Bank of Russia

MAY 2022

MONETARY POLICY REPORT

11 May 2022

The cut-off date for forecast calculations is 28 April 2022.

If any statistics or other important data are released after the cut-off date, they may be included in the report.

The electronic version of the information and analytical review is available on the Bank of Russia website in the section Bank of Russia Publications / Monetary Policy Report.

Please send your suggestions and comments to *monetarypolicyreport@mail.cbr.ru*.

This publication was prepared by the Monetary Policy Department.

Cover photo: Shutterstock/FOTODOM

12 Neglinnaya Street, 107016 Moscow

Phone numbers: +7 (495) 7714674, +7 (495) 7715908

Bank of Russia website: www.cbr.ru

CONTENTS

STATEMENT BY BANK OF RUSSIA GOVERNOR ELVIRA NABIULLINA

IN FOLLOW-UP TO BOARD OF DIRECTORS MEETING ON 29 APRIL 2022

Today, we have made the decision to decrease the key rate by 3 percentage points to 14% per annum.

I would like to remind you that our decision to raise the key rate to 20% was an anti-crisis measure and was made to limit financial stability risks in the first place. Since early April, they stopped to increase. The situation is stabilising, and this means that we may remove the increment from the key rate that was needed to mitigate these risks. Inflation trends have enabled us to ease monetary policy. The reduction in the key rate will promote the structural transformation of the economy without creating proinflationary risks.

I would now dwell on the reasons behind our decision.

Firstly, inflationary pressure and inflation expectations are declining. *The evidence for this is that households' soaring demand has diminished and the ruble has strengthened. Over the last two weeks of March, inflationary pressure stabilised after its surge in early March. However, it still remains high.*

In April, households' inflation expectations returned to the levels of mid-2021. According to the surveys of households, expected inflation is below the observed price growth, that is, people believe that prices will no longer rise as fast. Companies' short-term price expectations edged down as well, but they are still higher than last year. The stabilisation of inflation expectations and an increase in households' propensity to save mean a decrease in the risk that the inflationary spiral might get out of control.

Secondly, economic activity is declining. *In the current situation, supply is contracting more significantly than demand. This is what provokes inflationary pressure at the moment.*

Disruptions in technological, production and logistics chains and the termination by some foreign companies of their operation in Russia cause a reduction in the range and availability of many consumer goods. The most illustrative example is the automobile industry. Companies that used foreign raw materials or components are facing problems as they are gradually running out of stocks. The question is how long these difficulties will persist and how quickly businesses will be able to find new suppliers and replace the missing links of the production chain.

The decline in demand is still more moderate compared to the shrinkage of supply, but might become more considerable. In particular, investment demand is going down

because the economic situation is highly uncertain. In such conditions, companies opt to invest available unallocated funds in risk-free assets or return them to shareholders rather than make investment in development projects. Moreover, some investment projects are no longer relevant and thus cannot be completed, whereas companies will need time to prepare new projects. As regards consumer demand, after its surge in late February—early March, people now prefer to save rather than consume. This is evident from both the expansion of ruble deposits and the contraction of consumer lending. In terms of inflation, it is important to consider how demand trends will be changing relative to supply dynamics in the future.

During this period, monetary policy should take into account the processes of adaptation and structural transformation in the economy. They inevitably involve a temporarily higher level of inflation. This is why we have no intention to quickly bring inflation back to the target. Squeezed demand would hamper the structural transformation of the economy. This would lead to a situation in the economy where prices would grow slowly, whereas the range of goods and services would become increasingly more limited and some essential products would be simply unavailable.

Speaking of monetary conditions, they remain tight.

On the one hand, both the ruble exchange rate and yields on federal government bonds returned to the level of mid-February. Financial stability risks lowered. On the other hand, the risk premium included in credit rates edged up amid uncertainty. Additionally, banks' requirements for borrowers and collaterals are stricter today, which makes price and non-price lending conditions tighter. The decrease in the key rate will help alleviate this situation to a certain extent.

I would now speak on our macroeconomic forecast.

The termination of long-term economic relations will have a negative impact on GDP this year. GDP will decline by 8–10%, dropping to the lowest point in the fourth quarter. A gradual decrease in demand and supply shocks, monetary policy, fiscal policy, as well as structural measures implemented by the Government will promote the recovery of economic growth since the beginning of next year. Due to the high base of the first quarter of 2022, the overall change in GDP next year as compared to the entire 2022 will range from zero to minus three percent. The fluctuations are very sharp. Hence, to illustrate future dynamics, it would be more representative to compare the fourth quarter of 2023 against the lowest point of the decline, that is, the fourth quarter of 2022. This is exactly why we included a special line in the table of our forecast. We expect GDP to expand by 4–5.5% by the end of 2023, as compared to the end of this year. The same is true for household consumption. Although consumption will decline in 2023 against the overall figures of 2022 (again, because of the high base of the first quarter 2022), it will be 4.5–6% higher in the end of next year than in the fourth quarter this year.

I would briefly talk of the labour market. The situation here is currently quite stable. By March 2022, the employment rate dropped to its record low. Today, the labour market is adjusting to the new conditions primarily through forced leaves, part-time employment schemes, and reduced bonuses. However, due to the current transformation of the economy, the labour market has to address new challenges. The structure of employment will be definitely changing, which might require a redistribution of labour resources both between industries and professions and across regions. We will assess how these

processes will influence the pace of the structural transformation of the economy and, accordingly, inflation processes.

The situation with the balance of payments has altered significantly. This year, we might see a record high current account surplus reaching 145 billion US dollars. However, this is not a favourable situation. It only evidences that the contraction of imports is much more considerable as compared to exports, in terms of both their quantities and value. During the next two years, trade flows will be partially rerouted. Imports will start to bounce back gradually. Exports will continue to edge down, including due to declining global prices for core exports. This will cause a notable decrease in the current account surplus.

Speaking of inflation this year, the main driver will be the factors limiting product and service supply. These are rising costs incurred by companies, including for logistics and rearrangement of their production processes, and changes in business models. Supply is contracting more significantly than demand, which is intensifying inflationary pressure. According to our forecast, consumer prices will go up by 18–23% over the year, but this figure comprises the earlier surge in prices beginning from late February, which was most significant in March. Future inflation, that is, annual inflation for the next 12 months, will be much lower as of April 2023. Our baseline forecast assumes that it will range from 10% to 12%.

Prices will mostly adjust to the changed conditions this year, and to a lesser extent — next year. As a result, annual inflation will slow down to 5–7% next year and return to the target in 2024. Inflation will decrease and return to 4% owing to the pursued monetary policy.

Our forecast takes into account all fiscal policy decisions approved and announced by the Government. Updating our forecast in the future, we will factor in all additional decisions as they may have a significant effect on our forecast.

Winding up, I would like to talk of possible risks to our forecast and monetary policy prospects.

The current situation is extremely uncertain. Simultaneously, supply trends and the factors driving aggregate demand are also changing dramatically.

Today, supply is declining faster than demand, but this trend might change in the future. This means that proinflationary and disinflationary effects are both possible. Therefore, it is crucial for the Bank of Russia to make prudent decisions factoring in the changing balance of risks.

At the moment, we consider that the scenario where proinflationary factors and risks prevail is the most probable one. Nonetheless, the pendulum might swing the other way, and in this case demand will decline more quickly than supply. This might occur in a situation where consumers still prefer to save as much as possible, while supply already starts to recover.

There are also other circumstances that might impact our future decisions. For instance, they might be associated with exchange rate movements and a credit contraction, as well as new external trade and financial restrictions that might occur. Indeed, a lot will depend on the development of the situation that is changing very fast. Hence, high-frequency indicators, both at the macrolevel and at the industry and regional levels, are becoming increasingly more important. Today, we see room for a key rate reduction

until the end of the year. Currently, the forecast range of the average key rate is 12.5–14.7% for this year, 9–11% — for next year, and 6–8% — for 2024. However, our actual decisions and time when this decrease might become possible will depend on incoming information, future developments, and further changes in the balance of risks.

We will make our further decisions on monetary policy considering that the economy needs to adjust to the dramatically changing conditions. Price stability is always the top priority for us as it is critical for steady economic growth.

Thank you all for your attention.

Bank of Russia Governor  ***Elvira Nabiullina***

KEY FORECAST ASSUMPTIONS

Although the conditions of monetary policy implementation have changed significantly, **price stability remains an indisputable priority of the Bank of Russia's monetary policy**. At the same time, flexible inflation targeting regime will help the Russian economy adapt to the new conditions and ensure that inflation returns to the target.

The outlook of future economic developments remains highly uncertain. Restrictions in foreign trade and international cooperation have generated a number of shocks that will result in meaningful structural changes in the Russian economy. The economy's adjustment to the new conditions will consist of two main phases. The transition from one phase to the other may occur earlier or later than currently estimated by the Bank of Russia. The materialisation of additional geopolitical risks may considerably worsen economic performance.

The first phase has already begun and may take up most of the forecast horizon (about 18 to 24 months). Initially, this phase **will be accompanied by a contraction in aggregate output associated with the transformation of the economy**. Transition to a new equilibrium implies a reconfiguration of logistics routes, a search for substitutes for intermediate goods in production chains, the development of compensating and new technologies, changes to the range of available goods and consumer habits and preferences, a rebalancing of the importance and size of industries, and the labour market's adjustment. Over this period, the Bank of Russia's policy will be to maintain price stability taking into account the need to adapt the economy to the new structure. The set of measures and decisions to be made will be adjusted considering the state of the Russian economy, inflation movements, and key indicators in the financial markets.

The second phase will begin towards the end of the forecast horizon and **will be characterised by the stabilisation of the economy in a new equilibrium**. The new equilibrium growth will be small at first, but may accelerate beyond the forecast horizon, if the new equilibrium evolves on the basis of sustainable fundamental factors rather than artificial stimulation of inefficient industries and business models.

Confidence intervals for specific forecast values of macroeconomic indicators currently remain markedly wider than usual. Key assumptions of the baseline forecast have also changed.

- Sanctions against the Russian financial sector and measures taken by the Bank of Russia to control capital flows actually mean a reduction in the dependence of the Russian economy on external financial markets. In this case, the foreign exchange channel becomes noticeably less significant than in a fully open economy. Taking this into account, the Bank of Russia has updated the model-based approaches used in preparing key-rate decisions (see the box 'Adaptation of the Quarterly Projection Model to the capital flow control framework').
- For the purposes of model calculations, the set of considered external conditions has been largely reduced to the parameters of foreign trade for Russia. This assumes the following:
  - The external restrictions imposed on Russian exports and imports, and investment and technology cooperation remain largely in place over the medium-term horizon.
  - General uncertainty and the restrictions on Russian exports will influence global commodity markets and make prices stay at elevated levels in 2022–2023. At the same time, high world prices will not fully translate into Russian exporters' earnings, since Russian goods will be sold at a discount.
  - As before, the long-term equilibrium price for Urals crude is assumed to be $55 per barrel. For the purposes of the baseline scenario model calculations it is assumed that the average price for Urals in 2022, 2023, and 2024 will be $75, $65, and $55 per barrel, respectively.
  - The restrictions imposed by certain foreign companies on their supplies to Russia coupled with intensifying logistics and transportation bottlenecks will push up prices for imported goods over the forecast horizon.
- The level of potential output in the first phase of the forecast horizon will decline appreciably under the impact of disrupted production and logistics chains. The Bank of Russia estimates that at least

50% of the expected economic recession in 2022 can be attributed to the expectations of a drop in potential output. As the economy adapts, the level of potential output will grow.

- Being low in the first phase of the forecast horizon, the potential growth rate may accelerate further ahead due to the formation of new production processes and linkages in the economy, the improvement of labour force skills and more efficient utilisation of available capital, and the commissioning of new means of production.
- The longer-run real neutral interest rate will change over the forecast horizon. In the first phase, the real neutral interest rate is likely to overshoot earlier estimates,[1] which may be driven by higher risks and general uncertainty in the economy associated with the transition to the new structure. Towards the end of the second phase of the forecast horizon, or even beyond this phase, the real neutral interest rate may decline to the level of previous estimates under the influence of medium and long-term changes (risk reduction, transition to a new equilibrium, demographic changes, etc.).
- In accordance with the amendments to fiscal policy announced by the Russian Ministry of Finance, it is assumed that the fiscal rule mechanism will be temporarily suspended in 2022. Additional oil and gas revenue will offset the reductions in non-oil and gas revenue and other sources, and will be allocated to support households and businesses.
- It is assumed that basic principles of the fiscal rule mechanism – expenditure smoothing and regulating the revenue base dependent on commodity cycles – will remain in place in the medium term. For the purposes of the baseline scenario model calculations, it is assumed that fiscal policy normalisation will start in 2023, and that from 2025, the fiscal rule, modified to reflect new external environment, will be in effect. Additional revenues will be accumulated domestically in the national currency. Therefore, no conversion operations will be conducted in the domestic foreign exchange market and, accordingly, the change in reserves will not be reflected in the international reserves statistics. The model assumptions will be refined as the Government of the Russian Federation takes relevant decisions.

[1] *See the Monetary Policy Guidelines for 2022–2024.*

BANK OF RUSSIA'S MEDIUM-TERM FORECAST

FOLLOWING THE BANK OF RUSSIA BOARD OF DIRECTORS' KEY RATE MEETING ON 29 APRIL 2022

KEY FORECAST PARAMETERS OF THE BANK OF RUSSIA'S BASELINE SCENARIO *Table 1*
(growth as % of previous year, if not indicated otherwise)

	2021 (actual)	2022	2023	2024
Inflation, as % in December year-on-year	8.4	18.0-23.0	5.0-7.0	4.0
Inflation, average for the year, as % year-on-year	6.7	18.2-20.9	6.8-10.4	4.1-4.6
Key rate, average for the year, % per annum	5.7	12.5-14.01	9.0-11.0	6.0-8.0
Gross domestic product	4.7	-(8.0-10.0)	(-3.0)-0.0	2.5-3.5
– % change, Q4 – Q4 previous year	*5.0*	*-(12.5-16.5)*	*4.0-5.5*	*1.0-2.0*
Final consumption expenditure	7.2	-(5.5-7.5)	-(1.5-4.5)	2.0-3.0
– households	*9.5*	*-(8.5-10.5)*	*-(2.0-5.0)*	*3.0-4.0*
Gross capital formation	8.9	-(30.5-34.5)	11.5-15.5	5.5-7.5
– gross fixed capital formation	*6.8*	*-(16.0-20.0)*	*0.5-4.5*	*3.0-5.0*
Exports	3.5	-(17.0-21.0)	-(4.0-8.0)	(-1.0)-1.0
Imports	16.9	-(32.5-36.5)	(-2.5)-1.5	2.0-4.0
Money supply in national definition	13.0	5-10	9-14	8-13
Claims on organisations and households in rubles and foreign currency2	13.9	(-1)-4	8-13	9-14
– on organisations	*10.7*	*0-5*	*9-14*	*8-13*
– on households, including	*22.0*	*(-4)-1*	*7-12*	*13-18*
– mortgage loans	*26.7*	*10-15*	*10-15*	*10-15*

[1] Given that from 1 January to 3 May 2022 the average key rate is 14.1%, from 4 May to the end of 2022 the average key rate forecast range is 11.7-14.0%. Additional information on how to interpret the proposed format of the key rate forecast communication is presented in the methodological note.
[2] Banking system claims on organisations and households mean all of the banking system's claims on non-financial and financial institutions and households in rubles, foreign currency and precious metals, including loans issued (including overdue loans), overdue interest on loans, credit institutions' investment in debt and equity securities and promissory notes, as well as other forms of equity interest in non-financial and financial institutions, and other accounts receivable from settlement operations involving non-financial and financial institutions and households.
Claims' growth rates are given with the exclusion of foreign currency revaluation. In order to exclude the effect of foreign currency revaluation the growth of claims in foreign currency and precious metals is converted to rubles using the period average USDRUB exchange rate. Mortgage loans net of claims acquired by banks.
Source: Bank of Russia.

RUSSIA'S BALANCE OF PAYMENTS INDICATORS IN THE BASELINE SCENARIO[1] *Table 2*
(billions of US dollars, if not indicated otherwise)

	2021 (actual)	2022	2023	2024
Current account	**122**	**145**	**69**	**24**
Goods and services	170	184	107	65
Exports	*550*	*505*	*432*	*405*
Imports	*379*	*321*	*325*	*340*
Primary and secondary income balance	-48	-39	-38	-41
Current and capital accounts balance	122	145	69	24
Financial account (including change of reserve assets)	**123**	**145**	**69**	**24**
Net errors and omissions	1	0	0	0
Financial transactions of private sector	73	151	69	24
Urals oil price, average for the year, US dollars per barrel	**69**	**75**	**65**	**55**

[1] Using the methodology of the 6th edition of "Balance of Payments and International Investment Position Manual" (BPM6). In the Financial account "+" stands for net lending, "-" – for net borrowing. Due to rounding total results may differ from the sum of respective values.
Source: Bank of Russia.

CURRENT CONDITIONS AND THE BASELINE SCENARIO

EXTERNAL ENVIRONMENT

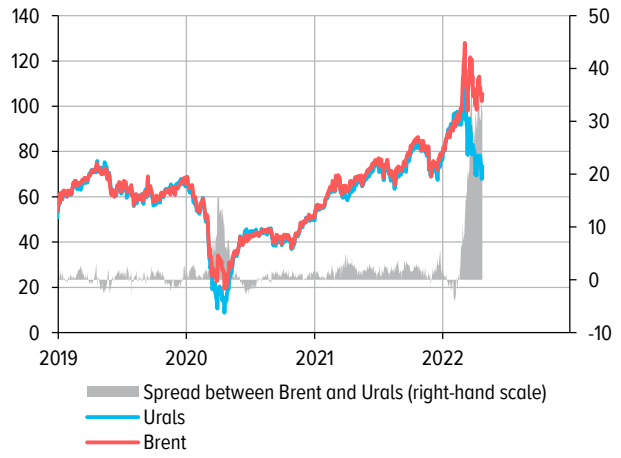
GLOBAL INFLATION HAS ACCELERATED, GLOBAL ECONOMIC GROWTH IS SLOWING

In early 2022, compared to late 2021, external conditions persistently worsened. The pandemic continues to influence economic activity despite the fact that its peak appears to have passed. New waves of infection cases, lockdowns and anti-pandemic restrictions, with China being the most striking recent example, prevent the recovery of production and logistics chains. The major achievement of aggregate global economic policy in 2020–2021, i.e. the rapid recovery from the COVID–19 crisis, is being increasingly accompanied by persistently high inflation fuelled by strong demand amid remaining supply constraints. Price increases across many countries are already above the pre-pandemic trend, but inflation continues to rise.

The escalation of geopolitical tensions in late February worsened the situation in commodity markets (energy, metals, fertilisers, and food), where prices have been hovering close to multi-year highs for a long time already. Following the gradual improvement since autumn 2021, the supply chain situation has deteriorated again. According to the PMI Suppliers' Delivery Times Index, in March, delivery times were getting longer globally (although the index continued to improve in the USA and the UK). The Baltic Dry Index, which reflects the cost of dry cargo transportation, fell to the levels of November–December 2020 at the end of 2022 and almost doubled in 2022 Q1. According to the S&P Global PMI surveys, the number of companies reporting a contraction in their output caused by shortages of materials or components has risen to 25-year highs.

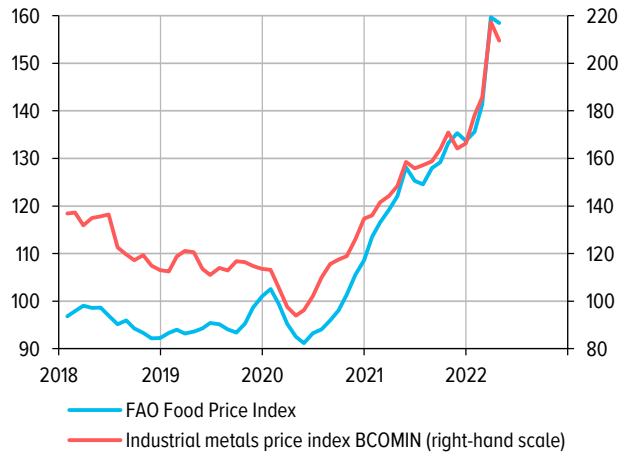
Higher prices in commodity markets and a slower recovery of supply chains are driving up global inflation. According to the S&P Global PMI Input Prices survey involving more than 30 thousand companies in 45 countries, business costs are rising at the fastest pace since 2008. Considerable portion of these costs is passed through into final consumer prices, pushing up global inflation, as evidenced by the upward movement of the Composite PMI Prices Charged index.

OIL PRICES *Chart 1*
($ per barrel)



Sources: Bloomberg, Refinitiv.

METAL AND FOOD PRICES *Chart 2*
(points)



Sources: Bloomberg, FAO.

Forecasts for price growth rates in most of the world's major economies have been revised significantly upwards. The IMF has upgraded its 2022 inflation forecast from 2.3% in October 2021 to 5.7% in April 2022 for advanced economies, from 3.5% to 7.7% – for the USA, and from 1.7% to 5.3% – for the euro area, respectively. For the EMEs and developing countries, the forecast has been revised upwards from 4.9% to 8.7%.

Elevated inflationary pressure makes central banks switch to the normalisation of their monetary policies faster than previously planned. In particular, at the end of 2021, it was assumed that the US Fed would raise its policy rate to 2.5% by the end of 2022, however, as early as in mid-April, the market estimated the end-year rate at 2.75–3.0%. Yields on ten-year U.S. Treasury bonds rose from 1.7% at end-2021 to 2.9% in mid-April 2022. The ECB is voicing proposals to wind up its main Asset Purchase Programme (APP), which has been in effect since 2014, as early as July 2022, as inflation in the region has overshot the target level.

