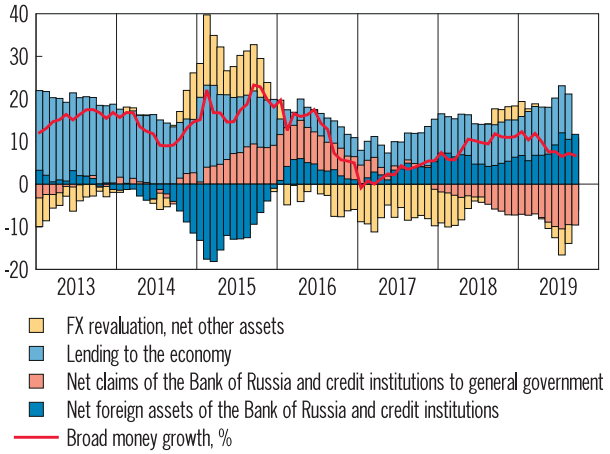
[9] *Hereinafter, increases in banks' balance sheet indicators are calculated based on reporting data of operating credit institutions recorded in the State Register as of the relevant reporting date. Increases in foreign currency claims and liabilities are calculated in US dollar terms. To analyse the flows of funds between banks and their customers, when calculating growth of balance sheet indicators (including broad money), which include FX and ruble components, growth of the FX component is converted into rubles using the period average exchange rate.*

ANNUAL GROWTH OF CORPORATE LOAN PORTFOLIO *Chart 3.31*
(contribution of individual elements in pp)



Source: Bank of Russia.

BROAD MONEY SOURCES *Chart 3.32*
(contribution to annual growth, pp)



Source: Bank of Russia.

loan market, they continued to grow until April–May, depending on a segment. Overall, the potential for growth of the lending rates was exhausted by July, under the influence of signals and decisions adopted by the Bank of Russia about the reduction of the key rate, moving forward, these rates went down. In July–October, a number of major market participants lowered rates for mortgage products, which also contributed to a further decrease in the average market rates.

As the cost of bank funding and the yield of alternative financial instruments reduce throughout 2019, a steady trend can be expected towards the reduction of credit rates supported by competition for high-quality borrowers between banks.

In the first half of the year, credit portfolio growth rates increased both in the retail and corporate segments against the background of relatively stable price and non-price lending conditions (Chart 3.31). Moving forward, lending activity tended to decline in all market segments. Corporate loan growth ranged in this period between 4.8% and 6.4%. Throughout the period, the segment saw a replacement of foreign currency loans with ruble loans. In early 2019, a significant contribution to growth of retail lending was made by mortgage lending; however, thereafter the contribution of consumer lending gradually increased. Macroprudential measures aimed at containing individual segments of the retail lending market with increased risk limited the potential acceleration of retail lending growth. As soon as May, the annual growth rate of the retail loan portfolio started to decline. According to the Bank of Russia's estimates, the slowdown in retail lending growth will continue throughout 2019.

In January–September 2019, broad money continued to grow (Chart 3.32). The annual growth rate of broad money as of 1 September 2019 amounted to 7.3%, while

that of money supply stood at 7.2%. The main source of growth was credit to the economy. Growth in net foreign assets of the central bank and credit institutions was offset by the negative contribution of net claims of the central bank and credit institutions on general government.

Economic activity

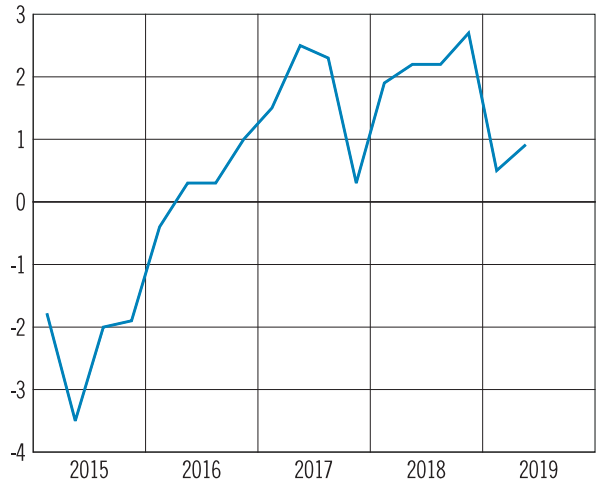
Gross domestic product. While at the end of 2018, GDP growth rates amounted to 2.3% and were slightly higher than the Bank of Russia forecast, in the first half of 2019, in contrast, they formed below expectations (Chart 3.33). In the first quarter, the annual rate of GDP growth slowed down to 0.5% and turned out to be lower than the Bank of Russia's forecast range of 1.0–1.5%. In 2019 Q2, the annual GDP growth rate rose to 0.9%.

The slowdown in GDP growth was related both to slack investment activity and a significant reduction of annual export growth rates amid weakening external demand, among other things. Weak investment activity is in many ways linked to lower government investment against the same period of 2018. Fiscal policy made an overall restraining contribution to aggregate demand in the first half of 2019.

GDP growth is expected to accelerate as national projects are implemented and public investments are increased in the second half of 2019. However, given the published GDP statistics for 2018–2019 H1, the Bank of Russia revised downwards the 2019 GDP growth forecast in September from 1.2–1.7% to 0.8–1.3%.

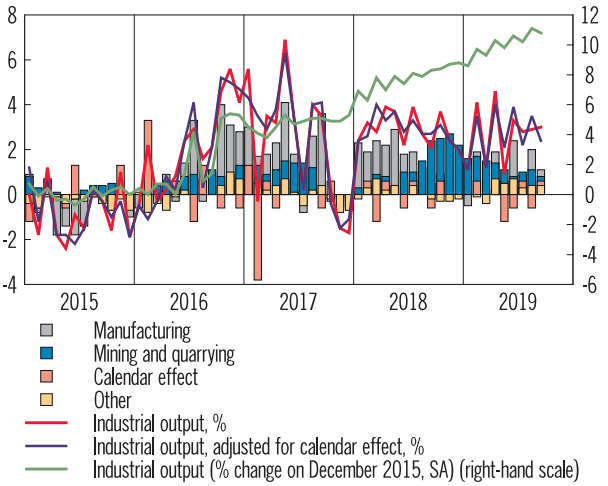
Production activity. In January–September 2019, annual growth of industrial production was on average lower than in the same period of the previous year (Chart 3.34). At the same time, strong fluctuations in the rates of growth from 0.9% to 4.6% were observed. Seasonally adjusted monthly data evidence that the

GDP GROWTH RATE *Chart 3.33*
(% change on the same quarter of the previous year)



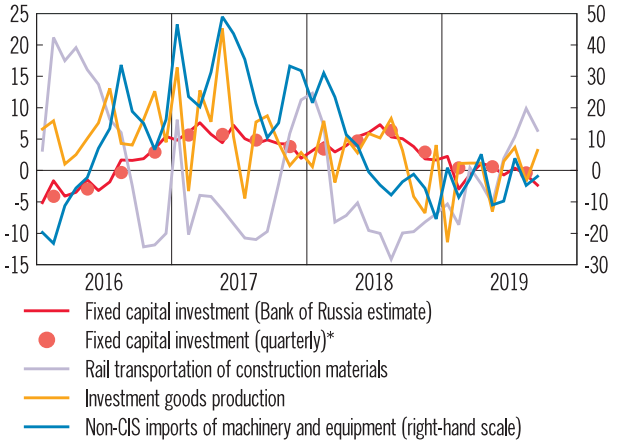
Source: Rosstat.

INDUSTRIAL OUTPUT *Chart 3.34*
(contribution to annual growth, pp)



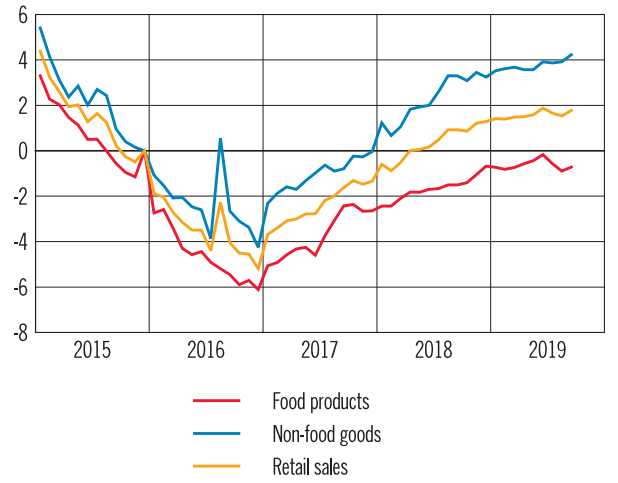
Sources: Rosstat, Bank of Russia calculations.

INVESTMENT ACTIVITY INDICATORS *Chart 3.35*
(% growth on the same month of the previous year)



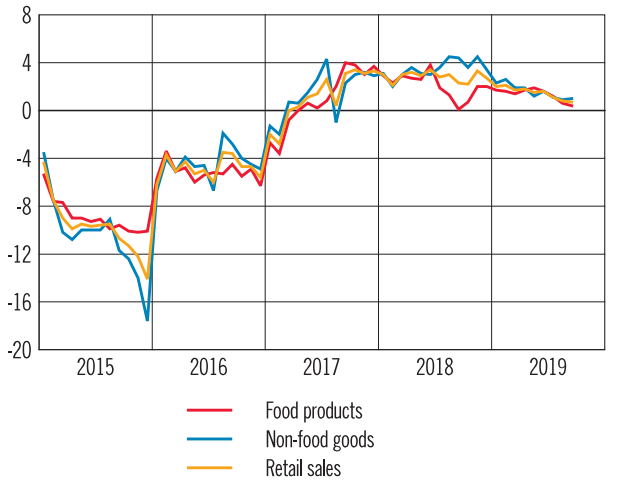
** 2019 Q3 – Bank of Russia estimate.*
Sources: Rosstat, FCS, Bank of Russia calculations.

RETAIL SALES *Chart 3.36*
(growth as % on December 2015, seasonally adjusted)



Sources: Rosstat, Bank of Russia calculations.

RETAIL SALES *Chart 3.37*
(% growth on the same month of the previous year)



Source: Rosstat.

industrial output has been growing. However, production activity growth remains unstable and heterogeneous for individual types of production. Business sentiment indicators in manufacturing pointed to uncertainty over further growth prospects. That said, dynamics both in mining and manufacturing were volatile.

In January–September 2019, annual growth in mining and quarrying gradually declined from 4.8–5.1% in January–February to 2.3–3.1% in June–September. Growth slowed down mainly due to weak external demand and continued oil production caps in OPEC+, as well as reduced oil supplies due to contaminated raw materials entering the Druzhba oil pipeline in 2019 Q2; later these supplies were restored.

The dynamics of manufacturing output remained unstable. In January–September 2019, the annual growth rate fluctuated from -1.0 to 4.7%. The monthly dynamics of production of certain types of goods were mixed due to factors specific to these types of production.

Investments and consumption. In 2019 Q1, annual growth of fixed capital investments slowed down to 0.5% from 2.9% in the previous quarter, and in 2019 Q2 the growth rate was 0.6% as compared to the same period of 2018 (Chart 3.35). According to the Bank of Russia's estimates, investment demand in the second quarter was mainly satisfied by domestic products, given the notable decline in the imports of investment goods. The leading indicators of investment activity in July–September 2019 evidenced that fixed capital investment growth remained quite low.

As in the end of the previous year, investment activity was restrained by a temporary slowdown of government investments. At the same time, the annual growth rates of fixed capital investments by the private sector (excluding infrastructure investment) also slowed.

Such investment activity indicators as the output of investment goods and engineering imports continued to show mixed and rather unstable dynamics in January–September 2019.

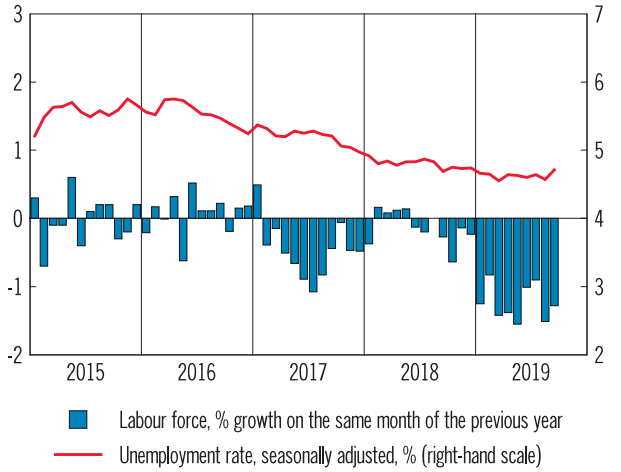
In January–September 2019, consumer demand mostly slowed down. This was reflected in the reduction of the annual growth rates of retail turnover from 2.7% in December to 0.7–1.6% in May–September (Charts 3.36 and 3.37). The slowdown of consumer demand was mainly related to the dynamics of real disposable household income (see the Section 'Labour market and incomes'). The dynamics of consumer sentiment indicators remained heterogeneous and did not allow drawing unambiguous conclusions about their improvement.

Labour market and incomes. In the first months of 2019, the seasonally adjusted unemployment rate continued to decline to hit its all-time low of 4.5% in March. Moving forward, it stabilised within the 4.6–4.7% range (Chart 3.38). This was accompanied by a year-on-year reduction in the workforce, mainly due to demographic factors.

In 2019 Q1, nominal wage growth slowed down to 6.5% from 8.1% in 2018 Q4 due to the high base effect in the previous year (the increase in wages of social and cultural sector employees under the presidential May decrees). In Q2–Q3, nominal wage growth returned to the average level of 2016–2017 (Chart 3.39). However, as inflation slowed down real wage growth accelerated to 2.4–3% in June–August 2019 from 0.0–2.3% as of the year-start. In Q4, real wage is forecast to grow by 3–3.5% YoY.

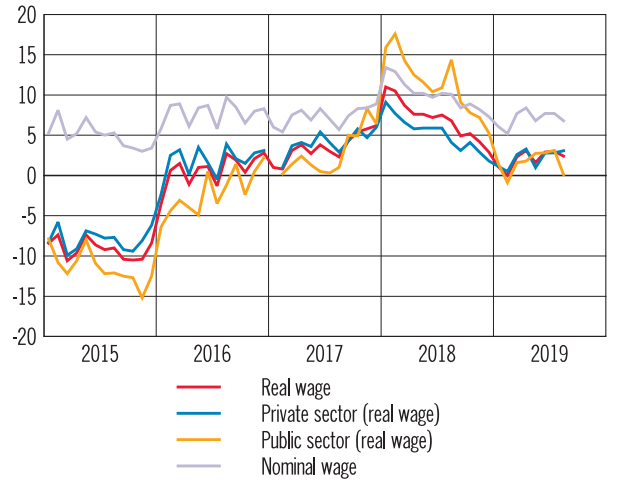
The slowdown of remuneration growth led to a reduction of the annual growth rate of real disposable household income in 2019 Q1 to -2.5%. In 2019 Q2, the reduction of income slowed down to -0.1%, due to the adjustment of pensions (bringing them to the regional minimum subsistence level)

UNEMPLOYMENT AND LABOUR FORCE *Chart 3.38*



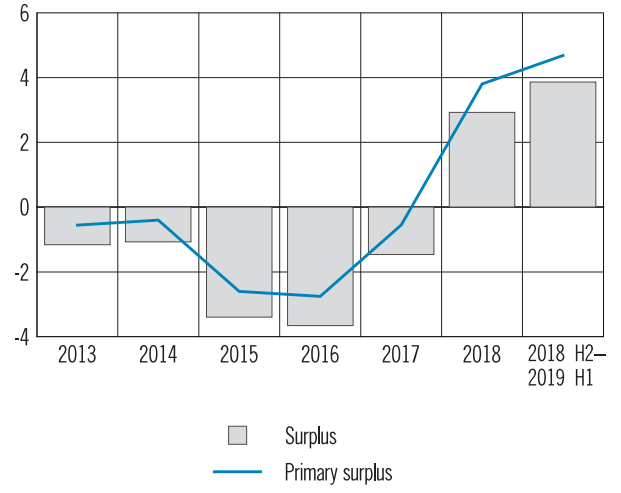
Sources: Rosstat, Bank of Russia calculations.

WAGE *Chart 3.39*
(% growth on the same month of the previous year)



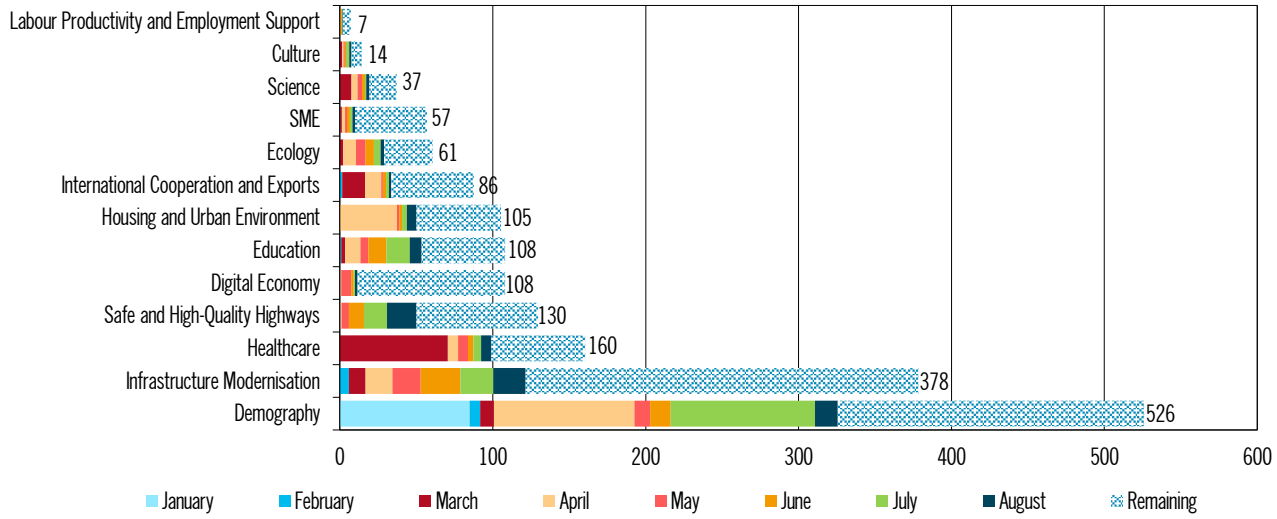
Sources: Rosstat, Bank of Russia calculations.

BUDGET SYSTEM SURPLUS *Chart 3.40*
(% of GDP)



Sources: Federal Treasury, Bank of Russia calculations.

BUDGET EXPENDITURE ON NATIONAL PROJECTS IN 2019 *Chart 3.41*
(cumulative total, billions of rubles)



Sources: Federal Treasury, Bank of Russia calculations.

and the slowdown of annual growth of other incomes to -6.1% after -22% in 2019 Q1. In Q3, growth in real disposable money income increased to 3.0% due to fast growth in labour remuneration.

Public finance

As of the end of 2018, the budget system registered a surplus for the first time since 2012; furthermore, in the first half of 2019, the surplus continued to increase (Chart 3.40). Its formation was stipulated by the faster-than-expected growth of income (10.8% YoY) as compared to an increase in expenses (4.5% YoY). Growth continued in both oil and gas (4.7%) and non-oil and gas revenue (12.7%) following the VAT base rate hike and a higher financial result of enterprises in the first half of 2019. In August 2019, the 12-month rolling non-oil and gas deficit of the budget system decreased to 4.5% of GDP (vs 5.8% in 2018).

Macroeconomic effects of fiscal policy. In January–August 2019, fiscal policy put a downward pressure on aggregate demand. This is evidenced by the growing proceeds from non-oil and gas revenue, primarily VAT, and the slow execution of expenditures, including those related to national projects. In particular, the capital investment expenditure of general government in January–August 2019 were 0.8% lower in nominal terms compared to the same period of the previous year. In 2019 Q3-Q4, according to the estimates of the Bank of Russia, fiscal policy will begin to support domestic demand, and fiscal momentum will come out in the positive area quarter on quarter. This is associated with the seasonality of execution of budget expenditures and the expected acceleration of execution of expenditures on national projects and other measures aimed at the achievement of national goals. At the same time, funds unused in 2019 are expected to be partially rolled over to the first half of 2020. Overall in 2019, fiscal policy will be of a restraining nature, according to the estimates of the Bank of Russia.

National projects. In January–August, ₽813 billion were allocated from the federal budget to finance national projects and the Comprehensive Plan for Upgrading and Expanding Core Infrastructure throughout 2024, which is 46% of the planned budget appropriations for 2019 (Chart 3.41). The highest level of execution of expenditures is recorded for the national Healthcare,

Demography and Culture projects (62%, 62% and 54% respectively), and the lowest is for the national Digital Economy and Ecology (11% and 17% respectively). The increased budget spending in the second half of the current year may have a pro-inflationary effect in late 2019 – early 2020.

Public debt. A favourable market environment and a new format for OFZ placement auctions (without a pre-announced placement volume) enabled the placement of federal government bonds in a volume exceeding their planned issuance. In particular, in the first six months of 2019, OFZ placement amounted to ₽1,371 billion, or 130.6% of the plan. Despite high demand, the amount of OFZ placements in the market totalled ₽268 billion, or 89% of the plan, which suggests that the Ministry of Finance seeks to minimise the cost of borrowing.

Effect of non-monetary factors on inflation

Monetary policy plays a major role in supporting medium-term price stability under the inflation targeting regime. The central bank sets and modifies the key rate to keep inflation near target. However, in certain periods inflation is affected by factors whose influence cannot be limited by monetary policy measures; such factors are called non-monetary factors.[1] As a rule, their influence is temporary in nature. Nevertheless, they can impact inflation expectations of economic agents and lead to more significant and extended deviations of inflation from the target. In these conditions, increased pro-inflationary risks may require response from the central bank. In addition, the impact of non-monetary factors can also reduce the effectiveness of the monetary policy transmission mechanism. To reduce the effect of non-monetary factors on price volatility and the extent of inflation deviation from the target, coordinated actions within various areas of macroeconomic policy are needed.

In assessing the impact of non-monetary factors (its scope and duration), the Bank of Russia accounts for the fact that they also depend on pricing specifics in the markets of individual goods and services. Markets for tradable goods and services are subject to the influence of external shocks, whereas markets of non-tradable goods are more dependent on the dynamics of expenses formed by internal conditions (structural and institutional). In competitive markets of goods and services, price dynamics and volatility are less sensitive to external influence, whereas the reaction of prices in markets with high concentration may be unforeseen and have negative implications for inflation expectations of economic agents.

The most significant impact on inflation in the last two years was exerted by such non-monetary factors as the supply of agricultural goods and food products, external shocks determining export price dynamics, and domestic institutional factors.

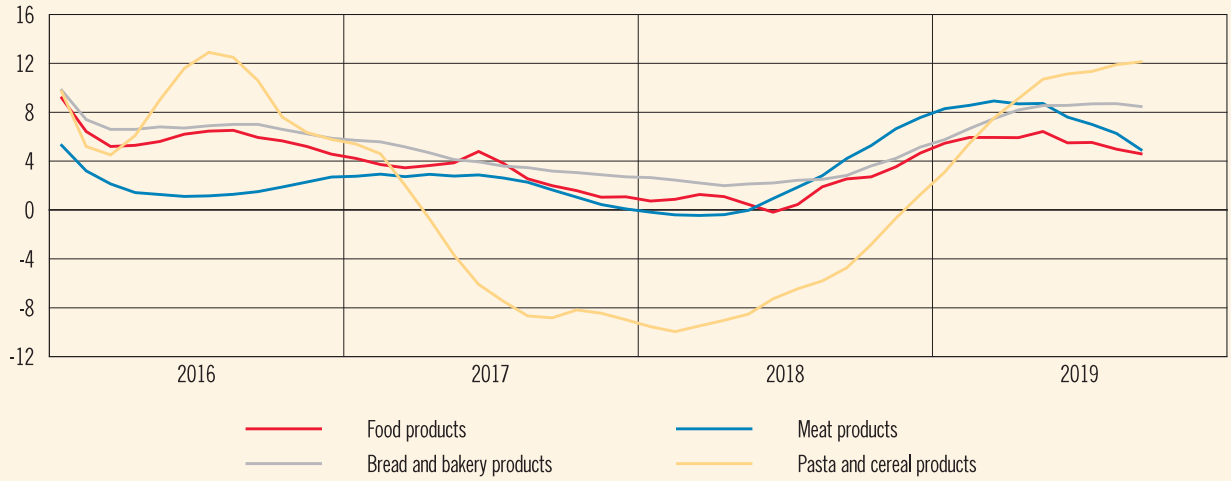
Supply of agricultural goods and food products. Similar to previous years, the supply of agricultural output and the food industry was one of the main factors in the formation of consumer prices for food products in 2018–2019. Thus, a notable contribution to the acceleration of food inflation in the second half of 2018 – the first months of 2019 was made by the increased growth of prices for meat and meat products (Chart 1). This was largely due to the adjustment of supply to demand aimed at restoring production profitability. Its decline in the previous years resulted from supply expanding ahead of the dynamics of consumer demand, against the background of a deficit of processing capacities and limited opportunities for export growth. The market of poultry and pork was also impacted by such a non-monetary factor as unfavourable epizootic situation. Since April 2019, the growth rate of meat product prices has been declining, which apparently indicates the completion of adjustment of supply to demand.

