



Bank of Russia



JULY 2023

# MONETARY POLICY REPORT

31 July 2023

Cut-off date for forecast calculations – 20 July 2023.

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.

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# CONTENTS

STATEMENT BY BANK OF RUSSIA GOVERNOR ELVIRA NABIULLINA.....	1
BANK OF RUSSIA'S MEDIUM-TERM FORECAST .....	4
Key assumptions .....	5
Main factors for adjusting the forecast.....	6
EXTERNAL ENVIRONMENT .....	8
Inflation in most countries is still above the target .....	9
Global economic growth slows down .....	10
Monetary policy tightening worldwide has not been completed yet .....	11
Global financial conditions have softened.....	12
The risk of a sharp global economic slowdown has abated .....	13
Prices in commodity markets continued to decline .....	14
Russian exports additionally decreased, imports continued to grow.....	15
The ruble exchange rate declined in May–July .....	16
Current account surplus forecast for 2023–2024 has been reduced .....	18
RUSSIA'S ECONOMY .....	20
The OFZ curve has shifted upwards .....	21
The inflow of funds into ruble accounts remained high .....	22
Monetary conditions continued to ease.....	22
Forecast growth of claims on the economy has been raised .....	23
Box 1. Long-term interest rates and the key rate.....	25
Growth in economic activity remains high .....	27
Investment activity continues to expand.....	29
Unemployment hit a fresh historical low .....	29
Budget expenditure execution was close to normal in the second quarter .....	31
GDP forecast for 2023 has been raised again.....	32
Box 2. Budget sector's contribution to aggregate demand and monetary aggregates .....	34
Price growth has picked up markedly .....	37
Inflation expectations increased .....	38
Inflation will return to 4% in 2024 .....	38
Box 3. Analysts' consensus forecasts .....	40

MAIN RISKS FOR THE BASELINE FORECAST.....	42
SYSTEM OF MONETARY POLICY INSTRUMENTS AND OTHER MONETARY POLICY MEASURES.....	43
ANNEX .....	48
Quarterly Projection Model with a Labour Market Component.....	48
Main Equations of the Quarterly Projection Model with the Labour Market Component .....	57
LIST OF PUBLICATIONS .....	61
CALENDAR OF KEY RATE DECISIONS FOR 2023.....	62
STATISTICAL TABLES.....	63
GLOSSARY .....	69
ABBREVIATIONS.....	72

# STATEMENT BY BANK OF RUSSIA GOVERNOR ELVIRA NABIULLINA

## IN FOLLOW-UP TO BOARD OF DIRECTORS MEETING ON 21 JULY 2023



Good afternoon,

Today, we [have made the decision](#) to raise the key rate to 8.5% per annum.

The economic situation has significantly changed in recent months. First, the recovery stage of economic growth is close to completion, consumer demand is now expanding faster, and staff shortages have become more acute. Second, current inflation, including the increase in prices for stable components, has sped up. Third, the ruble has weakened. Finally, inflation expectations have risen. In such a situation, we have to start tightening our monetary policy in order to bring inflation back to 4% next year.

*I would now dwell on the reasons behind our today's decision.*

### **Firstly, price pressure has been intensifying.**

Seasonally adjusted monthly price growth continues to speed up, and the increase in the majority of stable components of inflation exceeds 4% in annualised terms.

Higher inflationary pressure is associated with demand in the first place. During the period of the recovery growth in the economy, demand was predominantly driven by the public sector. Today, the demand from the government remains high as well. In contrast, consumer demand was subdued until the end of last year. In early 2023, consumer demand started to expand, partly as a result of rising wages and consumer confidence. In the second quarter, this growth accelerated even more due to a surge in lending. When demand starts to notably exceed the potential to ramp up supply, this inevitably pushes up prices, as companies are unable to commission new manufacturing facilities and hire workers for them instantaneously.

There are vivid examples illustrating such a situation. One of them is a surge in the demand for domestic tourism. In this case, the Russian hospitality industry needs a certain period to adjust to this rapid growth, namely to construct new hotels and create comfortable places for holidays. In addition, carriers' costs have risen considerably. However, this is the high demand for these services that has enabled companies to pass through these higher costs to prices. I can give another example where rising demand cannot be met in full as the potential to quickly expand supply is limited. This is the automobile market that is analysed in detail in our report *Regional Economy*.

The expansion of demand is also a factor contributing to a fast recovery of imports. Combined with the contraction in exports, this rebound has become one of the reasons behind the ruble weakening. The recent movements of the exchange rate have not yet passed through to prices in full. In addition to the direct pass-through of the ruble exchange rate to prices, we are concerned about secondary effects that might occur. The dynamics of the exchange rate affect households' and businesses' inflation expectations that remain elevated and unanchored. Moreover, they have risen in July. We will be closely monitoring further changes in inflation expectations and consider these trends when making our decisions.