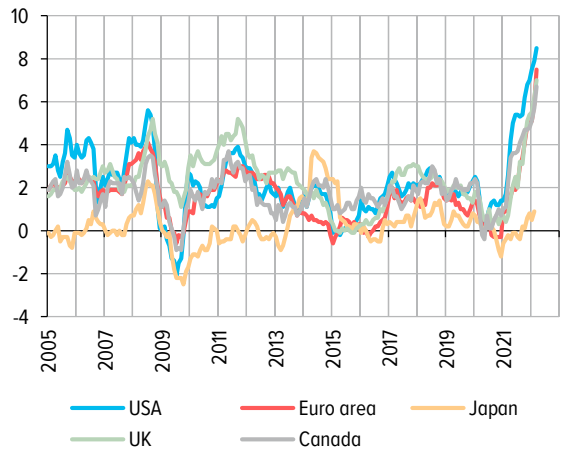
As a result of rising inflation, household real disposable income in 2022–2023 will decrease worldwide; for some countries this decline will be the steepest in 30 years. Lower income will in turn reduce demand and investment and will eventually slow down the economic growth.

The earlier rate hikes by central banks in advanced economies are exacerbating the problem of elevated inflation for EMEs with high accumulated debt burden. Overall uncertainty and depressed sentiment caused by the geopolitical environment will additionally lead to the tightening of global financial conditions and capital outflow from EMEs. At the same time, the possibility of budget support to households, which is especially important in countries with large portions of low-income groups of population, may be markedly limited. This will in turn intensify social tension and curb the economic growth even more.

In addition to higher inflation and the consequential decline in real income, the slower global economic growth is also influenced by a rising tide of deglobalisation, segmentation of world trade and localisation of production. The WTO has revised downwards its forecast for the world trade growth in 2022: from 4.7% in October 2021 to 3.0% in April 2022.

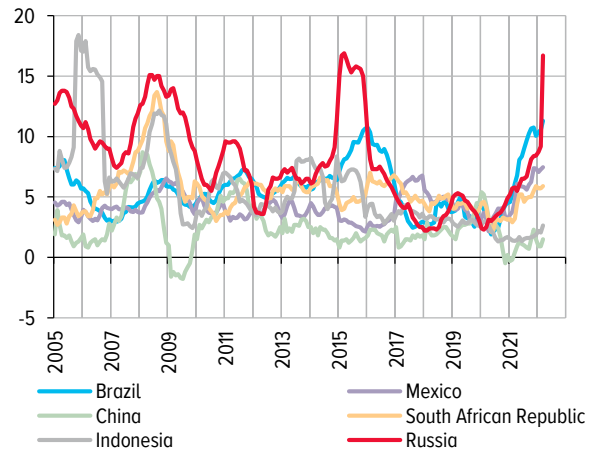
As a result, while **inflation forecasts have been revised upwards, economic growth forecasts have been substantially downgraded.** The World Bank has lowered its global growth forecast for 2022 from 4.1% announced in January to 3.2% presented in April 2022. The IMF has already downgraded its global GDP growth forecast for 2022 twice: from 4.9% in October 2021 to 4.4% and 3.6% in January and April 2022, respectively (for advanced economies, the aggregate decline was 2.1 pp: from 4.5% to 2.4%; for EMEs, it was 0.7 pp: from 5.1% to 4.4%).

INFLATION IN ADVANCED ECONOMIES *Chart 3*
(% change YoY)



Source: Bloomberg.

INFLATION IN EMES *Chart 4*
(% change YoY)



Source: Bloomberg.

FOREIGN TRADE CONDITIONS FOR RUSSIA HAVE MARKEDLY DETERIORATED OVER THE FORECAST HORIZON

For Russia, the overall worsening of external environment is accentuated by the sanctions and restrictions imposed by some foreign companies on their Russian operations. Russia's main export commodities are traded in global markets at a discount to near-term benchmarks.

The Bank of Russia proceeds from the fact that the already imposed sanctions and restrictions on Russian goods exports and imports to Russia (including decisions made by individual companies) will remain throughout the entire forecast horizon. General uncertainty and the restrictions on Russian exports are likely to influence global commodity markets and keep prices elevated. However, key Russian export commodities will be traded at a discount, which will have a restraining effect on the value of exported commodities.

The Bank of Russia also assumes that prices in commodity markets will gradually return to their equilibrium levels over the forecast horizon. The long-term equilibrium Urals crude price is assessed at $55 per barrel. For the purposes of the baseline scenario model calculations it is assumed that the average Urals crude price in 2022, 2023, and 2024 will be $75, $65, and $55 per barrel, respectively.

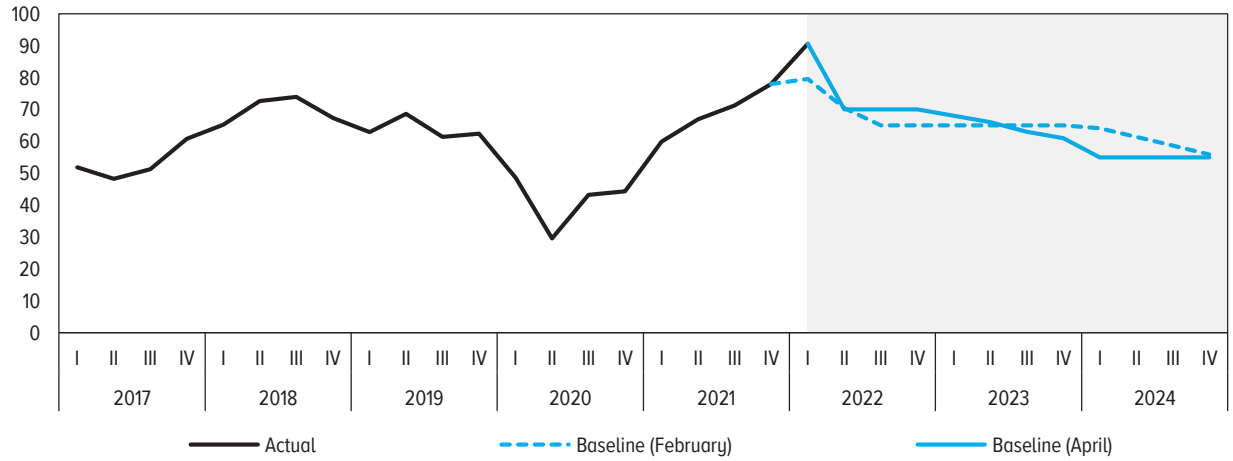
The export and import restrictions alongside payment and logistics bottlenecks will push foreign trade volumes below the historically normal values.

According to the Bank of Russia's baseline scenario, the squeeze in goods and services **exports** in real terms can reach 17–21% in 2022 on account of both oil and gas and non-oil and gas sectors. In 2023, exports will continue to contract, but towards the end of the forecast horizon, as trade flows are reoriented, the recession will end and there may be a slight growth. Apart from persisting constraints on Russian exports, external demand will be also moderated by the slowdown in global economic growth and reduced global trade.

In 2022, the value of goods and services exports may fall by 8% compared to 2021, with the reduction in export quantities largely offset by an increase in prices. Given the persistent discount on Russian exports, lower prices in global markets in 2023–2024 will lead to a further decrease in the value of goods and services exports by 14% in 2023 and by another 6% in 2024.

Imports in real terms may reduce by 32.5–36.5% in 2022. This reduction will be shaped by the bans introduced by several countries on the exports of a number of goods to Russia and the suspension of goods supply by some foreign companies, as well as the restrictions on air transportation and other services. The formation of alternative supply chains will help recover imports; their growth is possible as early as 2023, becoming more pronounced in 2024.

OIL PRICE PATH IN THE BASELINE SCENARIO *Chart 5*
($ per barrel)



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

In 2022, the value of goods and services imports will contract more than that of exports (by 15%) such that, at the end of the year, the current account surplus may surpass an all-time high and reach $145 billion. Suspension of Russian operations by some foreign companies and a change in the range of imported goods coupled with complicated logistics and higher transportation costs will push imported goods and services prices above the levels of previous periods over the entire forecast horizon. As a result, the value of imports will grow. Given the declining value of exports, the current account surplus will begin to decrease towards the end of the forecast horizon: in 2024, it will be no more than 17% of the 2022 level.

FINANCIAL CONDITIONS

BANK OF RUSSIA MEASURES HAVE STABILISED THE FINANCIAL MARKET AND THE INFLOW OF FUNDS TO THE BANKING SYSTEM HAS RESUMED

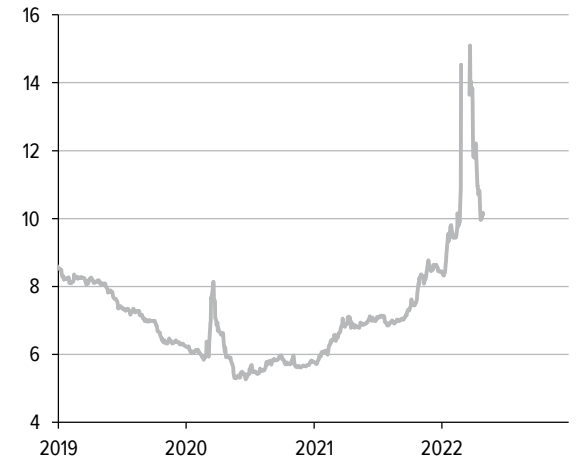
Intensified geopolitical tensions and foreign governments' sanctions against the Russian financial sector in late February led to an increased volatility in the Russian financial market. The end of February saw a sharp depreciation of the ruble, a formation of ruble liquidity deficit in the banking system, a noticeable growth in the yields in the money and OFZ markets, with the MOEX index dropping to the level observed at the onset of COVID-19 in 2020 Q1.[1]

The emergence of financial stability risks called for a prompt response from the Bank of Russia. On 24 February, the Bank of Russia announced a number of measures to stabilise the situation in the financial market, including interventions in the foreign exchange market. However, the subsequent **blocking of Bank of Russia foreign currency accounts made it impossible for the regulator to conduct foreign exchange transactions. Restrictions on capital flows were introduced as an alternative measure to protect the Russian economy against financial stability risks.**[2] Also, the

USD/RUB EXCHANGE RATE *Chart 6*
(rubles per $1)

Source: Bank of Russia.

MOEX INDEX FOR GOVERNMENT BONDS (YIELD) *Chart 7*
(%)



Source: Moscow Exchange.

[1] *See the information and analytical commentary Banking Sector Liquidity and Financial Markets, Nos. 2–3 (72–73), February–March 2022.*

[2] *The restrictions on capital flows included a ban on the payment of coupons and dividends to non-residents, a ban on the divestment from Russian assets for non-residents, restrictions on FX exports and transfers by residents, a fee on foreign currency purchases on exchanges, a ban on the sale of cash foreign currency to individuals, the introduction of a mandatory sale of 80% of foreign currency earnings within three days of their receipt for exporters, etc.*

regulator put in place other measures, such as: suspension of exchange trading, liquidity provision operations, reduction of required reserve ratios, and key rate increases, all of which made it possible to quickly stabilise the financial system.

In the second half of March, the ruble exchange rate returned to its pre-crisis levels. By early April, banks' need in liquidity had abated, the deficit was replaced by a small surplus, and the yields on longer-term OFZs dropped to the levels of the beginning of the year. After the March outflow of funds, the inflow of funds to deposits resumed, and by mid-April the ruble balances in households' current accounts and deposits returned to the February level. Over 2022 Q1 and three weeks in April, the total growth in corporate ruble deposits considerably exceeded the readings of previous years.

Ruble exchange rate in new conditions

In November 2014, **the Bank of Russia switched to the floating exchange rate regime. This means that the regulator does not set any targets or limits on the level of the ruble exchange rate and the pace of its change. The dynamics of the ruble exchange rate are the result of the balance of economic agents' demand and supply in the foreign exchange market.** At the same time, the Bank of Russia can take measures should financial stability be threatened by elevated volatility in the foreign exchange market. Previously, such measures included suspension of fiscal rule-based foreign currency purchases, FX repos and FX swaps, and direct interventions.

The blocking of Bank of Russia foreign currency accounts at the end of February 2022 made it impossible for the regulator to resort to its standard measures. The introduction of restrictions on capital flows is a forced measure to minimise financial stability risks in the situation when the Bank of Russia is not able to conduct direct interventions in the FX market. With that, the regulator continues to be committed to the market-based principles for setting the ruble exchange rate. **The ruble exchange rate remains floating, but the set of factors underlying its movements has changed**.

In an open economy, where there are no restrictions on capital flows, the exchange rate of the national currency is determined by two accounts of the balance of payments, i.e. the current account and the financial account. An active participation of national and foreign financial institutions in the foreign exchange market helps smooth out seasonal fluctuations in the exchange rate. The availability of additional mechanisms, such as the fiscal rule, cushions fluctuations in the exchange rate associated with global commodities prices (e.g. oil, copper, etc.). In an economy with restrictions on capital flows, the influence of the financial account on the exchange rate is significantly smaller, with the balance of trade becoming the main factor determining exchange rate movements.

Thus, **in the current situation, the ruble exchange rate is shaped by the balance of importers' demand for foreign currency and exporters' supply of foreign currency**. This specifically means that the recent ruble strengthening is largely due to lower imports amid sanctions and foreign companies' restrictions on the supply of goods to Russia and, consequently, lower demand for foreign currency demonstrated by importers.

The decision to ease capital flow controls is based on the analysis of financial stability risks, rather than on the ruble exchange rate movements. For example, by mid-April, financial stability risks decreased markedly and the deadline for the mandatory sale of foreign currency earnings by exporters was prolonged for some of them from three to 60 days.

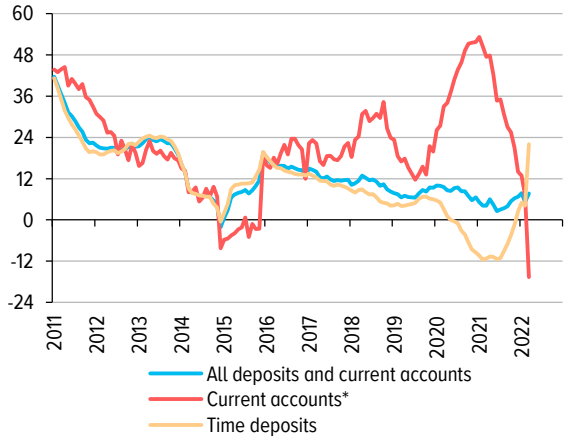
Monetary policy continues to shape the ruble exchange rate, albeit with a longer lag and in a more indirect way through changes in demand for imported goods, while demand for financial instruments becomes less important (for details of changes in the economy's response see the box 'Adaptation of the Quarterly Projection Model to the capital flow control framework'). Notably, the suspension of the fiscal rule and the capital flow restrictions reduce the ability of financial markets to cushion exchange rate fluctuations, so the movements of the ruble exchange rate may be more volatile than in previous periods.

CREDIT ACTIVITY WAS SUPPORTED BY SUBSIDISED LENDING PROGRAMMES

The key rate hike in February 2022 and elevating uncertainty led to a lower activity in the corporate lending market, where the annual growth in claims on corporate borrowers slowed down. The decrease in lending activity was held back by the completion of loan transactions originated before the key rate hike and by the subsidised lending programmes.

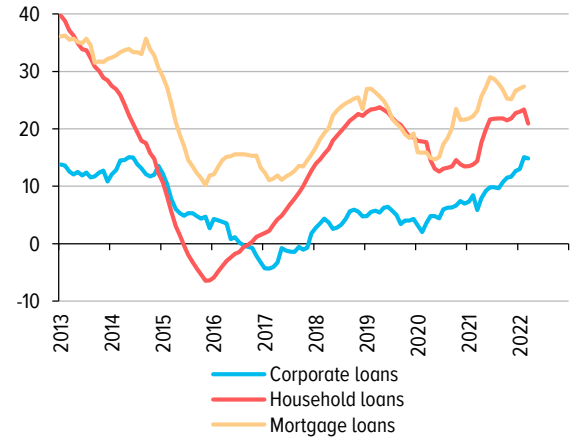
In early March, retail loan portfolio continued to grow slightly. The retail lending activity was supported both by the execution of loan agreements under previously approved loan applications and by borrowers' inclination to reduce time to transaction under mortgage agreements (in general, the ongoing implementation of subsidised mortgage programmes somewhat restrained the contraction of the retail portfolio). Lending for durable goods purchases on the back of feverish demand caused by fears of shortages also played a certain role. Later on, higher interest rates and general uncertainty brought about a noticeable decline in the activity in the retail segment.

ANNUAL GROWTH IN HOUSEHOLDS' RUBLE DEPOSITS *Chart 8*
(%)



** Including demand deposits.*
Source: Bank of Russia.

ANNUAL GROWTH IN RUSSIAN BANKS' LOAN PORTFOLIO *Chart 9*
(%)



Sources: Bank of Russia, Bank of Russia calculations.

MONETARY CONDITIONS HAVE TIGHTENED, MOST NOTABLY WITH REGARD TO NON-PRICE CRITERIA

Compared to MPR 1/22, the assessment of tightness of monetary conditions (MCs) in 2022 Q1–Q2 has changed. In February, it was assumed that the peak of MCs easing had passed and further ahead, the MCs would gradually tighten as the monetary policy normalised. However, the combination of shocks emerged at the end of 2022 Q1 caused a surge in inflation, inflation expectations and exchange-rate expectations. As a result, despite the key rate hike on 28 February 2022, the model assessments of the MCs gap calculated by the Bank of Russia as the average weighted deviation of real interest rates for different maturities from their equilibrium levels,[3] showed a noticeable easing compared to 2021 Q4. As estimated by the Bank of Russia, in 2022 Q2, higher risks in the

[3] *Positive MCs gap means that real interest rates for different maturities exceed their equilibrium values on average, that is, MCs are tight and have a disinflationary impact. If the gap is negative, this means that MCs drive domestic demand and prices upwards. For more details on the MCs gap, see the box 'Assessment of the tightness of monetary conditions' in MPR 1/22.*

economy, tighter monetary policy, stabilisation in exchange rate expectations, and lower inflation expectations will make MCs turn tight, which is necessary to further reduce inflation.

At the same time, a number of factors point to the moderate tightness of MCs compared to historically similar periods. While the current key rate and inflation values are comparable with the crisis period of 2014–2015, the level of interest rate curve remains markedly lower, thereby suggesting looser monetary conditions than in 2014–2015. Subsidised lending programmes implemented by the Russian Federation Government and the Bank of Russia additionally restrain the tightening of price lending conditions.

Non-price lending conditions have markedly tightened amid higher overall uncertainty. According to the outcomes of quarterly survey of bank lending conditions conducted by the Bank of Russia at the end of 2022 Q1, banks reported tightening requirements for borrowers. Requirements for the collateral and maturity of transactions overall remain unchanged, however, the number of pre-approved loans declined significantly and requests to provide more documents when reviewing new loan applications became more frequent. According to another survey conducted as part of the Bank of Russia's monitoring of businesses, lending conditions for businesses have deteriorated more than in any previous period of lending conditions tightening throughout the entire survey period since 2000. According to information of credit history bureaus, March saw a considerable reduction in the portion of loan applications approved by banks.

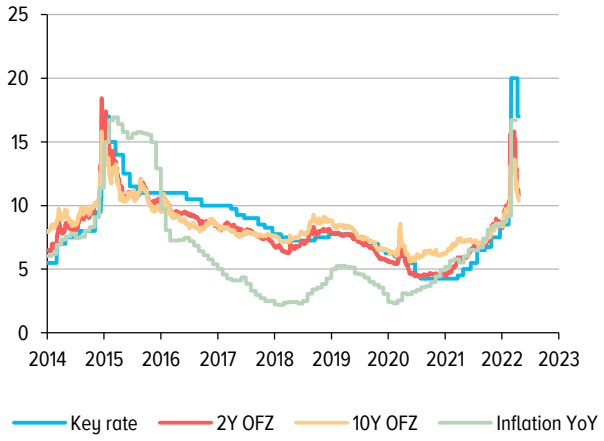
As projected by the Bank of Russia, growth in banking system claims on businesses will slow down to 0–5% in 2022. In addition to higher interest rates compared with 2021, the persistence of tight non-price lending conditions will be a material factor. Banks will need more time to check the financial solvency of borrowers in new conditions, verify the viability of business models, and develop additional criteria for assessing businesses if they change materially as a result of the restrictions associated with the imports of component parts or the exports of products.

In 2022, the growth rate of the banking system's claims on households will be in the range of (-4)–1%. Whereas in the mortgage segment, the growth rate of the mortgage portfolio will remain high ranging from 10% to 15% due to the existing subsidised lending programmes.

In 2023–2024, as the economy adapts to the new structure, inflation and the key rate decrease, lending growth will recover and, by the end of the forecast horizon, reach 8–13% and 13–18% for businesses and households, respectively.