The rise in the prices of meat products was reasonably moderate and smooth; nonetheless, it affected the perception of inflation by households: according to inFOM surveys commissioned by the Bank of

[1] *For the definition of non-monetary factors, refer to the report 'Non-monetary Factors Affecting Inflation and Measures to Reduce Inflation Volatility', 2017, http://www.cbr.ru/Content/Document/File/25502/nfi.pdf.*

GROWTH OF FOOD PRICES
(% change on the same month of the previous year)

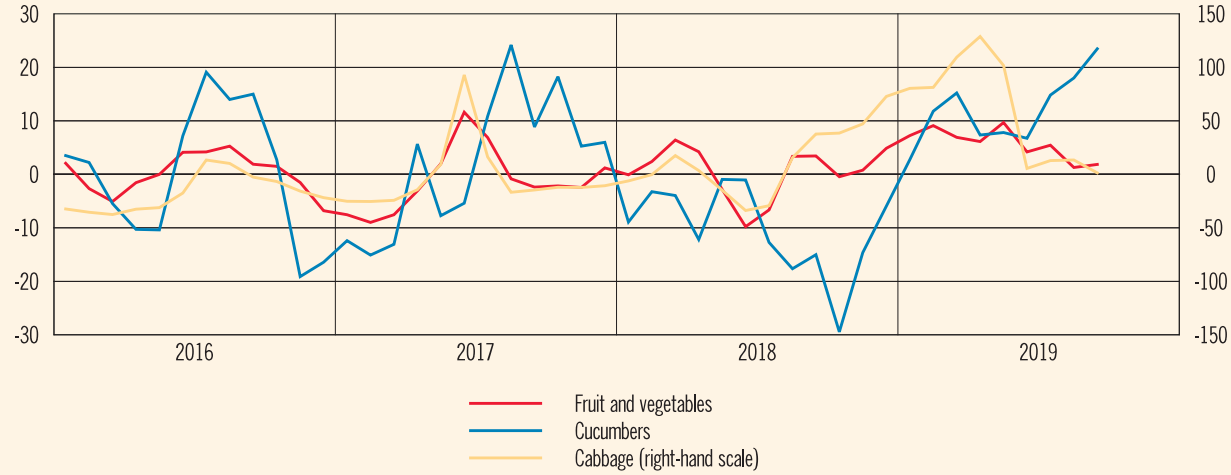
Chart 1



Source: Rosstat.

GROWTH OF FRUIT AND VEGETABLE PRICES
(% change on the same month of the previous year)

Chart 2



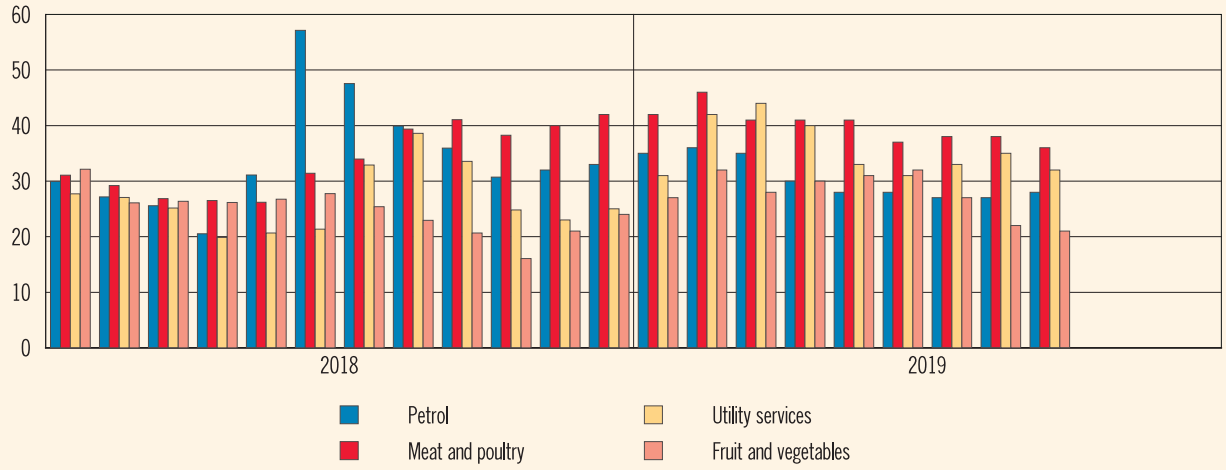
Source: Rosstat.

Russia, in 2018–2019 respondents regularly named meat and poultry among goods with quickly rising prices.

The decrease in grain crops in 2018 in Russia affected prices in the domestic market and became one of the factors of global price growth. The other non-monetary factor that exerted pressure on grain prices in the Russian market was the increase in the price of export alternatives (netback) resulting from growth of world prices and depreciation of the ruble. In these conditions, growth in consumer prices of grain products accelerated, and this acceleration continued in 2019.

The dynamics of fruit and vegetable prices, which is largely formed by supply-side factors, remains unstable. For example, the shifting of harvesting and insufficient crop quality determined the dynamics of prices for cabbage in 2018 H2 – 2019 H1. In addition, the early supply of vegetables in June 2019 (because of the warm spring) led to a lower than usual prices on them and on fruits and vegetables in general (Chart 2).

RATING OF MENTIONING OF MOST APPRECIATED GOODS AND SERVICES *Chart 3*
(% of respondents)



Source: InFOM.

Prices in global commodity markets and the exchange rate. The increase in export parity price[2] as a result of rising world prices and the weakening of the ruble caused by escalating geopolitical risks led to an increased inflationary pressure in the market of oil and petroleum products in April–June 2018. The consumer market of motor fuel registered a price spike that was unexpected for consumers. Usually, growth in prices for this goods is smooth and on a small scale: this scheme developed under the conditions of the domination of vertically integrated oil companies that have the ability to transfer the 'profit centre' to various links of the supply chain in the market, on the one hand, and the government's focus on this socially significant market on the other hand. Despite the fact that the measures taken by the Russian Government stabilised the market, households continued to perceive the level of prices and pro-inflationary risks in the market of oil products as elevated, regularly naming motor fuel among goods with quickly rising prices (Chart 3). It is of note that petrol prices play an important role in shaping the perception of households about current inflation and expectations regarding its future level (see the informational and analytical commentaries 'Inflation Expectations and Consumer Sentiment', No. 7 (31), July 2019).

Institutional factors. In early 2019, the acceleration of inflation was due to a number of institutional non-monetary factors. The VAT rate increase was the main contributor. However, its influence was predictable and short-lived. More uncertainty and risks were inherent in the solid waste management (SWM) reform launched in most Russian regions. The solid waste collection rates considerably increased (in January 2019 alone, in the Orel, Sverdlovsk and Vologda Regions, the rates rose more than 2.5 times). In general, significant one-time rate adjustments for certain utility services are occasionally observed in various regions. These unforeseen price hikes negatively affect inflation expectations of households and slow down their anchoring at the monetary policy target.

Measures to mitigate the negative effect of non-monetary factors. These examples show that more efforts should be made to limit the effect of non-monetary factors on inflation and prevent their occurrence in the future. Thus, actions aimed at ensuring the sustainability and effectiveness of the national food market, upgrading the agricultural and industrial complex, and the development of transportation and logistics networks are highly relevant. In particular, an important mechanism of development of the agricultural and industrial network is the construction and maintenance of production facilities, primary and further (industrial) processing, and storage of farm produce under the principles of public-private partnerships (PPPs). To ensure the widespread acceptance of the PPP mechanism, actions are being taken to eliminate legal risks of project implementation, promote financing, including in the form of benefits for private investors, and develop the institution of long-term money.

[2] *Export parity price means the price of exported products in the global market adjusted for transportation costs and taxes. It reflects the comparative attractiveness of exports.*

Competition acts as a system mechanism that restrains price dynamics and volatility. Its development is targeted by the introduction of the standard for developing competition in Russian constituent territories. The Bank of Russia is involved in this process. For example, Bank of Russia regional branches analyse consumer prices of goods and services to identify the negative impact of imperfect competition and work out measures to mitigate it, among other things. Information exchange with interested regional executive authorities is conducted.

In addition, organised (exchange) trade is an effective instrument that allows mitigating effects of imperfect competition, including in the motor fuel market. Its objectives include the creation of non-discriminatory access to commodities for all market participants with simultaneous enhancement of the discipline of performance of exchange contracts, the development of the institute of commodity brokers in terms of transparency of the operations performed by them on behalf of customers, the reduction of the level of speculative impact on pricing, ensuring commodity supplies, and the development of trade in deliverable and non-deliverable derivative financial instruments.

In terms of utility rate regulation, a decrease in systemic costs should be stimulated while maintaining the reliability and quality of provided services. The measures include, for example, creating tariff formulas that allow a consumer or a municipality to choose rates and guarantee the correspondence of the rates to the level of quality and reliability and supporting infrastructure investments, including under PPPs.

When making monetary policy decisions, the Bank of Russia evaluates and accounts for the impact of non-monetary factors on inflation dynamics. Furthermore, the analysis of the effect of non-monetary factors is important for the development of state policy measures contributing to the reduction of their impact, which are being implemented by the Russian Government and regional authorities.

4. MONETARY POLICY OPERATIONAL PROCEDURE IN 2019–2022

Operational objective and banking sector liquidity management system

The Bank of Russia exerts influence on the economy and inflation by setting the key rate. Interbank market rates act as the benchmark for all interest rates in the economy. Therefore, the operational objective of the Bank of Russia's monetary policy is to keep overnight interbank rates close to the Bank of Russia key rate. To achieve this objective, it is necessary to create the conditions where banks have sufficient liquidity to comply with the mandatory reserve requirements and to effect customer payments. If the balance in banks' correspondent accounts gets above or below this level as a result of changes in demand for cash, fiscal operations or other factors, the Bank of Russia will, respectively, absorb or provide funds they need through its operations.

The banking sector liquidity management system comprises the mandatory reserve requirements, according to which credit institutions should maintain a certain amount of funds in their correspondent accounts with the Bank of Russia, auctions and standing facilities for providing and absorbing liquidity. The minimum (maximum) rate for credit institutions to raise funds from the Bank of Russia (place their excessive liquidity with the Bank of Russia) at the auctions equals the Bank of Russia key rate. The key rate is the centre of the Bank of Russia's interest rate corridor, its bounds are determined by the standing facility rates. The banking sector liquidity management system has existed in its current form since the end of 2013.[1] In the following years, it has become more technologically advanced and convenient for usage by credit institutions.

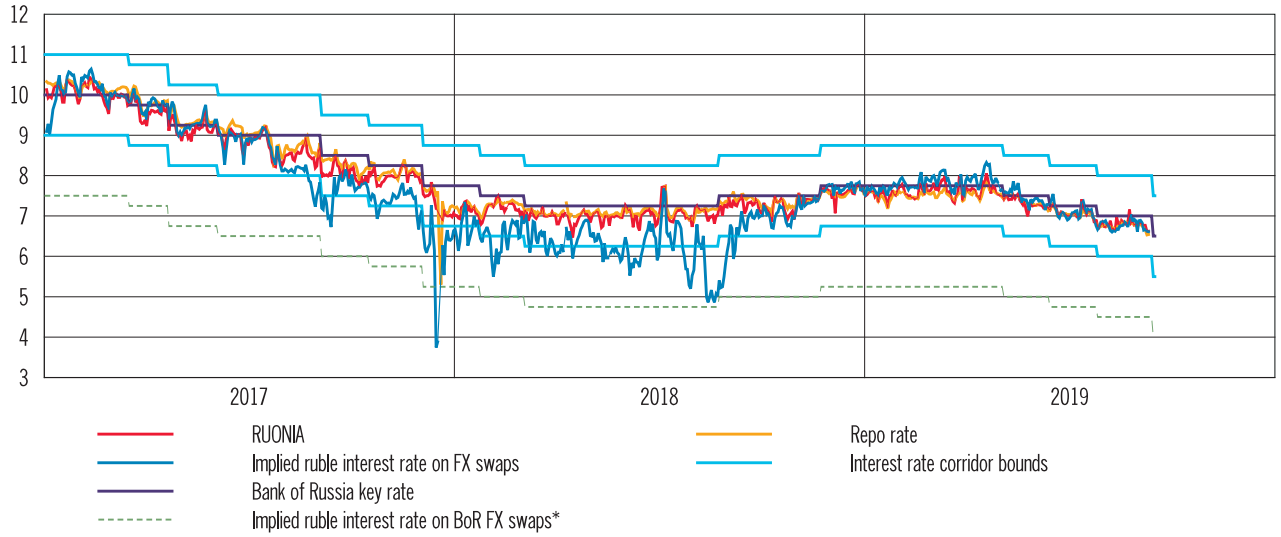
Achieving the operational objective of monetary policy

In 2019, overnight interbank rates mostly stayed in the lower half of the interest rate corridor, close to the Bank of Russia key rate (Chart 4.1). In January–September 2019, the average absolute deviation of RUONIA from the key rate (spread) decreased to 18 bp (in 2018, it averaged 29 bp). At the end of 2018, the spread reduction was hindered by the change in the structure of money market participants' transactions that took place in September. Some banks increased their borrowings from the Bank of Russia and budget agencies, having thus lowered demand in the money market. However, other market participants failed to promptly adjust to the market structure modifications and did not increase supply at the deposit auctions of the Bank of Russia, which entailed a temporary liquidity surplus in bank accounts. In late 2018–early 2019, as standing lending facilities decreased in the Bank of Russia, large credit institutions' demand for ruble liquidity in the market was up. As the liquidity surplus level stabilised and banks' supply at the deposit auctions approached the limits established by the Bank of Russia, the spread between market rates and the key rate narrowed. The Bank of Russia's estimates suggest that, if the liquidity surplus persists and no one-off

[1] *For more details about the system of the banking sector liquidity management, refer to the Monetary Policy section on the Bank of Russia website, http://www.cbr.ru/DKP/about_monetary_policy/monetary_policy_framework/.*

MONEY MARKET RATES
(% p.a.)

Chart 4.1



** Implied rate on BoR reverse FX swap = ruble lending rate – foreign currency borrowing rate + LIBOR (since 19 December 2016: key rate – 1 pp – (LIBOR + 1.5 pp) + LIBOR = key rate – 2.5 pp).*
Source: Bank of Russia calculations.

liquidity inflows occur, the average negative spread between market rates and the key rate will maintain under 25 bp.

Liquidity factors and liquidity forecast

In 2019, a structural liquidity surplus persisted in the banking sector. This implies that credit institutions had more funds in their accounts with the Bank of Russia than they needed to comply with the mandatory reserve requirements and effect payments, and, accordingly, the Bank of Russia held auctions to absorb liquidity. After its increase in 2018 from ₽2.6 trillion to ₽3.0 trillion, the structural surplus decreased to ₽2.9 trillion in January–September 2019. It is expected to rise further to ₽3.6–3.9 trillion by the end of the year.

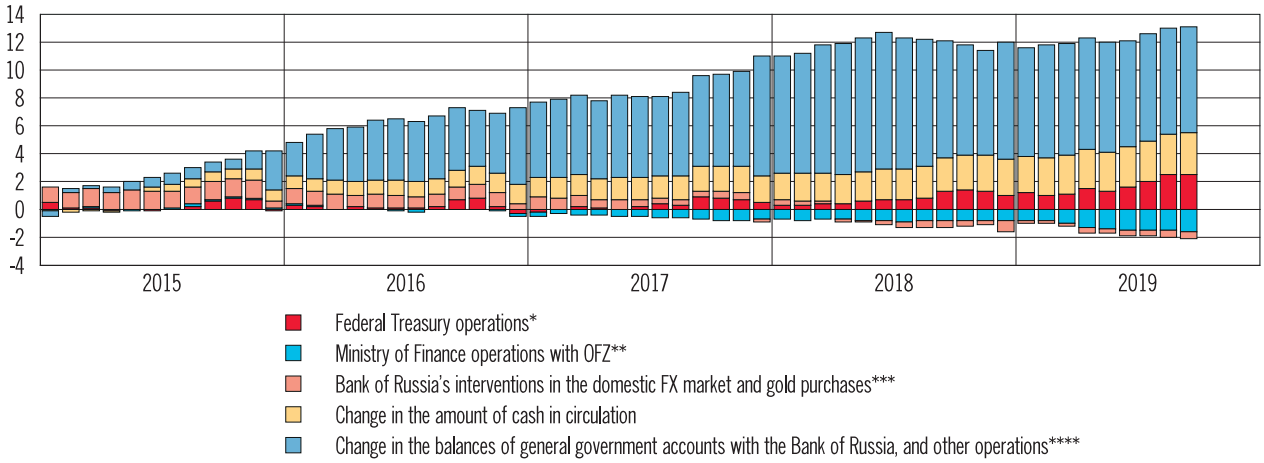
In 2018, the measures implemented by the Bank of Russia for financial resolution of individual credit institutions became a significant source of liquidity inflow. However, as opposed to the previous years, at the end of 2018, budget operations caused a liquidity outflow because of the suspension of foreign currency purchases by the Bank of Russia in the domestic market within the fiscal rule (Chart 4.2). Despite that, the structural surplus as of early 2019 exceeded the Bank of Russia's forecast provided in the Monetary Policy Guidelines for 2019–2021. This was associated, among other things, with the fact that by the end of the year the Federal Treasury and the budgets of the constituent entities of the Russian Federation had decreased the amount of funds deposited with banks and under repo agreements to a lesser degree than the Bank of Russia had expected.

Another factor behind the deviation of the current liquidity level from the forecast was the completion by banks of required reserves averaging ahead of schedule in December 2018, which entailed a reduction of balances in their correspondent accounts and a corresponding increase in overnight deposits with the Bank of Russia as of the end of the year. The Bank of Russia had based the liquidity forecast and monetary programme prerequisites on an even trajectory of required reserves averaging by credit institutions.

In 2019, the Bank of Russia resumed its regular operations and started foreign currency purchases in the domestic market within the fiscal rule that had been

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

Chart 4.2



** Excluding funds placements in bank accounts with credit institutions.*
*** Including coupon payments.*
**** The Bank of Russia has suspended domestic FX market interventions since 28.07.2015.*
***** Excluding Federal Treasury deposit, repo and swap operations and Ministry of Finance operations with OFZ, including Ministry of Finance operations to buy (sell) foreign currency in the domestic FX market, settlements on Bank of Russia USD/RUB FX swaps, and other operations.*
Source: Bank of Russia.

suspended in 2018. When the actual price for Urals oil exceeds the benchmark, these operations set off the liquidity outflow caused by clients' large tax payments from their bank accounts to the budget accounts with the Bank of Russia forming additional oil and gas budget revenue. In 2019, the suspended foreign currency purchases formed an inflow of funds to banks. These operations are carried out on a uniform basis beginning from February 2019. In January–May 2019, budget operations mostly resulted in a liquidity outflow and surplus reduction, because budget revenues during that period were not fully set off by expenditure and foreign currency purchases and the Russian Ministry of Finance continued placing federal government bonds. In June–September, growth of banks' debt within the Federal Treasury operations caused a significant inflow of funds. The reduction in temporarily available balances of budgetary funds in the single account of the federal budget with the Bank of Russia and increasing amounts of funds deposited with banks contribute to smoothing out the impact of budget operations on the banking sector's need for liquidity. Thus, the Federal Treasury may decrease bank deposit allocations for the purpose of budget expenditure planned for the end of the year. Overall, these operations will have a neutral effect on the banking sector liquidity and will not entail any significant surplus growth during this period.

The Bank of Russia expects the liquidity surplus to hold over a three-year horizon. According to the Bank of Russia's estimate, it will amount to ₽3.6–3.9 trillion by the end of 2019. Moving forward, the structural liquidity surplus is expected to grow in the baseline scenario as the suspended foreign currency purchases resume in the domestic market within the implementation of the fiscal rule. The banking sector liquidity surplus in the baseline scenario will total ₽5.0 trillion by the end of 2022, and ₽4.6 trillion – in the high oil price scenario. These estimates are based on the key parameters of the Bank of Russia's macroeconomic forecast and the budget projections of Russia's Ministry of Finance. The Bank of Russia will continue to absorb excess liquidity through deposit auctions and placement of Bank of Russia coupon bonds (coupon OBRs). This will allow maintaining

interbank interest rates near the key rate and creating monetary conditions required to keep annual inflation close to 4%.

Banking sector liquidity management

In the conditions of a banking sector liquidity surplus, the Bank of Russia, as before, used one-week deposit auctions[2] as the main operations of its monetary policy (Chart 4.3). In 2019, the amount of funds raised through them slightly declined. While in 2018 the regulator absorbed ₽2.2 trillion on weekly auctions on average; while between January and September 2018 this figure reached about ₽1.5 trillion. This was associated with both the seasonal liquidity surplus reduction in the first half of the year and an increase in the amount of placed 3-month coupon OBRs. The Bank of Russia issues these bonds to absorb a stable portion of excess liquidity for longer periods. In 2018, the amount of coupon OBRs in circulation[3] averaged ₽1.1 trillion, while in January–September 2019, it totalled ₽1.5 trillion, which is about one half of the overall liquidity absorbed. In July–August 2019, the Bank of Russia decreased its coupon OBR placements as the liquidity surplus was expected to temporarily reduce in 2019 H2 and the need for absorption of a stable portion of the liquidity surplus declined. At the same time, in July–September, banks' demand for the Federal Treasury deposits rose, which increased the structural liquidity surplus. In this context, the Bank of Russia raised the limits at the deposit auctions. By the end of 2019, the coupon OBR issue will increase again proportionally to the liquidity surplus growth.

Given that banks had gradually adjusted to the existing liquidity inflows and had been more extensively involved in the Bank of Russia's main absorption operations, the Bank of Russia decreased the frequency of its fine-tuning auctions in 2019. They were mostly held on the last days of the required reserves averaging periods to reduce the deviation of short-term interbank rates from the key rate.

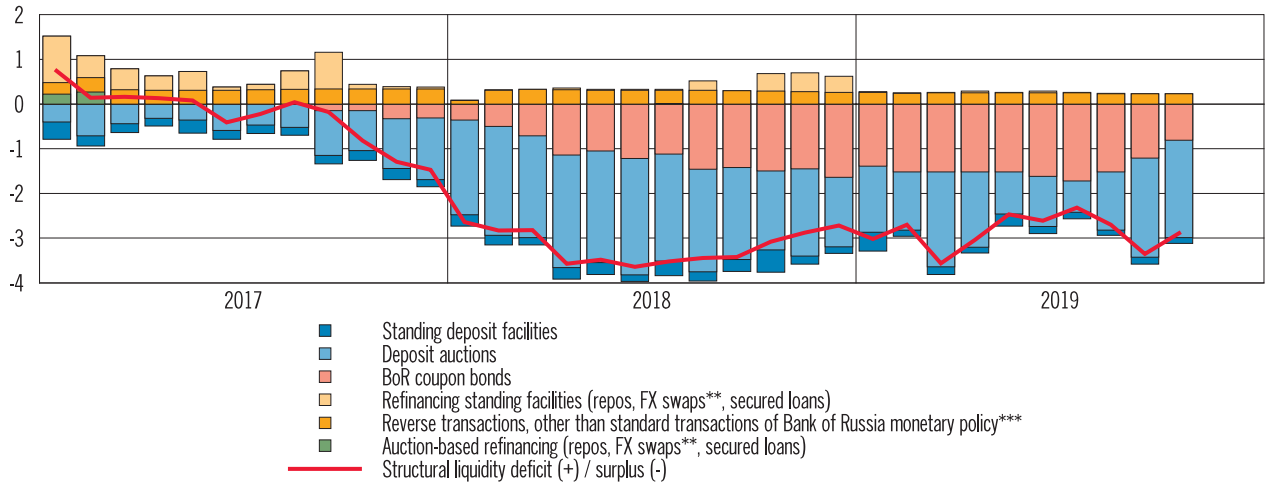
With the exception of late 2018, credit institutions did not demonstrate regular demand for liquidity-providing operations of the Bank of Russia. These instruments were only demanded by individual banks as they needed more liquidity due to short-term imbalances that could not be fixed through interbank market operations.

In January–September 2019, the amount of funds credit institutions were to maintain in their correspondent accounts over the averaging period approximated ₽2.3 trillion (additional ₽0.6 trillion were kept by banks in special required reserve accounts; the funds in these accounts are not available to banks for current settlements). In April 2019, the Bank of Russia's decision came into force that updates the composition of credit institutions' reservable liabilities and reduces the required reserve ratios for certain types of liabilities. This decision is aimed at better transparency and unification of the procedure for calculating required reserves. Credit institutions' reservable liabilities should include all long-term liabilities of a credit institution, its liabilities to international financial organisations and the State Development Corporation VEB.RF. To compensate for the increase in required reserves, the Bank of Russia simultaneously reduced the required reserve ratios for individual types of liabilities by 0.25 pp to 4.75%. Given the above, these decisions

[2] *One-week auctions are the main operations for banking sector liquidity management. In the conditions of a structural liquidity surplus, these are deposit auctions. Such operations are used for the ongoing management of banking sector liquidity. In addition to the main operations, the Bank of Russia also uses mid-term operations. In the case of a structural surplus, these are Bank of Russia coupon bonds. They are used by the Bank of Russia to absorb a stable portion of the structural surplus, thus reducing the amount of claims on deposits that should be extended by credit institutions on a weekly basis.*

[3] *At par value with the coupon yield factored in.*

STRUCTURE OF BANK OF RUSSIA OPERATIONS* *Chart 4.3*
(trillions of rubles)



** The Bank of Russia's claims on credit institutions under refinancing instruments /the Bank of Russia's liabilities to credit institutions under surplus liquidity absorption instruments as of the start of the operating day.*
*** The Bank of Russia's USD/RUB and EUR/RUB buy/sell FX swaps.*
**** The Bank of Russia's special-purpose refinancing instruments, Bank of Russia loans issued under irrevocable credit lines, and USD/RUB and EUR/RUB sell/buy FX swap transactions.*
Source: Bank of Russia.

were generally neutral for the banking sector liquidity.

In July 2019, in order to discourage the growth of foreign currency liabilities in the structure of credit institutions' liabilities, the Bank of Russia increased the required reserve ratios for foreign currency liabilities to individuals by 1 pp to 8.00% for banks with a universal licence, banks with a basic licence and non-bank credit institutions. As a result, overall required reserves to be maintained by credit institutions (including funds in special-purpose accounts) increased by ₽35 billion.

Optimising the procedure for Bank of Russia operations

In 2019, the Bank of Russia continued to enhance the technical level and usability of the BoR operations for banks.

Beginning from 23 January 2019, personal accounts have been used for the electronic document exchange with credit institutions within deposit and credit operations (as related to standard refinancing instruments) (in accordance with Bank of Russia Ordinance No. 4600-U, dated 3 November 2017[1]). In addition, the Bank of Russia expanded the list of documents to be exchanged in electronic form. Since 3 June 2019, all notices of loan extension, changes in interest rates on granted loans, and changes in the pool of loan collateral are sent by the Bank of Russia to credit institutions only in electronic format via personal accounts.

On 15 April 2019, the Bank of Russia extended the time for accepting applications for Bank of Russia loans backed by securities or credit claims from 7:00 PM to 8:25 PM (Moscow time). This measure will expand the opportunities for credit institutions to manage their own liquidity in the course of the settlement period of the Bank of Russia Payment System's regular session. The settlement period was introduced in 2018 H2, and lasts from 8:00 PM to 9:00 PM (Moscow time). During this period, payments may be effected only by banks and clearing companies, and only for certain transactions. This enables banks to evaluate

[1] *Bank of Russia Ordinance No. 4600-U, dated 3 November 2017, 'On the Procedure for the Bank of Russia to Interact with Credit Institutions, Non-bank Financial Institutions and Other Parties to Information Exchange via Bank of Russia Information Resources, Including Personal Accounts'.*

their liquidity positions at the end of the business day, after processing all customer payments, and to raise or place funds in the interbank market or with the Bank of Russia.

In early 2020, the Bank of Russia plans to switch the information exchange with credit institutions on non-marketable assets to the electronic format via personal accounts.

In early 2019, the Bank of Russia launched the Faster Payments System (FPS) aimed at online (24/7/365) P2P funds transfers between customers of credit institutions participating in the FPS and P2B transfers as payments for goods (works, services) using simplified identifiers. The Bank of Russia operates as an FPS settlement centre. JSC NPCS operates as an FPS operating and payment clearing centre.

Starting in 2020, the Bank of Russia plans to enable the use of intraday loans and overnight loans by banks to secure settlements in the faster payments system at night, on weekends and holidays. This will help eliminate situations when banks need to maintain excess liquidity in their correspondent accounts with the Bank of Russia not necessary to meet the reserve requirements, but solely for the purpose of processing transactions in the Faster Payments System.

Target procedure for required reserves

The Bank of Russia continues to improve the required reserve mechanism, enhancing its technical level and ease of use for credit institutions and minimising operational errors on their part. In the upcoming years, the Bank of Russia plans to implement the following major modifications to the procedure for creating required reserves by credit institutions.

Credit institutions will no longer need to submit special reports on required reserves to the Bank of Russia. The Bank of Russia will calculate credit institutions' required reserves based on their balance sheet data and other individual reporting forms submitted by credit institutions to the Bank of Russia. Based on these calculations, the Bank of Russia will send the information to credit institutions on the amounts of required reserves to be deposited in required reserve accounts and on the amounts of required reserves to be maintained through required reserve averaging by credit institutions.

The Bank of Russia will oblige all credit institutions to use the required reserve averaging mechanism.

The frequency of re-calculation of credit institutions' required reserves to be deposited in required reserve accounts will change. While the Bank of Russia will continue monthly regulation of required reserve amounts, the balance of funds in the required reserve account will be changed once a year, and the averaged amount of required reserves will be adjusted on a monthly basis (it will either increase or decrease depending on reservable liabilities dynamics and with account of a continuous balance of funds in the required reserve account).

APPENDICES

APPENDIX 1

BANK OF RUSSIA MONETARY POLICY TRANSMISSION MECHANISM

The Bank of Russia influences interest rates in the economy, the value of financial assets and the exchange rate through key rate revisions. Price movements in the financial market affect, through a chain of economic interconnections, demand for goods and services and, ultimately, inflation. Inflation expectations of businesses, financial market participants and households are also an important driver of price movements in the economy. If the central bank is trusted, these expectations become anchored around the target level of inflation and fluctuate depending on the regulator's forecasts and forward guidance on inflation and monetary policy.

In modern economic theory and practice, the mechanism through which monetary policy influences the economy and inflation is called a 'transmission mechanism'; it comprises a number of channels (see the Monetary Policy Transmission Mechanism Chart). In the Russian economy, the interest rate channel is the core one; the inflation expectation, credit and FX channels are also important. Other channels of the transmission mechanism described in economic literature (balance sheet channel, welfare channel, risk-taking channel, cash flow channel) also play a certain role in the operation of the transmission mechanism but they are less significant.

In addition, inflation and the monetary policy transmission mechanism are affected by a number of non-monetary factors, that is, factors which the central bank cannot influence directly (for details, refer to the Box 'Effect of non-monetary factors on inflation', Section 3). They include structural and institutional specifics of the economy, technological and natural processes which affect supply and demand in certain segments of the commodity market.

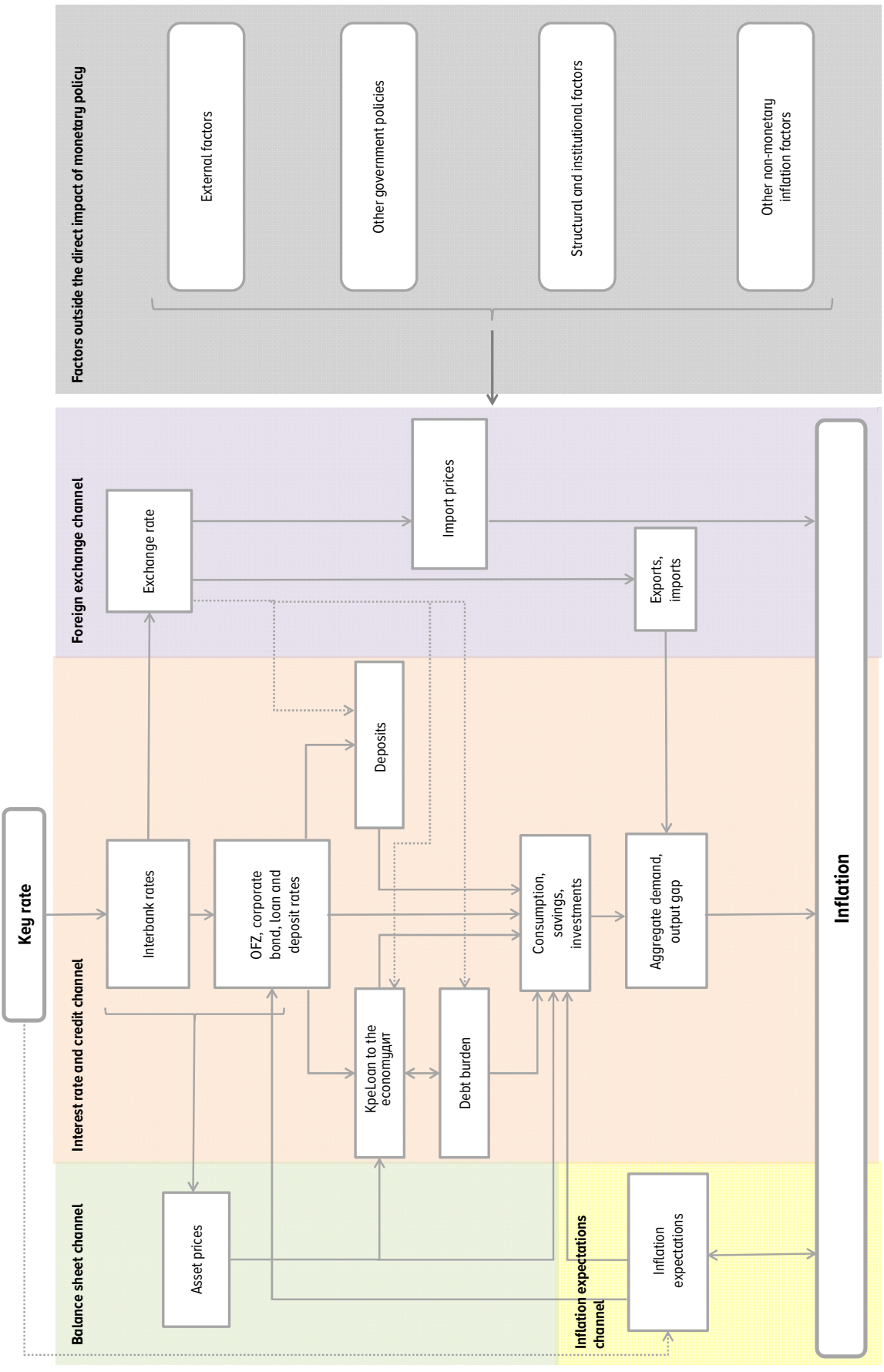
When making its monetary policy decision, the Bank of Russia calculates how its impact will spread through each key transmission mechanism channel based on the available estimates of transmission strength and speed at each stage, factoring in non-monetary factors.

This Appendix provides an overview of the main channels of the Bank of Russia's monetary policy transmission mechanism. A number of facts should be taken into account when reading this Appendix.

First, the effect of key rate revisions on financial assets, the exchange rate and aggregate demand is largely symmetrical. Therefore, rate hikes and cuts are further discussed for illustrative purposes only. Thus, if the text reads that a key rate cut of 1 pp increases lending by 1.5%, it means that a key rate hike of 1 pp decreases lending by 1.5%.

Second, this Appendix only provides a quantification of the direct effect of a key rate revision on the financial sector and the economy and factors out structural effects of monetary policy. For example, a key rate hike reduces aggregate demand in the economy, economic activity and inflation. However, the stabilisation of inflation at a low level due to a key rate increase helps anchor inflation expectations. Ultimately, inflation risks included in loan and deposit rates abate, and the rates decline in due course. Investors feel more

Monetary policy transmission mechanism[1]



[1] *A.N. Mogilat 'Review of main monetary policy transmission mechanism channels and instruments for their analysis at the Bank of Russia' // Money and credit, No. 9, 2017.*

comfortable with long-term investments, financing comes to longer payout projects, and economic activity goes up as these projects are implemented.

In contrast, a key rate cut to a level that is lower than the economy needs may bring, together with a short acceleration of economic activity, a steady rise in inflation and inflation expectations; this makes savings and investments less attractive and curbs investment demand in the long run. However, the quantitative analysis of structural effects falls outside this Appendix. Further estimated are only the direct effect of key rate revisions (a temporary decline in demand when the key rate is raised and a temporary rise when it is reduced). The Appendix provides a qualitative analysis of the effects of individual structural changes (mainly related to inflation expectation movements).

THE INTEREST RATE CHANNEL AND ASSOCIATED CHANNELS OF THE TRANSMISSION MECHANISM

The interest rate channel of the transmission mechanism plays a pivotal role in transmission of monetary policy impulses. Through this channel, key rate movements influence interest rates in all segments of the national financial market. Changes in interest rates on loans and deposits affect the propensity of businesses and households to borrow or save, and, consequently, the demand for financial instruments (interest rate channel). Meanwhile, changes in financial market rates affect the capabilities of banks and financial companies to increase lending to the economy and, thus, influence the supply of financial instruments (credit, balance sheet and risk-taking channels). The interaction of these processes changes the scope of financial operations and, consequently, aggregate demand in the economy. At the first stage, these channels transmit key rate changes to interest rates on financial market instruments.

The impact of the key rate on interest rates in the economy

As noted above, monetary policy decisions influence the economy through the financial sector. At the first stage, changes in the Bank of Russia key rate are translated into interest rate changes in all segments of the financial market. It takes from one day to several quarters, depending on the market segment, and, all other things being equal, the scale of such adjustments is close to the initial key rate change. At the same time, interest rate movements over longer periods are affected not only by actual but also expected monetary policy decisions.

First of all, a change in the key rate almost immediately leads to a similar adjustment of overnight interbank rates. These rates always remain in the vicinity of the Bank of Russia key rate, which is ensured by banking sector liquidity management operations of the regulator. As a result, interbank rates are at the target level independent of banking sector liquidity (see the Box ‘Banking sector liquidity and lending to the economy’).

Changes in the overnight interbank rate translates into movements in longer-term interbank rates; this takes a little longer time and is determined not only by the actual decline or increase of the overnight rate, but also the ratio of market participants’ expectations to its future dynamics. Banks may either place and raise overnight interbank loans on a daily basis or make one longer-term transaction. Banks opt for a more profitable option, and if overnight rates are expected to rise, lender banks will seek higher rates on long-term operations and vice versa. Given that the overnight interbank rate is closely linked to the

key rate, these expectations are largely shaped under the influence of the Bank of Russia's statements and forecasts and, primarily, the signal regarding its future monetary policy.

Market participants' expectations as regards the future key rate path have a strong impact on interest rate movements. This suggests that, if market participants expect beforehand that the key rate will soon be changed in the future, long-term interbank interest rates may adjust even before the actual changes in the key rate and, respectively, changes in short-term interbank rates. The resulting rise or reduction in long-term interest rates may outstrip changes in short-term interest rates. The reverse situation is not impossible. A central bank's action to raise its key rate in response to the growing risks of inflation acceleration may signal to market participants that the rise in inflation will be more muted, driven by the prompt monetary policy response, than could have been otherwise, and that in the future the central bank will be able to switch to a rate reduction cycle sooner. As a result, short-term interbank rates will change more considerably than long-term ones in response to a key rate hike.

Along with expectations, impact on interbank rates for various maturities is exerted by a number of other factors (the degree of uncertainty in the economy that determines premium on longer-term loans, and the market structure, including the concentration of borrowers and lenders in its individual segments). According to the Bank of Russia's estimates, it takes two weeks for a 1 pp change in the overnight interbank interest rate (MIACR) to translate into a 0.75–1 pp change in the interbank rates for more than one year, a 0.45–0.75 pp change in the interbank rates for one to five years and a 0.35–0.4 pp change in the interbank rates for over five years.[1] A weaker response of long-term rates to overnight interbank rate movements is associated with the expectation effect described above: a sharp increase in the key rate (and, consequently, in the overnight interbank rate) is seen as a temporary measure, and long-term rates factor in the expected future reduction of short-term rates.

Banks may use interbank loans together with other financial instruments – bonds, loans, and deposits. Therefore, changes in interbank lending rates are followed by rate changes in other segments of the financial market. The most quickly changes in interbank lending rates are translated into bond yields. As the number of market participants is high and secondary trading is considerable, any new information (including changes in the current interbank rates and expectations of their future dynamics) almost immediately leads to supply and demand movements in the market affecting bond yields. The Bank of Russia estimates that changes in interbank rates lead to a similar shift in the yield curve of federal government bonds (OFZs) within one month's time. The scale and speed of corporate bond yields adjustment are comparable to the similar parameters of OFZs. Bond yields move in this manner while other factors remain unchanged (along with interbank rates bond yields are influenced by fluctuations in demand from certain investor groups, one-off large issues, changes in the structure of portfolio of marketable corporate bonds, fiscal policy, and a number of other factors).

Rates on interbank loans and bond yields, in turn, influence interest rates on bank loans and deposits. This impact results from two interconnections. First, when choosing between different financial instruments, banks prefer those offering more attractive interest rates. For example, if bond yields fall and, as a result, banks may gain higher profit from placing

[1] *Here and elsewhere, estimated impacts are indicated on condition that all other things are equal – that is, assuming no change occurs in all other factors which may weigh on the final indicator.*

funds in the credit market than from bond purchases, they will increase credit operations and reduce lending rates to expand their market share. As a result, interest rates on loans and deposits change in the same manner as bond yields and interbank rates. Second, interbank interest rates and OFZ yields are widely used in pricing of core banking products, including through the transfer curve mechanism (see the Box 'Transfer curve and the shaping of interest rates on bank operations').

The adjustment of interest rates on banking products takes somewhat longer than that in the interbank or bond market. For the most part, this is related to the specifics of decision-making with regard to changing terms and conditions of standard credit and deposit products, which takes different time in different banks. That said, short-term interest rates respond to changes in the interbank market faster than long-term rates, and the adjustment of deposit rates takes longer than that of credit rates. This is related to, among other things, the fact that deposits are standardised products where interest rates change only after the central bank takes a centralised decision to set new terms and conditions. Large banks sometimes keep interest rates at the same level for two or three quarters, despite changes in the key rate during that period. As a result, a 1 pp change in short-term (up to one year) interbank rates leads to a 0.8 pp change in market average interest rates on short-term loans within two to four months, and a similar change in short-term deposits, within seven to nine months. Interest rates on long-term loans experience a 0.8 pp change within four to six months after a 1 pp adjustment of interbank interest rates for comparable terms, while long-term deposits take seven to nine months to produce a similar response. Another 0.2 pp are translated into both credit and deposit rates throughout a long period of time.

Along with interbank rates and OFZ yields, interest rates on bank loans and deposits are also influenced by other factors, including banks' assessments of credit risks and, accordingly, risk premiums on loans, inflation expectations of both banks and their customers, banks' costs associated with deposit-taking and loan placement, borrowers' estimates of growth in demand in the economy, and a number of other factors.

The influence of interest rates on lending, saving, investments, and consumption

Changes in interest rates in various financial market segments influence the propensity of economic entities to borrow, invest, save or consume and, consequently, translate into the dynamics of monetary indicators, consumer and investment demand. All other circumstances being equal, lower interest rates lead to higher lending, consumption and investment, and vice versa.

The monetary policy transmission mechanism comprises several channels through which interest rates influence borrowing and saving. First, the current level of interest rates directly affects the attractiveness of loans and deposits for bank customers and, consequently, the choice between current and future consumption (the last stage of the interest rate channel of the transmission mechanism). When interest rates go down, it becomes easier to finance current expenses with borrowed funds, whereas saving and delaying expenses for a future period become less attractive. In contrast, when interest rates go up, deposits win in attractiveness, whereas loans lose. This channel, associated with demand for financial products from bank customers is called the interest rate channel of the transmission mechanism.

Second, interest rate movements affect the market value of shares, bonds, real estate and other assets: asset prices go up when interest rates drop, and fall when they rise. Prices in the financial market are the most sensitive in terms of both the speed and the scale of response because transactions here are performed faster than, for instance, in the real estate market. As assets owned by businesses and households can be used as collateral for loans, their appreciation increases the capabilities of such companies and households to borrow additional funds. This ensures further expansion of lending when the key rate falls, or a decline in credit activity – when the key rate rises (the balance sheet channel of the transmission mechanism, or the asset price channel). The analysis of balance sheets of a large number of Russian real sector businesses confirms the efficiency of the balance sheet channel in the Russian economy; however, in general, this channel is less important than the others. This is related to the fact that Russian companies and, in particular, households are still reluctant to use assets, prices of which depend on interest rates, as security.

Third, changes in the market value of assets caused by interest rate movements affect not only bank customers, but also the banks themselves. Growth in the value of bank assets is a source of bank profit and a driver of bank capital, which helps banks increase lending. At the same time, a drop in the value of bank assets caused by interest rate growth reduces bank capital and limits lending expansion by banks. In the Russian banking system, this channel of influence of interest rates on lending (the narrow credit channel of the transmission mechanism) is of moderate importance, as most Russian banks have a sufficient capital reserve. However, in individual large banks, capital adequacy may affect the value and structure of credit operations.

Fourth, current rates in the economy determine banks' choice between more and less risky operations (the risk-taking channel). The reduction of market rates limits banks' interest income, which encourages banks to extend more loans, among other thing, by expanding lending to riskier borrowers (to which loans are extended at a higher interest rate).

Fifth, the functioning of the credit and risk-taking channels is associated with the effect of interest rates on the debt burden of bank borrowers (the debt burden shows the share of borrowers' income used to repay interests and redeem debts). On the one hand, a rise in the debt burden depresses opportunities for borrowers to service their current liabilities and, accordingly, raise new loans, thus, bringing down demand in the credit market. On the other hand, growth in the debt burden per borrower (and, consequently, a rising risk of the loan being repaid only partially or untimely) forces banks to create additional loan loss provisions. This reduces bank capital and limits banks' capabilities to expand lending (the credit channel). Furthermore, standard models of risk analysis employ interest rates. If rates (and the debt burden) per borrower decline, the bank assesses the borrower as more reliable and is more willing to extend loans to such borrower (the risk-taking channel).

Alongside the impact through lending activity, the rising debt burden also exerts a direct effect on aggregate demand in the economy, because the more borrowers spend on servicing their liabilities, the less money they have left to finance their expenses. The debt burden can be measured using such indicator as the debt service ratio, which is the ratio of the flow of payments under the accumulated debt (includes the repayment of the principal amount and interest) to current income.

The degree and the pace at which interest rate movements translate into the debt burden depend on the structure of the credit market. In particular, the larger the share of loans issued at a floating interest rate is (for instance, linked to the key rate or interbank rates), the faster interest rate changes in the economy translate into growth or reduction of borrowers' interest expenses. In Russia, floating interest rates have yet to gain in popularity. According to the Bank of Russia's data, the average share of fixed-rate loans stands at approx. 85% of total corporate loans issued by Russian banks in 2018. Loan maturities also affect the pace of transmission of interest rate changes to the debt burden. The lower the average loan maturity is and the faster previously issued loans are replaced with new loans extended at updated interest rates, the faster the debt burden responds to interest rate movements. By 2019 Q4, loans for more than one year accounted for approx. 75% of the corporate loan portfolio and 85% of the retail loan portfolio. Hence, the change in the market rates was relatively slow to translate into the debt burden of Russian borrowers.

The Bank of Russia's estimates suggest that a 1 pp change in the weighted average[2] interest rate on ruble and foreign currency loans leads to a co-directional adjustment of the debt service ratio of 0.1 pp for households and 0.3 pp for corporates. Taking into account transmission lags and the term structure of lending, it takes almost two years after the interest rate change for it to be fully reflected in the debt burden level. There are also other factors affecting debt burden dynamics, including exchange rate fluctuations that lead to a revaluation of debt denominated in foreign currency. In certain cases, these drivers' contribution to the debt burden and, consequently, to credit activity can significantly exceed that of changes in interest rates. First, this can significantly affect the monetary policy transmission and, second, become a source of risks to financial stability. Debt burden above critical levels, which Bank of Russia estimates attest, may result in the growing risks of insolvency of households and real sector companies and their subsequent bankruptcy. This may entail impaired financial stability of the banking sector, driven by accumulation of non-performing loans and shrinking capital adequacy levels. This, in turn, may drive a sharp and lengthy drop in credit activity, rising risk premiums, undermine the efficacy of monetary policy impact on the economy made through changing interest rates and – in the most adverse scenario – emerge as a source of crisis phenomena in the economy. In view of the above factors, the Bank of Russia, while assessing the impact of credit on the economy, is focused on, beyond core monetary aggregates, loan burdens of borrowers alongside a wide range of indicators measuring the functioning of the banking sector. The Bank of Russia further recognises that credit activity may be impacted by macroprudential measures and changes to banking regulations; it therefore measures the potential implications of such measures for the monetary policy transmission mechanism, taking them into account in forecast building and decision-making.

The interaction between the above-mentioned mechanisms determines the degree and pace of changes in lending activity caused by interest rate movements. According to the Bank of Russia's estimates, a 1 pp rise or decline in the weighted average interest rate on ruble loans triggered by the revision of the Bank of Russia key rate leads to an approx. 1.5% correction of credit to the economy with a lag of one quarter. Afterwards, unless the rate returns to the initial value, the response extends to 2.3% in one year and 3.0% in two years. Supply and demand in the lending market are influenced not only by interest rates largely determined by monetary policy, but also a broad spectrum of other factors. These

[2] *The average rate weighted by the amount of funds provided for all terms.*

factors include stages of the economic cycle, business environment, corporate governance quality, lending market participants' sentiment and risk appetite. The Bank of Russia's lending analysis factors in these factors.

In turn, changes in lending activity affect the dynamics of economic activity over the horizon of up to one year and for longer terms (up to 2.5 years), due to, among other things, related debt burden adjustments. Changing attractiveness of borrowing and saving for households under the influence of interest rate changes affects the saving ratio. The higher the saving ratio is, the lesser the share of their disposable income that households spend on goods and services, i.e. consumer demand shrinks. And vice versa, when the saving ratio declines, consumption activity of households increases. The saving ratio is calculated on a net basis as the difference between the investments in assets and the growth of lending divided by household disposable income. According to the Bank of Russia's estimates, a 10% change in the weighted average[3] interest rate on household loans in rubles (e.g. from 10 to 11% p.a.) leads to a co-directional adjustment of the saving ratio of 0.2 pp within the following quarter. This effect can reach 0.3 pp over a year because the sustained interest rate movement over time attracts more people who take decisions regarding their savings or investments.

At the same time, it should be noted that, over a mid-term horizon, the saving ratio fluctuates around a relatively firm level determined by a number of stable factors. They include cultural and national specifics (e.g., the attitude towards purchasing goods using borrowed funds), the demographic situation, government policy (access to welfare benefits reduces the need to save), taxation of income from savings, and other factors. A declining saving ratio is a global trend. Short-term fluctuations of the saving ratio around the stable level can be caused not only by interest rate movements but also by growing or declining uncertainty, which affects precautionary savings that tend to increase during turbulent times, as it was, for example, in early 2015.

Through the effect on the saving ratio, market interest rates determine the relative value of current and future consumption, and, given the current and expected income flow, influence consumer demand. Changes in market interest rates that entail rising or falling corporate demand for new borrowed funds also affect investment demand dynamics. According to the Bank of Russia's estimates, in Russia, this effect has a lower quantitative impact compared with that on consumer demand. This is largely associated with the prevailing share of own funds used for funding investments in the Russian economy. Despite certain growth during recent decades, bank loans continue to account only for approx. 10% of fixed capital investments (see Appendix 8 to the Monetary Policy Guidelines for 2018-2020). In future, it is possible that the share of borrowed resources used for funding investments (both through bank loans and bond issuance) will slightly grow; however, taking into account the observed sluggishness of investment funding structure adjustments, this process will take quite a long time. Market interest rates influence consumer and investment demand and, simultaneously, determine changes in demand for imports. As a result of an interaction of the above mechanisms, the reduction of interest rates entails a temporary acceleration of consumer and investment demand and a positive output gap, whereas rate growth, in contrast, leads to a negative output gap.

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[3] The impact on saving activity can be assessed using credit interest rates dynamics because usually credit and deposit rates move in the same direction.

The impact of supply and demand dynamics on consumer prices

Changes in consumer, production and investment activity under the influence of changing interest rates are translated into the adjustment of aggregate supply and demand, and, consequently, consumer prices. This is the final stage of transmission. Output fluctuations (as a result of statistically observed interaction between supply and demand) may increase or reduce inflationary pressure in the economy. At the same time, in line with global experience and economic theory, prices can be affected only by such output movements that deviate from the equilibrium or the economy's production capacity. This deviation is called 'output gap' (see the Box 'Concept of economic equilibrium and deviations of key macroeconomic variables from such equilibrium (gaps)'). A significant positive output gap, all other things being equal, leads to the risks of inflation steadily deviating above the target (or steadily deviating downwards in case of a negative gap).

The Bank of Russia's estimates suggest that a 1 pp output gap leads to the adjustment of quarterly annualised inflation by 0.2–0.5 pp in the next quarter: upwards in the case of a positive and downwards in the case of a negative output gap. Pro-inflationary (or disinflationary) influence is observed during the whole period when the positive (or negative) output gap persists and not only when it grows or shrinks.

Therefore, in accordance with the logic of the interest rate and credit channels of the monetary policy transmission mechanism, a change in the key rate successively influences interest rates in the economy, monetary indicators and real sector indicators, translating into the adjustment of growth rates of consumer prices. According to the Bank of Russia's estimates, full transmission of the key rate change impulse on inflation dynamics requires up to 3-6 quarters.