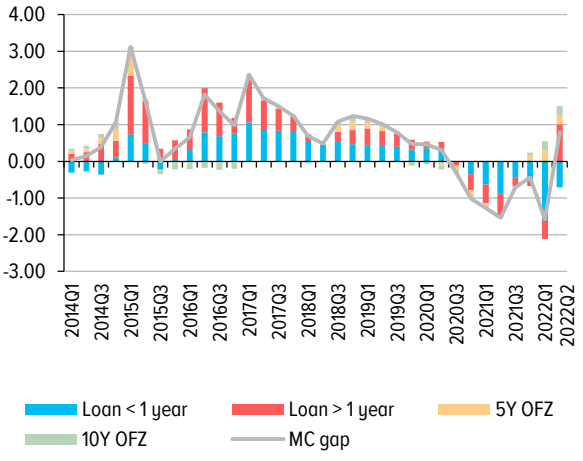
In 2022, money supply growth in the national definition will slightly outpace the growth of claims on the economy due to the additional stimulating effect of budget operations and will amount to

INTEREST RATES AND INFLATION *Chart 10*
(%)



Sources: Cbonds, Rosstat.

MONETARY CONDITIONS GAP *Chart 11*
(pp)



Note: Q2 is the Bank of Russia's estimate.
Source: Bank of Russia calculations.

5–10%. As before, growth of money supply will continue to be shaped by increasing claims on the economy to a greater extent.

ECONOMIC ACTIVITY

THE RECOVERY MOMENTUM, THAT EMERGED IN 2021, CURBED THE EXTENT OF THE ECONOMIC DOWNTURN DURING THE ACUTE PERIOD OF NEW ECONOMIC RESTRICTIONS

In early 2022, the Russian economy was in good shape. The output losses incurred during the COVID-19 crisis had been fully recovered, growth continued, and there was increasing evidence that GDP growth was above potential. In January–February 2022, statistics on industrial output, consumption and investment suggested a high level of economic activity. Despite the slowdown in certain indicators, the data showed that GDP estimate for 2022 Q1 was likely to overshoot the forecast prepared by the Bank of Russia at the beginning of the year (as presented in MPR 1/22).

In late February – early March 2022, the economy faced a combination of shocks, i.e. a drastic restriction of foreign trade, difficulties in the procurement of raw materials and components, and announced termination of the supply of a number of foreign goods to the Russian market. Statistics for the first quarter of 2022 reflect the economic growth based on previous trends, however, high-frequency indicators of economic activity for March signal a beginning of recession.

Seeking to buy goods due to concerns of shortages, and anticipating higher inflation and a weaker ruble, consumers increased their rush purchases and then cut them abruptly. As a result, **March saw a decrease in consumer activity in all major categories**. A significant decrease was observed in public catering (-7.0% MoM, SA) and in the value of commercial services (-4.2% MoM, SA). Retail turnover contracted at a somewhat slower pace (-2.5% MoM, SA), with the sharp decline in non-food purchases (-5.7% MoM, SA) being offset by a slight pickup in food turnover (1.0% MoM, SA, in March, after 0.9% MoM, SA, in February). As compared with the pre-pandemic level of 2019 Q4, the sales of non-food goods remain broadly higher by 8.2% and those of food products – higher by 2.9%.

Exporters encountered difficulties in making payments. Their counterparties were terminating future and, in some cases, existing contracts. Importers sought to build up their stocks of finished goods, raw materials and components, the prices for which had risen dramatically due in part to a

KEY INDICATORS OF ECONOMIC ACTIVITY
(% MoM, QoQ, SA)

Table 3

	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	January 2022	February 2022	March 2022
Key Industry Index	**1.4**	**1.8**	**2.1**	**0.0**	**2.1**	**0.3**	**0.4**	**-0.4**	**-0.8**
Commercial services to households	**7.9**	**2.8**	**3.1**	**1.1**	**3.5**	**1.5**	**1.6**	**1.0**	**-4.2**
Industrial production	2.3	1.6	1.9	0.7	2.6	0.4	0.1	-0.3	-0.7
Mining and quarrying	2.8	2.4	3.5	0.6	3.3	1.0	-0.2	0.6	0.5
Manufacturing	1.8	0.8	1.0	0.6	2.7	0.2	0.7	-0.6	-2.4
Construction	0.9	1.8	2.0	0.4	1.8	0.8	-0.8	1.1	0.3
Freight turnover	1.9	1.0	4.7	-0.8	0.0	0.3	2.5	-2.1	2.0
Wholesale turnover	2.2	0.6	0.6	-0.7	1.8	0.7	0.7	-1.1	-0.7
Retail turnover	0.7	2.5	1.4	0.7	0.2	1.6	0.2	3.1	-2.5
Food products	1.0	1.2	0.3	0.6	0.9	1.8	0.5	0.9	1.0
Non-food goods	0.4	3.7	2.4	0.8	-0.5	1.4	0.0	5.2	-5.7
Public catering	4.2	13.8	3.8	0.4	-1.2	2.2	6.6	1.2	-7.0

Sources: Rosstat, Bank of Russia calculations.

weaker ruble. **Roughly half of the enterprises surveyed by the Bank of Russia in the first two weeks of March mentioned difficulties with supplies**. This problem was mentioned more frequently than in spring 2020. More than a half of enterprises having foreign counterparties faced difficulties in settlements. The majority of exporters reported that they were unable to find new buyers for their products in the foreign market at the time of the survey. In March, industrial output fell by 0.7% MoM (SA), reflecting the emerging tension in the manufacturing sectors (their output declined by 2.4% MoM, SA). Enterprises in mining and quarrying have been less exposed to the crisis so far, as of the end of March, they recorded a slight growth (0.5% MoM, SA), comparable with previous months.

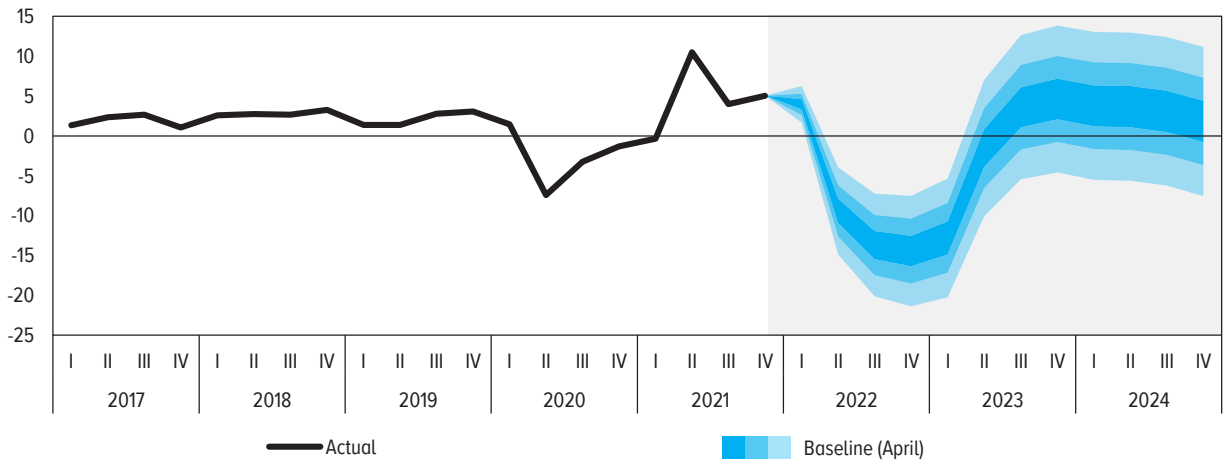
IN 2022 Q2–Q3, THE ECONOMY WILL ENTER THE PERIOD OF STRUCTURAL TRANSFORMATION, WITH SEQUENTIAL OUTPUT GROWTH RESUMING BY THE END OF THE YEAR

Modern production chains, formed amid globalisation and based on the principles of comparative advantage, imply a large volume of links with suppliers and buyers around the world. Given the restrictions imposed on exports and imports, Russian companies will have to change their established business practices and models, namely, they will have to look for new suppliers and buyers, streamline expenses taking into account higher transportation costs, modify their business profiles and areas, rebuild production processes given the changes in the availability of technology, and formulate new requirements for the qualification of new specialists.

Survey data of the Gaidar Institute for Economic Policy and business environment index of the Russian Union of Industrialists and Entrepreneurs point to a mounting problem of shrinking stocks. In the current external environment, the time lag between the depletion of stocks (obtained from previous suppliers) and the replenishment of stocks from new ones can be considerable and may slow down production significantly up to its temporary suspension.

At the same time, findings of the Bank of Russia's survey of businesses point to the appearance of signs of adaptation. Whereas in March, the portion of companies experiencing supply disruptions rose every week, since early April, it has been gradually declining, though remaining above the average reading for March–May 2020. Additionally, compared to mid-March, the portion of companies reporting that their operation was hampered or halted also declined.

GDP GROWTH PATH IN THE BASELINE SCENARIO *Chart 12*
(% change YoY)



Note. The shaded blue areas on the forecast horizon show the probability of different GDP growth values. Confidence intervals are symmetrical and based on the historical estimates of GDP growth uncertainty. If baseline scenario assumptions are implemented, the value of GDP growth rate will lie within the darkest central band on only 25 out of 100 occasions. Besides, on 25 out of 100 occasions, outturns will lie within each pair of less dark areas of the fan. As a result, GDP growth rate will have the values of the blue areas on 75 out of 100 occasions. And on the remaining 25 occasions, GDP growth rate may fall anywhere outside the blue areas of the fan. Over the forecast horizon, this has been depicted by the grey background.
Source: Bank of Russia calculations.

The structural transformation will involve a change in the weight of sectors in the economy and will inevitably cause a reduction in output relative to 2021 Q4. **Strong shocks influencing key production processes could result in a much larger and longer contraction in supply compared to demand**. General uncertainty, difficulties in finding markets for exports and for buying imported goods needed in production will bring about a marked drop in private investment.

The Bank of Russia forecasts that gross capital formation may decline by 30.5–34.5% in 2022, including a 16–20%-decrease in GFCF. Given the reduced product line and availability of imported goods, their higher cost, as well as a switch to the saving behaviour model, household final consumption expenditure may be down by 8.5–10.5%. As supported by the general government sector, the aggregate indicator of final consumption expenditure will decline less, by 5.5–7.5%.

In 2022, GDP will fall by 8.0–10.0%, with the lowest point of decline to be posted in the fourth quarter, the annualised quarterly output may shrink by 12.5–16.5%. With that, the biggest sequential decrease in output will be observed in 2022 Q2–Q3, and the return to positive sequential growth rates will occur towards the end of 2022.

The Bank of Russia estimates that around 50% of the 2022 reduction in output may be attributed to a lower potential level, and the rest – to a cyclical recession. As the economy adapts, the level of potential output will grow. Budget support will help overcome the crisis, in part offsetting the emerged negative output gap. In accordance with the decision of the Russian Federation Government to suspend the fiscal rule in 2022, additional oil and gas revenue will be allocated to the economy. Moreover, the investment of the National Wealth Fund money in the Russian economy will give it an additional boost and facilitate the GFCF recovery, which will start to sequentially grow as early as 2022 Q4.

For the purposes of the baseline scenario model calculations it is assumed that fiscal policy normalisation will start in 2023, and from 2025, the fiscal rule, once modified to factor in new external environment, will be in effect. Additional revenues will be accumulated inside Russia in the national currency, therefore no conversion operations will be conducted in the domestic foreign exchange market and, accordingly, the change in reserves will not be reflected in the international reserves statistics. The model assumptions will be refined as the Government of the Russian Federation takes respective decisions.

BY THE END OF THE FORECAST HORIZON, THE ECONOMY WILL SHIFT TO NEW EQUILIBRIUM

The 2022 crisis is one of the most serious challenges for the Russian economy since the 1990s. Measures adopted by the Russian Federation Government and the Bank of Russia will support the structural transformation of the economy and the transition to new equilibrium trends.

A noticeable reduction in foreign trade and opportunities for a further expansion of exports would result in a new equilibrium where the share of exports in the economy would be below average historical readings. Output would be focused on production for domestic needs in a greater extent.

The Bank of Russia estimates that the economy will cover the most part of its adaptation journey by mid-2023, when new economic links and sales markets will be formed, and new conditions for the localisation of production will emerge. At the end of 2023, the GDP growth rate may be in the range of (-3)–0%, with the annual output growth totalling 4.0–5.5% in 2023 Q4. The growth rate of household consumption may reach 4.5–6.0% in annual terms in 2023 Q4 and that of GFCF may range from 10% to 12%.

In 2024, the new equilibrium will firm up, and the recovery growth of GDP will total 2.5–3.5% as of the end of the year. Further ahead, growth can accelerate if the new equilibrium is based on sustainable fundamentals which imply an increase in the total factor productivity due to the acquisition of new knowledge, technology adaptation and development, the appearance of innovative solutions, and the development of human capital. If inefficient production facilities, business models,

as well as non-viable enterprises are artificially stimulated, one can expect a decline in the total factor productivity and long-term growth potential.

AFTER HITTING THE HISTORICAL LOW, THE UNEMPLOYMENT RATE WILL GROW MODERATELY

In 2021, employment in the spheres most affected by anti-pandemic restrictions was recovering, and the rapid economic growth contributed to the expansion of jobs. As a result, the unemployment rate dropped to an all-time low of 4% (SA) in February 2022.

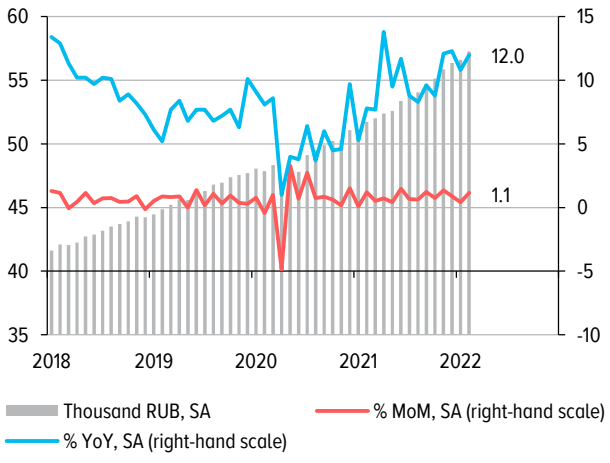
The transformation of the Russian economy may lead to a pickup in unemployment caused by structural changes in the labour market. These changes may be uneven both across sectors and regions. As a result of the exit of large foreign companies from white-collar sectors, some of their former employees will lose their jobs and the number of vacancies of these categories will generally decline. At the same time, the processes of production chain transformation (setting up own production, introducing new equipment to replace unavailable one, and increasing repairs of previously purchased equipment) may require more blue-collar workers, the market of which is already experiencing a shortage. As early as March 2022, the Headhunter index reflecting competition among job seekers showed that the competition among white-collar applicants ranged from three to nine persons per vacancy depending on the professional qualification, whereas for blue collars, it did not exceed three persons per job vacancy.

At the same time, the increase in unemployment may be moderate, because amid a sharp increase in inflation, companies typically do not seek to offset it by raising wages leaving their nominal level unchanged. This strategy allows companies to reduce the real cost of labour, while preserving as many jobs as possible.

The recent high rate of wage growth would allow Russian businesses to maintain the achieved nominal level for a long period. In 2021 – early 2022, wages in both nominal and real terms grew at an accelerated pace in Russia. In February, the nominal growth of wages sped up to 12.0% in annualised terms vs 10.8% in January. In February, monthly growth was 1.1% MoM (SA) vs 0.4% MoM (SA) in January. In monthly terms, nominal wages rose mainly due to trade, processing, research, IT, financial, and construction industries.

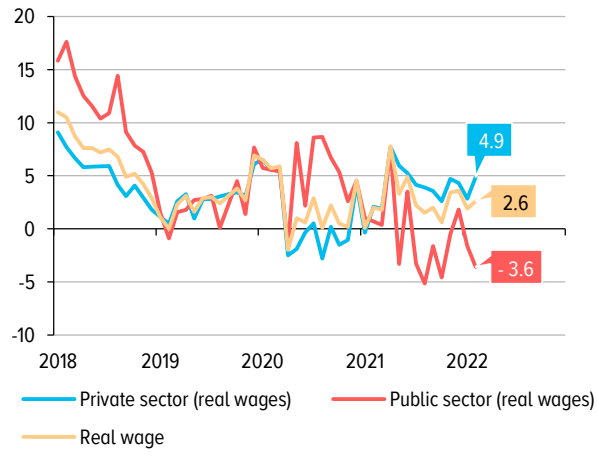
In February, the growth of real wages also sped up to 2.6% in annualised terms vs 1.9% in January. This acceleration occurred mainly due to the private sector, whereas the public sector

CHANGE IN NOMINAL WAGES *Chart 13*



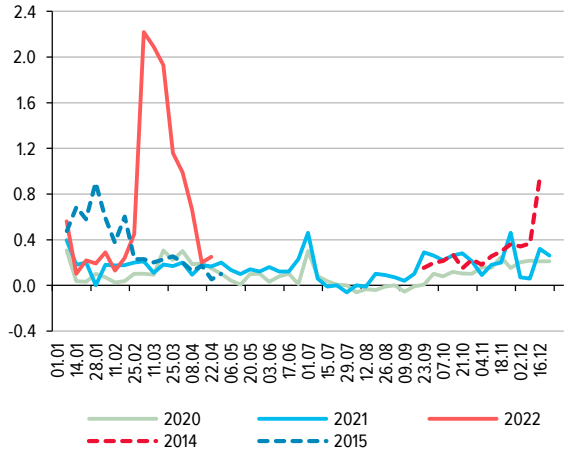
Sources: Rosstat, Bank of Russia calculations.

CHANGE IN REAL WAGES *Chart 14*
(% YoY)



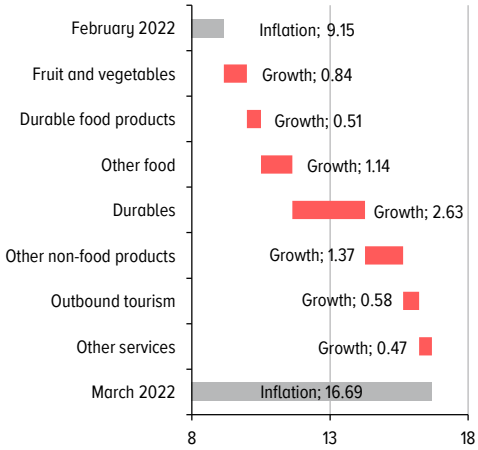
Sources: Rosstat, Bank of Russia calculations.

WEEKLY PRICE GROWTH *Chart 15*
(growth on the previous week, %)



Sources: Rosstat, Bank of Russia calculations.

CONTRIBUTION TO CHANGE IN ANNUAL INFLATION *Chart 16*
(pp)



Sources: Rosstat, Bank of Russia calculations.

posted an accelerated fall in wages. At the same time, real wages remained 4.9% above the pre-pandemic level of 2019 Q4.

Most businesses surveyed by the Bank of Russia do not plan to reduce their headcount in the near future. The employment support measures adopted by the Russian Federation Government in 2022 will also help mitigate the impact of the crisis on the labour market.

INFLATION

APRIL DATA IMPLY A SLOWDOWN IN CONSUMER PRICE GROWTH

In the last week of February, inflationary pressure intensified significantly due in part to a drastic change in the external environment. A weaker ruble and elevated households' inflation expectations prompted a surge in demand for individual groups of goods and services. As a result, there was a sharp rise in the prices for household appliances and electronics and foreign travel. In February,

Structural transformation and price growth rate

Inflation is typically defined as an increase in the general price level in the economy.[1] However, in practice, prices rarely rise evenly and for all goods in the consumer basket at once. More often, prices for some goods may fall and those for others may rise. As a result, the ratio of prices for various goods and services to each other may change, i.e. relative prices may change. For example, the appearance in the market of a product with new technical characteristics, the discontinuation of a product, a change in the cost structure of production of certain goods – all these may change relative prices of all interrelated goods and services. As a rule, the adjustment of relative prices does not materially influence the overall rate of price growth. Moreover, prices are usually assumed to be rigid in the short run; in practice, this means rather rare revisions of the price list. When revisions actually take place, price increases are usually factored in based on the expectations of future marginal costs, which are close to the inflation target in the absence of shocks.

A large-scale transformation of the economy automatically leads to the situation, where relative prices change for a wide range of goods and services in the short run, and the degree of price rigidity becomes noticeably less; businesses are forced to revise them because the changes affect almost all

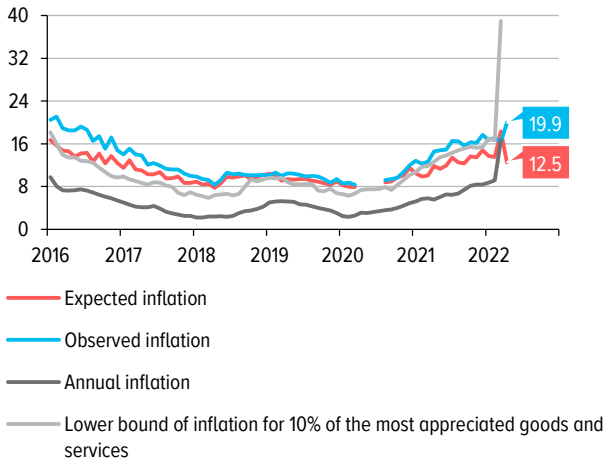
[1] *See the Subsection About inflation on the Bank of Russia website.*

pricing components: from resources and components to the supply of substitutes and complementary products, and changes in demand. Relative prices become more volatile, and their adjustment may become an independent cause underlying a rise in the overall price level in the economy over a certain period of time.

During the acute phase of the March 2022 crisis, the pricing policies of many Russian companies demonstrated a weakening in price rigidity in the economy amid emerging structural changes. After the March news about external restrictions on imported products, price lists for many durables were subjected to multiple revisions. In some cases, prices changed daily. Although these price changes were largely related to imported products, which were sold out of existing stocks and the supply for which was expected to stop, prices for domestic substitutes were also revised (see the box 'Price adjustment to dramatic changes in economic conditions in 2022').