FOREIGN EXCHANGE CHANNEL

Changes in market interest rates driven by the revision of the Bank of Russia key rate also affect the relative attractiveness of investment in ruble and FX financial instruments. This results in changing demand of foreign investors for Russian instruments and of Russian investors for foreign ones. Consequently, this changes the ruble exchange rate, which, in turn, is an important factor of domestic price-setting. This mechanism of the key rate's influence on inflation is determined as the foreign exchange channel.

The notion of the foreign exchange channel is only used when foreign exchange movements are caused by the central banks' operations. The foreign exchange channel is not associated with depreciation or appreciation of the national currency caused by a wide range of internal and external factors which do not depend directly on the central bank. These factors are outside the scope of the monetary policy transmission mechanism as such; however, the Bank of Russia considers them in its current analysis, inflation forecasts and key rate decisions (for details, see Section 3). The domestic foreign exchange market may also be influenced by the central bank's foreign currency purchase and sale transactions. In a floating exchange rate regime, however, they are not intended to fix a certain exchange rate or a pace of its change, but serve to individual tasks and are not aimed at influencing inflation or economic growth. The Bank of Russia views foreign currency transactions in the domestic market under the fiscal rule as an assumption in the forecast based upon which key rate decisions are made.

Exchange rate dynamics, in turn, exerts a meaningful impact on inflation both directly, through prices of imported goods, and indirectly. According to the Bank of Russia's estimates, it usually takes the exchange rate one week to respond to changes in the key rate and overnight interbank interest rates. All else being equal, a 1 pp change in the overnight interbank rate leads to an approx. 0.9% adjustment of the real effective ruble exchange rate.[4]

Exchange rate directly affects inflation in the consumer market through both prices of imported goods and services and prices of imported raw materials, supplies and parts. Due to a large share of imports in the Russian consumer market, ruble exchange rate dynamics significantly affect inflation. In the structure of retail trade commodity resources, the average share of imports between 2017 and 2019 Q1 was 35-37%.

The indirect impact of exchange rate movements on inflation occurs through the influence on the cost of exports and imports. A weakening national currency entails higher cost of imports, lowering their relative attractiveness for domestic consumers, which creates new opportunities for both import substitution and growth in prices of domestic substitute products. Growing ruble costs of exports are also observed when the domestic currency weakens, creating upward pressure on prices of goods that are both exported and sold domestically. In the case of raw materials, it also produces general pressure on the part of expenses.

The Bank of Russia's estimates suggest that the effect from ruble exchange rate fluctuations on dynamics of domestic prices for the most part manifests itself within six months of actual exchange rate changes.

The response of domestic prices on a ruble weakening may be stronger than in the case of appreciation over a short-term horizon (see the Box 'Estimating the exchange rate pass-through to inflation'). This asymmetrical reaction is related to, among other things, the specifics of inflation expectations built up by both households and businesses that are more sensitive to the weakening of the national currency than to its strengthening (see the Subsection 'Inflation expectations channel'). At the same time, it is possible that the scale of response of prices of goods and services flattens out over longer terms. In this case, for example, the weakening of the ruble exchange rate leads to a short-term but strong price response whereas its strengthening causes a similar effect in terms of scale but over a longer period. However, in order to obtain more reliable and robust estimates of the sensitivity of Russian inflation to exchange rate dynamics over a long term, it is necessary to accumulate statistical data for a longer period, during which the Russian economy would not face such heavy structural shifts as in the recent past. In particular, the most important of such shifts include the transition to a floating exchange rate in 2014 and to inflation targeting in early 2015.

Furthermore, prices of different groups of goods and services respond differently to exchange rate movements due to such factors as the competitiveness of Russian products in certain markets, the share of transportation costs, trading and warehousing mark-ups in the final price, and the tax burden level. Prices of goods and services with a short storage or usage period respond to exchange rate changes more promptly and are more sensitive to its weakening rather than strengthening. This is true for food prices, which can be related to structural specifics of the Russian food market: the share of imports is the highest in the segment of goods with short storage periods (e.g. fruit, certain dairy

[4] *The weighted average change in the real exchange rate of the ruble to the currencies of Russia's main trading partners.*

products). Service prices also demonstrate a strongly asymmetrical response. International tourism and air transportation prices are the most sensitive to exchange rate fluctuations. The response of non-food goods prices is more symmetrical. Long storage periods allow retail chains to change prices more gradually taking into account not only the periods when the national currency experienced weakening but also those when it strengthened. The Bank of Russia's estimate suggests that in recent years a 1% weakening in the nominal effective ruble exchange rate[5] raises inflation by no more than 0.1 pp over a six-month horizon. The response to strengthening is considerably weaker.

The advancement of import substitution in the consumer product segment, a gradual decline in inflation expectations, and financial stability create conditions for price sensitivity to exchange rate fluctuations to decrease. During the financial market turbulence in late 2014 – early 2015, the sensitivity of prices was 1.5 times higher than it is today. In 2015–2018, the proportion of domestic products, especially in certain segments of meat and dairy production, was growing. The share of domestic production of goods in the internal market in early 2019 was close to 100% for certain meat products (pork – 96.5%, poultry – 96%) with cheese production growing by 68.8%. Import substitution in non-food consumer goods was less pronounced. That said, in 2017 – early 2018, import substitution was slowing down on the back of market saturation with domestically produced goods and a strengthening ruble exchange rate in 2017.

INFLATION EXPECTATIONS CHANNEL

The inflation expectations channel is a separate channel of the transmission mechanism that supplements and affects other channels. Depending on their inflation expectations, economic entities make consumption, saving and investment decisions, set interest rates, salaries and prices. The central bank can influence inflation expectations dynamics through its forecasts, statements and key rate decisions that are supposed to affect future inflation. More importantly, by setting inflation target and reaching it through monetary policy measures, the central bank creates conditions for anchoring inflation expectations to that target. The effectiveness of the central bank's influence on inflation expectations depends on the efficiency of the central bank's policy and, accordingly, the confidence in it, as well as the level of financial literacy of economic agents. The Bank of Russia analyses expectations of all groups of participants as each group's expectations have their specifics and affect price formation. In Russia, inflation expectations significantly influence inflation.

Business inflation expectations play a major role in shaping inflation because firms set salaries and prices of their goods. Enterprises have stronger needs for inflation forecasts. They have better access to information and more resources for its processing.

Household inflation expectations largely determine the dynamics of consumer demand which, in turn, is reflected in prices for products and services. For example, expectations of future price growth can lead to increased household demand and faster and stronger inflation acceleration. It is of note that household inflation expectations, in both global and Russian practice, can be more adaptive, i.e. they can be based on previous inflation metrics and be influenced by other factors, such as the demographic structure of the population. The Bank of Russia takes this fact into account when it makes monetary policy decisions.

[5] *The weighted average change in the nominal exchange rates of the ruble to the currencies of Russia's main trading partners.*

Expectations of professional analysts and experts can affect those of households and businesses as well as inflation expectations of the financial community, thereby leading to respective changes in financial market indicators and interest rates. At the same time, analysts' estimates are usually based on a more detailed analysis of large amounts of economic information than household and business expectations and can be closer to actual inflation readings.

Inflation expectations of banks influence long-term credit and deposit interest rates. Decreasing inflation expectations of the financial sector in 2016–2018 largely contributed to the decline in long-term interest rates on loans to historical lows. Furthermore, banks' inflation expectations affect their preferences regarding the maturity structure of their assets and liabilities and, consequently, variations in the speed of response of short-term and long-term interest rates to key rate changes. For example, in 2015–2016, amid relatively high uncertainty with respect to future inflation dynamics, banks raised credit rates faster and lowered them more slowly than deposit ones. Thereby, banks aimed to hedge against unexpected inflation growth and, consequently, key rate hikes when they expected that households would transfer their funds to new deposits at higher rates while loans issued earlier at relatively lower rates would still remain on their balances.

Interest rates on banking operations can also be materially influenced by household and business inflation expectations. Inflation expectations of households and their perceptions of its current level can set the lower bound of deposit rates, below which they will be viewed as unreasonably low and unattractive. When deposit rates approach this bound, they become less sensitive to further decline in the key rate. As a result, the reduction of deposit, and consequently, credit rates slows down. This situation was observed in 2017 and the first half of 2018.

The decline in inflation to its historic lows and consistent monetary policy help build trust in the Bank of Russia's policy and enhance the role of its statements and forecasts in building inflation expectations. Among other things, this helps shape business practices that involve setting salaries and prices of intermediate and final products in relation to an inflation target. Increased trust in monetary policy also allows economic agents to pay less attention to short-term price fluctuations caused by, among other things, non-monetary factors, when making their decisions. As these trends strengthen and progress, long-term price stability will rise, and the central bank will have to make fewer efforts to stabilise inflation if temporary factors cause its deviation from the target.

OTHER CHANNELS

Alongside the above-mentioned channels of the transmission mechanism, economic literature describes a number of other channels. Most of them are connected with movements of interest rates on financial instruments caused by key rate revisions. In particular, growth and decline in the value of assets caused by interest rate changes affect not only the possibility of using these assets as collateral on loans (see the Subsection 'The influence of interest rates on lending, saving, investments, and consumption'). Growth in the value of financial assets encourages their owners to raise expenses, whereas its decline, in contrast, makes them save (the welfare channel of the transmission mechanism). In the past decades, Russia has registered an increase in the number of financial asset owners (in the middle of 2019, more than 2.7 million retail customers were registered at

PJSC Moscow Exchange, the number tripled compared with that five years ago), and a rise in investments in securities (including investment units); this lays the groundwork for a gradual increase in the importance of this channel. Nevertheless, bank deposits still prevail as a means of retail savings in Russia; their balances are not revaluated when market interest rates change (unlike the cost of shares and bonds). Securities account for a small proportion of household savings. This limits the effectiveness of the welfare channel in the Russian economy.

The welfare channel is closely connected with the cash flow channel which implies that interest rate movements lead to reallocation of financial resources in the economy. If interest rates go down, income is reallocated from net creditors (persons whose investments in financial assets exceed the amount of loans they raised) to net debtors. As net creditors are usually conservative people who are less inclined to accumulation of expenses, this reallocation leads to growth in aggregate demand in the economy.

When analysing the influence of interest rates on prices, the cost channel is sometimes distinguished. Its mechanism suggests that rising interest rates primarily affect producers' costs (through debt servicing expenses), making them simultaneously reduce production and raise prices of final products (while the logic of the interest rate channel provides that a rising key rate should restrict price growth). However, recent studies, including those based on Russian data, show that monetary policy currently affects inflation mostly through the interest rate channel (see Appendix 2 to the Monetary Policy Guidelines for 2019-2021), that is, an increase in the key rate contains price growth.

THE EFFECTIVENESS OF THE MONETARY POLICY TRANSMISSION MECHANISM

The effectiveness of the monetary policy transmission mechanism in terms of strength and speed of influence of monetary policy on the economy and inflation largely depends on the development of the financial sector, economic agents' confidence in the central bank, the national currency and financial institutions, and the scale of influence of non-monetary factors on the economy.

Financial markets and the banking system in Russia continue their evolution through bank resolution measures, enhancement of financial literacy of households and businesses, introduction of new technologies, which reduce costs of market participants and speed up transactions, as well as through expansion of the portfolio and availability of financial services (see Section 1) and the improvement of monetary policy operational procedure (see Section 4). The Bank of Russia contributes to these processes through various kinds of its activity.

The sustainably shrinking share of foreign currency loans and deposits in recent years also helps reduce the influence of external factors on the domestic financial sector and increases the role of internal interest rates for decision-making by households and businesses. If this trend proves steady, helped in part by sustainable price and financial stability, it will have positive implications for the effectiveness of the monetary policy transmission mechanism.

Currently, the level, dynamics and volatility of prices in Russia are influenced by non-monetary factors, both external (such as energy prices) and internal (such as inadequate competition, an immature logistics infrastructure, scarce domestic supply in certain

categories of consumer products, raw materials and investment goods, skill shortage, high wear and tear of manufacturing equipment, and specifics of tariff regulation) (see the Box 'Effect of non-monetary factors on inflation' in Section 3). Smoothing the impact of these factors can reduce inflationary pressure and price volatility, which will contribute to further reduction of inflation expectations and their sensitivity to one-off events. The activity of government authorities, in which the Bank of Russia takes part, will help decrease the influence of non-monetary factors on inflation (see Section 1 and the Box in Section 3).

Banking sector liquidity and lending to the economy

In 2017, the Russian banking sector faced a structural liquidity surplus. This means that credit institutions do not need to regularly borrow from the Bank of Russia to conduct their current operations. Furthermore, banks have more funds in their correspondent accounts than they need to conduct payments and comply with mandatory reserve requirements. Therefore, the Bank of Russia carries out operations to absorb liquidity, that is to raise excessive liquidity from banks into deposits or place bonds. Banks' return on these operations is close to the Bank of Russia key rate.

As regards the consolidated balance sheet of the banking sector, it may seem that the structural liquidity surplus increased the volume of resources banks may use to expand lending (Chart 1). Indeed, bank assets registered growth in liquid funds which may be replaced with placements in less liquid assets (loans).

However, this contradicts the effect lending has on balance sheets of credit institutions. When a loan is extended, funds are credited to the borrower's settlement account but other bank assets remain unchanged. Subsequently, the borrower may transfer these funds to an account with another bank or use them for settlements with counterparties. In this case, funds will be written off the correspondent account of the lender bank and credited to the correspondent account with another bank, and the borrower's account balance will be reduced by the respective amount in bank liabilities. However, the total funds in correspondent accounts of the banking sector (that is, bank liquidity) will remain unchanged.[1]

The lender may offset the liquidity outflow through either payments received or operations in the interbank market (Chart 2). Therefore, when deciding on a loan issue, banks assume that they will be able to fund these operations from market sources or, at least, borrowings from the Bank of Russia. In other words, the supply of loans is not limited to available liquidity for neither each separate bank nor the banking sector as a whole. Also, if a bank has liquidity overhang, it will not seek to use these funds to increase lending to the real sector because banks can always place excess liquidity in the money market with the Bank of Russia. Hence, a liquidity inflow to banks in itself does not lead to lending growth.

SIMPLIFIED STRUCTURE OF THE BANKING SECTOR BALANCE SHEET *Chart 1*

Banking sector with a structural deficit	
Assets	**Liabilities**
Loans	Deposits
	Funds raised from the Bank of Russia

Banking sector with a structural surplus	
Assets	**Liabilities**
Loans	Deposits
Deposits with the Bank of Russia and OBRs	

[1] *If a loan is issued in cash, funds are not credited to the borrower's account, instead, the balance at the bank's cash desk decreases. However, the borrower is most likely to spend the cash received to buy goods or services, and, therefore, the money will return to the cash desk of the same or another bank.*

SCHEME OF CREDIT TRANSACTIONS *Chart 2*

	Balance sheet of Bank A		**Balance sheet of Bank B**		**Banking sector balance sheet**	
	Assets	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**
Bank A grants a loan to a borrower	+ loan	+ customer account balance			+ loan	+ customer account balance
A borrower makes payments to a counterparty	– correspondent account balance	– customer account balance	+ correspondent account balance	+ customer account balance		
Bank A enters the interbank lending market; a transaction with Bank B	+ correspondent account balance	+ interbank loans outstanding	– correspondent account balance + interbank lending claims		+ interbank lending claims	+ interbank loans outstanding
Result of transactions	+ loan	+ interbank loans outstanding	+ interbank lending claims	+ customer account balance	+ loan + interbank lending claims	+ customer account balance + interbank loans outstanding

The Bank of Russia, in turn, conducts liquidity-providing or liquidity-absorbing operations with banks in such a volume and on such conditions that ensure interbank interest rates shape at a level near the key rate. The monetary policy operational procedure of the Bank of Russia allows the regulator to effectively restrict the effect of the changing banking sector liquidity on the cost of resources in the money market and, hence, other rates in the economy. This enhances the efficiency of the interest rate channel of the monetary policy transmission mechanism, which ultimately allows the Bank of Russia to deliver on the inflation target.

Transfer curve and the shaping of interest rates on bank operations

The transfer curve is an instrument that allows a commercial bank to establish coordinated pricing for operations in different market segments and, if necessary, promptly change the structure of its balance sheet by choosing between various sources of funding and targets for investments. It is a unified set of internal (transfer) bank rates for each term of transactions that serve as the basis for 'calculating' interest rates for all asset-side and liability-side operations of the bank.

There is no single transfer curve for the banking sector. Each bank creates its own curve based on interbank interest rates, OFZ yields or its internal estimates depending on the specifics of its strategy. Besides, using the transfer curve is reasonable mostly for large banks that perform simultaneous operations in multiple market segments and need to ensure the integrity and consistency of the interest rate policy. Small specialised banks, e.g. those working only in deposit and credit markets, can simply establish two sets of interest rates – on asset-side and liability-side operations. Still, large banks that make use of the transfer curve in their pricing contribute to increasing the interconnectedness of financial market segments because the impact of certain major events, including key rate changes, is simultaneously transmitted to all these market segments.

For all types of asset-side operations, the rate must be no less than the transfer rate for the respective term plus costs and risk premiums (both general and specific for that particular type of operations). For all types of liability-side operations, on the contrary, the rate must be no more than the transfer rate less costs. As a result, regardless of the asset and liability structure, the spread between rates on asset-side and liability-side operations covers all necessary costs and risks and generate profit.

Key costs and risks include operating (transactional) costs, credit risks for certain segments and borrowers and payments into the deposit insurance system and for required reserves (see Appendix 7 to 2018-2020 Monetary Policy Guidelines). The existence and scale of factors that banks objectively need to consider when pricing their products explains why the difference between the level of interest rates for corporates and households from the Bank of Russia key rate is larger than that between interbank interest rates and the key rate for comparable terms.

Financial market parameters can exert additional influence on interest rates for the real sector of the economy. Such parameters include market segmentation, the level of competition for depositors' money or for best borrowers, specifics of the strategy of individual participants and of the financial sector regulation in general.

Changes in all of the above factors can contaminate the response of interest rates on deposits, loans and corporate bonds to changes in interbank interest rates and OFZ yields. Therefore, this response should be assessed excluding the impact of the above factors.

It is possible to provide a number of examples from Russian practice when additional factors made a meaningful impact on the dynamics of credit and deposit rates in the economy in general or on the specifics of transmission mechanism operation. For example, in 2016–2017, the combination of banks' conservative borrower selection policy and the recovery of the Russian economy led to a reduction in credit risk premiums priced in credit rates and therefore contributed (along with the expectations of further key rate reduction) to the fact that interest rates in the credit market were declining somewhat faster than the key rate and money market rates. In the segment of long-term household loans, changes in the market structure were another driver of interest rate dynamics. The replacement of long-term consumer loans and car loans with less risky mortgage loans led to the decline in interest rates in 2014 despite a growing key rate during the year; and afterwards to their slower growth in the first half of 2015 and a faster decline in 2016 compared to the key rate and interbank interest rates.

Among individual features of the Russian financial sector, we can, in particular, note the presence of large banks dominating main market segments. This affects certain aspects of the functioning of the monetary policy transmission mechanism: large banks can be less responsive to various external and internal drivers including key rate changes, seeking to maintain their market positions and due to higher diversification of their assets and liabilities. At the same time, financially resilient large banks increase the stability of the overall banking system to negative events in the external or real sectors, which plays a positive role for the efficiency of the transmission mechanism in the long run.

Concept of economic equilibrium and deviations of key macroeconomic variables from such equilibrium (gaps)

In the context of macroeconomic policy, the long-term equilibrium concept is widely used. In the long-term equilibrium, all key economic indicators grow at a constant pace determined by fundamental factors. That is, the long-term equilibrium is not a final point but rather a stable trajectory along which the economy is moving. Monetary policy involving an inflation targeting regime in the long-term equilibrium means that consumer prices grow at a rate equal to the inflation target, while the economic growth rate is equal to its potential level and determined by production factor productivity and a pace of technological development.

The economy can remain in the long-term equilibrium indefinitely in the absence of various shocks entailing short-term deviations. These deviations are called 'gaps'. Gaps can occur due to deviations of economic growth rates, inflation, the exchange rate, unemployment and other macroeconomic indicators from their long-term equilibrium values. In macroeconomic literature, the output gap is mentioned most often. Positive (pro-inflationary) or negative (deflationary) output gaps can cause inflation and inflation expectations to deviate from the target.

In an open economy, temporary deviations from the equilibrium can be related to changes in both internal and external economic conditions. The response of macroeconomic, including monetary, policy to shocks helps minimise their consequences for the economy and ensure its prompt return to the long-term equilibrium.

Estimating the exchange rate pass-through to inflation

In recent years, considerable changes were registered in conditions in which exchange rate movements are translated into price dynamics. The shift to inflation targeting in 2015 was paired with the transition to a floating exchange rate regime and changes in the mechanisms of rapid economic adjustment to exchange rate fluctuations. In addition, a drop in prices for Russian exports and the imposition of financial and economic sanctions against Russia led to a sizeable depreciation of the ruble in 2014–2016. The latter sped up the adjustment of economic agents to the new institutional conditions and fostered import substitution as a means of reducing the economy's sensitivity to external factors. The introduction of a new fiscal rule in 2018 became another important mechanism that mitigates the impact of fluctuations in the oil market, the core global market for Russia, on the Russian economy and, in particular, on the FX market.

Exchange rate movements are translated into inflation through prices for imported and exported goods. The weakening of the ruble is more impactful on inflation that its strengthening. This effect is known as asymmetry in the exchange rate pass-through to prices and is based on nominal rigidities: the economy cannot quickly change nominal parameters (primarily, wages and prices for goods and services of natural monopolies). Also, it is of note that the degree of the exchange rate pass-through to prices is affected by the scale of currency depreciation/appreciation as producers and consumers may respond to modest and strong exchange rate shifts in different manner. This effect is known as non-linearity of the pass-through and assumes that the response of prices to exchange rate fluctuations changes over time.

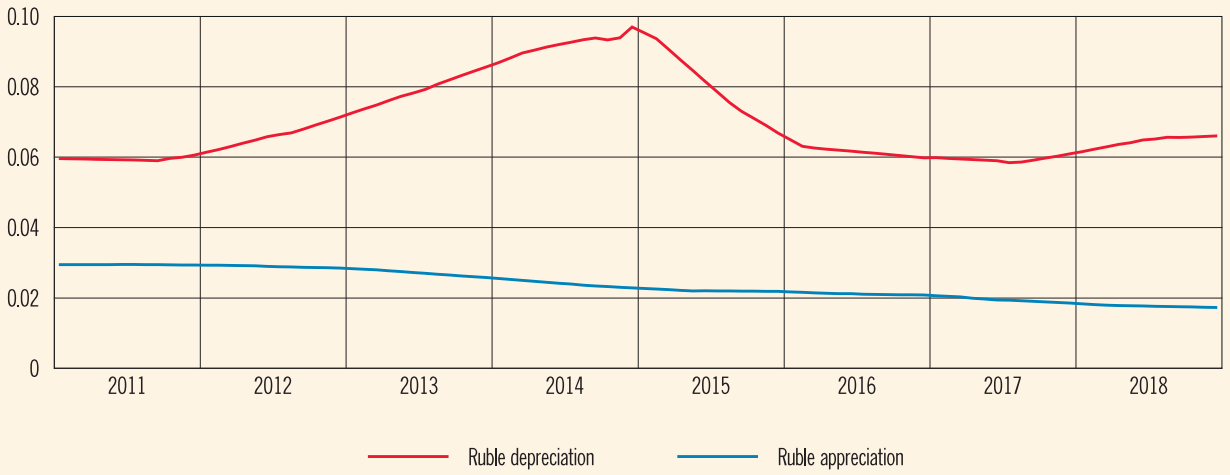
The Bank of Russia's estimates[1] confirm the pass-through asymmetry in the short term (within two quarters) – consumer prices are less sensitive to the ruble's strengthening than to its weakening (Chart 1). However, in the long run this effect is non-existent. The maximum (in absolute terms) short-term semi-elasticity[2] of inflation with respect to ruble depreciation was registered in late 2014 – early 2015, the period of increased exchange rate volatility, which is in line with previous estimates.[3] Short-term semi-elasticity

[1] *Refer to the Bank of Russia website, the Research section, «Исследование асимметрии и нелинейности переноса динамики обменного курса в инфляцию» ('Studying the asymmetry and non-linearity of the exchange rate pass-through to prices', in Russian only) (Working Paper Series, No. 45).*

[2] *Semi-elasticity shows by how many percentage points inflation will change in the case of a 1% movement in the ruble exchange rate.*

[3] *Monetary Policy Report, No. 1, March 2016.*

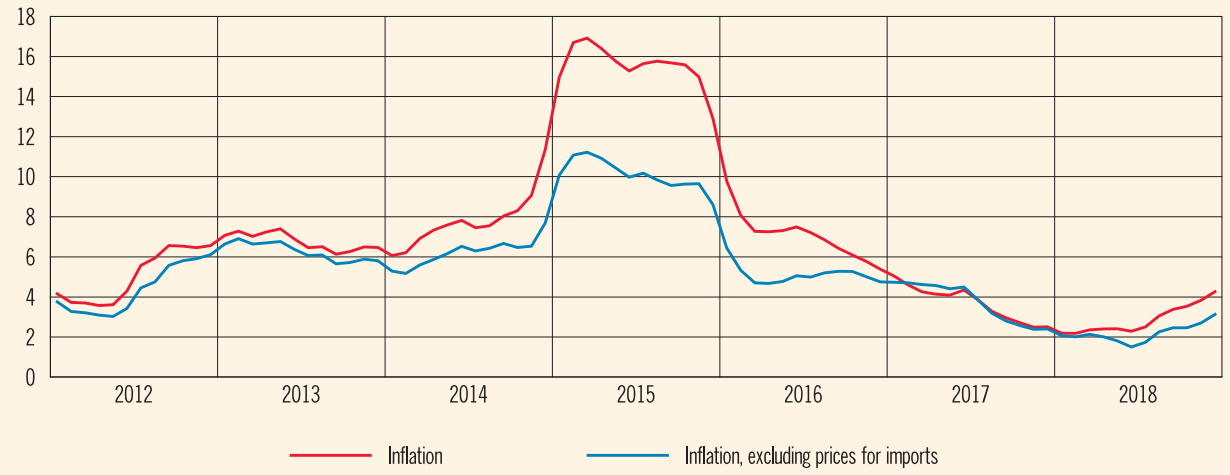
EXCHANGE RATE SEMI-ELASTICITY OF CONSUMER PRICES IN THE SHORT TERM *Chart 1*



of inflation with respect to ruble strengthening is low and merely changes over the whole time horizon. In 2016–2018, as the economy adjusted to new conditions, inflation became considerably less sensitive to ruble weakening. However, starting from the second half of 2017, the elasticity of prices with respect to the exchange rate rose somewhat; this may be connected with rising sanction pressure and overall high external economic uncertainty. Over a longer time horizon, the effect of ruble appreciation accumulates and symmetrises the exchange rate pass-through to prices. Semi-elasticity of inflation with respect to the ruble exchange rate holds below 0.1.