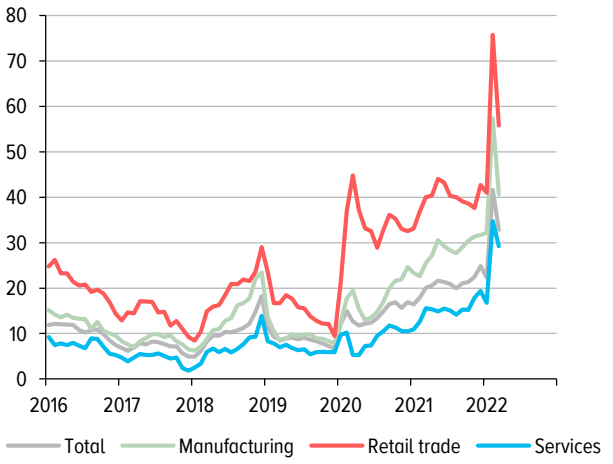
Prices may remain flexible throughout the transformation period. Companies will have to address tasks involving defining a new product range and its pricing, looking for new suppliers of intermediate products and/or trying to develop their own component manufacturing. Therefore, initially, companies will introduce new products to the market in smaller quantities and at 'trial', possibly higher prices, which may be later revised (the so-called price discovery process). As companies identify consumer preferences in the new conditions and expand production, prices will stabilise and inflation will abate.

HOUSEHOLDS' INFLATION EXPECTATIONS *Chart 17*
(%)



Sources: InFOM, Rosstat, Bank of Russia calculations.

COMPANIES' PRICE EXPECTATIONS *Chart 18*
(balance of responses, %, SA)



Sources: Rosstat, Bank of Russia calculations.

annual inflation grew to 9.2%, monthly increase in consumer prices reached 1.01% (SA), almost equalling the October 2021 peak.[4]

In March, annual inflation accelerated to 16.7%, reaching the highest level since April 2015. Prices for non-food durables, i.e. cars, household appliances and electronics, grew the most. In the second half of March, a stronger ruble and a surge in demand coming to an end contributed to a slowdown in price growth for many goods and even to a reduction in the prices for some of them (although such prices were revised downwards after a significant increase, the resulting prices were still above the February values).[5] Starting from the second half of March, weekly price growth began to edge down.

The Bank of Russia estimates that the peak of the sequential seasonally adjusted price growth has been passed. The pass-through of the weaker ruble to prices has been largely completed, and there remain fewer factors for a new wave of rush demand. High interest rates in the deposit market limit excess consumption and encourage savings.

[4] *See the information and analytical commentary Consumer Price Dynamics, No. 2 (74), February 2022.*

[5] *See the information and analytical commentary Consumer Price Dynamics, No. 3 (75), March 2022.*

HOUSEHOLDS' AND BUSINESSES' INFLATION EXPECTATIONS HAVE DECLINED AFTER THE MARCH PEAK

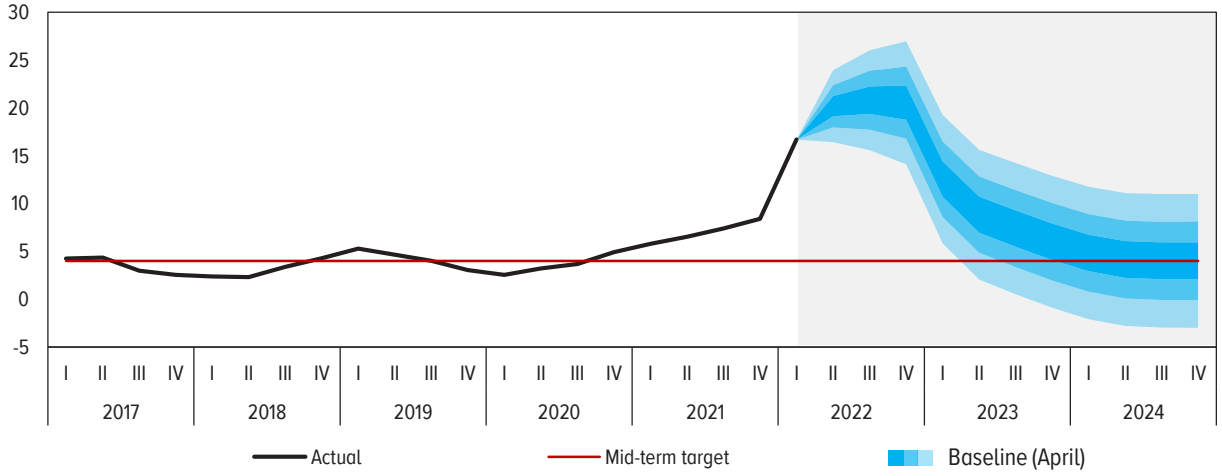
After rising sharply to 18.3% in March, households' inflation expectations fell to 12.5% in April, the level seen in mid-2021. On the one hand, the respondents explained the improved estimates of future price growth by the fact that the price rise expected a month earlier had already occurred, and on the other hand, by continued positive sentiment regarding the country's economic outlook, as well as by the return of the ruble exchange rate to the level of the first weeks of the year.[6] In April, households' expectations regarding future inflation were again below the estimates of observed inflation (12.5% vs 19.9%). This provides additional evidence that the tension associated with price increases subsided and the risks of an unwinding inflationary spiral decreased.

Businesses' price expectations also went down, however, in contrast to households' expectations, their level remains around all-time highs. The surveyed businesses note that they intend to raise prices for their products by an average of 4.2% in the next three months.

SEQUENTIAL INFLATION WILL CONTINUE TO GRADUALLY SLOW DOWN UNDER THE INFLUENCE OF THE CURRENT MONETARY POLICY

The structural transformation, that the Russian economy will have to go through, is caused by external factors, i.e. many imported goods, components and raw materials have suddenly become unavailable. Therefore, **in 2022, supply shocks will prevail in inflation dynamics, while price movements will be significantly impacted by the adjustment of relative prices to the structural changes**. Given the restrictions on stock replenishment, changes in the prices for non-food durables will become the main contributor to consumer inflation. In case of adverse developments in food markets, food inflation may become an additional contributor. A considerable negative output gap will have a disinflationary effect.

INFLATION PATH IN THE BASELINE SCENARIO *Chart 19*
(% change YoY)



Note. The shaded areas on the forecast horizon show the probability of different inflation values. Confidence intervals are symmetrical and based on historical estimates of inflation uncertainty. If baseline scenario assumptions are implemented, the value of inflation path will lie within the darkest central band on only 25 out of 100 occasions. Besides, on 25 out of 100 occasions, outturns will lie within each pair of less dark areas of the fan. As a result inflation will have the values of the blue areas on 75 out of 100 occasions. And on the remaining 25 occasions, inflation may fall anywhere outside the blue areas of the fan. Over the forecast horizon, this has been depicted by the grey background.
Source: Bank of Russia calculations.

[6] *See the information and analytical commentary Inflation Expectations and Consumer Sentiment, No. 4 (64), April 2022.*

Sequential inflation will begin to slow down in 2022 Q2 under the influence of adopted monetary policy measures. Over the majority of the remainder of the year, annual inflation may rise; towards the end of 2022, the annual growth rate of consumer prices will range from 18% to 23%.

In 2023–2024, inflation will begin to slow due to the combined effect of disinflationary factors. First, the structural transformation of the economy coupled with the adjustment of relative prices will come to an end. The formation of new production chains, the stabilisation of new logistics routes, and a switch to scaling up the manufacture of new products will help expand the supply. Second, low labour costs in real terms will limit the escalation of companies' costs and, accordingly, the need for further price rises. Third, the return of households to the saving behaviour model would push the savings rate up to historically normal levels and would help limit the excessive consumption growth. Moreover, the disinflationary impact of the negative output gap will remain until the end of the forecast horizon. Thus, under the influence of the ongoing monetary policy, the annual price growth rate will be in the range of 5.0–7.0% as of the end of 2023 and will return to the 4% target in 2024.

MONETARY POLICY DECISION AND KEY RATE PATH

Despite a considerable change in the conditions of monetary policy implementation, inflation around 4% remains the main target of the Bank of Russia. The decision taken on 28 February to raise the key rate to 20% made it possible to curb a surge in inflation and protect the economy from financial stability risks. In the future, the flexible nature of inflation targeting will allow the Bank of Russia to facilitate the adaptation of the Russian economy to the new conditions, while creating the foundation for a gradual return of inflation to the target.

In the current period, inflation processes in the Russian economy are predominantly shaped by supply shocks caused by external restrictions and to a lesser extent associated with the cyclical state of the economy. The volume of supply of many goods declines along with a simultaneous increase in their production costs, which results in a deterioration of such financial stability indicators as operations and financial burden of companies. Moreover, the amount of available resources for servicing fixed capital and outstanding interest is reduced. In the situation of shortages, low price elasticity of demand allows companies to raise prices to overcome the difficulties of their adaptation to new production and logistics processes. Thus, temporary price increases allow to alleviate the potential deterioration of companies' financial standing and help mitigate financial stability risks.

Amid the structural transformation conditioned on supply shocks, it does not seem feasible to pursue an excessively tight monetary policy aimed at speeding up the return of inflation to the target, because suppressed demand will not allow producers to expand production. Companies will be forced to lower prices for final goods in the face of plummeting demand and may, as a result, lose financial stability, which is fragile during transformation. Moreover, amid rising needs for working capital, the high cost of borrowed resources will lower the speed of companies' adaptation to new conditions. As a result, the recession will be deeper, further recovery will be longer, and after the period of structural transformation, inflation may be well below the target.

However, excessively accommodative policies may also hamper recovery as it will generate an inflationary spiral that is, an unreasonable and uncontrolled price growth leading to higher inflation expectations and fuelling further price growth.

Structural transformation of the economy will be effective only in the context of decelerating inflation, therefore the Bank of Russia will base its further decisions on the required degree of tightness to bring inflation back to the target. In this period, the objective of monetary policy will be to gradually return inflation to the target and, at the same time, allow prices to grow so much as to make it possible for production to adapt to the new conditions and to switch to the scaling up of output, which will enable companies to reduce their prices later on. The fading acuteness of

supply shocks towards the completion of structural transformation processes and monetary policy pursued will contribute to a sustained easing of inflationary pressures.

Bank of Russia decisions made on 8 and 29 April to reduce the key rate to 17% and then to 14%, respectively, reflect the observed slowdown in inflation and inflation expectations and thus a reduction in price stability risks. These decisions took into account not only the extent of required disinflationary impact of monetary policy, but also the need to maintain the availability of credit resources in the economy and limit the scale of slump in economic activity.

The baseline scenario assumes the key rate averaging 12.5–14.0% in 2022, which means that there is still room for further key rate cuts until the end of the year. The 2023–2024 rate path also assumes the possibility of further cuts if the situation evolves in accordance with the Bank of Russia's forecast (to 9–11% on average in 2023 and to 6–8% on average in 2024). This will support lending in the medium term without threatening financial and price stability.

The presented key rate path reflects the current estimate of the situation, which is characterised by elevated uncertainty. The balance of risks of a pickup in inflation, of a decline in economic activity and of financial stability risks may change significantly. The possibilities, timeline and steps to reduce the key rate will depend on incoming information on the actual and expected inflation movements relative to the target, the process of structural transformation of the economy, as well as changes in material domestic and external conditions and the reaction of financial markets.

MAIN RISKS TO THE BASELINE SCENARIO

The uncertainty of the baseline scenario remains extremely high. The presented baseline scenario depends, to a significant extent, on the geopolitical developments, as well as on the economy's ability to adapt to the new conditions. Over the medium-term horizon, proinflationary risks prevail, though their impact has weakened compared to the end of February. The main proinflationary risks include the following:

- ▲ Further strengthening of foreign trade and financial restrictions.
- ▲ A deeper decline in the Russian economy's potential than assumed in the baseline scenario.
- ▲ Increase in inflation expectations in the context of their elevated and unanchored levels. Ruble exchange rate dynamics will remain a meaningful factor shaping the path of inflation and inflation expectations.
- ▲ Additional decisions on material changes in fiscal policy parameters unknown at the time of preparation of the Bank of Russia's baseline forecast.

The main disinflationary risks of the baseline scenario include the following:

- ▼ Additional tightening of monetary conditions in the economy due to a consistently high risk premium included in credit rates and tougher banks' requirements for borrowers amid high uncertainty. Together, these may cause a greater slowdown in lending.
- ▼ Faster recovery of supply against a backdrop of the ongoing high savings rate of households and low consumer activity.

ANNEX

SYSTEM OF MONETARY POLICY INSTRUMENTS AND OTHER MONETARY POLICY MEASURES

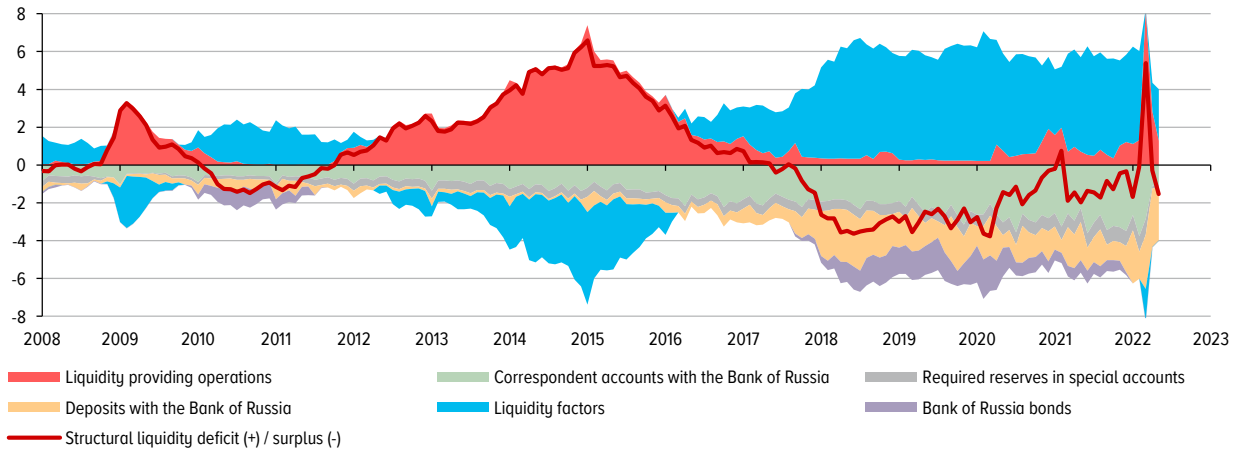
Banking sector liquidity. From February to the first half of April 2022, structural liquidity deficit averaged ₽1.5 trillion across required reserve (hereinafter, RR) averaging periods (hereinafter, AP) (vs the surplus of ₽0.9 trillion from the October AP to the January AP). Over the period under consideration, liquidity situation was changing significantly and diversely. In late February, the banking sector faced structural liquidity deficit caused by the conversion of funds into cash, sizeable tax payments at the end of the month, and smaller amounts of funds placed by the Federal Treasury (FT) with banks. Further on, as the situation stabilised, the outflow of cash and budget funds reversed, and in April, the banking sector returned to structural liquidity surplus.

Budget account operations. In February 2022, budget operations caused an outflow of liquidity from the banking sector. Following large tax payments at the end of the month, counter to its usual practice, the FT decreased the volume of funds placed with banks. However, in early March, the situation gradually returned to normal. In March–April, the FT and the budgets of Russian constituent territories increased the volume of their deposits with banks. The volume of these operations covered the outflow of funds under these operations in February and even compensated for the excess of budget revenue over expenditures over this period.

Cash in circulation. In late February–early March 2022, demand for cash expanded markedly: from 24 February to 5 March, the liquidity outflow was ₽2.9 trillion. However, about half of this amount was represented by an increase in balances in banks' cash desks and ATMs. Credit institutions promptly increased their cash reserves in order to fully satisfy all cash withdrawal requests received from their customers and prevent cash shortages in their branches. After demand for cash stabilised, banks returned these unclaimed funds to their correspondent accounts with the Bank of Russia. Moreover, households subsequently returned some of the cash to banks on the back of rising deposit rates. As a result, in February–April 2022, the volume of cash in circulation increased by ₽0.6 trillion (vs the seasonal growth of ₽0.5 trillion over the same period of 2021).

The end-2022 forecast of the structural liquidity surplus is estimated in the range of ₽3.5–₽4.0 trillion. It takes into account the suspension of the fiscal rule by the Russian Ministry of

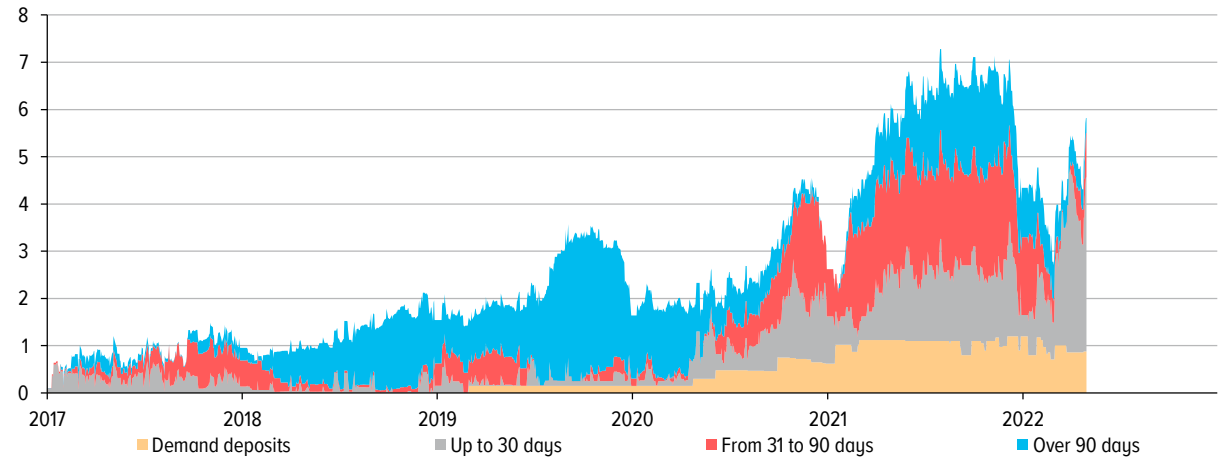
BANK OF RUSSIA'S BALANCE SHEET *Chart A-1*
(start of business, trillions of rubles)



Source: Bank of Russia calculations.

BANKS' OUTSTANDING AMOUNTS ON THE DEPOSITS, REPOS AND SWAPS OF THE FEDERAL TREASURY
(trillions of rubles)

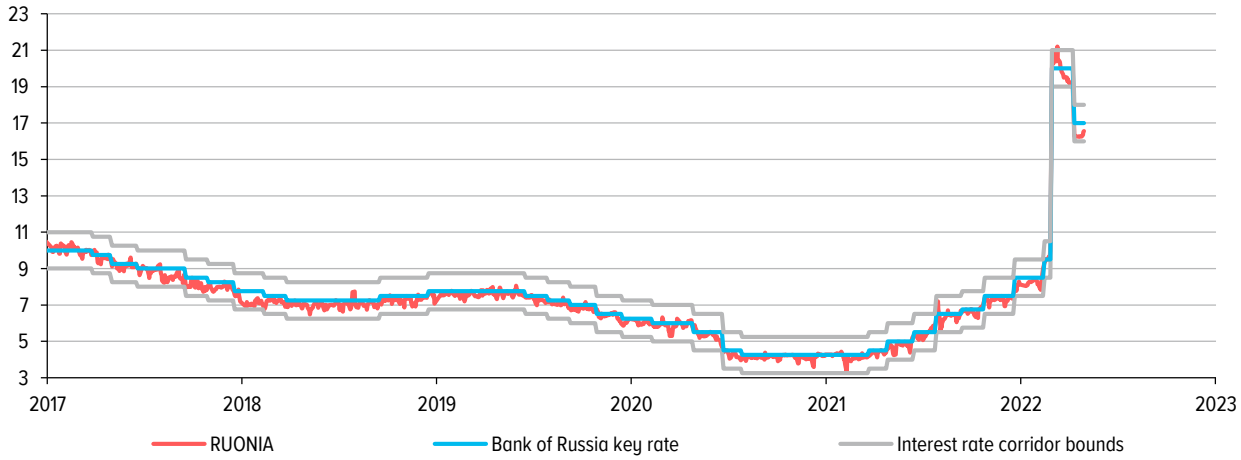
Chart A-2



Sources: Federal Treasury, Bank of Russia calculations.

RUONIA AND BANK OF RUSSIA INTEREST RATE CORRIDOR
(% p.a.)

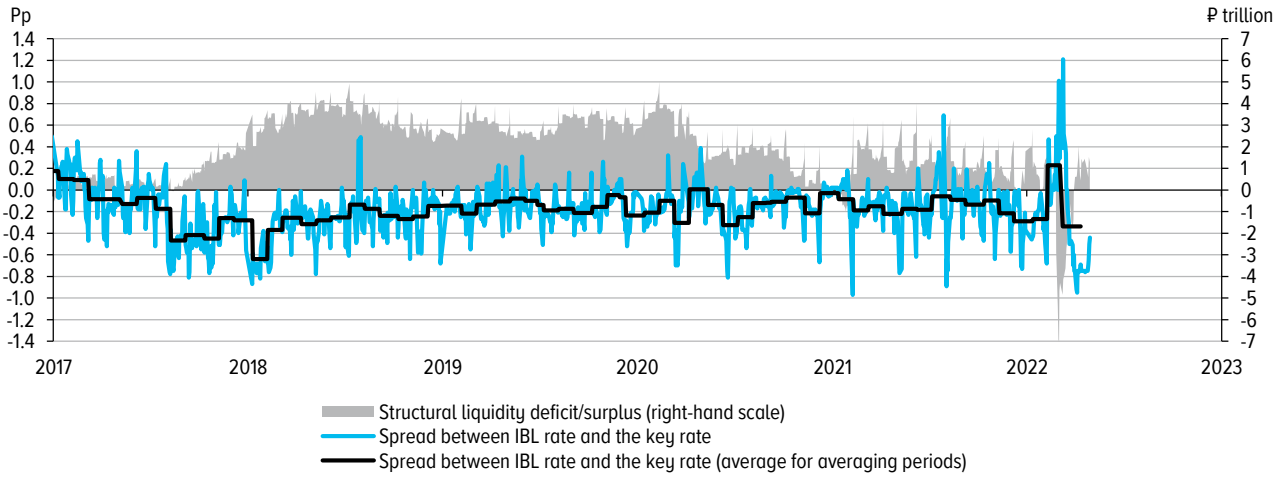
Chart A-3



Source: Bank of Russia.

STRUCTURAL LIQUIDITY SURPLUS AND MONEY MARKET RATES

Chart A-4



Source: Bank of Russia calculations.

STRUCTURAL LIQUIDITY SURPLUS AND LIQUIDITY FACTORS *Table A-1*
(₽ trillion)

	February 2022	March 2022	April 2022	2022 (forecast)
1. Liquidity factors	**-6.4**	**3.9**	**1.2**	**[1.0; 1.4]**
– change in the balances of funds in general government accounts with the Bank of Russia, and other operations*	-4.3	2.3	0.6	[1.4; 1.6]
– change in the amount of cash in circulation	-2.0	0.9	0.6	[-1.0; -0.8]
– Bank of Russia interventions in the domestic foreign exchange market	-0.1	0.0	0.0	-0.1
– regulation of banks' required reserves with the Bank of Russia	0.0	0.7	0.0	0.6
2. Change in free bank reserves (correspondent accounts)	**-0.9**	**-1.8**	**-0.1**	**[-0.9; -0.8]**
3. Change in banks' claims on deposits with the Bank of Russia and coupon OBRs	**1.4**	**-1.2**	**0.5**	**[1.4; 1.9]**
4. Change in outstanding amounts on Bank of Russia refinancing operations (4 = 2 + 3 - 1)	**6.9**	**-6.9**	**-0.7**	**-0.4**
Structural liquidity deficit (+) / surplus (-) (as of the period-end)	**5.4**	**-0.3**	**-1.5**	**[-4.0; -3.5]**

** Including fiscal rule-based operations to buy (sell) foreign currency in the domestic FX market and other operations.*
Source: Bank of Russia calculations.

Finance and the assumption on the use of the NWF to finance part of budget expenditures. These operations will form the main liquidity inflow to banks. In addition, the FT is expected to reduce the amount of temporarily available funds of the budget system placed with banks. These funds will be also used for spending. At the end of the year, the amount of cash in circulation is forecast in the range of ₽0.8–₽1.0 trillion. The decrease in required reserve ratios (hereinafter, the RR ratio) to 2% for ruble liabilities and to 4% for foreign currency liabilities will result in a smaller banks' demand for liquidity and a release of ₽1.5–₽1.6 trillion by the end of the year, compared to the level of balances in correspondent accounts and special RR accounts at the beginning of 2022.

System of monetary policy instruments and achieving the operational objective of monetary policy. In February–the first half of April 2022, the spread between short-term IBL rates in the money market[1] and the key rate over the APs equalled -13 bp on average (vs -21 bp in 2021 Q4), fluctuating from -95 bp to +121 bp (vs from -73 bp to +25 bp in 2021 Q4).

The liquidity outflow in late February and uncertainty surrounding the future cash flows of banks resulted in a higher cost of borrowings in the money market and lower volumes of transactions in the unsecured segment. For instance, in early March, individual participants were making transactions in the overnight IBL segment at the interest rate above the upper bound of the interest rate corridor of the Bank of Russia.

To support the sustainability of credit institutions and bring RUONIA closer to the key rate, the Bank of Russia took a number of prompt measures. Main one-week auctions began to be conducted as repo instead of deposit auctions. In addition, the Bank of Russia held fine tuning auctions on a daily basis to enable banks to raise and place funds in required amounts at a rate close to the key rate. No limit was set for auctions held from 28 February to 1 March, which meant that funds were provided against respective collateral to all participants as requested. On 1 March, the interest rate on loans secured by non-marketable assets provided for 2 to 90 days was reduced and equated to the upper bound of interest rate corridor. On 25 March, the regulator introduced lombard loans provided for 2 to 90 days at a floating interest rate which was also equated to the upper bound of interest rate corridor. The Bank of Russia extended the Lombard List and relaxed the requirements for non-marketable assets eligible as collateral for Bank of Russia loans and increased individual limits for banks on loans and repos.

[1] *The IBL (interbank lending) interest rate is the RUONIA (Ruble Overnight Index Average) rate, which is the weighted interest rate on overnight interbank ruble loans (deposits) that reflects the estimated cost of unsecured overnight borrowing.*

Moreover, in order to increase banks' flexibility in managing their own funds, the Bank of Russia cancelled the penalty for failure to perform RR averaging in the February AP unless the amount of such failure exceeded 20% of the amount that banks were to maintain in correspondent accounts during that period. This measure was equivalent to a prompt reduction of the averaged portion of the RR by 20%, which allowed banks to reduce amounts in their correspondent accounts amid sharp liquidity outflows. In the March AP, the Bank of Russia reduced RR ratios for all types of reservable liabilities[2] to 2% and raised the averaging ratio for banks with a universal and basic licence to 0.9. As a result, additional funds were released both from banks' RR accounts and correspondent accounts.

In March–April, as banks' demand for liquidity decreased, the money market situation stabilised too: RUONIA was shaping close to the key rate with a slight negative spread, and the activity in the overnight IBL segment was approaching its annual average. However, the number of market participants was smaller compared to the beginning of the year, with the largest portion of borrowings made by several large banks. Bank of Russia standing deposit facilities continued to be in great demand. As the liquidity situation stablises further, banks are expected to reallocate their excessive funds from the deposits with the Bank of Russia to the deposits in the overnight IBL segment.

In summary, the Bank of Russia's monetary policy framework was strong enough as to fully meet banks' need in liquidity and offset the effect of external factors even amid the elevated volatility of cash flows. The measures taken by the Bank of Russia to support banks ensured the continuity of money market operation and the quick recovery of activity in the short-term IBL segment to the level of early 2022 on average.

Acting in cooperation with the Russian Federation Government, the Bank of Russia elaborated anti-crisis subsidised lending programmes in order to support small and medium-sized enterprises (SMEs). The total funding limit for banks under these programmes is ₽675 billion. They enable businesses to obtain working capital loans for up to one year,[3] as well as investment loans for up to three years at lower interest rates. The working capital lending programme allows small businesses to receive subsidised loans (or refinance previously received ones) at a rate not exceeding 15% p.a., and medium-sized enterprises – not exceeding 13.5% p.a. By the beginning of May, banks' outstanding amounts on this facility equalled ₽0.2 trillion. For investment loans, final borrowers' interest rates also do not exceed 15% p.a. and 13.5% p.a. for small and medium-sized businesses, respectively.

---

[2] RR ratios for ruble liabilities of banks with a basic licence remained unchanged at 1%.

[3] Starting from 29 April 2022, banks are also enabled to provide SME working capital loans to self-employed persons for entrepreneurial purposes, as well as to leasing or factoring companies for leasing property or financing SMEs (see press release).

BOXES

ADAPTATION OF THE QUARTERLY PROJECTION MODEL[1] TO THE CAPITAL FLOW CONTROL FRAMEWORK

The tightening of sanctions policy and the introduction of capital flow control regime in February–March 2022 materially decreased the dependence of the Russian financial system on the outside world. Trade flows continue to serve as the main channel connecting the Russian economy with foreign markets. In turn, trade flows also experience considerable negative shocks. In the model version used before February 2022, the main channel connecting Russian and foreign markets, in addition to trade, was the financial channel of uncovered interest rate parity, which, under a given differential of domestic and foreign interest rates, adjusted for the risk premium, determined the expected change in the exchange rate. In the current situation, the relevance of this channel wanes, and the exchange rate begins to be determined by the balance of trade flows to a greater extent. This observation underpins the rational behind the April 2022 adaptation of the Quarterly Projection Model (hereinafter, the QPM) to the capital flow control regime. The implementation of changes implies explicit modelling of trade flows (i.e. separating exports and imports from total output) and adjusting the uncovered interest rate parity equation.

In the previous version of the model, the aggregate output gap $\hat{y}_t$ was defined within the framework of the Euler equation where current and future output gaps are linked through the real interest rate gap. In the proposed modification of the model, the components of the domestic demand gap $\hat{d}_t$, the export gap $\hat{x}_t$ and the import gap $\hat{m}_t$ are singled out from the output gap:[2]

$$\hat{y}_t = \omega^d \hat{d}_t + \omega^x \hat{x}_t - \omega^m \hat{m}_t \,,$$

where ω^j is the weight of the corresponding j component in the aggregate output.

Similar to the above definition of the output, **the domestic demand gap** is defined within the logic of the Euler equations:

$$\hat{d}_t = \beta^{fwd} \mathbb{E}_t \hat{d}_{t+1} + \beta^{lag} \hat{d}_{t-1} - \beta^r \hat{rra}_t + \beta^{oil} \hat{q}_t^{oil} + \varkappa_t + \varepsilon_t^{\hat{d}} \,,$$

where $\hat{rra}_t$ is the monetary conditions gap (indicator of the real interest rates gap);
$\hat{q}_t^{oil}$ is the real oil price gap;
$\varkappa_t$ is the fiscal stimulus;
$\varepsilon_t^{\hat{d}}$ is the demand shock.

The export gap is determined by external demand, relative prices for domestic and foreign goods, and the terms of trade:

$$\hat{x}_t = \rho^x \hat{x}_{t-1} + \chi^{yf} \hat{y}_t^f + \chi^z \hat{z}_t + \chi^{oil} \hat{q}_t^{oil} + \varepsilon_t^{\hat{x}} \,,$$

where $\hat{y}_t^f$ is the external output gap;
$\hat{z}_t$ is the real exchange rate gap;
$\varepsilon_t^{\hat{x}}$ is the export demand shock.

The import gap is linked to the overall level of domestic demand and real exchange rate:

$$\hat{m}_t = \rho^m \hat{m}_{t-1} + \mu^d \hat{d}_t - \mu^z \hat{z}_t + \varepsilon_t^{\hat{m}} \,,$$

where $\varepsilon_t^{\hat{m}}$ is the import demand shock.

---

[1] *The basic version of the model is presented in Orlov A. Quarterly Projection Model for Russia. March 2021.*

[2] *Similar breakdown is used in the semi-structural model for Croatia, see Ravnik, R. and N. Bokan (2018). Quarterly Projection Model for Croatia. B: Surveys 34, The Croatian National Bank.*

Adjusting the uncovered interest rate parity equation

In the previous version of the model, the uncovered parity equation in real terms was as follows:

$$\mathbb{E}_t^w \hat{z}_{t+1} - \hat{z}_t = (\hat{r}_t - \hat{r}_t^f - \hat{\vartheta}_t)/4 - \varepsilon_t^{\hat{z}},$$

where $\hat{r}_t$ is the real interest rate gap in the domestic money market;
$\hat{r}_t^f$ is the real interest rate gap in the foreign money market;
$\hat{\vartheta}_t$ is the risk premium gap;
$\varepsilon_t^{\hat{z}}$ is the exchange rate shock;
$\mathbb{E}_t^w \hat{z}_{t+1}$ is weighted expectations of the future real exchange rate gap; where the weight δ is for weighing rational expectations and the weight $1-\delta$ is for adaptive expectations:

$$\mathbb{E}_t^w \hat{z}_{t+1} = \delta \mathbb{E}_t \hat{z}_{t+1} + (1-\delta)\hat{z}_{t-1}.$$

For the case with restrictions imposed on capital flows, the uncovered parity equation can be written as follows:

$$\mathbb{E}_t^w \hat{z}_{t+1} - \hat{z}_t + wedge_t^{UIP} = (\hat{r}_t - \hat{r}_t^f - \hat{\vartheta}_t)/4 - \varepsilon_t^{\hat{z}},$$

where the 'wedge' $wedge_t^{UIP}$ – meaning the deviation from the standard uncovered parity equation, can be associated, for example, with the cost of changing the portfolio;

$$wedge_t^{UIP} = \psi_t \hat{b}_t,$$

where $\hat{b}_t$ is the deviation of the portion of investment in national assets from the equilibrium;
ψ_t is the marginal cost of changing the financial portfolio (consisting of domestic and foreign debt instruments).

Costs of changing the portfolio can also be restrictions on capital flows imposed by the regulator, i.e. the costs associated with both residents' investment in foreign assets and non-residents' investment in domestic assets.

In this formulation of the uncovered parity equation, any given interest rate differential (adjusted for the risk premium) can be related not only to the expected weakening of the exchange rate ($\mathbb{E}_t^w \hat{z}_{t+1} - \hat{z}_t$), but also to the cost of changing the portfolio $\psi_t \hat{b}_t$, which reduces the dependence of the exchange rate on external financial markets.

In the limit (in case of the complete isolation of the domestic financial market), the total interest rate differential can be explained by the cost of portfolio rebalancing:

$$wedge_t^{UIP} \equiv (\hat{r}_t - \hat{r}_t^f - \hat{\vartheta}_t)/4.$$

In this case, the uncovered parity equation takes the following form:

$$\hat{z}_t = \mathbb{E}_t^w \hat{z}_{t+1} + \varepsilon_t^{\hat{z}}.$$

Taking one more step away from the paradigm of rational expectations, we will assume the operator of conditional mathematical expectation $\mathbb{E}_t[\cdot]$ to be a linear projection onto a truncated information set $\mathcal{Z}_t$, relevant for determining the exchange rate.[3] In case of a capital control regime, an appropriate set can be summarized by the balance of trade $\hat{tb}_t$ and the terms of trade $\hat{q}_t^{oil}$: $\mathcal{Z}_t = \{\hat{tb}_t, \hat{q}_t^{oil}\}$. Then

$$\mathbb{E}_t \hat{z}_{t+1} \equiv \text{proj}(\hat{z}_{t+1}|\mathcal{Z}_t) = \tilde{\zeta}^{tb} \hat{tb}_t + \tilde{\zeta}^{oil} \hat{q}_t^{oil}, \text{ где } \hat{tb}_t = \hat{x}_t - \hat{m}_t.$$

[3] *A similar approximation is used in Marioli, F., F. Bullano, J. Fornero u R Zuniga (2015). Semi-Structural Forecasting Model. Working Papers Central Bank of Chile.*

Finally, the uncovered parity equation takes the following form:

$$\hat{z}_t = (1-\delta)\hat{z}_{t-1} - \zeta\hat{\vartheta}_t^{bop} + \varepsilon_t^{\hat{z}},$$

$$\hat{\vartheta}_t^{bop} = t\hat{b}_t + \zeta^{oil}\hat{q}_t^{oil}.$$

In case of a partially isolated domestic financial market, one can use a weighted combination of the standard uncovered parity equation and its modification for a regime with capital controls:

$$\hat{z}_t = (1-\omega^{cc})[\mathbb{E}_t^w\hat{z}_{t+1} - (\hat{r}_t - \hat{r}_t^f - \hat{\vartheta}_t)/4] + \omega^{cc}[(1-\delta^{cc})\hat{z}_{t-1} - \zeta\hat{\vartheta}_t^{bop}] + \varepsilon_t^{\hat{z}},$$

where ω^{cc} is degree of tightness of capital controls.

Comparison of impulse responses

Isolation from external financial market under the capital control regime causes a considerable reduction in the role of the foreign exchange channel of the transmission mechanism (TM) of the monetary policy (MP), which generally reduces its efficiency and the ability of the MP to stabilise the economy in response to various shocks. Let us compare the response to shocks of the model without the foreign exchange control regime (ω^{cc} = 0) and the model with rather tough capital flow restrictions (ω^{cc} = 0.75).

Demand shock. With capital controls, the foreign exchange channel of the MP TM becomes inefficient and the real exchange rate does not appreciate in response to a key rate rise. As a result, one has to respond to the demand shock with a bigger increase in the rate, whereas cumulative inflation still remains higher than in the model without capital controls. In response to the demand shock, the real exchange rate depreciates slightly on the back of a higher demand for imported goods.

Oil price shock. The model with capital controls demonstrates a higher sensitivity of the exchange rate to trade flows and oil prices (because of the obligation to sell foreign currency earnings). As a result, the oil price shock induces a more considerable exchange rate appreciation and disinflationary effect in the first 18 months of the shock, after which the income effect begins to prevail. The positive output response is shifted to subsequent periods because of bigger switching to imports in the first year of the shock. The key rate declines in response to lower inflation in contrast to the model without capital controls.

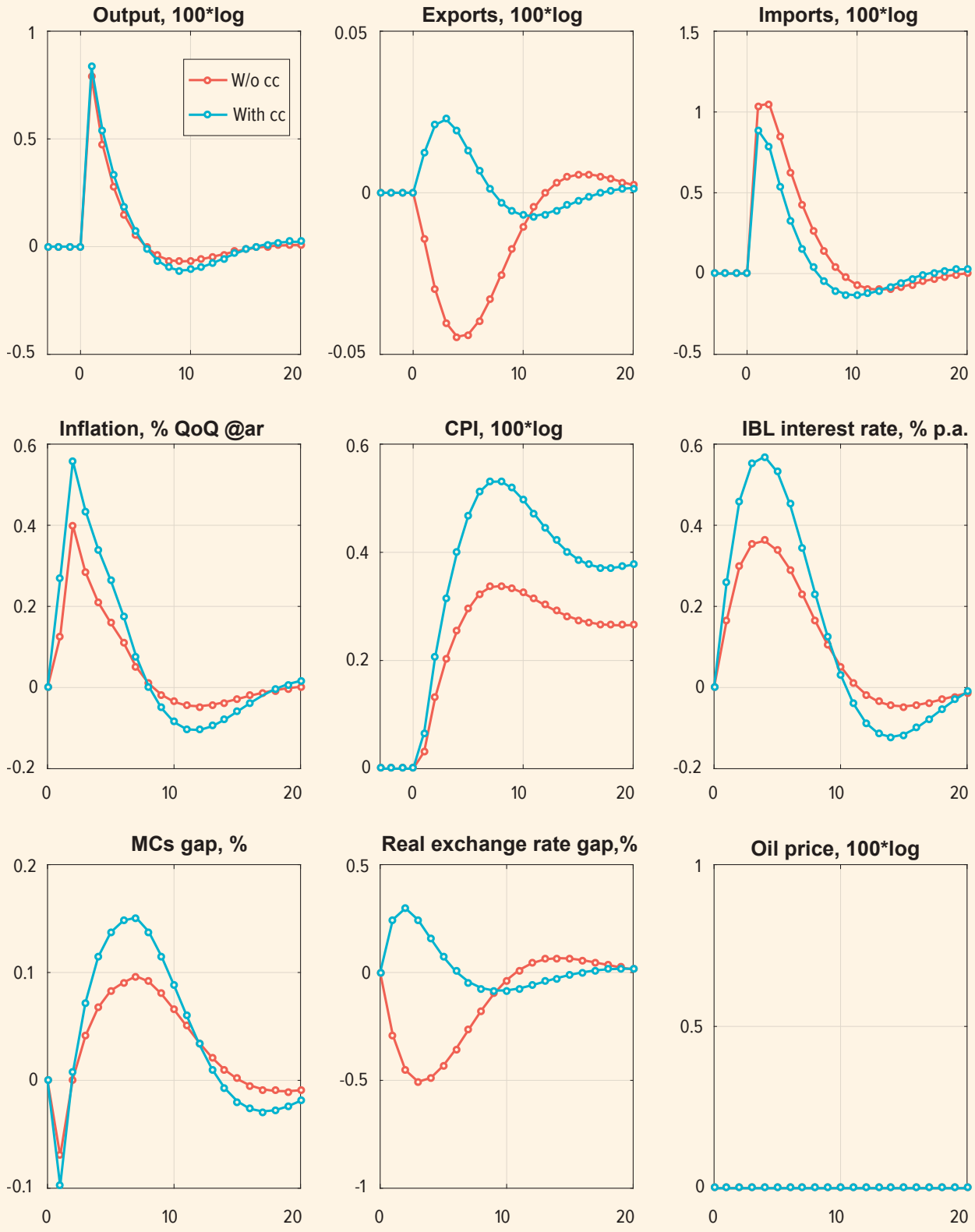
External demand shock. An increase in external demand causes an increase in exports, but the model with capital controls takes into account the commodity focus of most exports and the poor response of production factors markets to output growth in the exports sector. As a result, the medium-term response of inflation is much more moderate, and the first year of the shock sees a prevailing disinflationary effect of a stronger real exchange rate. The response of the key rate to external demand shock is generally weak.

External MP shock. In the model with capital controls, the logic of uncovered interest rate parity does not seem to influence exchange rate movements. As a result, the response of domestic variables to external MP shock, in contrast to the model without capital controls, is limited to the response of exports to lower external demand. In the model without capital controls, a higher external policy rate brings about a meaningful weakening of the exchange rate and a further pass-through effect to prices and domestic MP response.