For analytical purposes, the Bank of Russia studies various indicators of underlying inflation, that is, stable price dynamics adjusted for one-off factors irrelevant for monetary policy. These factors usually include exchange rate fluctuations caused by, among other things, external conditions. The calculations of the pass-through allow estimating one of underlying inflation indicators which corresponds to steady exchange rate dynamics. In 2018, when the ruble depreciated, this indicator pointed to the fact that the exchange rate dynamics was pro-inflationary in nature: annual inflation adjusted for import prices is lower than actual one (Chart 2).

ANNUAL INFLATION AND INFLATION ADJUSTED FOR FX EFFECTS *Chart 2*



APPENDIX 2

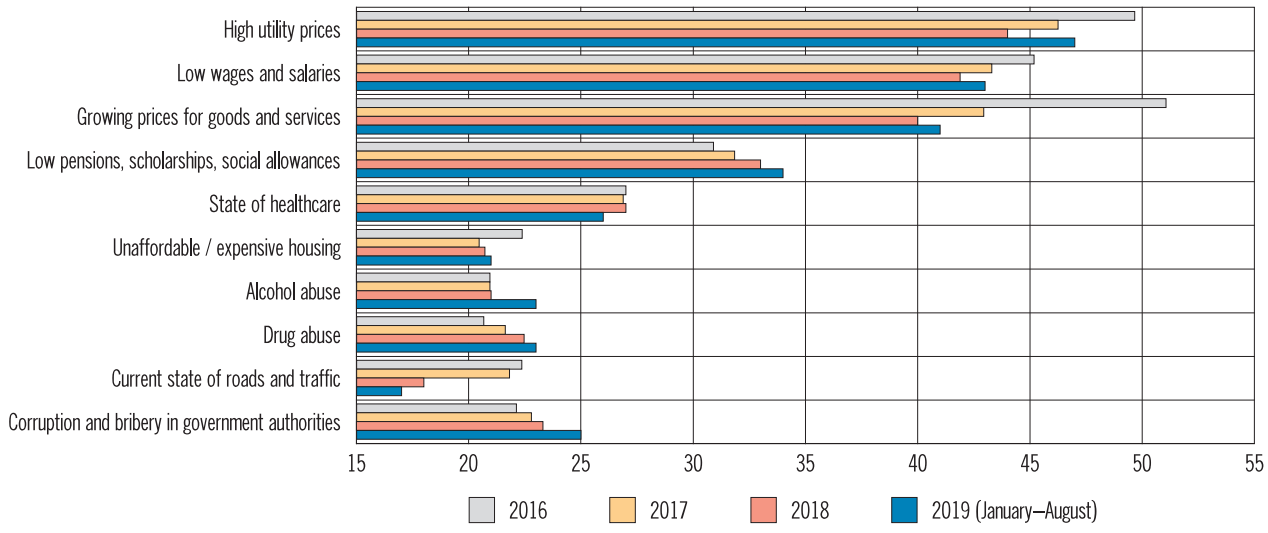
HOUSEHOLDS' AND BUSINESSES' PERCEPTION OF INFLATION: SURVEY RESULTS

As before, both consumers and business leaders in surveys speak of growth in prices for goods and services and utility rates as core problems. In previous years, these concerns decreased to a certain degree owing to declining inflation and inflation expectations during the period following the launch of inflation targeting. However, concerns about price dynamics were up in 2019 due to inflation growth caused by one off factors, primarily the VAT increase. This is evidence that households' inflation expectations are not anchored yet and are sensitive to price changes, even when impacted by one-off factors.

According to the surveys carried out by inFOM, the problem of growing prices for goods and services was ranked third – it was mentioned by 41% of the respondents (vs 40% in 2018). In addition, inFOM's surveys revealed concerns about low wages, pensions and benefits. This may be caused by inflation acceleration and slower growth of nominal incomes in early 2019, which affect the real household income level. The surveys conducted by the Russian Public Opinion Research Center (VCIOM) also show that, in 2019, the number of respondents who mention the problem of high inflation and price growth is greater than in 2018: 7% vs 4% respectively (Chart 2). Yet, despite the year-on-year increase, public concerns about this problem remain lower than in 2016–2017. Generally, as regards this survey, the issue of price growth is less significant than the problems in healthcare, education, social policy, and the economy.

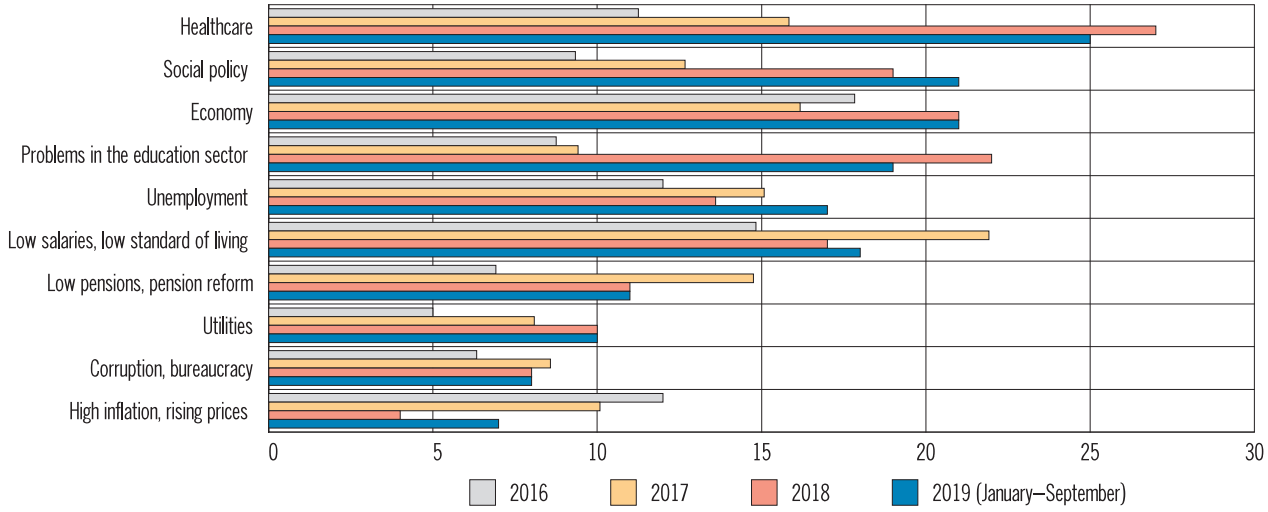
Russians also mention high prices for utility services among topical problems. This issue is more urgent than price growth in general. In 2019, this issue was reported by 47% of respondents according to inFOM's surveys (vs 44% in 2018), and by 10% of respondents, as in 2018, according to the surveys carried out by VCIOM. The growth of utility rates in early 2019 was mostly caused by the VAT increase and accelerated growth of municipal solid waste (MSW) disposal prices in many regions as part of the large-scale reorganisation

ISSUES OF CONCERN FOR RUSSIANS *Chart 1*
(inFOM surveys, %)*



** Surveys are conducted on a regular basis. Based on year-average shares of respondents citing the issue.*
Source: InFOM.

ISSUES OF CONCERN FOR RUSSIANS *Chart 2*
(VCIOM surveys, %)*

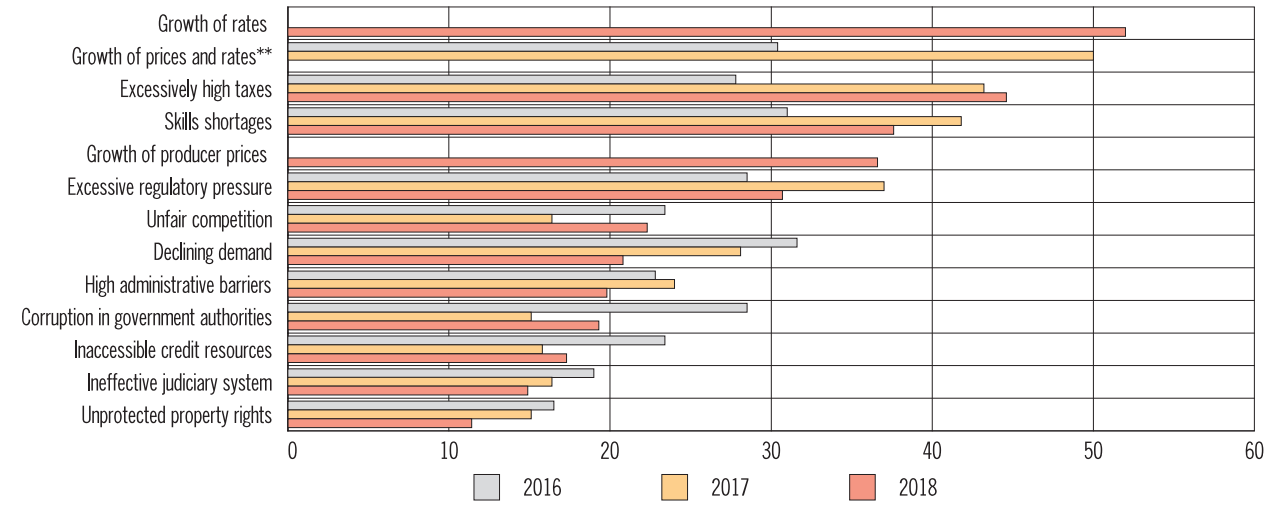


** Surveys are conducted on a monthly basis. Based on year-average shares of respondents citing the issue. Data are based on household surveys through April 2017; they were substituted with telephone surveys beginning in May 2017.*
Source: VCIOM.

of the MSW management system. Apparently, such concerns of households are associated with the said factors. In 2019, the indexation of individuals' aggregate payments for utility services (excluding MSW management services), the second stage of which commenced on 1 July, is generally close to the inflation target.

The surveys carried out by the Russian Union of Industrialists and Entrepreneurs (RSPP) among Russian companies show that the growth of prices and rates remains a problem for them hindering their operations (Chart 3). In 2018, the question regarding 'price and rate growth' in RSPP's surveys was divided into two parts: 'rate growth' and 'producer price growth'. Such detailing revealed that in 2018 52% of the surveyed companies put the issue of 'rate growth' first (in 2017, 50% of companies prioritised the overall problem of 'price

ISSUES OF CONCERN FOR RUSSIAN BUSINESS *Chart 3*
(RSPP surveys, %)*



** Survey results for the corresponding year are published in March of the following year.*
*** The 2018 survey differentiates between 'growth of rates' and 'growth of producer prices.'*
Source: RSPP Russian business climate report.

and rate growth'). In 2018, 36.6% of the surveyed companies also reported the problem of growing prices for producers' goods, which made it fourth by importance.

In future, as inflation declines and the nature of inflation expectations changes, households' and businesses' concerns about growing prices may gradually go down. However, these changes will take quite a long period of time. Inflation should remain close to 4% steadily for a long time. This will be facilitated by the Bank of Russia's monetary policy, which in turn will contribute to a lower sensitivity of inflation expectations to one-off fluctuations of prices for individual goods and services.

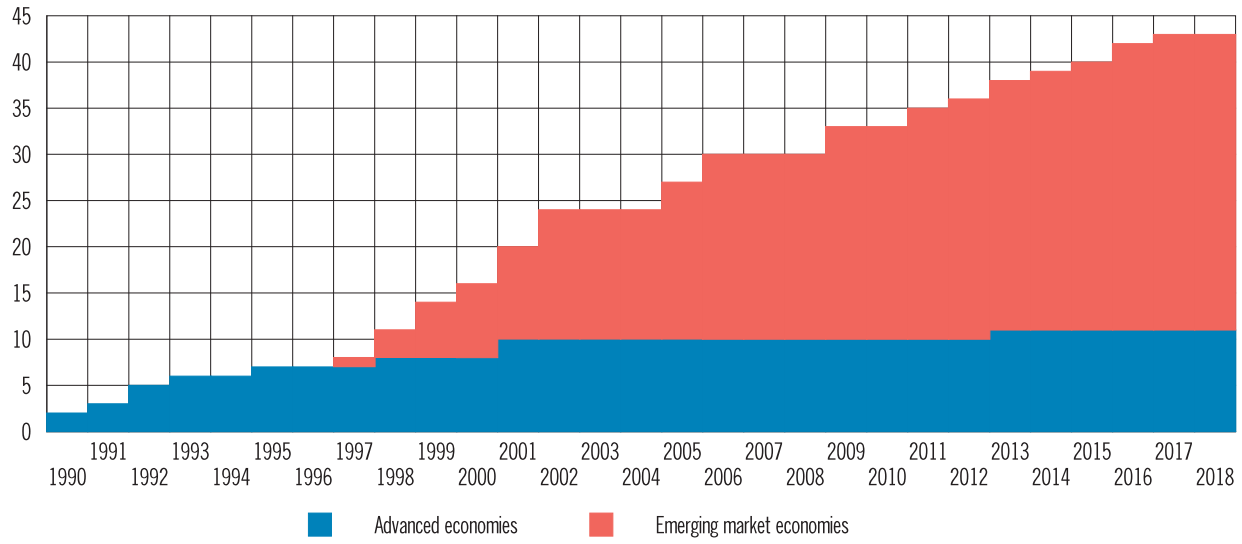
APPENDIX 3

INFLATION AND MONETARY POLICY: CROSS-COUNTRY COMPARISONS

The place of inflation targeting countries in the world economy

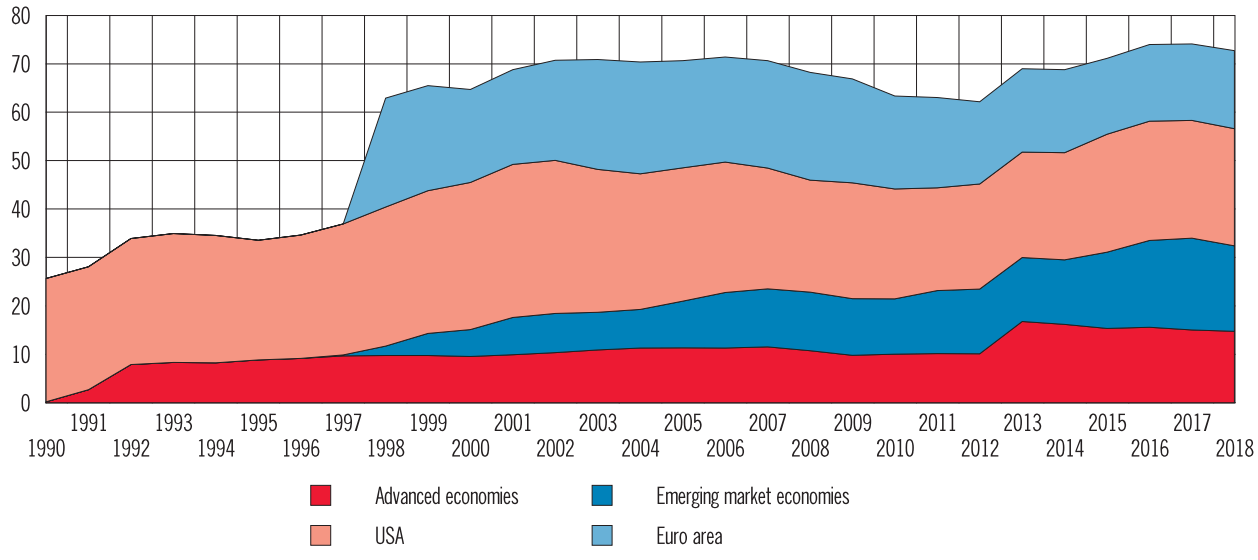
Since 1989, when New Zealand became the first country to adopt the inflation targeting (IT) regime, this practice has become widespread. According to the IMF data, 41 countries have adopted this policy to date. They account for over one third of world GDP. The USA and the euro area do not officially apply the inflation targeting regime; however, they strive to achieve inflation targets established in their mid-term plans. Including these economies,

INFLATION TARGETING ECONOMIES *Chart 1*
(number of countries)



Source: IMF Annual Report on Exchange Arrangements and Exchange Restrictions, 2018.

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



Source: IMF Annual Report on Exchange Arrangements and Exchange Restrictions, 2018.

the share of inflation targeting countries in the global GDP reaches almost 75% (Charts 1 and 2).

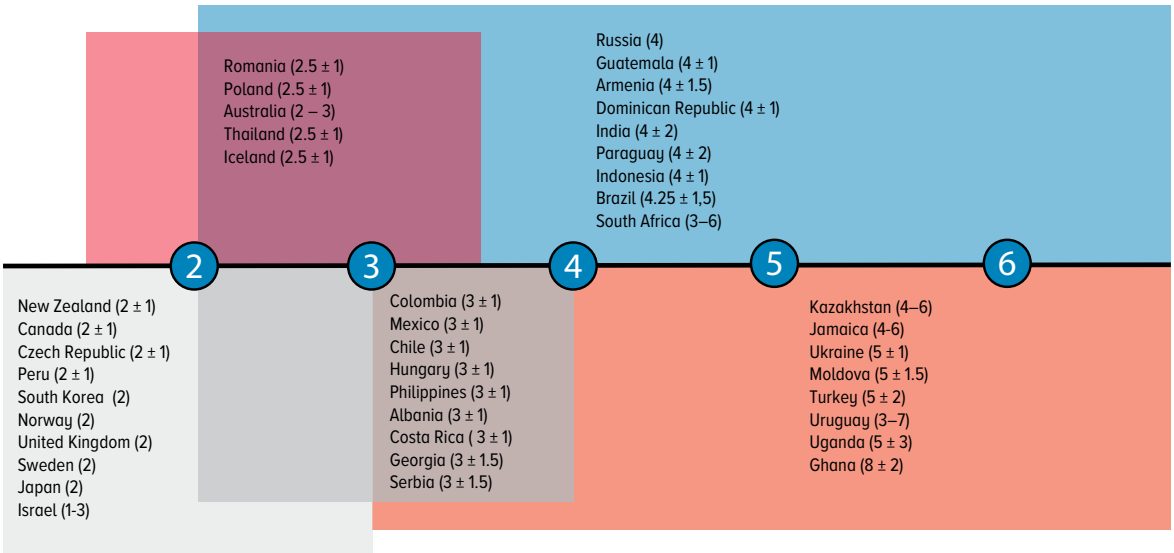
SUCCESSFUL ACHIEVEMENT OF INFLATION TARGETS BY CENTRAL BANKS

When implementing the inflation targeting regime, central banks set the inflation target taking into account the structural and institutional specifics of the economy. Generally, the target range in developed economies is from 2% to 2.5%, while in emerging markets this figure varies from 2.5% to 5% (Chart 3). It may 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.

Most central banks that implement inflation targeting successfully reach their goals. For three in four countries, the average deviation of inflation from the target after the date when such a regime was introduced is less than 1 pp, and only in four countries this deviation exceeded 2 pp[1] (Chart 4). Many countries have faced a situation when inflation temporarily deviated from the target more significantly. However, it is important to note that central banks were always successful in bringing it back to the target. In countries with a long experience in inflation targeting (such as the UK, Canada and Australia), inflation remains on average close to the target, which confirms that their monetary policy has been efficient.

The Bank of Russia switched to the inflation targeting regime in 2015, having set the goal to reduce annual inflation to 4% by the end of 2017. After inflation decrease to 4% in mid-2017, monetary policy has been focused on maintaining it sustainably close to 4%. Amid a number of pro-inflationary factors in late 2018–early 2019, the proactive increase of the key rate by the Bank of Russia enabled it to limit inflation growth and ensure its gradual return to the target in 2019 H2. In the medium term, according to the Bank of Russia's

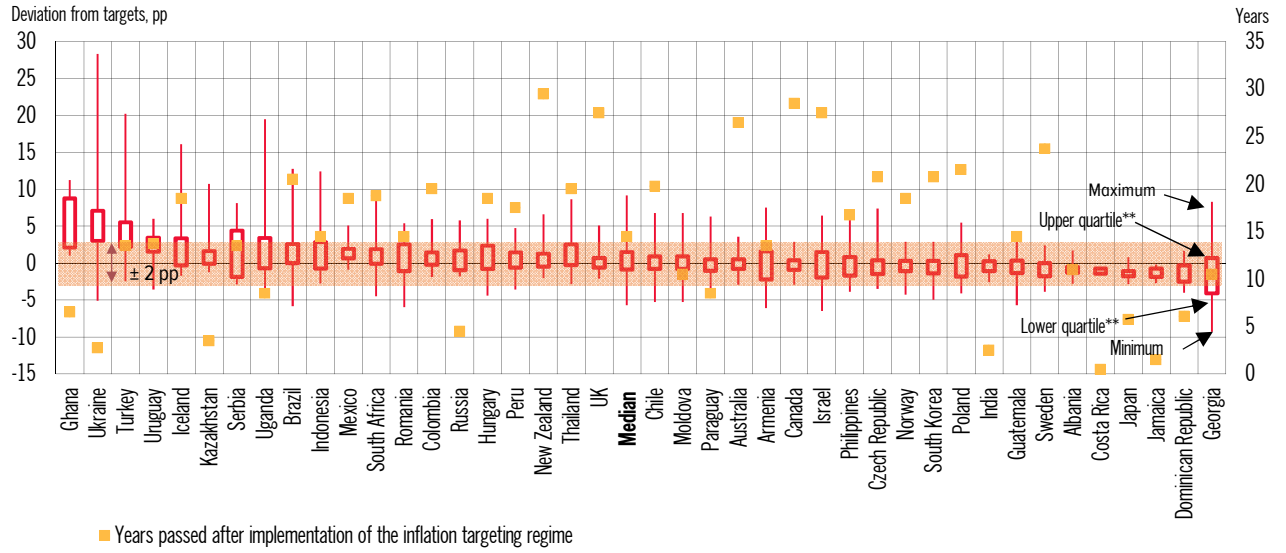
INFLATION TARGETS IN INFLATION TARGETING ECONOMIES (%) *Chart 3*



Sources: central banks' websites.

[1] *Calculations were performed for each country from the date when the inflation targeting regime was introduced.*

ACHIEVEMENT OF INFLATION TARGETS AFTER IMPLEMENTATION OF THE INFLATION TARGETING REGIME* *Chart 4*



** The data are provided for 41 countries.*
*** The lower quartile is the value that has 25% of values in the sample below or equalling it. The upper quartile is the value that has 75% of values in the sample below or equalling it.*
Sources: IMF, central banks' websites, Bank of Russia calculations.

forecast and taking into account the pursued monetary policy, inflation will remain close to 4%.

REASONS FOR TEMPORARY INFLATION DEVIATIONS FROM TARGETS IN INFLATION TARGETING COUNTRIES IN 2018–2019[2]

The inflation targeting practice shows that most central banks do reach their inflation targets. This evidences the stability of this monetary policy regime. However, many central banks, mostly of emerging market economies, regularly face external and internal factors causing inflation deviation from the targets. To mitigate the effect of these factors, standard monetary policy instruments are usually applied. It should be noted that it takes some time for monetary policy to influence the situation in the economy and inflation dynamics. Emerging market economies usually need more efforts and a longer time to bring inflation back to the targets, even when its fluctuations are caused by temporary factors. This is due to the fact that inflation expectations in such economies are less stable and more sensitive to temporary factors.

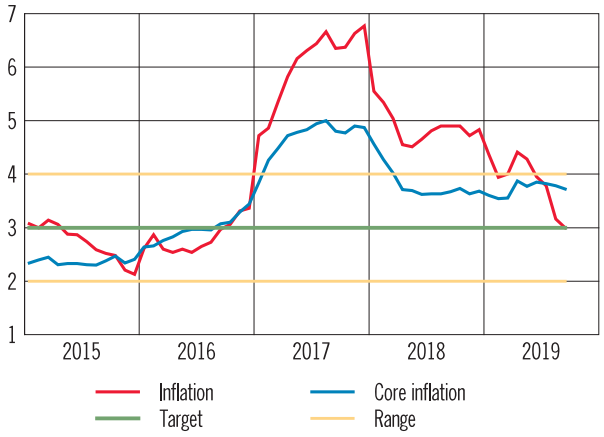
In 2018–2019, inflation deviations from the targets in a number of countries were caused either by external factors, such as trade conflicts or fluctuations in global prices for certain goods, or by internal factors, such as dynamics of aggregate demand or regulated prices, or by the specifics of combination of monetary policy and other types of state economic policy.

Mexico. Mexico has been implementing inflation targeting policy since 2001. Beginning from 2003, the inflation target has been 3%, with a permissible ±1 pp deviation.[3] Overall, Mexico has been fairly successful in achieving its inflation target. However, in recent years inflation has been above the target.

[2] Countries where inflation exceeded the target range for at least one month or where inflation deviated from the target by over 1 pp (for advanced economies) or by more than 2 pp (for emerging economies) are considered.

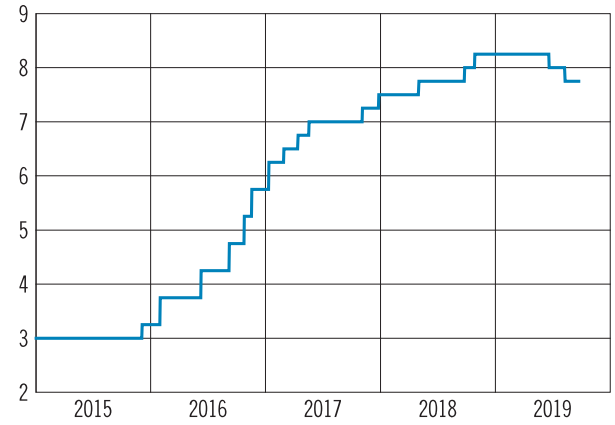
[3] Hereinafter, inflation readings are given in annual terms.

INFLATION IN MEXICO *Chart 5*
(% growth on the same month of the previous year)



Source: Bank of Mexico website.

TARGET MONEY MARKET RATE OF THE BANK OF MEXICO *Chart 6*
(% p.a.)



Source: Bank of Mexico website.