MP shock. Due to the inefficiency of the exchange rate channel of the MP TM under capital control regime, an increase in the IBL interest rate creates a longer negative effect on inflation: a rate cut after the initial shock neither weakens the real exchange rate nor directly translates to prices, which could mitigate the negative effect on the prices of a lower output, as in the case without capital controls, where the initial decline in output is greater due to a stronger real exchange rate at the time of the MP shock. All this also increases the subsequent easing of the MP to compensate for the inefficiency of the exchange rate channel, which in turn raises the rate volatility.

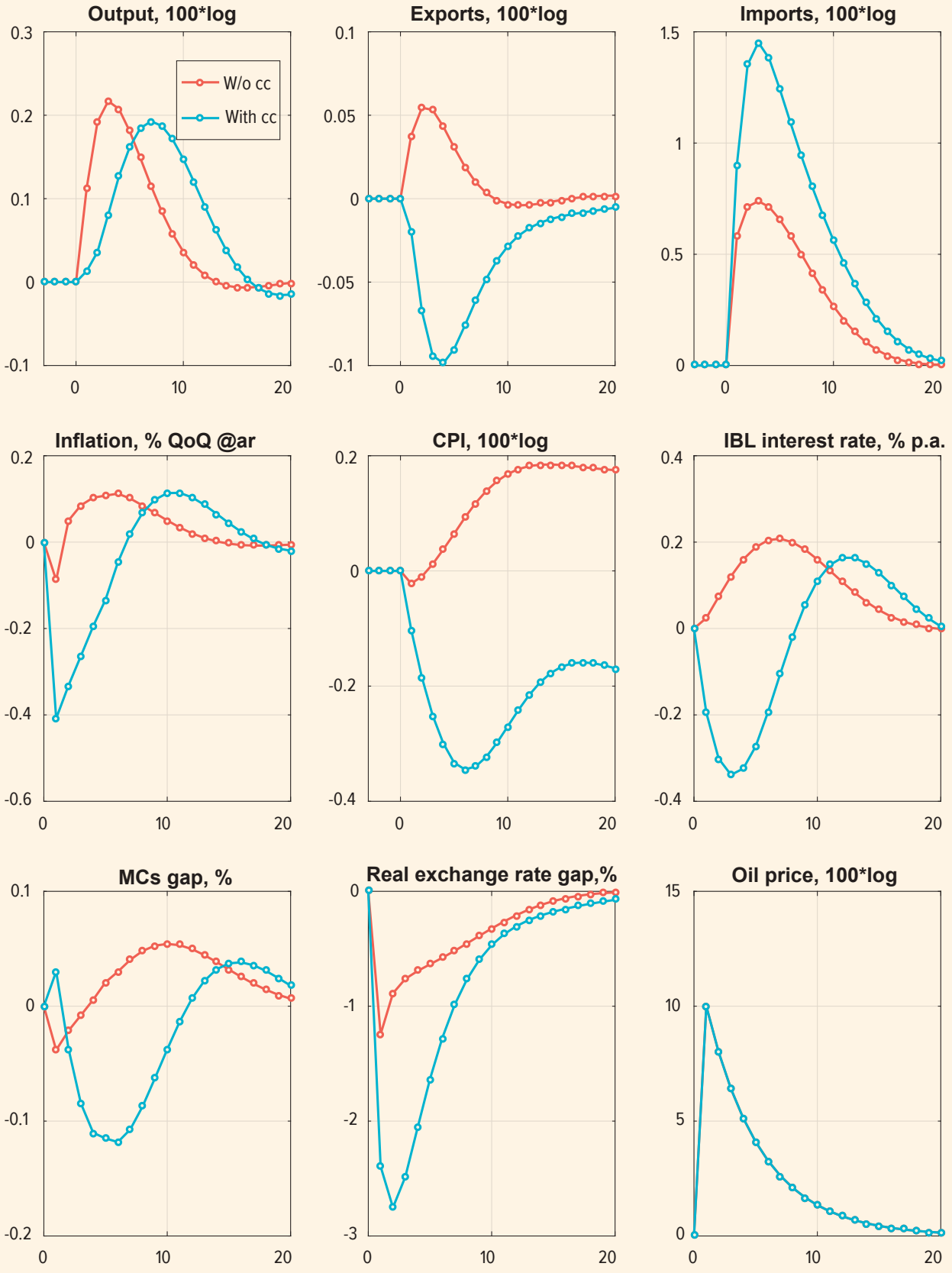
Impulse responses

POSITIVE DOMESTIC DEMAND SHOCK AT 1 PP *Chart 1*



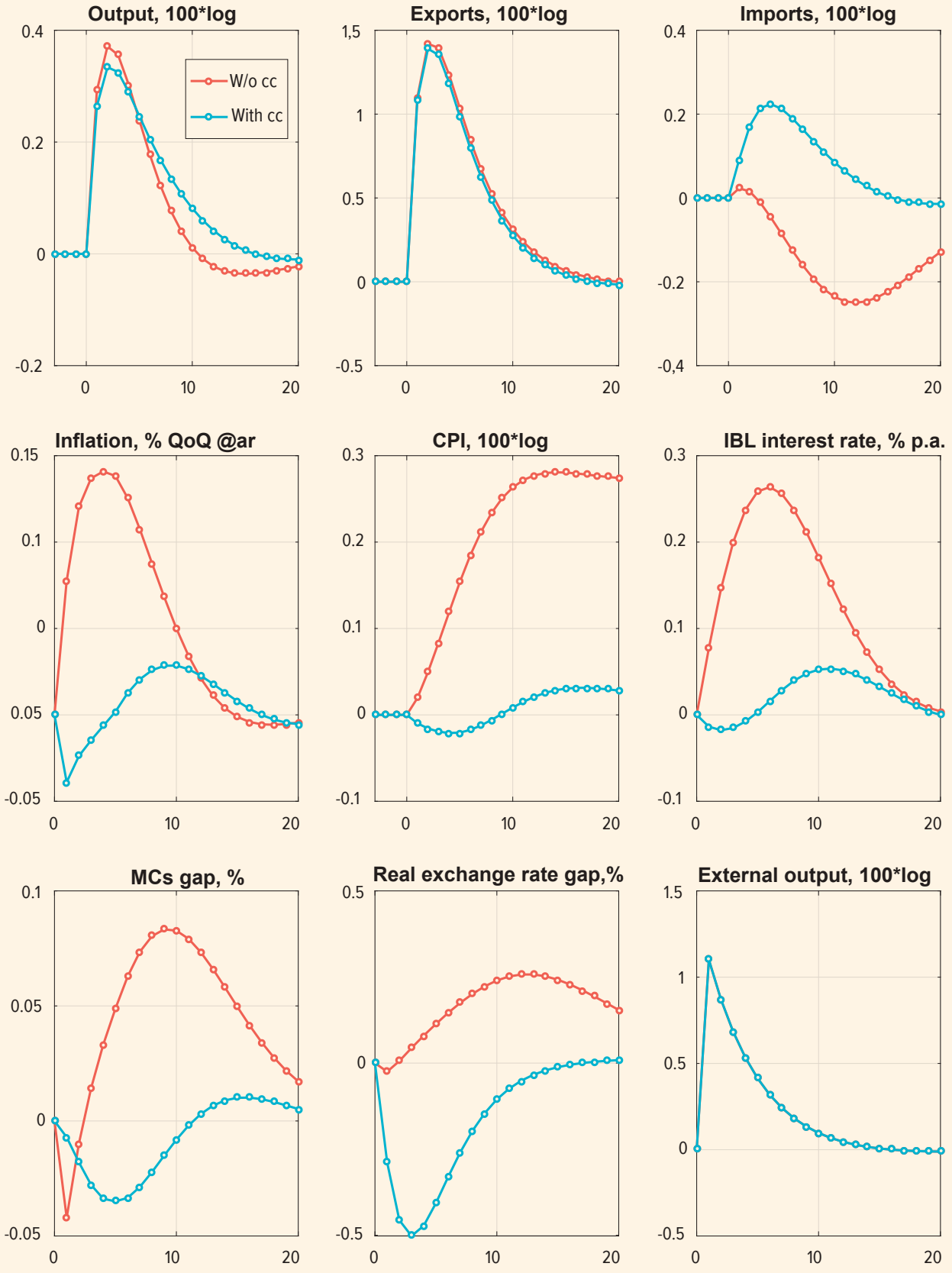
Note. 'W/o cc' is a model with $\omega^{cc} = 0$, 'with cc' is a model with $\omega^{cc} = 0.75$.

POSITIVE OIL PRICE SHOCK AT 10 PP ON ACTUAL OIL PRICE *Chart 2*



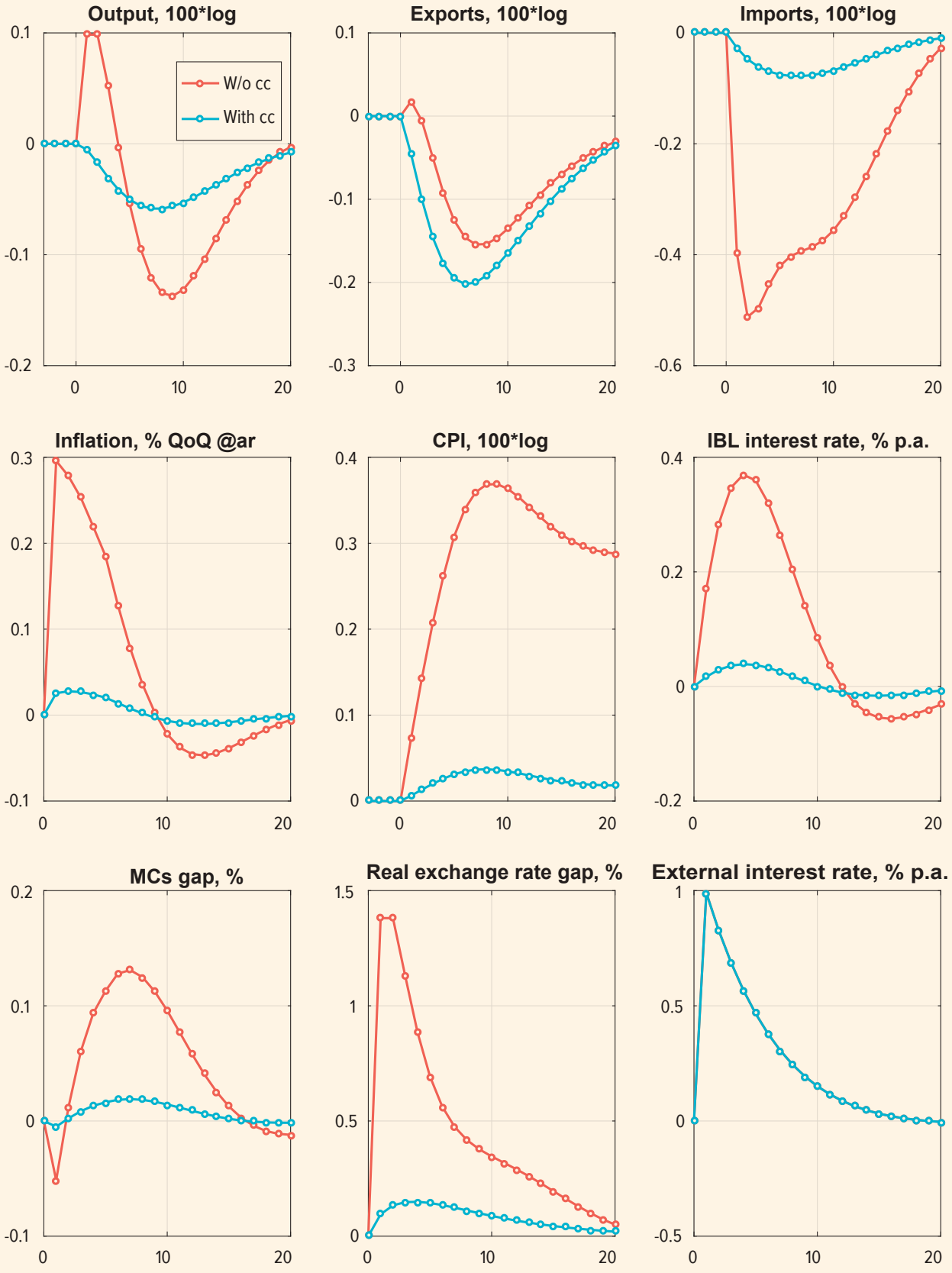
Note. 'W/o cc' is a model with $\omega^{cc} = 0$, 'with cc' is a model with $\omega^{cc} = 0.75$.

POSITIVE EXTERNAL DEMAND SHOCK AT 1 PP ON EXTERNAL OUTPUT *Chart 3*



Note. 'W/o cc' is a model with $\omega^{cc} = 0$, 'with cc' is a model with $\omega^{cc} = 0.75$.

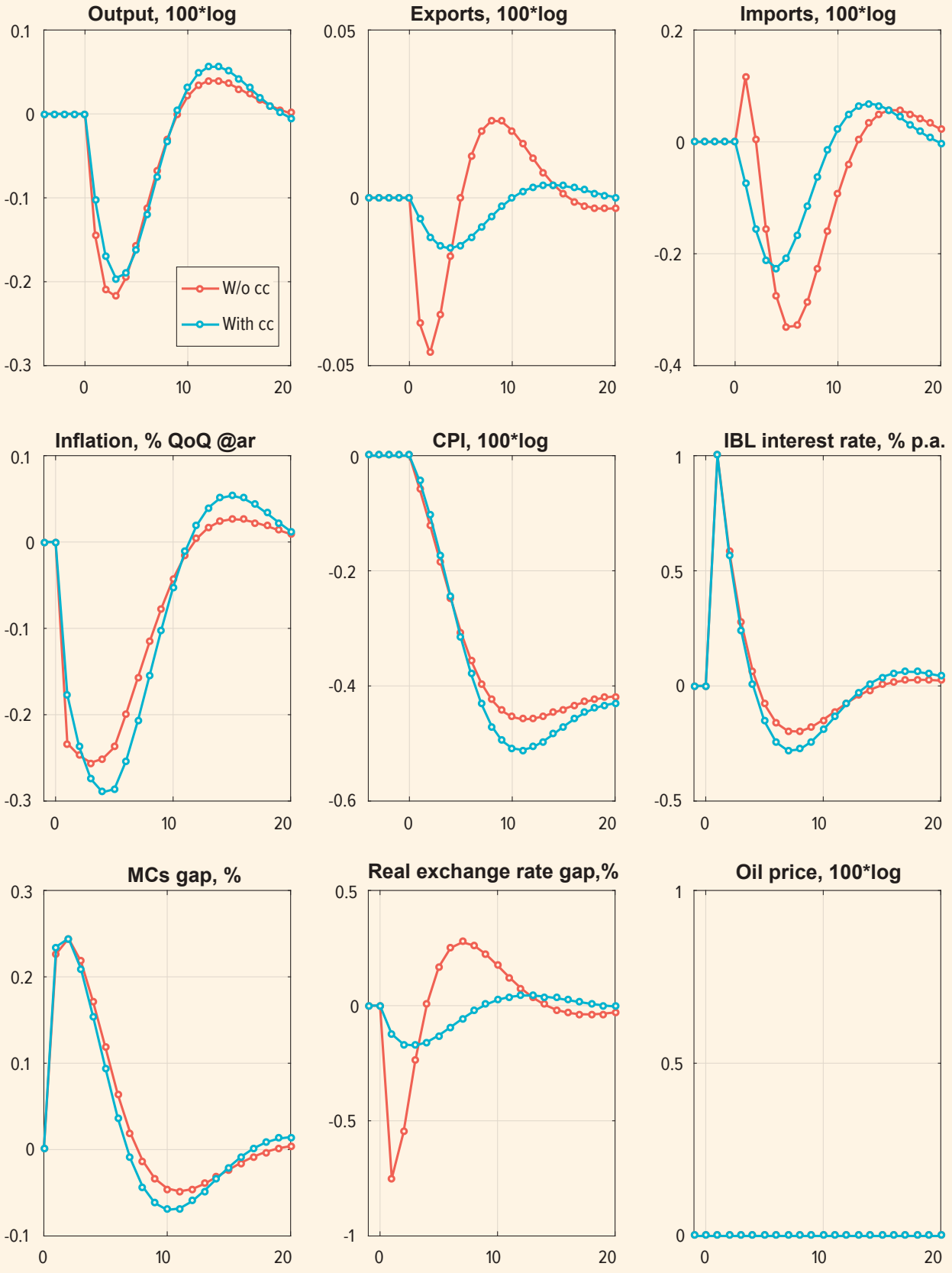
POSITIVE EXTERNAL MP SHOCK AT 1 PP ON FOREIGN SHORT-TERM NOMINAL INTEREST RATE *Chart 4*



Note. 'W/o cc' is a model with $\omega^{cc} = 0$, 'with cc' is a model with $\omega^{cc} = 0.75$.

POSITIVE MP SHOCK AT 1 PP ON NOMINAL IBL RATE

Chart 5



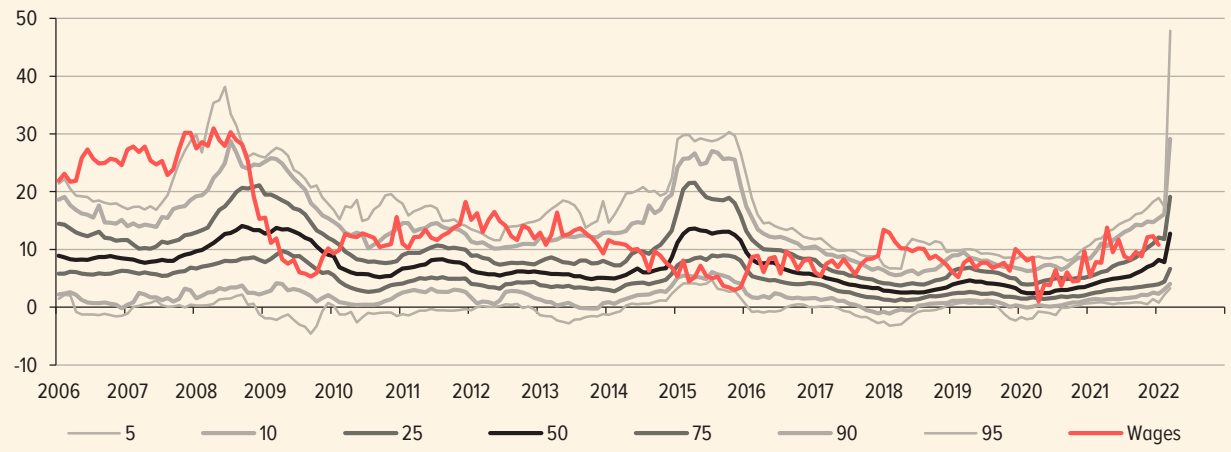
Note. 'W/o cc' is a model with $\omega^{cc} = 0$, 'with cc' is a model with $\omega^{cc} = 0.75$.

PRICES ADJUSTMENT TO DRAMATIC CHANGES IN ECONOMIC CONDITIONS IN 2022

Pursuing its monetary policy the Bank of Russia takes into account not only the nature of factors affecting inflation, but also the heterogeneity of price movements. In March 2022, the rise in inflation was largely assisted by price hikes in certain segments of the consumer market: those with a high share of imports and where there was a rush demand. There was a rise in the portion of goods with price growth rates at their multi-year highs[1] (Chart 1).

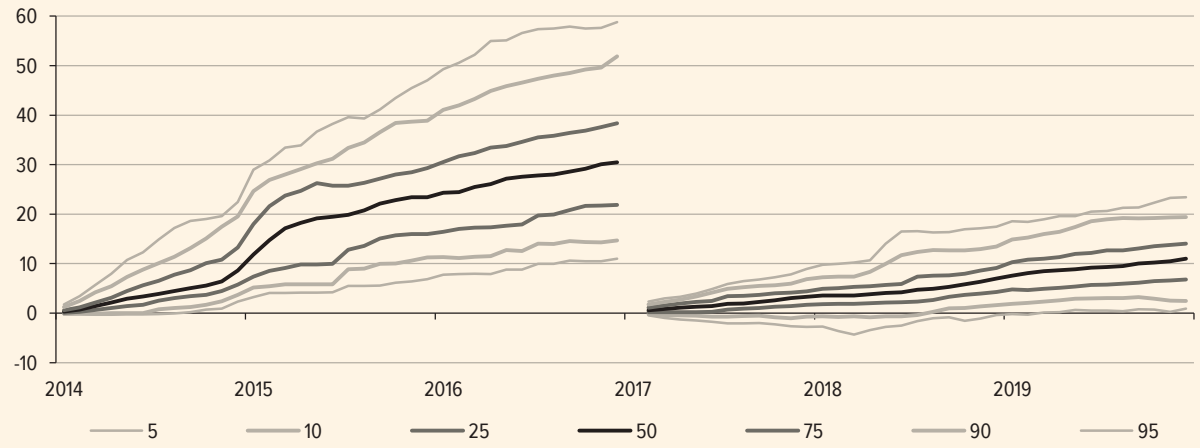
In general, the expansion of price fluctuations is typical for episodes of elevated exchange rate volatility. As evidenced by the comparison of price responses to a weaker ruble and a higher sanctions pressure in 2014–2016 with the period of more stable external conditions (2017–2019), there is an immediate rapid pickup in price growth coupled with expanding range of price increases, which continued for about a year (Charts 2 and 3). Groups of goods and services with the fastest price growth play the main role, and price growth for the bulk of the consumer basket turns out less than the average rate of inflation. The share of goods and services with negative annual price growth declines (almost to zero), although in stable periods, such positions are usually observed (Chart 4). Further ahead, as the exchange rate adjusts and the effects

DISTRIBUTION OF ANNUAL PRICE GROWTH AND ANNUAL NOMINAL WAGES *Chart 1*
(%)



Sources: Rosstat, Bank of Russia calculations.