From 2017 to 2019 H1, inflation deviated from the target (3%) by 2.2 pp on average (Chart 5). During the said period, annual inflation acceleration from 3.4% (in December 2016) to the local maximum of 6.8% (in December 2017) was associated with the impact of both external and internal factors. The main contributor was the depreciation of the Mexican peso amid uncertainty about the trade relations with the USA. Inflation was also affected by such factors as higher global prices for energy products (especially petrol and liquefied gas) and agricultural products and an increase in the domestic regulated tariffs (public transportation fares). At the same time, the economy and real wages steadily grew, creating a favourable environment for inflation processes.

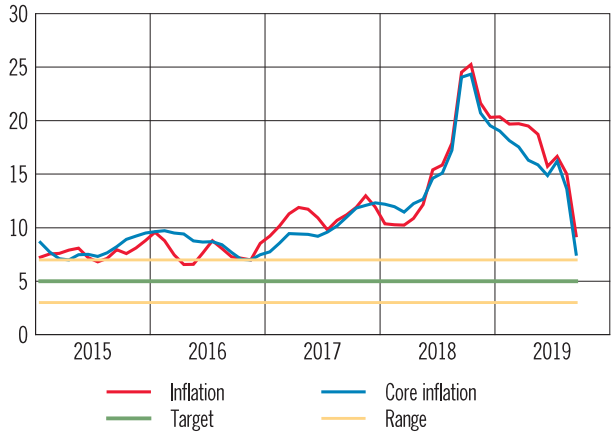
In this context, beginning in 2016 the Bank of Mexico proactively started to gradually raise the target money market rate (Chart 6). From January 2016 to January 2019, it grew from 3.00% to 8.25% p.a., and was then maintained at that level. This favoured the slowdown of inflation to the target (from the local maximum of 6.8% in December 2017 to 3.0% in September 2019). In August and September, the Bank of Mexico reduced the target money market rate by a total of 50 bp to 7.75% p.a., having noted that inflation reached the target and risks for economic growth increased. The Bank of Mexico and analysts expect that inflation will also stay within the target range at the end of the year.[4]

Turkey. The Central Bank of the Republic of Turkey (CBRT) switched to inflation targeting in 2006. Since 2012, the inflation target has been set at 5% with a permissible deviation range of ±2 pp. During that period, inflation in Turkey has consistently exceeded the permissible deviation range. In particular, from 2018 to 2019 H1 the average upward deviation of inflation from the 5% target was about 12 pp, and October 2018 recorded the maximum deviation of nearly 20 pp (Chart 7).

A significant acceleration of inflation in 2018 was caused by both external and internal factors. In August 2018, the Turkish lira drastically weakened (by 40% during 2018) amid the trade conflict with the USA and capital outflow from emerging market economies. The depreciation of the lira was accompanied by growing inflation and devaluation expectations. Experts reported the decline of confidence in the CBRT: they considered that the increase in the money market rates in late 2017–2018 H1 under the influence of the measures

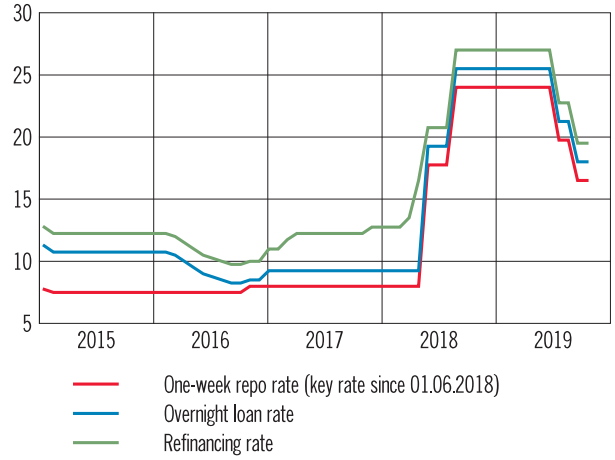
[4] *Hereinafter, Bloomberg's consensus forecast of inflation dynamics is cited.*

INFLATION IN TURKEY *Chart 7*
(% growth on the same month of the previous year)



Source: Central Bank of the Republic of Turkey website.

CBRT INTEREST RATES *Chart 8*
(% p.a.)



Source: Central Bank of the Republic of Turkey website.

taken by the CBRT[5] was insufficient for inflation reduction to the target. As estimated by the IMF, inflation acceleration was also driven by the stimulation of lending through the Credit Guarantee Fund[6] programmes in 2016–2017.

In September 2018, the CBRT raised the one-week repo rate from 17.75% to 24% (Chart 8). Having reached its local peak (25%) in October 2018, annual inflation started to gradually go down. Until mid-2019, the one-week repo rate remained unchanged. The CBRT decreased the one-week repo rate by 425 bp in July and by 325 pp more in September, having noted that inflation was slowing down more quickly than expected. As forecast by the CBRT, inflation will reach 8.2% by the end of 2020 and will stabilise close to the target in the mid-run.[7] Analysts expect faster inflation slowdown.

South Korea. South Korea has been implementing inflation targeting policy since 1998. In recent years, inflation has mostly showed a downward trend against the target. In 2016, the inflation target was lowered to 2%. Since December 2018, inflation in South Korea has been below the target. In September, inflation hit negative territory (Chart 9).

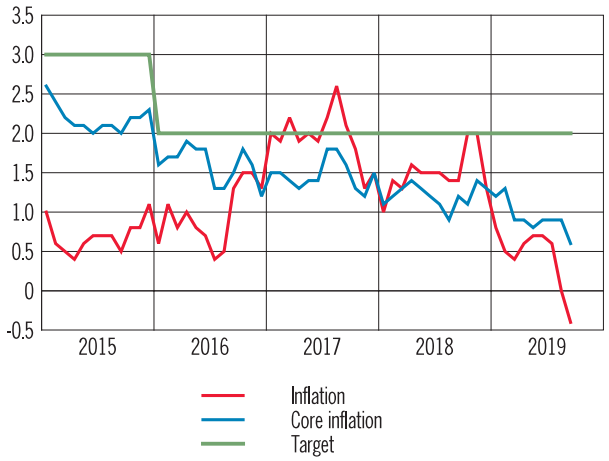
Such deviation from the target resulted from the materialisation of a number of both external and internal disinflationary risks in late 2018–early 2019. The Bank of Korea sees the fall in prices for oil and petroleum products in late 2018 as the main external factor. In addition, the moderate growth of prices for agricultural products also contributed to the inflation slowdown in 2019. The Bank of Korea explains this by very favourable weather conditions, which resulted in an increased yield and a large production surplus. The reduction of the personal consumption tax (variations of this tax are VAT and sales tax) was another materialised internal disinflationary risk that caused a short-term inflation slowdown. However, demand-side pressure on inflation turned out to be weaker in 2019 than expected. Moreover, the Bank of Korea lowered its economic growth forecast due to the deterioration of the development prospects in the global economy.

[5] *The CBRT tried to influence the money market rates by changing the banking sector liquidity situation. This caused the increase in the money market rates by 500 bp. An outside observer, however, would not comprehend whether that involved policy tightening.*

[6] *Consultations under Article IV of the IMF's Articles of Agreement. 2018. P. 24.*

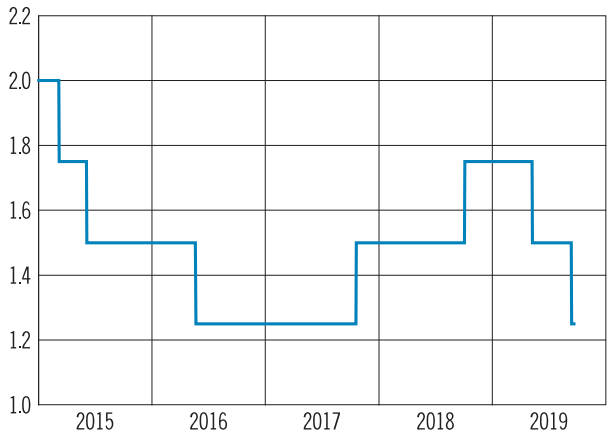
[7] *Inflation growth in July was associated with the expiry of the resolution on the temporary decrease of the tax on durable goods and with the growth of electricity prices. Inflation moved down again already in August, having reached its lows recorded in May 2018.*

INFLATION IN SOUTH KOREA *Chart 9*
(% growth on the same month of the previous year)



Source: Bank of Korea website.

BANK OF KOREA BASE RATE *Chart 10*
(% p.a.)



Source: Bank of Korea website.

In early 2019, the Bank of Korea completed monetary policy normalisation carried out in 2018, and then reduced the rate twice, in July and October, by a total of 50 bp, to 1.25% p.a. (Chart 10). The regulator noted its adherence to the policy that fosters further recovery of economic growth and inflation stabilisation over the medium-term horizon. The Bank of Korea and analysts forecast that, as the influence of temporary factors is exhausted, among other factors, inflation will come close to 1.5% in 2020.

The analysis of the causes for inflation deviations from the targets in inflation targeting countries shows that those deviations were caused by temporary factors. The central banks took measures to bring inflation closer to the target in all the above cases. Inflation will return to its target level in these countries in the mid-run, which is in line with both the central banks' forecasts and analysts' expectations.

WELL-BALANCED ECONOMIC POLICY IS CRITICAL FOR MACROECONOMIC STABILITY, INCLUDING PRICE STABILITY

International experience shows that consistent monetary policy cannot be the only instrument for achieving and maintaining macroeconomic stability. Other types of state economic policy should also create the conditions necessary for ensuring price and financial stability. This takes on even more importance for a country at the stage of its transition to the inflation targeting regime. This is the period when it is critical for a central bank to build up confidence in its future actions and to anchor inflation expectations.

The experience of Argentina is one of the latest examples showing these specifics of macroeconomic policy implementation. The Argentinian government had been taking measures to stabilise its public finance since 2015. However, that was insufficient to fix the budget problems. A significant initial budget gap (over 4% of GDP) persisted, and the central bank continued to finance a considerable part of it.[8] In these conditions, it was hard to maintain price stability within the inflation targeting regime implemented by the Central Bank of Argentina in 2017. Inflation accelerated, and the monetary base and monetary aggregates rapidly increased. In this situation, it was important to stabilise the dynamics of the monetary indicators. For this reason, in October 2018, the Central

[8] *The funds were provided as temporary advances to the government.*

Bank of Argentina introduced the monetary aggregate targeting approach. The new goal pursued by Argentina's monetary policy is a zero growth rate of the monetary base (as compared to the period before the implementation of the monetary aggregate targeting approach) – and this is also the obligation undertaken by the government to terminate increasing the budget gap.[9] In July, the IMF mission gave a positive assessment of the Argentinian government's efforts in 2019 H1 towards this goal. At the moment, there is some uncertainty about further development of the situation because of the presidential election outcome.[10] Economic policy approaches will largely depend on election results.

[9] *As of now, the target is effective until the end of 2019.*

[10] *The first round of the presidential elections in Argentina is to be held on 27 October.*

INFORMATION ON INFLATION TARGETING ECONOMIES *Table 1*
(as of July 2019)

No.	Country	Inflation targeting regime implemented in	Target type and level as of 2019,[1] %	Average annual inflation following the transition,[2] %	Average annual inflation since 2018, %	Horizon[3]
1	New Zealand	1990	2 ± 1	2.2	1.6	Mid-term
2	Canada	1991	2 ± 1	1.9	2.2	For the next 1.5–2 years
3	UK	1992	2	2.1	2.3	Interest rates are established so as to ensure inflation rate return to the target within a reasonable period without excessive instability in the economy
4	Israel	1992	1–3	3.9	1.0	The target is compared with the CPI dynamics for the last 12 months
5	Australia	1993	2–3	2.5	2.0	Mid-term. Current inflation may deviate from the target for a short period, but its average should be within the set range
6	Sweden	1995	2	1.2	1.9	Several years
7	Czech Republic	1997	2 ± 1	2.6	2.4	1–1.5 years
8	Poland	1998	2.5 ± 1	3.1	1.7	Mid-term. Time needed to achieve the target is estimated depending on the nature of inflation drivers, their sustainability and the general assessment of risks to price stability and macroeconomic stability in general
9	South Korea	1998	2	2.6	1.2	Mid-term
10	Brazil	1999	4.25 ± 1.5	6.4	3.8	The inflation target is set for one year and remains effective for 30 months. The Bank of Brazil assesses the time when inflation will go back to the target depending on the nature and sustainability of factors affecting inflation
11	Colombia	1999	3 ± 1	5.0	3.2	Long-term
12	Chile	1999	3 ± 1	3.2	2.4	Permanent two-year horizon
13	Thailand	2000	2.5 ± 1.5	2.1	1.0	The inflation target is mid-term, yet the legislation requires its annual revision
14	South Africa	2000	3–6	5.7	4.5	On a constant basis
15	Hungary	2001	3 ± 1	4.0	3.0	Mid-term (for 1.5–2 years)
16	Iceland	2001	2.50	4.7	2.9	On an ongoing basis since 2001. If inflation deviates from the target by more than 1.5 pp (upwards or downwards), the Central Bank of Iceland shall provide a public report to the government explaining why the target has not been achieved and outlining the measures to bring inflation back to the target
17	Norway	2001	2	2.1	2.8	Mid-term. The time horizon depends on how inflation factors affect the inflation, economy and employment forecast
18	Ghana	2002	8 ± 2	13.6	9.7	Forecast horizon is 1 year
19	Peru	2002	2 ± 1	2.7	1.7	On an ongoing basis
20	Uruguay	2002	From 3 to 7	7.6	7.6	For 24 months
21	Philippines	2002	3 ± 1	3.8	4.6	Mid-term (for two years)
22	Guatemala	2005	4 ± 1	5.1	3.9	Mid-term
23	Indonesia	2005	4 ± 1	6.3	3.1	No fixed time horizon
24	Romania	2005	2.5 ± 1	4.1	4.4	The target remains unchanged for a long period

No.	Country	Inflation targeting regime implemented in	Target type and level as of 2019,[1] %	Average annual inflation following the transition,[2] %	Average annual inflation since 2018, %	Horizon[3]
25	Armenia	2006	4.0 ± 1.5	3.7	2.5	For the next 3 years. The Central Bank of Armenia strives to achieve the target within this period
26	Serbia	2006	3 ± 1.5	6.9	1.7	For each month. This implies that the progress towards the target is monitored on a continuous basis, and not only at the end of the year
27	Turkey	2006	5 ± 2	9.5	17.1	Mid-term (for 2 years)
28	Albania	2009	3 ± 1	2.2	2.0	Mid-term (from 1 to 3 years) The Bank of Albania strives to achieve the target within this period
29	Georgia	2009	4 ± 1.5 for 2017, 3 ± 1.5 from 2018 onward	3.4	2.9	For the next 3 years
30	Moldova	2010	5 ± 1.5	5.4	3.2	The target should be achieved within 2 years
31	Paraguay	2011	4 ± 2	4.1	3.8	Mid-term
32	Uganda	2011	5 ± 2	7.6	4.2	1–3 years
33	Dominican Republic	2012	4 ± 1	2.9	3.6	The target should be achieved within 2 years
34	Japan	2013	2	0.7	0.4	The Bank of Japan strives to achieve the inflation target at the earliest possible time
35	Russia	2014	4	4.6	3.6	On an ongoing basis
36	Kazakhstan	2015	5–7 by the end of 2018, 4–6 for 2019, and below 4 beginning from 2020	8.8	5.7	For the next year. A mid-term target will be set beginning from 2020
37	Mexico	2001	3 ± 1	4.1	4.6	Mid-term
38	Ukraine	2015	6.5 ± 2 for 2018, 5 ± 1 onward	12.8	10.3	Annual, for the period of disinflation, and mid-term, afterwards
39	India	2016	4 ± 2	5.9	3.6	A target is set every 5 years. The next revision of the target is scheduled for spring 2021
40	Costa Rica	2018	3 ± 1	1.9	1.9	A target is set for the next 2 years
41	Jamaica	2018	4–6	3.6	3.6	A target is set for 4 years

[1] An inflation target is usually set for the headline consumer price index. Countries may go by its value in the current month against the corresponding month of the previous year, the end of the year, or the average value during the year.
[2] Average annual inflation is calculated by the month.
[3] According to IMF classification, 'horizon' means the term (in years) during which the central bank publicly commits to reach the inflation target. The latest information about the horizon is available for 2017.
Source: IMF.

APPENDIX 4

MONETARY PROGRAMME

The main goal of the Bank of Russia's monetary policy is to maintain annual inflation close to 4%, and its operational objective is to keep the interest rate on overnight interbank loans 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. In addition to the banking sector liquidity forecast, the Bank of Russia calculates monetary programme indicators. They supplement the forecast indicators, which the Bank of Russia takes into account when elaborating and implementing its monetary policy.

FORECAST OF KEY INDICATORS IN MONETARY AUTHORITIES' ACCOUNTS (MONETARY PROGRAMME INDICATORS UNDER THE BASELINE SCENARIO)[1] *Table 1*

(as of the beginning of period, trillion rubles, unless specified otherwise)

	2019 (actual)	Baseline scenario			
		2020	2021	2022	2023
1. Monetary base (narrow definition)	**10.6**	**11.0**	**11.4**	**11.9**	**12.3**
1.1. Cash in circulation (outside the Bank of Russia)	10.3	10.6	11.0	11.4	11.8
1.2. Required reserves[2]	0.3	0.4	0.4	0.5	0.5
2. Net foreign currency reserves	**31.9**	**36.8**	**39.7**	**41.7**	**43.0**
– billions of US dollars[3]	460	530	572	601	619
3. Net domestic assets	**-21.3**	**-25.8**	**-28.3**	**-29.9**	**-30.7**
3.1. Net credit to general government	-9.1	-12.0	-13.9	-14.9	-15.8
3.2. Net credit to banks	-4.2	-5.5	-6.3	-7.1	-7.2
3.2.1. Gross credit to banks	1.0	0.7	0.7	0.7	0.7
3.2.1.1. Claims on refinancing operations[4]	0.3	0.2	0.2	0.2	0.2
3.2.2. Bank correspondent accounts with the Bank of Russia	-1.9	-2.3	-2.4	-2.6	-2.7
3.2.3. Bank deposits with the Bank of Russia and coupon OBRs	-3.3	-4.0	-4.6	-5.2	-5.2
3.3. Other net non-classified assets[5]	-8.0	-8.3	-8.1	-7.9	-7.6

[1] Monetary programme indicators, calculated at a fixed exchange rate, are based on the official exchange rate of the ruble as of the beginning of 2019.

[2] Credit institutions' required reserves deposited with the Bank of Russia in ruble-denominated accounts (do not include funds in correspondent accounts of credit institutions with the Bank of Russia taken into account in the required reserve averaging procedure).

[3] The forecast of changes in net foreign currency reserves takes into account operations of the Russian Ministry of Finance to buy (sell) foreign currency in the domestic FX market, operations of the Bank of Russia to buy monetary gold, and settlements within USD/RUB FX swap transactions.

[4] 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.

[5] Include operations with the use of funds of the state corporation Deposit Insurance Agency and the Banking Sector Consolidation Fund, the Bank of Russia's net interest expenses and foreign currency revaluation of assets.

Source: Bank of Russia.

FORECAST OF KEY INDICATORS IN MONETARY AUTHORITIES' ACCOUNTS (MONETARY PROGRAMME INDICATORS UNDER ALTERNATIVE SCENARIOS)[1]
(as of the beginning of period, trillion rubles, unless specified otherwise)

Table 2

	2019 (actual)	High oil price scenario				Risk scenario			
		2020	2021	2022	2023	2020	2021	2022	2023
1. Monetary base (narrow definition)	**10.6**	**11.0**	**11.4**	**11.9**	**12.3**	**11.0**	**11.4**	**11.9**	**12.3**
1.1. Cash in circulation (outside the Bank of Russia)	10.3	10.6	11.0	11.4	11.8	10.6	11.0	11.4	11.8
1.2. Required reserves[2]	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.5
2. Net foreign currency reserves	**31.9**	**36.8**	**41.4**	**47.6**	**52.9**	**36.8**	**34.4**	**32.8**	**32.0**
– billions of US dollars[3]	460	530	596	685	761	530	495	472	460
3. Net domestic assets	**-21.3**	**-25.8**	**-30.0**	**-35.7**	**-40.6**	**-25.8**	**-22.9**	**-20.9**	**-19.7**
3.1. Net credit to general government	-9.1	-12.0	-15.6	-20.7	-25.6	-12.0	-9.3	-7.5	-6.0
3.2. Net credit to banks	-4.2	-5.5	-6.1	-6.8	-6.8	-5.5	-5.6	-5.6	-6.0
3.2.1. Gross credit to banks	1.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
3.2.1.1. Claims on refinancing operations[4]	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
3.2.2. Bank correspondent accounts with the Bank of Russia	-1.9	-2.3	-2.4	-2.6	-2.7	-2.3	-2.4	-2.6	-2.7
3.2.3. Bank deposits with the Bank of Russia and coupon OBRs	-3.3	-4.0	-4.4	-4.9	-4.8	-4.0	-3.9	-3.8	-4.0
3.3. Other net non-classified assets[5]	-8.0	-8.3	-8.3	-8.2	-8.2	-8.3	-8.0	-7.8	-7.6

[1] Monetary programme indicators, calculated at a fixed exchange rate, are based on the official exchange rate of the ruble as of the beginning of 2019.
[2] Credit institutions' required reserves deposited with the Bank of Russia in ruble-denominated accounts (do not include funds in correspondent accounts of credit institutions with the Bank of Russia taken into account in the required reserve averaging procedure).
[3] The forecast of changes in net foreign currency reserves takes into account operations of the Russian Ministry of Finance to buy (sell) foreign currency in the domestic FX market, operations of the Bank of Russia to buy monetary gold, and settlements within USD/RUB FX swap transactions.
[4] 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.
[5] Include operations with the use of funds of the state corporation Deposit Insurance Agency and the Banking Sector Consolidation Fund, the Bank of Russia's net interest expenses and foreign currency revaluation of assets.
Source: Bank of Russia.

Entry 1 'Monetary base (narrow definition)'

Growth of the monetary base over the forecast horizon will be favoured by an increase in the amount of cash in circulation owing to the expected dynamics of nominal GDP. However, as before, the dynamics of this indicator over the forecast horizon will be substantially restrained by a wider use of cashless payments.

The amount of required reserves for ruble-denominated liabilities held in special accounts with the Bank of Russia will not change considerably. A slight increase in this indicator during the period in question is explained by overall growth of money supply (according to the national definition).

Entry 2 'Net foreign currency reserves'

The implementation of fiscal policy has a considerable impact on monetary programme indicators. Changes in Entry 2 'Net foreign currency reserves' will be supported mainly by the operations of the Russian Ministry of Finance with foreign currency. In addition, both the baseline scenario and the high oil price scenario suggest that starting in February 2019 and for 36 months the Bank of Russia will perform operations suspended in 2018. In its risk scenario when the external environment deteriorates, for the purposes of model-based calculations in support of macroeconomic forecast scenarios, the Bank of Russia assumes that these operations will be suspended beginning from 2020. Changes of international reserves will also be driven by the Bank of Russia's monetary gold purchases.

Allowing for various assumptions regarding oil prices in the Bank of Russia's scenarios, net international reserves may reach ₽32–53 trillion by the end of 2022.

Entry 3 'Net domestic assets'

Entry 3.1 'Net credit to general government'

Entry 3.1 'Net credit to general government' takes into account fiscal rule-based foreign currency operations.

Entry 3.2 'Net credit to banks'

Entry 3.2 'Net credit to banks' will remain negative during the period under review. In 2019, as in the previous year, formation of this entry has been affected by the change in Entry 3.3 'Other net non-classified assets', inter alia, due to the Bank of Russia's interest expenses. Foreign currency purchases under the fiscal rule that were earlier suspended will contribute to a liquidity inflow to banks over the entire forecast period.

The decrease in Entry 3.2.1 'Gross credit to banks' is associated with the operations of the State Corporation VEB.RF to repay the debt to the Bank of Russia through the transfer of federal government bonds to it. 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.[1] When calculating the monetary programme for 2020–2022, the current values of banks' claims within these operations are used.

In January–September 2019, average balances in credit institutions' correspondent accounts with the Bank of Russia totalled ₽2.4 trillion. 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 and an increase in this indicator during the period under review proportionally to money supply growth (according to the national definition).

Entry 3.2.3 'Bank 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 issuance can reach ₽4.0–5.2 trillion by the end of 2022.

Entry 3.3 'Other net non-classified assets'

Over the forecast horizon, changes in Entry 3.3 are mainly associated with the payment of interest by the Bank of Russia on standard liquidity absorption operations and with the partial repayment of funds provided by the Bank of Russia earlier for the financial rehabilitation of individual banks.

[1] *Information on the Bank of Russia's claims on credit institutions on specialised refinancing facilities is available on the Bank of Russia website, http://cbr.ru/hd_base/specref/.*

APPENDIX 5

BANK OF RUSSIA BOARD OF DIRECTORS' MONETARY POLICY MEETINGS AND RELATED EVENTS IN 2020

Date	Event
7 February 2020	Bank of Russia Board of Directors' monetary policy meeting Press release on the key rate Medium-term forecast (Press release and medium-term forecast are to be published at 13:30 Moscow time) Press conference of the Governor of the Bank of Russia (Press conference is to start at 15:00 Moscow time)
17 February 2020	Release of the Monetary Policy Report
20 March 2020	Bank of Russia Board of Directors' monetary policy meeting Press release on the key rate (Press release is to be published at 13:30 Moscow time)
24 April 2020	Bank of Russia Board of Directors' monetary policy meeting Press release on the key rate Medium-term forecast (Press release and medium-term forecast are to be published at 13:30 Moscow time) Press conference of the Governor of the Bank of Russia (Press conference is to start at 15:00 Moscow time)
6 May 2020	Release of the Monetary Policy Report
19 June 2020	Bank of Russia Board of Directors' monetary policy meeting Press release on the key rate (Press release is to be published at 13:30 Moscow time)
24 July 2020	Bank of Russia Board of Directors' monetary policy meeting Press release on the key rate Medium-term forecast (Press release and medium-term forecast are to be published at 13:30 Moscow time) Press conference of the Governor of the Bank of Russia (Press conference is to start at 15:00 Moscow time)
3 August 2020	Release of the Monetary Policy Report
18 September 2020	Bank of Russia Board of Directors' monetary policy meeting Press release on the key rate (Press release is to be published at 13:30 Moscow time)
23 October 2020	Bank of Russia Board of Directors' monetary policy meeting Press release on the key rate Medium-term forecast (Press release and medium-term forecast are to be published at 13:30 Moscow time) Press conference of the Governor of the Bank of Russia (Press conference is to start at 15:00 Moscow time)
2 November 2020	Release of the Monetary Policy Report
18 December 2020	Bank of Russia Board of Directors' monetary policy meeting Press release on the key rate (Press release is to be published at 13:30 Moscow time)

APPENDIX 6

BANK OF RUSSIA ONE-WEEK AUCTION-BASED OPERATIONS IN 2020

Amid 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 post an information notice on its website on the business day preceding the auction.