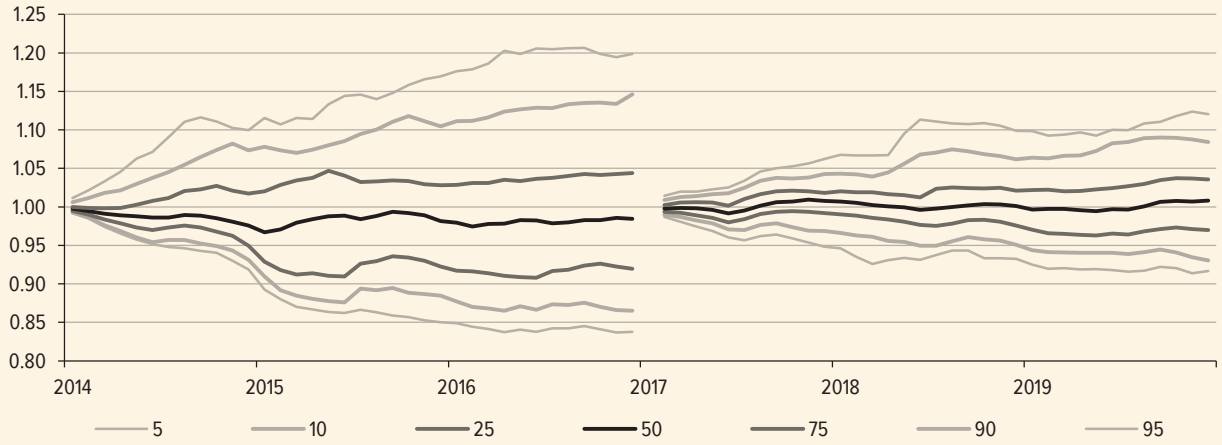
DISTRIBUTION OF ACCUMULATED PRICE GROWTH *Chart 2*
(% on December of reference year)



Sources: Rosstat, Bank of Russia calculations.

[1] *Hereinafter, the distribution of price growth is given net of volatile prices for certain types of food products (fruit and vegetables, sugar, sunflower oil, and cereals), foreign tourism services and air fares (the share in CPI in 2022 is 8%).*

DISTRIBUTION OF ACCUMULATED PRICE GROWTH RELATIVE TO INFLATION *Chart 3*



Sources: Rosstat, Bank of Russia calculations.

PORTION OF GOODS AND SERVICES WITH NEGATIVE ANNUAL PRICE GROWTH *Chart 4*
(%)

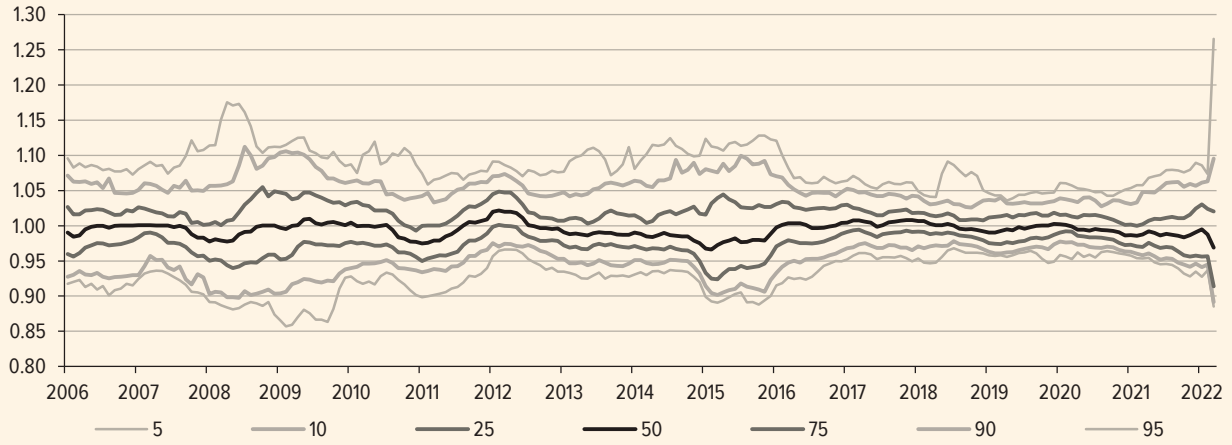
Sources: Rosstat, Bank of Russia calculations.

of rush demand dissipate, the overall price growth slows down; and relative price dispersion generally stabilises two years after the negative impact.

However, in contrast to previous episodes, the surge in inflation in March this year was shaped not only by a short-lived weakening of the ruble, but also effects associated with it. The new sanctions disrupted production ties, logistics chains and the payment and settlement systems. Households' inflation expectations, exacerbated by fears of supply termination, almost reached their all-time highs (since 2010). As a result, price dispersion (adjusted by inflation) grew well above previous levels (Charts 5 and 6).

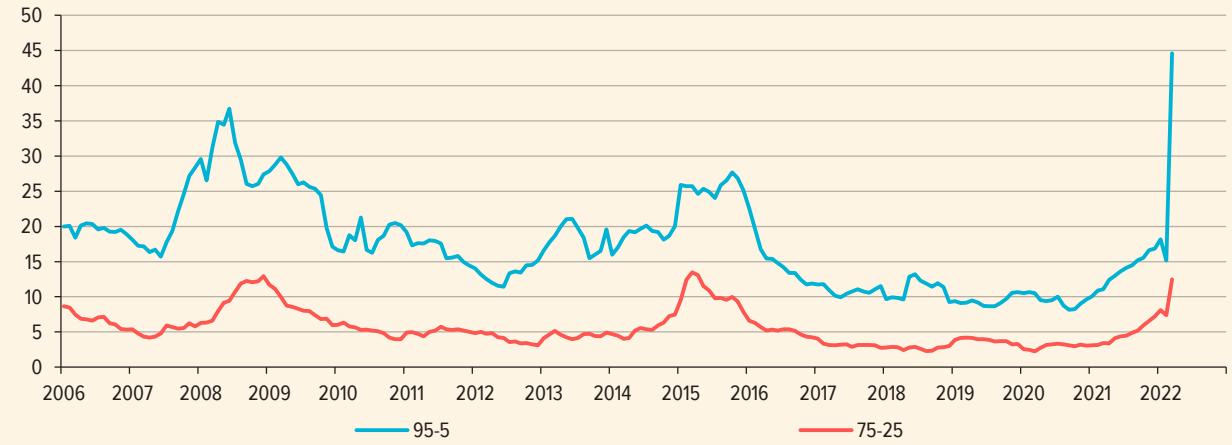
In this situation, price adjustment is a much more complex process, as it also reflects the structural adjustment of the economy to the new conditions. The tightening of monetary policy aimed at the fastest delivering of inflation to its target would entail undesirable risks, including deflationary ones. Given a fairly stable structure of relative prices, the reduction in the values of the upper percentiles of the distributions would not be the only consequence. There would also emerge a risk of the lower percentiles persistently moving to negative territory and a risk of an increase in the share of commodity items with negative annual inflation above normal levels. Moreover, a prolonged price downturn, even across individual market segments, involves risks for economic activity. First, it generates deflationary expectations. Consumers defer purchases to later periods in anticipation of a further drop in prices, which undermines the current

DISTRIBUTION OF ANNUAL PRICE GROWTH RELATIVE TO INFLATION *Chart 5*



Sources: Rosstat, Bank of Russia calculations.

RANGES OF DISTRIBUTION OF ANNUAL PRICE GROWTH *Chart 6*
(pp)



Sources: Rosstat, Bank of Russia calculations.

consumer activity. Weak demand in turn forces sellers to continue to reduce prices to stimulate sales. Second, lower prices for end products drag heavily on the financial position of producers amid nominal rigidities (e.g. restrictions on wage cuts) and a significant share of the fixed part in production costs. All this happens exactly when enterprises face rising costs caused by production and sales restructuring.

Therefore, the return of inflation to the target level may take more time. The relative easing of monetary policy, allowing for a longer upward departure of inflation from the target, will make it easier for businesses to adjust to the new conditions and to avoid negative consequences for output. Supporting supply will further abate the risks of mismatch with demand dynamics and will help maintain price stability.

DECOMPOSITION OF THE INFLATION DEVIATION IN 2021 FROM THE BASELINE FORECAST PUBLISHED IN THE MONETARY POLICY GUIDELINES FOR 2021–2023

The matrix of macroeconomic forecast scenarios presented in the Monetary Policy Guidelines for 2021–2023 outlined the limits of possible economic developments considered by the Bank of Russia when making decisions after the sudden outbreak of the pandemic that engulfed all areas of human activity in 2020. The Bank of Russia based its scenario forecasts on assumptions about the speed and sustainability of demand recovery, and also the depth of potential output decline, including possible deferred effects caused by restrictions on economic activity.

Given high uncertainty, the economic forecasts presented in late 2020 have been massively refined and revised to factor in incoming statistical information. Despite the fact that certain macroeconomic indicators were close to the ranges of the baseline scenario, the actual economic situation in 2021 was generally outside the perimeter of the Bank of Russia's scenario matrix.

The deviation of the actual 2021 inflation rate of 8.4% from the middle of the forecast range was +4.6 pp. A retrospective analysis[1] of reasons why the actual 2021 inflation dynamics deviated from the baseline forecast published in October 2020 makes it possible to assess the underestimated factors that generated the uncertainty of that period.

The chart below decomposes into shocks the deviation of actual inflation from the baseline inflation forecast at the end of 2021.

The shocks in the chart can be divided in two groups: proinflationary shocks causing an upward deviation of actual inflation from the forecast, and disinflationary shocks contributing to a lower inflation rate compared to the forecast.

Main proinflationary shocks

- The rise in global food prices, which started at the end 2020 and was associated with significant demand- and supply-side fluctuations in individual food markets, persisted throughout 2021 and accelerated the most in the fourth quarter. The proinflationary impact of this shock was not fully factored in into the scenario assumptions and its input to the deviation of inflation is estimated at **+2.1 percentage points**.
- The recovery of domestic demand was more rapid from the historical perspective of economic rebound after the crisis and its contribution is estimated at **+1.8 percentage points**.
- Monetary policy remained accommodative during 2021 with a gradual tightening since mid-year, which together with a softer fiscal consolidation contributed **+1.0 percentage points**.
- A weaker exchange rate compared to its endogenous factors contributes another +0.7 percentage points.

Main disinflationary shocks

- The baseline forecast assumed a deeper decline in potential output[2] than currently estimated by the Bank of Russia. The contribution of supply shocks is estimated at **0.4 percentage points**.
- External demand from trading partners and other factors related, among other things, to the clarification of GDP statistics from historical perspective and the revision of the cyclical and underlying part of output, subtract another **0.6 percentage points** from inflation.

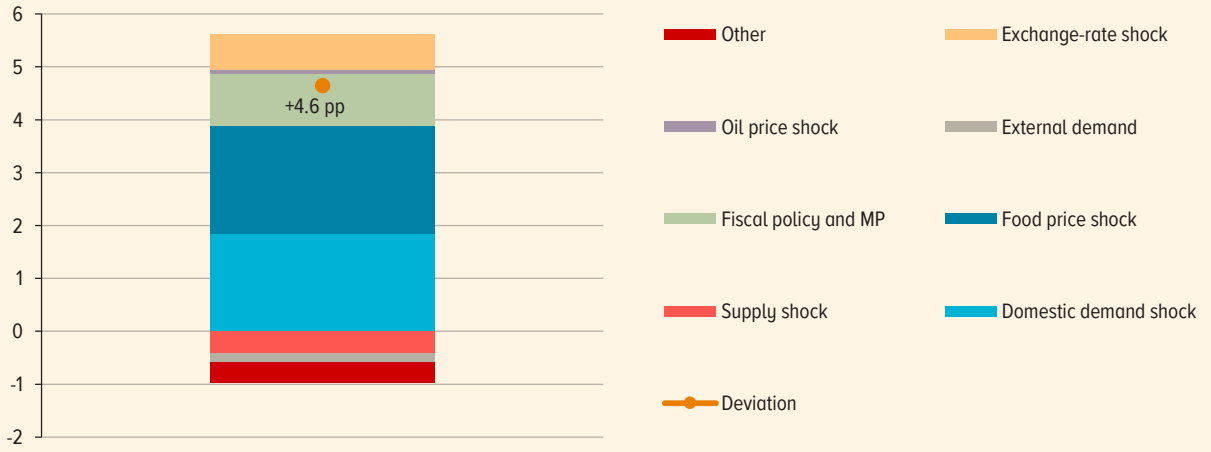
According to the analysis, the 2021 inflation deviation from the forecast presented in MPG 2021–2023 was mostly influenced by shocks associated with the recovery of internal demand and world food price movements. Supply shocks affecting changes in potential output turned out to be very close to the baseline scenario which did not imply any material deterioration of potential output in the economy.

---

[1] *Decomposition into shocks was obtained within the logic of the quarterly projection model described in the box to the Monetary Policy Report in April 2021.*

[2] *Box on the impact of the coronavirus pandemic on potential output. MPG 2021–2023.*

DECOMPOSITION INTO SHOCKS OF THE DEVIATION OF ACTUAL INFLATION FROM THE 2021 INFLATION FORECAST GIVEN IN MPG 2021-2023 *Chart 1*



Source: Bank of Russia calculations.

LIST OF PUBLICATIONS

The Bank of Russia's information and analytical commentaries released after the publication of MPR 1/22 on 21 February 2022:[1]

1. Consumer Price Dynamics. No. 2 (74). February 2022 (21 March 2022).
2. Consumer Price Dynamics. No. 3 (75). March 2022 (13 April 2022).
3. Inflation Expectations and Consumer Sentiment. No. 3 (63). March 2022 (23 March 2022).
4. Inflation Expectations and Consumer Sentiment. No. 4 (64). April 2022 (21 April 2022).
5. Banking Sector Liquidity and Financial Markets. Nos. 2–3 (72–73). February–March 2022 (15 April 2022).

[1] *The date in the brackets is the date of publication on the Bank of Russia website.*

STATISTICAL TABLES

INTEREST RATES ON MONETARY POLICY INSTRUMENTS[1]

(% p.a.)

Table 1

Purpose	Instrument type	Instrument	Term	Frequency	Interest rates as spreads to the key rate (pp)	From 27.07.2020	From 22.03.2021	From 26.04.2021	From 15.06.2021	From 26.07.2021	From 13.09.2021	From 25.10.2021	From 20.12.2021	From 14.02.2022	From 28.02.2022	From 01.03.2022	From 25.03.2022	From 11.04.2022	From 04.05.2022
Liquidity provision	Standing facilities	Overnight loans; lombard loans; loans secured by non-marketable assets; repos; FX swaps[2]	1 day	Daily	+1.00	5.25	5.50	6.00	6.50	7.50	7.75	8.50	9.50	10.50	21.00	21.00	21.00	18.00	15.00
		Lombard loans	From 2 to 90 days[3]		+1.00	-	-	-	-	-	-	-	-	-	-	-	21.00	18.00	15.00
		Loans secured by non-marketable assets	From 2 to 90 days[3]		+1.00[7]	6.00	6.25	6.75	7.25	8.25	8.50	9.25	10.25	11.25	21.75	21.00	21.00	18.00	15.00
			From 91 to 549 days[3]		+1.75	6.00	6.25	6.75	7.25	8.25	8.50	9.25	10.25	11.25	21.75	21.75	21.75	18.75	15.75
	Open market operations (minimum interest rates)	Auctions to provide loans secured by non-marketable assets	3 months[3]	Monthly[4]	+0.25	4.50	4.75	5.25	5.75	6.75	7.00	7.75	8.75	9.75	20.25	20.25	20.25	17.25	14.25
		Repo auctions	1 year[3]																
			1 month		+0.10	4.35	4.60	5.10	5.60	6.60	6.85	7.60	8.60	9.60	20.10	20.10	20.10	17.10	14.10
			1 week	Weekly[5]	0.00	4.25 (key rate)	4.50 (key rate)	5.00 (key rate)	5.50 (key rate)	6.50 (key rate)	6.75 (key rate)	7.50 (key rate)	8.50 (key rate)	9.50 (key rate)	20.00 (key rate)	20.00 (key rate)	20.00 (key rate)	17.00 (key rate)	14.00 (key rate)
			From 1 to 6 days	Occasionally[6]															
		FX swap auctions[2]	From 1 to 2 days																
Liquidity absorption	Open market operations (maximum interest rates)	Deposit auctions	From 1 to 6 days																
			1 week	Weekly[5]															
	Standing facilities	Deposit operations	1 day	Daily	-1.00	3.25	3.50	4.00	4.50	5.50	5.75	6.50	7.50	8.50	19.00	19.00	19.00	16.00	13.00

Memo item: From 1 January 2016, the value of the Bank of Russia refinancing rate equals its key rate as of the respective date.

[1] The rates are set by the Bank of Russia Board of Directors.

[2] The interest rate is given for the ruble leg, the US dollar interest rate equals SOFR, the euro interest rate equals €STR; operations have been suspended due to changes in external economic environment.

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

[4] Loan auctions were discontinued in April 2016, and repo auctions were introduced in May 2020.

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

[6] Fine-tuning operations.

[7] From 1 March 2022, earlier – '+1.75'.

Source: Bank of Russia.

MONETARY POLICY INSTRUMENTS
(billions of rubles)

Table 2

Purpose	Instrument type	Instrument	Term	Frequency	Bank of Russia claims under liquidity provision instruments and liabilities under liquidity absorption instruments						
					As of 01.01.2021	As of 01.04.2021	As of 01.07.2021	As of 01.10.2021	As of 01.01.2022	As of 01.04.2022	As of 01.05.2022
Liquidity provision	Standing facilities	Overnight loans	1 day	Daily	5.4	0.0	0.0	0.0	0.0	0.0	0.0
		Repos			0.1	0.4	0.4	10.6	2.6	91.6	2.7
		FX swaps[1]			118.4	0.0	0.0	0.0	0.0	-	-
		Lombard loans	From 1 to 90 days		0.0	0.0	0.0	0.0	0.0	38.7	61.3
		Loans secured by non-marketable assets	From 1 to 549 days		5.1	246.1	5.4	35.2	790.1	55.5	4.9
	Open market operations	Auctions to provide loans secured by non-marketable assets	3 months	Monthly[2]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Repo auctions	1 year		36.7	52.6	47.9	47.9	15.6	75.1	75.3
			1 month		810.2	50.2	100.4	60.3	100.8	11.1	0.0
			1 week	Weekly[3]	0.0	0.0	0.0	0.0	0.0	2212.2	691.4
			From 1 to 6 days	Occasionally[4]							
Liquidity absorption	Open market operations	Deposit auctions	From 1 to 6 days		843.9	1650.0	1190.7	780.0	1625.9	0.0	0.0
			1 week	Weekly[3]							
		Auctions for the placement of coupon OBRs	Up to 3 months	Weekly[5]	574.9	645.1	626.4	603.4	0.0	0.0	0.0
	Standing facilities	Deposit operations	1 day	Daily	376.7	122.1	123.5	243.1	1177.9	3107.8	2827.4

[1] *From February 2022, operations have been suspended due to changes in external economic environment.*
[2] *Loan auctions have been discontinued since April 2016.*
[3] *Either a repo or a deposit auction is held depending on the situation with liquidity.*
[4] *Fine-tuning auctions.*
[5] *Basically, a new OBR issue is offered once a month and subsequently – on a weekly basis. If the reporting date falls on a weekend or holiday, the indicated amount of outstanding OBRs at face value includes the coupon yield accrued as of the first business day following the reporting date. Starting from 19 October 2021, auctions for placing OBRs were not held.*
Source: Bank of Russia.

REQUIRED RESERVE RATIOS

Table 3

(%)

Type of liabilities	Validity dates						
	01.12.2017–31.07.2018	01.08.2018–31.03.2019	01.04.2019–30.06.2019	From 01.07.2019[1]	From 03.03.2022[2]	From 01.04.2022[3]	From 01.05.2022[4]
Banks with a universal licence							
To households in the currency of the Russian Federation	5.00	5.00	4.75	4.75	2.00	2.00	2.00
Other liabilities in the currency of the Russian Federation							
To non-resident legal entities in the currency of the Russian Federation							
To households in foreign currency	6.00	7.00	7.00	8.00	2.00	2.00	4.00
To non-resident legal entities in foreign currency	7.00	8.00	8.00	8.00	2.00	2.00	
Other liabilities in foreign currency							
Non-bank credit institutions							
To households in the currency of the Russian Federation	5.00	5.00	4.75	4.75	2.00	2.00	2.00
Other liabilities in the currency of the Russian Federation							
To non-resident legal entities in the currency of the Russian Federation							
To households in foreign currency	6.00	7.00	7.00	8.00	2.00	2.00	
To non-resident legal entities in foreign currency	7.00	8.00	8.00	8.00	2.00	2.00	
Other liabilities in foreign currency							
Banks with a basic licence							
To households in the currency of the Russian Federation	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other liabilities in the currency of the Russian Federation							
To non-resident legal entities in the currency of the Russian Federation	5.00	5.00	4.75	4.75	2.00	1.00	
To households in foreign currency	6.00	7.00	7.00	8.00	2.00	2.00	4.00
To non-resident legal entities in foreign currency	7.00	8.00	8.00	8.00	2.00	2.00	
Other liabilities in foreign currency							

[1] *Bank of Russia Ordinance No. 5158-U, dated 31 May 2019. See the press release published on the Bank of Russia website on 31 May 2019.*
[2] *Bank of Russia Ordinance No. 6082-U, dated 3 March 2022. See the press release published on the Bank of Russia website on 2 March 2022.*
[3] *Bank of Russia Ordinance No. 6099-U, dated 23 March 2022. See the press release published on the Bank of Russia website on 21 March 2022.*
[4] *Bank of Russia Ordinance No. 6135-U, dated 29 April 2022. See the press release published on the Bank of Russia website on 29 April 2022.*
Source: Bank of Russia.

REQUIRED RESERVE AVERAGING RATIO

Table 4

Type of credit institutions	Validity dates			
	From 01.07.2019[1]	From 03.03.2022[2]	From 01.04.2022[3]	From 01.05.2022[4]
Banks with a universal licence, with a basic licence	0.8	0.9	0.9	0.9
Non-bank credit institutions	1.0	1.0	1.0	1.0

[1] *Bank of Russia Ordinance No. 5158-U, dated 31 May 2019, 'On Mandatory Reserve Requirements'.*
[2] *Bank of Russia Ordinance No. 6082-U, dated 3 March 2022, 'On Mandatory Reserve Requirements'.*
[3] *Bank of Russia Ordinance No. 6099-U, dated 23 March 2022, 'On Mandatory Reserve Requirements'. From 1 August 2004 through 31 March 2022, credit institutions meeting specific criteria are entitled to calculate the averaged amount of required reserves using an averaging ratio not exceeding the averaging ratios set by the Bank of Russia. From 1 April 2022, unified averaging ratios are mandatory.*
[4] *Bank of Russia Ordinance No. 6135-U, dated 29 April 2022, 'On Mandatory Reserve Requirements'.*
Source: Bank of Russia.

REQUIRED RESERVES AVERAGING SCHEDULE FOR 2020-2021 AND INFORMATION ON CREDIT INSTITUTIONS' COMPLIANCE WITH RESERVE REQUIREMENTS *Table 5*

Averaging period to calculate required reserves for a corresponding reporting period	Averaging period duration (days)	Memo item:		Actual average daily balances in correspondent accounts, billions of rubles	Required reserves to be averaged in correspondent accounts, billions of rubles	Required reserves in related accounts, billions of rubles
		Reporting period	Required reserve regulation period			
11.12.2019 – 14.01.2020	35	November 2019	13.12.2019 – 17.12.2019	2,526	2,428	617
15.01.2020 – 11.02.2020	28	December 2019	22.01.2020 – 24.01.2020	2,479	2,418	618
12.02.2020 – 10.03.2020	28	January 2020	14.02.2020 – 18.02.2020	2,474	2,398	613
11.03.2020 – 07.04.2020	28	February 2020	16.03.2020 – 18.03.2020	2,536	2,431	622
08.04.2020 – 12.05.2020	35	March 2020	14.04.2020 – 16.04.2020	2,685	2,605	665
13.05.2020 – 09.06.2020	28	April 2020	20.05.2020 – 22.05.2020	2,700	2,635	671
10.06.2020 – 07.07.2020	28	May 2020	15.06.2020 – 17.06.2020	2,636	2,570	656
08.07.2020 – 04.08.2020	28	June 2020	14.07.2020 – 16.07.2020	2,590	2,529	647
05.08.2020 – 08.09.2020	35	July 2020	14.08.2020 – 18.08.2020	2,632	2,578	659
09.09.2020 – 06.10.2020	28	August 2020	14.09.2020 – 16.09.2020	2,699	2,634	673
07.10.2020 – 10.11.2020	35	September 2020	14.10.2020 – 16.10.2020	2,753	2,688	686
11.11.2020 – 08.12.2020	28	October 2020	16.11.2020 – 18.11.2020	2,806	2,737	699
09.12.2020 – 12.01.2021	35	November 2020	14.12.2020 – 16.12.2020	2,902	2,791	714
13.01.2021 – 09.02.2021	28	December 2020	22.01.2021 – 26.01.2021	2,879	2,818	721
10.02.2021 – 09.03.2021	28	January 2021	12.02.2021 – 16.02.2021	2,895	2,825	722
10.03.2021 – 06.04.2021	28	February 2021	15.03.2021 – 17.03.2021	2,965	2,906	741
07.04.2021 – 11.05.2021	35	March 2021	14.04.2021 – 16.04.2021	3,011	2,934	749
12.05.2021 – 08.06.2021	28	April 2021	18.05.2021 – 20.05.2021	3,082	3,006	772
09.06.2021 – 06.07.2021	28	May 2021	15.06.2021 – 17.06.2021	3,134	3,032	772
07.07.2021 – 10.08.2021	35	June 2021	14.07.2021 – 16.07.2021	3,169	3,039	774
11.08.2021 – 07.09.2021	28	July 2021	13.08.2021 – 17.08.2021	3,194	3,059	778
08.09.2021 – 12.10.2021	35	August 2021	14.09.2021 – 16.09.2021	3,243	3,104	789
13.10.2021 – 09.11.2021	28	September 2021	14.10.2021 – 18.10.2021	3,265	3,132	794
10.11.2021 – 07.12.2021	28	Октябрь 2021	16.11.2021 – 18.11.2021	3,292	3,149	800
08.12.2021 – 11.01.2022	35	November 2021	14.12.2021 – 16.12.2021	3,353	3,207	815
12.01.2022 – 08.02.2022	28	December 2021	21.01.2022 – 25.01.2022	3,323	3,245	825
09.02.2022 – 08.03.2022	28	January 2022	14.02.2022 – 16.02.2022	3,307	3,305	843
09.03.2022 – 12.04.2022	35	February 2022	15.03.2022 – 17.03.2022	1,465	1,283	150

KEY ECONOMIC AND FINANCIAL INDICATORS

Table 6

		March 2021	April 2021	May 2021	June 2021	July 2021	August 2021	September 2021	October 2021	November 2021	December 2021	January 2022	February 2022	March 2022
Real sector														
Inflation	% YoY	5.8	5.5	6.0	6.5	6.5	6.7	7.4	8.1	8.4	8.4	8.7	9.2	16.7
GDP*	% YoY	-0.3			10.5			4.0			5.0			
GDP in current prices*	trillions of rubles	27.1			30.9			34.2			38.8			
Output by key economic activity types	% YoY	3.4	13.7	14.3	11.3	6.2	4.0	4.1	6.0	7.0	5.6	8.1	5.4	1.9
Industrial production	% YoY													
Agricultural production	% YoY	-0.1	-0.3	-0.4	-0.3	0.0	-10.3	-6.4	4.9	12.0	1.3	0.8	1.1	3.0
Construction	% YoY	6.3	9.5	9.8	12.1	4.9	5.5	1.1	1.7	8.7	8.4	1.6	5.0	5.9
Fixed capital investment*	% YoY	3.3			11.0			7.9			7.6			
Freight turnover	% YoY	4.1	6.3	11.3	13.1	9.3	6.0	5.2	5.7	5.6	2.8	7.7	1.1	3.5
PMI Composite Index	% SA	54.6	54.0	56.2	55.0	51.7	48.2	50.5	49.5	48.4	50.2	50.3	50.8	
Retail turnover	% YoY	-2.5	36.3	28.0	11.5	5.7	5.8	6.2	4.6	3.6	5.6	3.2	5.7	2.2
Real disposable money income*	% YoY	-3.9			6.8			8.8			0.5			-1.2
Real wages	% YoY	1.8	7.8	3.3	4.9	2.2	1.5	2.0	0.6	3.4	3.6	1.9	2.6	
Nominal wages	% YoY	7.7	13.8	9.5	11.7	8.8	8.3	9.6	8.8	12.1	12.3	10.8	12.0	
Unemployment rate	% SA	5.4	5.2	5.0	4.9	4.6	4.6	4.4	4.3	4.2	4.2	4.2	4.0	
Banking sector														
Broad money supply	% YoY, AFCR	11.0	11.7	11.6	9.9	9.1	9.5	10.2	10.7	11.0	11.1	11.6	10.8	11.0
Money supply (M2 aggregate)	% YoY	11.3	11.8	11.5	9.5	8.6	8.2	8.2	8.8	11.0	13.0	13.4	14.6	17.1
Household deposits	% YoY, AFCR	3.5	5.4	4.2	2.7	3.1	3.5	4.6	6.1	5.8	5.5	5.9	1.7	1.4
in rubles	% YoY	4.2	6.0	4.4	2.5	3.0	3.4	4.0	5.5	6.3	6.8	7.8	5.2	7.6
in foreign currency	% YoY	1.4	3.4	3.0	3.5	3.3	3.9	7.0	8.8	4.2	0.8	-1.0	-10.7	-20.5
dollarisation	%	21.3	20.6	20.8	20.7	20.8	20.9	20.8	20.4	20.9	19.9	20.6	20.4	18.2
Loans to financial and non-financial organisations	% YoY, AFCR	9.0	10.3	11.5	11.4	11.1	10.5	11.0	11.7	12.1	12.3	12.5	14.1	12.8
short-term (up to 1 year)	% YoY, AFCR	9.9	10.3	11.9	10.7	11.8	11.2	10.5	12.2	11.5	12.6	13.2	14.8	7.3
long-term (more than 1 year)	% YoY, AFCR	8.6	10.4	11.5	12.0	12.9	12.4	13.4	13.6	13.9	14.2	14.3	15.8	15.4
Household loans	% YoY, AFCR	14.4	17.6	19.9	21.6	21.7	21.8	21.8	21.5	21.8	22.7	23.0	23.4	20.9
housing mortgage loans	% YoY, AFCR	23.2	25.7	27.2	29.0	28.7	27.8	26.7	25.3	25.1	26.7	27.0	27.4	27.2
unsecured consumer loans	% YoY	8.9	12.5	15.2	17.0	17.8	18.5	19.2	19.0	19.7	20.1	20.2	20.5	16.0

Legend:
** – quarterly data;*
YoY – on corresponding period of previous year;
SA – seasonally adjusted;
AFCR – adjusted for foreign currency revaluation.
Sources: Rosstat, IHS Markit, Bank of Russia calculations.

KEY ECONOMIC AND FINANCIAL INDICATORS: BALANCE OF PAYMENTS

Table 7

		2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1[1]
Balance of payments[2]										
Urals crude price	% YoY	-24.3	-52.0	-29.0	-28.8	22.3	106.7	63.8	73.0	49.1
USD/RUB exchange rate ('+' – ruble's strengthening, '-' – ruble's weakening)	% YoY	0.0	-10.7	-12.2	-16.4	-11.1	-2.5	0.1	5.0	-12.3
Goods and services exports	% YoY	-11.2	-31.1	-25.0	-16.1	1.5	58.4	62.7	58.8	49.6
Goods and services imports	% YoY	0.4	-23.5	-20.2	-9.7	4.6	41.0	32.4	23.4	14.4
Current account	**billions of US dollars**	**24.1**	**1.5**	**4.0**	**6.6**	**22.5**	**17.5**	**35.5**	**46.6**	**58.2**
Goods and services	billions of US dollars	27.7	14.8	15.3	19.5	25.8	34.9	47.4	62.2	66.3
Exports	billions of US dollars	103.2	80.8	89.8	107.7	104.8	128.0	146.1	170.9	156.7
Imports	billions of US dollars	75.5	66.0	74.5	88.1	79.0	93.1	98.7	108.7	90.4
Balance of primary and secondary income	billions of US dollars	-3.7	-13.3	-11.3	-13.0	-3.3	-17.5	-11.9	-15.7	-8.1
Income receivable	billions of US dollars	13.7	13.5	14.8	16.2	16.6	19.6	27.4	31.8	22.5
Income payable	billions of US dollars	17.4	26.8	26.1	29.2	19.8	37.1	39.3	47.4	30.6
Capital account	**billions of US dollars**	**0.0**	**-0.2**	**-0.1**	**-0.2**	**0.2**	**-0.2**	**-0.1**	**-0.2**	**0.0**
Current and capital account balance	**billions of US dollars**	**24.0**	**1.3**	**3.9**	**6.3**	**22.7**	**17.3**	**35.4**	**46.4**	**58.2**
Financial account, excluding reserve assets	**billions of US dollars**	**24.4**	**1.7**	**6.3**	**6.9**	**22.7**	**18.3**	**33.4**	**48.4**	**58.0**
Net incurrence of liabilities	billions of US dollars	-13.8	-3.0	-13.4	-9.7	-0.3	2.8	32.3	0.6	3.9
Net acquisition of financial assets	billions of US dollars	10.6	-1.3	-7.1	-2.8	22.4	21.1	65.7	49.0	61.9
Net errors and omissions	**billions of US dollars**	**0.3**	**0.4**	**2.5**	**0.6**	**0.0**	**1.0**	**-2.0**	**2.1**	**-0.3**
Memo item: balance of financial transactions of the private sector	**billions of US dollars**	**19.1**	**12.5**	**8.5**	**10.2**	**17.5**	**6.1**	**27.9**	**21.0**	**64.2**

[1] *Estimate.*
[2] *Signs according to BPM6.*

GLOSSARY

BANKING SECTOR LIQUIDITY

Credit institutions' funds held in correspondent accounts with the Bank of Russia in the currency of the Russian Federation primarily to make payments via the Bank of Russia payment system and to comply with reserve requirements.

BANK OF RUSSIA KEY RATE

The principal instrument of the Bank of Russia's monetary policy. The key rate is set by the Bank of Russia Board of Directors eight times a year. Changes in the key rate influence credit and economic activity and, ultimately, help achieve the key goal of monetary policy. The key rate corresponds to the minimum interest rate at the Bank of Russia's one-week repo auctions and to the maximum interest rate at the Bank of Russia's one-week deposit auctions.

CONSUMER PRICE INDEX (CPI)

The ratio of the value of a fixed set of goods and services in current-period prices to its value in previous (reference) period prices. This index is calculated by the Federal State Statistics Service. The CPI reflects changes over time in the overall level of prices for goods and services purchased by households for consumption. The CPI is calculated based on data on the actual structure of consumer spending and is, therefore, the principal indicator of the cost of living. In addition, the CPI has a range of characteristics making it convenient for common use, namely a simple and clear method of construction, monthly calculation, and timely publication.

CORE INFLATION

An indicator of inflation characterising its most stable part. Core inflation is measured based on the Core Consumer Price Index (CCPI). The difference between the CCPI and the Consumer Price Index (CPI) is that the CCPI is calculated excluding changes in prices for certain products and services that are subject to the influence of administrative and seasonal factors (individual categories of fruit and vegetables, passenger transportation services, communication services, housing and utility services, motor fuel, etc.).

CREDIT DEFAULT SWAP (CDS)

A financial instrument enabling a buyer to insure against a certain credit event (e.g., default) related to a third party's financial obligations in exchange for regular payments of premiums (CDS spread) to the CDS seller. The higher the premium paid, the more risky are the obligations that are the subject of the credit default swap.

DOLLARISATION OF BANK DEPOSITS (LOANS)

The portion of foreign currency-denominated deposits (loans) in the banking sector's overall portfolio of deposits (loans).

FINANCIAL STABILITY

A state of the financial system involving no systemic risks which, in the case of their materialisation, might adversely affect the transformation of savings into investment and the real economy. Financial stability improves the resilience of the economy to 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 shaped by market factors. However, the central bank reserves the right to purchase foreign currency in order to replenish the country's international reserves or to sell foreign currency in the case of any threats to financial stability.

INFLATION

A sustained increase in the overall price level for goods and services in the economy. Inflation is generally associated with changes over time in the price of the consumer basket, that is, a set of food products, non-food goods, and services consumed by an average household (see also the article Consumer Price Index).

INFLATION EXPECTATIONS

Economic agents' expectations about future price growth. Inflation expectations are formed by businesses, households, financial markets, and analysts. Driven by expectations, economic agents make their economic decisions and future plans, which include consumption, savings, borrowings, investment, and loan/deposit rates. Inflation expectations impact inflation and are, therefore, a critical indicator for making monetary policy decisions.

INFLATION TARGETING

A monetary policy strategy governed by the following principles: the main goal 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 made 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 enhanced information transparency.

LIQUIDITY ABSORBING OPERATIONS

Reverse operations carried out by the Bank of Russia to absorb liquidity from credit institutions. These are operations either to raise deposits or place Bank of Russia bonds.

MONETARY BASE

The total amount of the components of cash and credit institutions' funds in accounts and Bank of Russia bonds denominated in the currency of the Russian Federation. In the narrow sense of the term, the monetary base comprises cash in circulation (outside the Bank of Russia) and credit institutions' funds in required reserve accounts for ruble-denominated funds raised by credit institutions. The broad monetary base includes cash in circulation (outside the Bank of Russia) and credit institutions' total funds in accounts and Bank of Russia bonds.

MONEY SUPPLY

The total amount of Russian residents' funds (excluding general government's and credit institutions' funds). For the purposes of economic analysis, various monetary aggregates are calculated (M0, M1, M2, and M2X).

MONEY SUPPLY IN THE NATIONAL DEFINITION (M2 MONETARY AGGREGATE)

The total amount of cash in circulation outside the banking system and the balances of Russian residents (non-financial and financial (other than credit) institutions and individuals) in settlement, current and other demand accounts (including in bank card accounts), time deposits, and other raised term funds in the banking system denominated in Russian rubles, as well as interest accrued on them.

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, advanced/ emerging market economies), and the World Index.

NEUTRAL RATE OF INTEREST

The level of the key rate when monetary policy neither slows down, nor speed up inflation.

REFINANCING OPERATIONS

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

REQUIRED RESERVE RATIOS

Ratios that may range from 0% to 20% and that are applied to credit institutions' reservable liabilities to calculate the regulatory value of required reserves. These ratios are established by the Bank of Russia Board of Directors.

RUONIA BENCHMARK INTEREST RATE (RUBLE OVERNIGHT INDEX AVERAGE)

Ruble OverNight Index Average (RUONIA) is the weighted interest rate on overnight interbank ruble loans (deposits) reflecting the cost of unsecured overnight borrowing.

RUSSIA'S BALANCE OF PAYMENTS

A statistical system reflecting all economic operations between residents and non-residents of the Russian Federation over the course of the reporting period.

STRUCTURAL LIQUIDITY DEFICIT/SURPLUS OF THE BANKING SECTOR

A structural deficit in the banking sector is a situation characterised by sustainable demand of credit institutions for Bank of Russia liquidity. A structural surplus is when credit institutions have a steady excess of liquidity and the Bank of Russia needs to carry out liquidity absorbing operations. The estimated level of a structural liquidity deficit / surplus is the difference between the outstanding amount on refinancing operations and the amount of liquidity absorbing operations of the Bank of Russia.

TRANSMISSION MECHANISM

The mechanism through which monetary policy decisions impact the economy in general and price movements in particular; the process of a gradual transmission of the central bank's signal regarding the maintenance of or a change in the key rate and its future path from financial market segments to the real sector of the economy and, ultimately, to the inflation rate. A change in the key rate is translated into the economy through multiple channels (interest rates, credit, foreign exchange, balance sheet, inflation expectations, etc.).

ABBREVIATIONS

AEB – Association of European Businesses

AFCR – adjusted for foreign currency revaluation

AHML – Agency for Housing Mortgage Lending

BLC – bank lending conditions

BPM6 – the 6th edition of the IMF's Balance of Payments and International Investment Position Manual

bp – basis point (0.01 percentage points)

BRICS – a group of five countries: Brazil, Russia, India, China, and South Africa

CCPI – Core Consumer Price Index

CPI – Consumer Price Index

ECB – European Central Bank

ECC – equity construction contract

EMEs – emerging market economies

EU – European Union

FAO – Food and Agriculture Organization of the United Nations

Fed – US Federal Reserve System

GDP – gross domestic product

GFCF – gross fixed capital formation

IBL – interbank lending

IEA – International Energy Agency

InFOM – Institute of the Public Opinion Foundation

mbd – million barrels per day

MIACR – Moscow Interbank Actual Credit Rate (the actual interest rate on interbank loans extended)

MIACR-B – Moscow Interbank Actual Credit Rate-B-Grade (the actual interest rate on interbank loans provided to banks with a speculative credit rating)

MIACR-IG – Moscow Interbank Actual Credit Rate-Investment Grade (the actual interest rate on interbank loans provided to banks with an investment-grade credit rating)

MPR – Monetary Policy Report (1/22 – No. 1, 2022)

NWF – National Wealth Fund

OBR – Bank of Russia bond

OECD – Organisation for Economic Cooperation and Development

OFZ – federal government bond

OPEC – Organization of the Petroleum Exporting Countries

PMI – Purchasing Managers' Index

pp – percentage point

PTI – payment-to-income ratio (the ratio of debt payments, including principal to be repaid and interest charged, to the amount of current income)

QPM – quarterly projection model of the Bank of Russia

REB – Russian Economic Barometer, monthly bulletin

RUONIA (Ruble OverNight Index Average) – the weighted interest rate on overnight interbank ruble loans (deposits) reflecting the cost of unsecured overnight borrowing

SA – seasonally adjusted

SAAR – seasonally adjusted annual rate

SICI – systemically important credit institution

SME – small and medium-sized enterprise

SNA – system of national accounts

TCC – total cost of credit

VCIOM – Russian Public Opinion Research Centre

VEB – Vnesheconombank