Auction date	Date of funds placement by credit institutions	Date of principal repayment and interest payment by the Bank of Russia
09.01.2020	09.01.2020	15.01.2020
14.01.2020	15.01.2020	22.01.2020
21.01.2020	22.01.2020	29.01.2020
28.01.2020	29.01.2020	05.02.2020
04.02.2020	05.02.2020	12.02.2020
11.02.2020	12.02.2020	19.02.2020
18.02.2020	19.02.2020	26.02.2020
25.02.2020	26.02.2020	04.03.2020
03.03.2020	04.03.2020	11.03.2020
10.03.2020	11.03.2020	18.03.2020
17.03.2020	18.03.2020	25.03.2020
24.03.2020	25.03.2020	01.04.2020
31.03.2020	01.04.2020	08.04.2020
07.04.2020	08.04.2020	15.04.2020
14.04.2020	15.04.2020	22.04.2020
21.04.2020	22.04.2020	29.04.2020
28.04.2020	29.04.2020	06.05.2020
06.05.2020	06.05.2020	13.05.2020
12.05.2020	13.05.2020	20.05.2020
19.05.2020	20.05.2020	27.05.2020
26.05.2020	27.05.2020	03.06.2020
02.06.2020	03.06.2020	10.06.2020
09.06.2020	10.06.2020	17.06.2020
16.06.2020	17.06.2020	24.06.2020
23.06.2020	24.06.2020	01.07.2020
30.06.2020	01.07.2020	08.07.2020
07.07.2020	08.07.2020	15.07.2020
14.07.2020	15.07.2020	22.07.2020
21.07.2020	22.07.2020	29.07.2020
28.07.2020	29.07.2020	05.08.2020
04.08.2020	05.08.2020	12.08.2020
11.08.2020	12.08.2020	19.08.2020
18.08.2020	19.08.2020	26.08.2020
25.08.2020	26.08.2020	02.09.2020
01.09.2020	02.09.2020	09.09.2020
08.09.2020	09.09.2020	16.09.2020
15.09.2020	16.09.2020	23.09.2020
22.09.2020	23.09.2020	30.09.2020
29.09.2020	30.09.2020	07.10.2020
06.10.2020	07.10.2020	14.10.2020
13.10.2020	14.10.2020	21.10.2020
20.10.2020	21.10.2020	28.10.2020
27.10.2020	28.10.2020	05.11.2020
03.11.2020	05.11.2020	11.11.2020
10.11.2020	11.11.2020	18.11.2020
17.11.2020	18.11.2020	25.11.2020
24.11.2020	25.11.2020	02.12.2020
01.12.2020	02.12.2020	09.12.2020
08.12.2020	09.12.2020	16.12.2020
15.12.2020	16.12.2020	23.12.2020
22.12.2020	23.12.2020	30.12.2020

APPENDIX 7

REQUIRED RESERVES AVERAGING PERIODS IN 2020

Averaging period to calculate required reserves for a corresponding reporting period	Averaging period duration (days)	Memo item:	
		Reporting period	Required reserves regulation period
15.01.2020 – 11.02.2020	28	December 2019	22.01.2020 – 24.01.2020
12.02.2020 – 10.03.2020	28	January 2020	14.02.2020 – 18.02.2020
11.03.2020 – 07.04.2020	28	February 2020	16.03.2020 – 18.03.2020
08.04.2020 – 12.05.2020	35	March 2020	14.04.2020 – 16.04.2020
13.05.2020 – 09.06.2020	28	April 2020	20.05.2020 – 22.05.2020
10.06.2020 – 07.07.2020	28	May 2020	15.06.2020 – 17.06.2020
08.07.2020 – 04.08.2020	28	June 2020	14.07.2020 – 16.07.2020
05.08.2020 – 08.09.2020	35	July 2020	14.08.2020 – 18.08.2020
09.09.2020 – 06.10.2020	28	August 2020	14.09.2020 – 16.09.2020
07.10.2020 – 10.11.2020	35	September 2020	14.10.2020 – 16.10.2020
11.11.2020 – 08.12.2020	28	October 2020	16.11.2020 – 18.11.2020
09.12.2020 – 12.01.2021	35	November 2020	14.12.2020 – 16.12.2020

APPENDIX 8

MACROECONOMIC AND BANKING STATISTICS

GDP, INFLATION AND INTEREST RATES IN BRICS, THE USA, AND THE EURO AREA *Table 1*
(data as of 21 October 2019)[1]

Countries	Key (target) interest rate of the central bank, % p.a.	Interest rate on bank loans to the non-financial sector for up to 1 year/1 year, % p.a.	Inflation, % change on the same month of the previous year	GDP growth, % change on the same quarter of the previous year**	Data source
Russia	7.00	8.59	4.0	0.9	Bank of Russia, Rosstat
Brazil	5.50	17.56	2.9	1.0	Banco Central do Brazil, Instituto Brasileiro e Geografia e Estatistica, Bloomberg
India	5.15	9.40	4.0	5.0	Reserve Bank of India, IMF, Government of India, Central Statistical Office, Bloomberg
China	4.20[2]	4.35	3.0	6.0	IMF, Trading Economics, National Bureau of Statistics of China
South Africa	6.50	10.00	4.3	0.7	South African Reserve Bank, Trading Economics, Statistics South Africa
USA	1.75–2.00	5.00	1.7	2.3	Federal Reserve, Bureau of Economic Analysis, Bureau of Labor Statistics
Euro area	0.00	2.36[3]	0.8	1.0	ECB, Eurostat

[1] Inflation data are for September 2019 (for South Africa, August 2019); GDP data are for 2019 Q2 (for China, 2019 Q3).
[2] On 20 August 2019, the People's Bank of China established a new benchmark for interest rates on loans granted by commercial banks – this is the loan prime rate (LPR). The benchmark value has been effective since 20 September 2019.
[3] On loans from three months to one year in the amount of up to €0.25 million.
Sources: national central banks and statistical agencies, ECB, Eurostat, IMF, Trading Economics, Bloomberg.

CONSUMER PRICES BY GROUP OF GOODS AND SERVICES *Table 2*

(% change on the same month of the previous year)

	Inflation	Core inflation	Food	Food[1]	Fruit and vegetables	Non-food goods	Non-food goods excluding petrol[2]	Services
2016								
January	9.8	10.7	9.2	10.2	2.0	10.9	11.4	9.0
February	8.1	8.9	6.4	7.8	-2.7	9.5	9.9	8.5
March	7.3	8.0	5.2	6.7	-5.1	8.8	9.0	8.2
April	7.3	7.6	5.3	6.3	-1.6	8.5	8.7	8.4
May	7.3	7.5	5.6	6.4	0.0	8.4	8.5	8.4
June	7.5	7.5	6.2	6.5	4.1	8.5	8.6	7.9
July	7.2	7.4	6.5	6.7	4.2	8.4	8.7	6.5
August	6.9	7.0	6.5	6.7	5.3	8.1	8.4	5.5
September	6.4	6.7	5.9	6.4	1.9	7.5	7.9	5.6
October	6.1	6.4	5.7	6.1	1.5	7.0	7.4	5.4
November	5.8	6.2	5.2	6.0	-1.5	6.7	7.1	5.3
December	5.4	6.0	4.6	6.0	-6.8	6.5	6.8	4.9
2017								
January	5.0	5.5	4.2	5.7	-7.6	6.3	6.4	4.4
February	4.6	5.0	3.7	5.4	-9.0	5.7	5.7	4.3
March	4.3	4.5	3.5	4.9	-7.6	5.1	5.0	4.2
April	4.1	4.1	3.6	4.5	-3.1	4.7	4.6	4.1
May	4.1	3.8	3.9	4.0	2.0	4.4	4.2	4.0
June	4.4	3.5	4.8	3.8	11.6	4.0	3.8	4.1
July	3.9	3.3	3.8	3.4	6.9	3.7	3.5	4.1
August	3.3	3.0	2.6	2.9	-0.8	3.4	3.2	4.1
September	3.0	2.8	2.0	2.5	-2.4	3.1	2.8	4.2
October	2.7	2.5	1.6	2.0	-2.2	2.8	2.6	4.2
November	2.5	2.3	1.1	1.4	-2.5	2.7	2.4	4.3
December	2.5	2.1	1.1	1.0	1.2	2.8	2.3	4.4
2018								
January	2.2	1.9	0.7	0.8	-0.1	2.6	2.1	3.9
February	2.2	1.9	0.9	0.7	2.4	2.5	2.1	3.7
March	2.4	1.8	1.3	0.6	6.4	2.4	2.1	3.9
April	2.4	1.9	1.1	0.7	4.2	2.7	2.3	4.0
May	2.4	2.0	0.4	0.8	-2.8	3.4	2.5	4.0
June	2.3	2.3	-0.2	1.1	-9.8	3.7	2.7	4.1
July	2.5	2.4	0.5	1.4	-6.7	3.8	2.8	3.8
August	3.1	2.6	1.9	1.7	3.3	3.8	2.9	3.7
September	3.4	2.8	2.5	2.5	3.4	4.0	3.1	3.8
October	3.5	3.1	2.7	3.1	-0.5	4.1	3.2	4.0
November	3.8	3.4	3.5	3.8	0.8	4.2	3.3	3.8
December	4.3	3.7	4.7	4.6	4.9	4.1	3.4	3.9
2019								
January	5.0	4.1	5.5	5.2	7.3	4.5	3.8	5.0
February	5.2	4.4	5.9	5.5	9.1	4.6	4.0	5.1
March	5.3	4.6	5.9	5.7	6.9	4.7	4.1	5.1
April	5.2	4.6	5.9	5.8	6.1	4.5	4.0	5.0
May	5.1	4.7	6.4	5.9	9.7	3.8	3.9	5.1
June	4.7	4.6	5.5	5.6	4.2	3.5	3.8	4.9
July	4.6	4.5	5.5	5.5	5.4	3.6	3.8	4.5
August	4.3	4.3	5.0	5.4	1.3	3.5	3.7	4.4
September	4.0	4.0	4.6	4.9	1.8	3.4	3.5	4.0

[1] *Excluding fruit and vegetables.*
[2] *Bank of Russia's estimate.*
Sources: Rosstat, Bank of Russia calculations.

CONSUMER PRICES BY GROUP OF GOODS AND SERVICES *Table 3*

(% change on previous month, seasonally adjusted)

	Inflation	Core inflation	Food	Food[1]	Fruit and vegetables	Non-food goods	Non-food goods excluding petrol[2]	Services
2016								
January	0.7	0.7	0.4	0.5	-0.3	0.7	0.8	1.0
February	0.5	0.7	0.3	0.5	-1.3	0.8	0.9	0.4
March	0.4	0.6	0.1	0.5	-3.0	0.8	0.8	0.3
April	0.5	0.5	0.4	0.5	-1.1	0.6	0.6	0.4
May	0.4	0.5	0.4	0.6	-1.7	0.5	0.5	0.4
June	0.4	0.5	0.3	0.5	-0.8	0.6	0.5	0.3
July	0.5	0.4	0.6	0.6	0.3	0.5	0.4	0.3
August	0.5	0.4	0.7	0.5	2.5	0.4	0.4	0.4
September	0.5	0.4	0.5	0.4	1.0	0.4	0.5	0.5
October	0.4	0.4	0.5	0.4	1.7	0.4	0.5	0.2
November	0.3	0.4	0.2	0.4	-0.5	0.3	0.4	0.3
December	0.1	0.3	-0.1	0.3	-3.9	0.3	0.3	0.2
2017								
January	0.4	0.2	0.1	0.2	-0.9	0.5	0.5	0.5
February	0.1	0.2	-0.2	0.1	-2.8	0.2	0.2	0.4
March	0.1	0.2	-0.1	0.0	-1.5	0.2	0.2	0.2
April	0.3	0.2	0.5	0.2	3.4	0.2	0.1	0.3
May	0.4	0.2	0.6	0.2	3.5	0.2	0.1	0.3
June	0.7	0.2	1.3	0.3	8.8	0.2	0.1	0.4
July	0.0	0.2	-0.4	0.2	-3.8	0.2	0.2	0.2
August	-0.1	0.2	-0.7	0.1	-5.0	0.1	0.1	0.5
September	0.2	0.2	-0.1	-0.1	-0.6	0.1	0.1	0.5
October	0.2	0.1	0.1	-0.1	1.9	0.2	0.2	0.3
November	0.1	0.2	-0.3	-0.2	-0.8	0.2	0.2	0.4
December	0.1	0.2	-0.1	-0.1	-0.4	0.3	0.2	0.3
2018								
January	0.1	0.1	-0.2	0.0	-2.1	0.3	0.3	0.2
February	0.1	0.1	0.0	0.0	-0.4	0.1	0.2	0.2
March	0.2	0.2	0.3	0.0	2.3	0.1	0.2	0.3
April	0.4	0.3	0.3	0.2	1.2	0.4	0.3	0.4
May	0.4	0.3	0.0	0.4	-3.3	0.9	0.3	0.3
June	0.5	0.4	0.6	0.6	1.2	0.5	0.3	0.5
July	0.1	0.3	0.3	0.4	-0.5	0.2	0.3	-0.1
August	0.5	0.3	0.9	0.5	5.0	0.2	0.3	0.4
September	0.5	0.4	0.6	0.7	-0.5	0.3	0.3	0.7
October	0.3	0.4	0.3	0.5	-1.8	0.3	0.3	0.4
November	0.4	0.4	0.5	0.6	0.4	0.3	0.3	0.3
December	0.5	0.5	0.9	0.7	3.5	0.3	0.3	0.4
2019								
January	0.7	0.5	0.5	0.6	0.1	0.7	0.7	1.2
February	0.3	0.4	0.4	0.3	1.3	0.3	0.3	0.3
March	0.3	0.4	0.2	0.2	0.2	0.2	0.3	0.3
April	0.3	0.3	0.3	0.3	0.5	0.2	0.2	0.3
May	0.3	0.3	0.4	0.5	-0.1	0.2	0.2	0.3
June	0.1	0.3	-0.2	0.3	-3.8	0.3	0.2	0.3
July	0.1	0.2	0.3	0.3	0.7	0.3	0.3	-0.5
August	0.3	0.2	0.3	0.3	0.8	0.2	0.2	0.3
September	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2

[1] *Excluding fruit and vegetables.*
[2] *Bank of Russia's estimate.*
Sources: Rosstat, Bank of Russia calculations.

MACROECONOMIC INDICATORS

Table 4

(year-on-year growth, %, unless indicated otherwise)

	GDP[1]	KII[2]	Industrial output	Agriculture	Construction	Freight turnover	Retail trade turnover	Wholesale trade turnover	Real household disposable money income[1]	Real wage	Unemployment rate (% of the workforce, SA)[3]
2016											
January		-1.3	-0.5	3.3	-5.1	1.0	-6.2	-3.0		-3.6	5.6
February		2.0	2.2	3.8	-3.7	3.9	-3.7	7.9		0.6	5.5
March	-0.4	0.5	-0.3	3.6	-0.4	-0.2	-5.1	8.6	-2.6	1.5	5.7
April		0.3	0.2	3.5	-3.2	0.7	-4.3	7.2		-1.1	5.8
May		0.6	0.8	3.4	-4.1	0.7	-5.3	7.8		1.0	5.7
June	0.3	1.1	2.4	2.9	-5.2	1.8	-5.0	4.6	-5.2	1.1	5.6
July		1.9	2.9	7.4	-0.7	1.5	-6.0	1.2		-1.3	5.5
August		1.9	1.6	5.7	0.3	3.0	-3.5	6.1		2.7	5.5
September	0.3	1.4	2.1	4.7	-4.5	4.1	-3.6	1.5	-3.8	1.9	5.5
October		2.7	4.6	4.3	-1.4	-0.7	-4.7	-1.3		0.4	5.4
November		4.5	5.6	6.8	0.7	2.6	-4.7	4.0		2.1	5.3
December	1.0	2.1	4.1	3.4	-1.1	3.1	-5.6	-5.4	-5.6	2.8	5.2
2017											
January		4.9	5.6	1.3	7.8	8.2	-2.0	2.8		1.0	5.4
February		-0.8	-0.3	0.9	-4.5	3.8	-2.8	-5.1		0.8	5.3
March	1.5	3.2	3.5	1.9	2.2	6.5	0.0	2.0	0.1	3.1	5.2
April		3.1	3.2	1.5	0.8	7.0	0.3	1.2		3.8	5.2
May		6.4	6.9	1.0	3.7	9.7	1.1	6.1		2.7	5.3
June	2.5	4.0	3.4	-0.6	2.1	9.1	1.4	8.7	-0.7	3.8	5.3
July		1.1	0.2	-2.0	-1.5	6.1	2.6	6.3		3.0	5.3
August		4.4	4.0	5.9	4.0	7.8	0.4	5.0		2.3	5.2
September	2.3	4.7	3.5	9.3	5.2	3.0	3.1	4.2	-1.0	4.3	5.2
October		0.3	0.2	-1.8	-4.4	4.8	3.4	8.4		5.4	5.1
November		-1.2	-1.5	1.9	-8.6	1.5	3.1	7.1		5.8	5.0
December	0.3	-0.4	-1.7	3.9	-9.6	0.3	3.3	5.2	-0.2	6.2	5.0
2018											
January		3.4	2.4	2.6	12.2	1.3	3.0	4.4		11.0	4.9
February		3.8	3.2	2.7	9.4	2.2	2.1	5.0		10.5	4.8
March	1.9	3.0	2.8	2.8	-2.5	4.4	3.0	4.9	1.4	8.7	4.8
April		5.1	3.9	2.6	11.0	5.0	3.2	8.3		7.6	4.8
May		4.5	3.7	2.5	7.9	3.1	2.9	8.7		7.6	4.8
June	2.2	2.6	2.2	1.3	3.2	2.1	3.4	3.2	1.1	7.2	4.8
July		4.1	3.9	2.1	7.6	4.3	2.8	3.5		7.5	4.9
August		2.0	2.7	-10.3	3.3	2.8	3.0	4.7		6.8	4.8
September	2.2	1.6	2.1	-4.2	5.9	2.2	2.3	3.8	0.2	4.9	4.7
October		3.8	3.7	12.1	5.7	1.6	2.2	1.5		5.2	4.8
November		1.8	2.4	-5.5	4.3	2.3	3.3	-1.6		4.2	4.7
December	2.7	2.1	2.0	0.5	2.6	3.2	2.7	1.2	-2.0	2.9	4.7
2019											
January		0.3	1.1	0.7	0.1	2.3	2.0	-6.1		1.1	4.7
February		2.3	4.1	1.0	0.3	1.8	2.1	-5.9		0.0	4.6
March	0.5	0.2	1.2	1.5	0.2	2.5	1.7	-6.7	-2.5	2.3	4.5
April		3.1	4.6	1.4	0.0	2.6	1.8	-0.5		3.1	4.6
May		0.0	0.9	1.0	0.2	0.9	1.5	-4.7		1.6	4.6
June	0.9	2.1	3.3	1.1	0.1	0.4	1.6	-0.3	-0.1	2.9	4.6
July		2.5	2.8	6.2	0.2	-1.1	1.1	3.8		3.0	4.6
August		2.2	2.9	3.4	0.3	-0.6	0.8	1.4		2.4	4.6
September			3.0	5.6	0.8	-0.2	0.7		3.0		4.7

[1] *Quarterly data.*
[2] *Key industry index.*
[3] *Bank of Russia's estimate.*
Source: Rosstat.

RUBLE INTEREST RATES ON CORE BANK DEPOSIT AND CREDIT OPERATIONS AND YIELDS ON CORE INSTRUMENTS OF THE GOVERNMENT SECURITIES MARKET

Table 5

(% p.a.)

	Loans to non-financial organisations		Household loans		Household deposits		Government bond yield		
	Maturing in less than one year	Maturing in more than one year	Maturing in less than one year	Maturing in more than one year	Maturing in less than one year[1]	Maturing in more than one year	One-year	Five-year	Ten-year
2016									
January	13.37	13.67	25.43	18.11	8.53	9.41	10.27	10.46	10.27
February	13.41	13.32	23.65	16.81	7.97	9.07	9.92	10.21	10.08
March	13.24	13.78	23.94	17.54	7.71	8.86	9.53	9.30	9.22
April	13.00	13.88	21.65	17.49	8.02	8.99	9.71	9.24	9.17
May	13.06	13.97	23.15	17.62	7.30	8.74	9.51	9.07	8.81
June	12.71	13.67	21.88	17.41	7.20	8.66	9.70	8.87	8.59
July	12.44	12.97	22.90	17.31	7.06	8.33	9.57	8.69	8.42
August	12.19	12.98	23.45	16.87	7.05	8.10	9.26	8.59	8.28
September	12.07	12.76	23.28	16.61	6.18	8.09	8.96	8.31	8.14
October	12.07	11.90	23.23	16.45	6.22	7.65	8.91	8.52	8.37
November	11.72	11.82	22.51	15.98	7.00	7.40	8.82	8.77	8.77
December	11.83	11.70	21.30	15.48	6.90	7.57	8.75	8.45	8.58
2017									
January	11.61	12.46	22.40	16.23	6.77	7.84	8.42	8.01	8.24
February	11.48	11.67	21.06	16.00	6.54	7.30	8.83	8.12	8.23
March	11.41	11.45	20.37	15.66	6.08	7.16	8.99	8.08	8.12
April	11.02	11.31	20.57	15.42	6.52	7.13	8.64	7.92	7.92
May	10.72	10.99	20.07	15.32	6.28	6.98	8.32	7.74	7.63
June	10.68	10.36	19.89	15.08	5.88	6.73	8.04	7.82	7.77
July	10.44	9.98	20.26	14.94	6.28	6.87	8.07	7.94	7.87
August	10.41	10.42	20.07	14.50	6.28	6.89	7.88	7.82	7.81
September	10.03	10.20	20.02	14.01	5.44	6.78	7.65	7.56	7.63
October	9.82	9.82	18.52	13.66	5.86	6.28	7.50	7.46	7.62
November	9.67	9.74	19.00	13.38	5.28	6.94	7.38	7.51	7.68
December	9.43	9.41	18.99	12.92	5.38	6.39	6.98	7.27	7.64
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	9.26	9.90	15.95	13.10	6.10	6.91	7.59	8.21	8.47
February	9.29	9.88	15.54	13.08	6.24	7.02	7.69	8.07	8.36
March	9.30	9.98	14.91	13.29	6.12	7.07	7.40	8.06	8.38
April	9.24	9.83	15.06	13.37	5.82	6.92	7.61	7.99	8.33
May	9.20	10.00	15.41	13.63	5.73	6.85	7.31	7.84	8.16
June	9.10	9.58	15.25	13.35	5.79	6.75	7.21	7.46	7.67
July	8.79	9.56	14.93	13.34	5.41	6.69	6.94	7.20	7.42
August	8.59	9.06	14.60	13.05	5.27	6.49	6.80	7.10	7.38

[1] *Excluding sight deposits.*

Source: Bank of Russia.

MONETARY INDICATORS[1] *Table 6*

(growth, % YoY)

	Money supply (M2)	Broad money[2]	Deposits of the non-bank sector[3] in national currency		Deposits of the non-bank sector[3] in foreign currency[4]		Net foreign assets of the banking system[4]	Banking system's claims on the economy[2]	Banking system's claims on households[2]	Banking system's claims on organisations[2]
			Households	Organisations	Households	Organisations				
2016										
01.01.2016	11.3	11.8	19.4	8.0	8.3	13.7	1.3	3.2	-6.4	6.5
01.02.2016	9.5	9.7	18.2	1.5	7.9	10.8	5.9	3.8	-5.7	6.9
01.03.2016	9.9	10.0	16.9	2.8	5.7	11.4	8.8	2.7	-4.8	5.2
01.04.2016	11.8	11.4	16.4	7.5	5.4	12.4	9.6	4.5	-3.7	7.2
01.05.2016	10.8	10.1	15.7	4.6	2.0	10.8	8.3	4.2	-2.8	6.6
01.06.2016	12.0	11.2	16.3	7.2	-0.2	14.7	7.7	4.6	-2.2	6.8
01.07.2016	12.3	10.2	16.2	8.0	0.0	6.9	5.3	4.8	-1.6	6.8
01.08.2016	12.3	9.2	15.4	9.3	0.4	0.9	4.9	5.2	-1.2	7.2
01.09.2016	11.8	7.9	16.1	7.2	0.5	-2.4	5.3	4.8	-0.8	6.6
01.10.2016	12.8	7.1	15.7	10.6	1.2	-10.6	3.1	4.6	-0.2	6.1
01.11.2016	12.1	6.1	15.6	9.7	0.8	-13.6	1.9	4.7	0.3	6.1
01.12.2016	11.3	5.5	15.8	7.1	0.4	-12.4	1.6	4.1	0.9	5.1
2017										
01.01.2017	9.2	4.0	14.2	4.0	0.4	-13.6	0.1	3.4	1.4	3.9
01.02.2017	11.9	7.1	16.3	8.9	3.2	-6.3	2.4	4.3	1.6	5.0
01.03.2017	12.1	7.2	16.2	10.2	5.0	-8.0	4.8	4.7	1.9	5.5
01.04.2017	11.1	6.0	15.7	7.6	3.4	-11.4	3.7	5.0	3.1	5.5
01.05.2017	10.1	5.5	14.0	6.9	3.8	-11.3	1.6	5.1	4.1	5.4
01.06.2017	10.0	6.1	13.5	7.0	3.6	-7.1	5.7	5.5	4.8	5.7
01.07.2017	10.5	6.5	14.1	7.1	2.6	-7.1	6.1	5.7	5.9	5.6
01.08.2017	9.0	6.5	13.3	3.6	1.0	1.7	8.3	6.0	6.4	5.9
01.09.2017	9.0	6.5	12.7	3.9	0.2	1.6	6.6	6.7	7.7	6.4
01.10.2017	9.5	6.8	13.0	4.5	-1.6	2.2	7.0	7.5	8.6	7.2
01.11.2017	10.0	7.5	12.7	6.1	-2.7	4.7	6.8	8.6	9.7	8.3
01.12.2017	10.1	8.2	12.5	6.3	-1.9	8.5	9.2	9.4	11.0	8.9
2018										
01.01.2018	10.5	8.6	12.6	7.9	-2.2	9.0	13.8	8.9	12.1	8.0
01.02.2018	9.4	7.4	11.3	7.4	-1.3	5.0	13.4	8.3	13.9	6.7
01.03.2018	9.3	6.6	11.8	5.5	-2.0	-0.1	11.9	8.7	14.7	7.0
01.04.2018	9.9	7.6	12.6	5.3	-2.7	4.1	12.7	9.1	15.8	7.2
01.05.2018	11.5	8.5	14.0	7.5	-7.6	5.3	11.7	9.1	16.3	7.0
01.06.2018	10.3	7.7	13.2	4.7	-8.1	6.3	8.1	9.1	17.6	6.6
01.07.2018	11.4	8.3	12.8	8.4	-8.0	5.5	7.9	9.0	18.4	6.3
01.08.2018	11.8	8.1	13.3	8.8	-6.4	1.2	6.9	9.4	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	5.8
01.10.2018	11.8	8.2	12.0	10.8	-7.4	2.3	8.1	9.1	20.8	5.6
01.11.2018	11.5	7.9	12.7	9.1	-7.1	2.6	9.0	8.9	21.4	5.2
01.12.2018	11.9	7.9	11.3	13.3	-5.7	-0.7	10.5	8.1	22.1	3.9
2019										
01.01.2019	11.0	7.9	10.9	11.5	-4.7	1.9	11.3	8.8	21.8	4.9
01.02.2019	9.9	6.5	10.1	9.6	-3.0	-2.3	9.0	11.0	23.9	7.1
01.03.2019	9.9	7.9	9.7	11.0	-0.6	6.2	11.1	10.9	24.1	6.8
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	10.4	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	10.6	23.1	6.6
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	10.2	21.7	6.4

[1] Calculated using data from the Banking System Review (see Table 1.16 of the Bank of Russia Statistical Bulletin and the Statistics section of the Bank of Russia website).

[2] Adjusted for foreign currency revaluation.

[3] Resident individuals, resident non-financial and financial institutions (except banking institutions).

[4] Calculations based on data in billions of US dollars.

Source: Bank of Russia.

MONETARY INDICATORS[1] *Table 7*

(billions of rubles, unless indicated otherwise)

	Money supply (M2)	Broad money	Deposits of the non-bank sector[2] in national currency		Deposits of the non-bank sector[2] in foreign currency, billions of US dollars		Net foreign assets of the banking system, billions of US dollars	Banking system's claims on the economy	Banking system's claims on households	Banking system's claims on organisations
			Households	Organisations	Households	Organisations				
2016										
01.01.2016	35,180	51,370	16,045	11,896	90.6	123.6	450.8	52,982	11,647	41,335
01.02.2016	33,966	50,832	15,641	11,270	88.4	128.4	464.6	53,297	11,594	41,702
01.03.2016	34,310	51,140	15,885	11,275	87.0	129.2	460.0	53,159	11,570	41,589
01.04.2016	34,689	50,051	16,013	11,534	87.8	130.2	467.7	52,216	11,518	40,697
01.05.2016	35,105	49,674	16,377	11,427	88.9	127.9	481.7	52,059	11,512	40,548
01.06.2016	35,643	50,343	16,562	11,785	88.3	125.1	472.9	52,374	11,524	40,850
01.07.2016	35,857	49,963	16,827	11,657	89.2	121.0	475.6	52,111	11,519	40,592
01.08.2016	36,032	50,192	16,942	11,628	89.7	112.7	467.2	52,743	11,592	41,151
01.09.2016	36,170	49,877	17,077	11,654	90.2	112.1	474.3	52,612	11,639	40,973
01.10.2016	36,149	49,544	17,100	11,636	91.3	111.8	473.7	52,361	11,670	40,690
01.11.2016	36,051	49,167	17,202	11,510	91.5	108.4	469.8	52,560	11,690	40,870
01.12.2016	36,433	49,854	17,427	11,688	90.5	108.4	463.4	52,935	11,738	41,197
2017										
01.01.2017	38,418	50,903	18,328	12,375	91.0	106.8	451.3	52,689	11,756	40,933
01.02.2017	38,017	51,223	18,195	12,278	91.2	120.2	475.8	52,996	11,716	41,280
01.03.2017	38,475	51,142	18,461	12,427	91.4	118.9	481.9	52,778	11,727	41,052
01.04.2017	38,555	50,672	18,529	12,415	90.8	115.4	485.2	52,917	11,836	41,081
01.05.2017	38,664	50,863	18,673	12,215	92.3	113.5	489.7	53,480	11,961	41,520
01.06.2017	39,223	51,420	18,800	12,610	91.4	116.1	500.0	53,616	12,037	41,579
01.07.2017	39,623	52,129	19,192	12,485	91.5	112.4	504.4	54,197	12,177	42,020
01.08.2017	39,276	51,937	19,193	12,048	90.6	114.6	506.2	54,661	12,312	42,349
01.09.2017	39,419	51,860	19,244	12,109	90.4	113.9	505.4	55,148	12,516	42,633
01.10.2017	39,571	51,853	19,317	12,165	89.8	114.2	506.7	55,479	12,658	42,821
01.11.2017	39,667	51,836	19,384	12,212	89.1	113.5	501.6	56,296	12,802	43,494
01.12.2017	40,114	52,586	19,612	12,428	88.7	117.6	505.9	56,871	13,011	43,860
2018										
01.01.2018	42,442	54,667	20,643	13,353	89.0	116.5	513.6	56,946	13,169	43,778
01.02.2018	41,597	54,171	20,252	13,182	90.0	126.3	539.5	56,813	13,330	43,484
01.03.2018	42,045	54,047	20,636	13,109	89.5	118.8	539.4	57,009	13,440	43,569
01.04.2018	42,377	54,727	20,857	13,077	88.3	120.1	546.8	57,874	13,708	44,165
01.05.2018	43,122	56,221	21,279	13,131	85.3	119.5	547.0	59,119	13,921	45,198
01.06.2018	43,257	56,646	21,288	13,198	84.0	123.5	540.6	59,402	14,173	45,229
01.07.2018	44,127	57,208	21,651	13,530	84.1	118.5	544.3	59,623	14,432	45,191
01.08.2018	43,910	56,823	21,751	13,106	84.8	115.9	541.3	60,295	14,693	45,601
01.09.2018	44,369	57,978	21,745	13,474	83.7	112.2	541.1	61,452	15,029	46,423
01.10.2018	44,255	57,613	21,642	13,474	83.2	116.8	547.7	61,574	15,314	46,259
01.11.2018	44,218	57,520	21,850	13,320	82.7	116.5	546.7	62,431	15,562	46,869
01.12.2018	44,892	58,430	21,835	14,076	83.7	116.9	559.0	62,623	15,905	46,718
2019										
01.01.2019	47,109	61,402	22,886	14,884	84.8	118.7	571.4	63,544	16,065	47,478
01.02.2019	45,721	59,779	22,290	14,442	87.3	123.4	587.9	64,405	16,537	47,868
01.03.2019	46,213	60,469	22,638	14,544	89.0	126.2	599.5	64,560	16,699	47,861
01.04.2019	46,141	60,147	22,726	14,435	90.4	124.7	607.4	65,078	16,943	48,134
01.05.2019	46,436	60,481	23,311	14,011	91.0	125.1	609.4	65,654	17,259	48,395
01.06.2019	46,735	60,959	23,284	14,341	91.4	126.3	622.4	65,960	17,523	48,436
01.07.2019	47,349	60,927	23,585	14,572	92.9	121.5	653.8	65,986	17,769	48,217
01.08.2019	47,351	60,924	23,573	14,524	93.4	119.9	635.9	66,412	17,962	48,450
01.09.2019	47,585	61,868	23,799	14,419	92.6	121.4	641.6	67,488	18,285	49,203

[1] Calculated using data from the Banking System Review (see Table 1.16 of the Bank of Russia Statistical Bulletin and the Statistics section of the Bank of Russia website).

[2] Resident individuals, resident non-financial and financial institutions (except banking institutions).

Source: Bank of Russia.

BALANCE OF PAYMENTS INDICATORS: CURRENT ACCOUNT

Table 8

	Current account	***Balance of trade***	Goods exports	Goods imports	***Balance of services***	Service exports	Service imports	***Balance of non-tradable components***	Current account	Goods and service exports	Goods and service imports
	Billions of US dollars								% of GDP		
2016											
Q1	**12.5**	***22.4***	60.5	38.1	***-4.9***	10.4	15.3	***-5.0***			
Q2	**1.8**	***22.3***	67.8	45.5	***-6.0***	12.6	18.6	***-14.5***			
Q3	**0.1**	***18.4***	70.9	52.6	***-7.2***	13.9	21.0	***-11.1***			
Q4	**10.0**	***27.1***	82.5	55.4	***-5.9***	13.7	19.7	***-11.2***			
Year	**24.5**	***90.2***	281.7	191.5	***-24.0***	50.6	74.6	***-41.8***	1.9	25.8	20.7
2017											
Q1	**21.1**	***34.5***	82.6	48.1	***-5.3***	12.3	17.5	***-8.1***			
Q2	**1.6**	***25.1***	83.8	58.7	***-7.7***	14.7	22.4	***-15.9***			
Q3	**-3.3**	***20.6***	84.4	63.8	***-9.9***	15.3	25.1	***-14.0***			
Q4	**13.0**	***34.6***	102.3	67.7	***-8.4***	15.4	23.8	***-13.1***			
Year	**32.4**	***114.7***	353.1	238.4	***-31.2***	57.6	88.9	***-51.1***	2.1	26.0	20.7
2018											
Q1	**29.8**	***44.1***	101.5	57.4	***-6.6***	13.9	20.5	***-7.7***			
Q2	**17.9**	***45.4***	108.8	63.4	***-7.7***	16.7	24.3	***-19.8***			
Q3	**27.4**	***47.8***	110.4	62.7	***-8.8***	17.4	26.1	***-11.6***			
Q4	**38.4**	***57.2***	122.4	65.2	***-6.9***	16.7	23.6	***-11.9***			
Year	**113.5**	***194.4***	443.1	248.7	***-29.9***	64.6	94.6	***-51.0***	6.8	30.6	20.7
2019											
Q1	**33.7**	***46.9***	102.5	55.6	***-5.8***	14.2	20.0	***-7.4***			
Q2	**10.6**	***39.5***	101.7	62.1	***-8.4***	16.4	24.8	***-20.6***			
Q3[1]	**12.9**	***36.6***	101.5	64.9	***-10.5***	17.2	27.8	***-13.1***			

[1] *Estimate.*
Sources: Bank of Russia, Rosstat.

BALANCE OF PAYMENTS INDICATORS: FINANCIAL ACCOUNT[1]

Table 9

	Financial account (excluding reserves)	***Balance for public sector***	***Balance for private sector***	Bank liabilities	Liabilities of other sectors	Bank assets	Assets of other sectors	**Net errors and omissions**	**Change in reserves**	Financial transactions of private sector
	Billions of US dollars									% of GDP
2016										
Q1	**6.9**	***1.2***	***5.8***	-7.6	-0.3	-9.9	7.8	**-3.0**	**2.6**	
Q2	**-2.3**	***-3.6***	***1.3***	-4.6	5.0	-4.4	6.2	**1.6**	**4.4**	
Q3	**-2.0**	***-4.3***	***2.3***	-7.7	-2.3	-8.3	0.7	**1.0**	**3.1**	
Q4	**7.4**	***2.7***	***4.7***	-7.3	14.4	-5.6	17.4	**-5.0**	**-1.8**	
Year	**10.1**	***-4.0***	***14.1***	-27.1	16.9	-28.3	32.1	**-5.4**	**8.2**	1.5
2017										
Q1	**10.8**	***-5.9***	***16.7***	-3.9	-3.6	13.6	-4.6	**0.9**	**11.3**	
Q2	**-2.1**	***-3.9***	***1.8***	-11.7	13.0	-2.5	5.5	**4.1**	**7.6**	
Q3	**-10.6**	***-10.3***	***-0.3***	-7.8	3.0	-16.3	11.1	**-0.7**	**6.5**	
Q4	**14.0**	***6.7***	***7.3***	-4.2	1.7	0.8	4.0	**-1.7**	**-2.7**	
Year	**12.2**	***-13.3***	***25.5***	-27.7	14.0	-4.4	16.1	**2.6**	**22.6**	1.5
2018										
Q1	**12.4**	***-6.5***	***18.9***	-2.5	1.0	0.3	17.1	**2.1**	**19.3**	
Q2	**9.3**	***11.1***	***-1.8***	-9.6	4.0	-5.7	-1.7	**2.9**	**11.3**	
Q3	**24.1**	***2.9***	***21.2***	-3.8	-8.4	8.6	0.5	**1.7**	**5.0**	
Q4	**30.8**	***1.5***	***29.3***	-9.2	-0.8	4.5	14.8	**-4.3**	**2.6**	
Year	**76.5**	***9.0***	***67.6***	-25.0	-4.2	7.6	30.8	**2.4**	**38.2**	3.9
2019										
Q1	**12.6**	***-9.0***	***21.6***	-3.2	5.6	9.2	14.9	**-2.6**	**18.6**	
Q2	**-2.5**	***-5.9***	***3.4***	-6.7	10.3	6.5	0.5	**3.8**	**16.6**	
Q3[2]	**-1.8**	***-4.5***	***2.7***	-8.1	4.6	-6.7	5.8	**1.3**	**15.9**	

[1] *Signs according to BPM6.*
[2] *Estimate.*
Sources: Bank of Russia, Rosstat.

APPENDIX 9

STATISTICS ON THE USE OF MONETARY POLICY OPERATIONS

REQUIRED RESERVE RATIOS *Table 1*

(%)

Liability type	Validity dates			
	01.12.17–31.07.18	01.08.18–31.03.19	01.04.19–30.06.19	From 01.07.19[1]
Banks with a universal licence and non-bank credit institutions				
To households in rubles	5.00	5.00	4.75	4.75
Other liabilities in rubles				
To non-resident legal entities in rubles				
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	8.00
Other liabilities in foreign currency				
Banks with a basic licence				
To households in rubles	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
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	8.00
Other liabilities in foreign currency				

[1] Bank of Russia Ordinance No. 5158-U, dated 31 May 2019, 'On Mandatory Reserve Requirements'. See the press release published on the Bank of Russia website on 31 May 2019.

Source: Bank of Russia.

INTEREST RATES ON BANK OF RUSSIA OPERATIONS TO PROVIDE AND ABSORB RUBLE LIQUIDITY *Table 2*

(% p.a.)

Purpose	Instrument type	Instrument	Maturity	Frequency	As of 01.01.2019	From 17.06.2019	From 29.07.2019	From 09.09.2019	From 28.10.2019	General approach to rate-setting[1]
Liquidity provision	Standing facilities	Overnight loans; lombard loans; loans secured by non-marketable assets; FX swaps (ruble leg)[2]; repos	1 day	Daily	8.75	8.50	8.25	8.00	7.50	Key rate + 1.00
		Loans secured by non-marketable assets	from 2 to 549 days		9.50	9.25	9.00	8.75	8.25	Key rate + 1.75
	Open market operations (minimum interest rates)	Auctions to provide loans secured by non-marketable assets[3]	3 months	Monthly[4]	8.00	7.75	7.50	7.25	6.75	Key rate + 0.25
		Repo auctions	1 week	Weekly[5]	7.75 (key rate)	7.50 (key rate)	7.25 (key rate)	7.00 (key rate)	6.50 (key rate)	Key rate
			from 1 to 6 days	Occasionally[6]						
		FX swap auctions (ruble leg)[2]	from 1 to 2 days							
Liquidity absorption	Open market operations (maximum interest rates)	Deposit auctions	from 1 to 6 days							
			1 week	Weekly[5]						
	Standing facilities	Deposit operations[7]	1 day	Daily	6.75	6.50	6.25	6.00	5.50	Key rate - 1.00

[1] From 4 June 2018, interest rates on Bank of Russia operations with credit institutions are set as key rate spreads.

[2] From 23 December 2016, interest rates on the foreign currency leg equal LIBOR on overnight loans in US dollars or euros (depending on the currency of the transaction).

[3] Operations conducted at a floating interest rate linked to the Bank of Russia key rate.

[4] Operations discontinued since April 2016.

[5] Either a repo or a deposit auction is held depending on the situation with liquidity.

[6] Fine-tuning operations.

[7] Before 16 May 2018, also call operations. From 17 May 2018, the Bank of Russia only conducts overnight deposit operations with credit institutions.

Source: Bank of Russia.

BANK OF RUSSIA OPERATIONS TO PROVIDE AND ABSORB RUBLE LIQUIDITY

Table 3

Purpose	Instrument type	Instrument	Maturity	Frequency	Bank of Russia claims under liquidity provision instruments and obligations under liquidity absorption instruments, billions of rubles				
					As of 01.01.2018	As of 01.01.2019	As of 01.04.2019	As of 01.07.2019	As of 01.10.2019
Liquidity provision	Standing facilities	Overnight loans	1 day	Daily	0.0	8.1	0.0	1.1	0.0
		Lombard loans			0.0	0.0	0.0	0.0	0.0
		FX swaps			0.0	4.1	32.8	3.6	0.0
		Repos			3.6	3.6	2.6	1.4	0.0
		Loans secured by non-marketable assets	from 1 to 549 days		5.5	5.1	8.1	5.1	5.1
	Open market operations	Auctions to provide loans secured by non-marketable assets	3 months	Monthly[1]	0.0	0.0	0.0	0.0	0.0
		Repo auctions	1 week	Weekly[2]	0.0	0.0	0.0	0.0	0.0
			from 1 to 6 days						
		FX swap auctions	from 1 to 2 days	Occasionally[3]	0.0	0.0	0.0	0.0	0.0
Liquidity absorption	Open market operations	Deposit auctions	from 1 to 6 days		2,124.9	1,478.2	1,680.0	704.4	2,180.0
			1 week	Weekly[2]					
		Auctions for the placement and additional placement of coupon OBRs[4]	up to 3 months	Occasionally	357.4	1,391.3	1,515.3	1,716.6	808.2
	Standing facilities	Deposit operations	1 day[5]	Daily	246.8	423.8	136.4	152.8	135.1

[1] Operations discontinued since April 2016.
[2] Either a repo or a deposit auction is held depending on the situation with liquidity.
[3] Fine-tuning operations.
[4] If the reporting date falls on a weekend or holiday, the indicated amount of outstanding Bank of Russia coupon OBRs includes the accrued coupon interest as of the first working day following the reporting date.
[5] Before 16 May 2018, also call operations. From 17 May 2018, the Bank of Russia only conducts overnight deposit operations with credit institutions.
Source: Bank of Russia.

GLOSSARY

Balance of payments of the Russian Federation

A statistical system reflecting all economic transactions between residents and non-residents of the Russian Federation, which occurred during the reporting period.

Bank of Russia key rate

A main instrument of the Bank of Russia's monetary policy. The Bank of Russia Board of Directors sets the rate eight times a year. Key rate changes influence lending and economic activities and make it possible to achieve the primary objective of the monetary policy. It corresponds to the minimum interest rate at Bank of Russia one-week repo rate auctions and the maximum interest rate at Bank of Russia one-week deposit auctions.

Banking sector liquidity

Credit institutions' funds held in correspondent accounts with the Bank of Russia in the currency of the Russian Federation, mainly to carry out payments through the Bank of Russia payment system and to comply with obligatory reserve requirements.

Consumer price index (CPI)

Ratio of the value of a fixed set of goods and services in current prices to the value of the same set of goods and services in the previous (reference) period's prices. This index is calculated by the Federal State Statistics Service. The CPI shows changes over time in the overall price level of goods and services purchased by households for private consumption. The CPI is calculated on the basis of data on the actual structure of consumer spending, being therefore one of the key indicators of living costs. Additionally, the CPI possesses a number of properties facilitating its wide-spread application: simple and clear construction methods, calculation on a monthly basis and publication in a timely manner.

Core inflation

An inflation indicator characterising its most stable part. Core inflation is measured using the core consumer price index (CCPI). The difference between the CCPI and the consumer price index (CPI) lies in the CCPI calculation method, which excludes the change in prices for individual goods and services subject to the influence of administrative and seasonal factors (certain types of fruit and vegetables, passenger transportation services, telecommunication services, housing and public utility services, motor fuel, etc.).

Credit default swap (CDS)

A financial instrument which allows a CDS buyer to insure against a certain credit event (e.g., default) under financial obligations of a third party in exchange for regular payment of a premium (CDS spread) to the CDS seller. The higher the paid premium, the more risky the obligations which served as the subject matter of the credit default swap.

Financial stability

A financial system characterised by the absence of systemic risks which, once they have evolved, may impact negatively on the process of transforming savings into investment and the real economy. In the event of financial stability, the economy demonstrates better resilience to external shocks.

Floating exchange rate regime

An exchange rate regime, under which the central bank does not set targets, including operational ones, for the level of or changes to the exchange rate, allowing it to be influenced by market factors. However, the central bank reserves the right to purchase foreign currency to replenish international reserves or to sell it should threats to financial stability arise.

Inflation

A sustained increase in the overall price level of goods and services in the economy. Inflation is generally associated with changes over time in the cost of a consumer basket, i.e. a set of food products, non-food goods and services consumed by an average household (see also 'Consumer price index (CPI)').

Inflation expectations

Economic agents' expectations about future price growth. Inflation expectations can be given by businesses, households, financial markets and professional analysts. Driven by expectations, economic agents make their economic decisions and future plans, which include consumption, savings, borrowings, investment and loan/deposit rates. Capable of producing a certain effect on inflation, inflation expectations constitute an important indicator for the monetary policy decision-making process.

Inflation targeting

A monetary policy strategy governed by the following principles: the main objective of monetary policy is price stability; the inflation target is specified and declared; monetary policy influences the economy largely through interest rates under a floating exchange rate regime; monetary policy decisions are taken based on the analysis of a wide range of macroeconomic indicators and their forecast. The Bank of Russia seeks to set clear benchmarks for households and businesses, including through increased information transparency.

Monetary base

Total amount of certain cash components and credit institutions' funds in Bank of Russia accounts and bonds denominated in the currency of the Russian Federation. The monetary base in a narrow definition includes cash in circulation (outside of the Bank of Russia) and credit institutions' funds in accounts recording required reserves on funds attracted by credit institutions in the currency of the Russian Federation. The broad monetary base includes cash in circulation (outside of the Bank of Russia) and the total funds of credit institutions in Bank of Russia accounts and bonds.

Money supply

Total Russian Federation residents' funds (excluding general government's and credit institutions' funds). For the purposes of economic analysis, various monetary aggregates are calculated (M0, M1, and M2).

Money supply in the national definition (M2 monetary aggregate)

Total amount of cash in circulation outside the banking system and funds of Russian Federation residents (non-financial and financial organisations (excluding banks) and households) in settlement, current and other sight accounts (including bank card accounts), time deposits and other types of deposits in the banking system, denominated in the currency of the Russian Federation, and interest accrued on them.

MSCI indices

A group of indices calculated by Morgan Stanley Capital International. Calculations are made for indices for individual countries (including Russia), global indices (for various regions, for advanced/emerging economies) and the 'world' index.

Neutral rate

The level of the key rate when monetary policy neither slows down nor spurs inflation.

Operations to absorb liquidity

Bank of Russia reverse operations to absorb liquidity from credit institutions. These are operations either to attract deposits or place Bank of Russia bonds.

Refinancing operations

Bank of Russia reverse operations to provide credit institutions with liquidity. They may be in the form of loans, repos or FX swaps.

Required reserve ratios

Ratios ranging from 0% to 20% are applied to reservable liabilities of credit institutions to calculate the standard value of required reserves. They are set by the Bank of Russia Board of Directors.

RUONIA (Ruble OverNight Index Average)

Reference weighted rate of overnight ruble deposits in the Russian interbank market. It reflects the cost of unsecured loans of banks with minimum credit risk. To calculate RUONIA, the Bank of Russia applies the method elaborated by the National Finance Association in cooperation with the Bank of Russia based on the information on deposit transactions made between member-banks. The list of RUONIA member banks is compiled by the National Finance Association and concurred with the Bank of Russia.

Share of FX bank deposits (loans)

The share of deposits (loans) denominated in foreign currency in total banking sector deposits (loans).

Structural liquidity deficit/surplus of the banking sector

A structural deficit is the state of the banking sector characterised by stable demand of credit institutions for Bank of Russia liquidity. A structural surplus is characterised by

a stable surplus in credit institutions' liquidity and the need for the Bank of Russia to conduct liquidity-absorbing operations. The level of a structural liquidity deficit/surplus is the difference between the outstanding amount on refinancing operations and Bank of Russia liabilities on operations to absorb excess liquidity.

Transmission mechanism

The process of transferring the impulse of monetary policy decisions to the economy as a whole and to price dynamics, in particular. The process of transmitting the central bank's signal about a/no change in the key rate and its future path, from financial market segments to the real sector and as a result to inflation. Changes in the key rate are translated into the economy through different channels (interest rate, credit, foreign exchange, balance sheet, inflation expectations and other channels).

ABBREVIATIONS

- bp – basis point (0.01 percentage points)
- BPM6 – the 6th edition of the IMF's Balance of Payments and International Investment Position Manual
- Coupon OBR – Bank of Russia coupon bonds
- CPI – consumer price index
- ECB – European Central Bank
- EME – emerging market economies
- GDP – gross domestic product
- IBL – interbank loans
- IMF – International Monetary Fund
- inFOM – Institute of the Public Opinion Foundation
- MIACR – Moscow Interbank Actual Credit Rate (weighted average rate on interbank loans provided)
- NWF – National Wealth Fund
- OECD – Organisation for Economic Cooperation and Development
- OFZ – federal government bonds
- OPEC – Organization of the Petroleum Exporting Countries
- OPEC+ – Organization of the Petroleum Exporting Countries and 11 non-member countries, which signed the oil production cut agreement
- pp – percentage point
- RUONIA – Ruble OverNight Index Average (reference weighted rate of overnight ruble deposits in the Russian interbank market)
- SME – small and medium-sized enterprises
- US Fed – US Federal Reserve System
- VAT – value added tax