*Taking into account all these factors, we have raised the lower bound of our inflation forecast for this year by a half of a percentage point, namely to 5.0–6.5%. The monetary policy pursued will reduce the deviation of inflation from the target and will be aimed at returning it to 4% by the end of the next year.*

**Secondly, as regards the economy.**

*The recovery of economic growth is close to completion. It was characterised by high quarterly growth rates of GDP. Such a fast increase is associated with the fact that, during the recovery, companies start to use available resources, workforce and manufacturing capacities that were idle during the downturn. According to our monitoring of enterprises, unemployment has now dropped to a record low, while the utilisation rates of manufacturing capacities have reached peak levels. This also suggests that the recovery will soon complete. After this, the growth rate of the economy normally becomes more balanced and moderate.*

*The economy has returned to its pre-crisis level overall, except for the oil and gas sector that is subject to tight external sanctions. However, due to the structural changes in the economy, trends significantly vary in certain industries and regions. Most of those that are primarily focused on domestic demand have not only returned to the pre-crisis level, but are even beginning to surpass it. The other part of the economy focusing on exports still has very limited opportunities to completely restore output.*

*Another important factor impeding a faster increase in output that is affecting all industries, to a greater or lesser extent, is staff shortages. In particular, our monitoring shows that about three-fourths of machine building companies are facing staff shortages. Unemployment has dropped to a new record low. At some enterprises, employees work more than one shift as companies have increased the utilisation of both workforce and manufacturing capacities. The headcount deficit is most acute in the regions recording high economic growth rates. This problem is exacerbated because of workers' low interregional and intersectoral mobility.*

*Considering the quick rebound in demand, we have raised our GDP growth forecast for this year to 1.5–2.5%.*

**Thirdly, with respect to monetary conditions.**

*Although nominal interest rates, including yields on federal government bonds, have risen since our previous meeting, monetary conditions have been easing overall, predominantly owing to non-price conditions.*

*This is confirmed by the continuing steady upward trend in lending across all market segments. The expansion in retail lending is particularly fast. Specifically, mortgage lending growth has accelerated to its peak levels recorded in recent years. The faster growth of household loans is driven by rising wages and elevated inflation expectations. Higher inflation expectations are an important factor contributing to an easing of monetary conditions.*

*Considering these trends, in our revised forecast that takes into account a monetary policy tightening, we have raised our estimate of credit to the economy for this year to 13–17%, which is higher than the average over the past five years.*

**Now, I would like to speak of external conditions.**

*The growth rate of the world economy is declining. This is influencing prices for Russian exports, including gas, coal, and fertilisers, that are dropping in the global market. Thus, the sanctions and the economic cycle are both affecting Russian exports. Combined with the expansion of imports, these factors explain the dynamics of the exchange rate we have been observing this year.*

*Recently, the issue of the ruble exchange rate has been drawing a lot of attention, and I would like to expand on this. We believe that the main factor behind the exchange rate dynamics in June—July is the consequences of the shrinkage in exports over the past several months combined with*



increased imports. Normally, an exchange rate weakening causes a contraction in the demand for imports, but this has not yet happened. There are two reasons for this. The first one is time lags under contracts. The goods that are now imported to Russia were purchased at the exchange rate as of the dates of the supply contracts signed some time before. The second reason, which is the key one, is that an increase in domestic demand causes a rise in the demand for imports. Considering these factors, the earlier weakening of the ruble is yet another confirmation that domestic demand has surged.

In addition to export and import transactions, the exchange rate was also affected by the flows on the financial account. Specifically, last year, households' money transfers to foreign accounts increased. Many were wondering how this was affecting the dynamics of the exchange rate. In this regard, I can provide the following comparison. In 2022, the exchange rate was strengthening for the most part of the year, although individuals were transferring significant amounts of funds to their foreign accounts. Compared to the second half of last year, such transfers have decreased nearly twice in the first half of this year and, in 2023, their amounts remain almost the same month-on-month. Other components of the financial account have predominantly declined as well versus the second half of last year, including the operations related to decisions by the Government Commission on Monitoring Foreign Investment that were minimum in May–June. Hence, the factor of capital flows generally has not been the main one for the movements of the exchange rate. The key is the dynamics of exports and imports.

***I will now speak of possible risks.***

Proinflationary risks have risen notably over the forecast horizon. They include a potential expansion of the gap between demand growth and opportunities to increase supply, partly due to consumer lending growth, that might remain fast, and a further aggravation of the problem of staff shortages. Besides, a more rapid pass-through of the ruble weakening to prices and a possibly long period of elevated inflation expectations are also proinflationary risks. A further worsening of external conditions, including a potential tightening of the sanctions, is yet another material risk.

Disinflationary risks are minor.

***Winding up, I would like to comment on monetary policy prospects.***

Considering the changes in our assessment of the economic situation, we will need a higher path of the key rate to bring inflation back to its target of close to 4% by the end of the next year. Our revised forecast factors in the adjustment in our estimate of the neutral rate upwards by 0.5 percentage points, namely to 1.5–2.5% in real terms and 5.5–6.5% in nominal terms. The estimate of the neutral rate has been raised due to a higher risk premium for the Russian market and the increase in the external neutral rate.

In our updated forecast, we have raised the average key rate to 7.9–8.3% per annum for the current year and more significantly, specifically to 8.5–9.5% per annum, for the next year. At our subsequent meetings, we admit the possibility of a further increase in the key rate. The percentage of a possible key rate increase will depend on how significantly incoming data will affect our estimate of the developments and the balance of risks to the achievement of the inflation target of close to 4% in 2024.

Thank you for attention.

**Bank of Russia Governor**



**Elvira Nabiullina**

# BANK OF RUSSIA'S MEDIUM-TERM FORECAST

FOLLOWING THE BANK OF RUSSIA BOARD OF DIRECTORS' KEY RATE MEETING ON 21 JULY 2023

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

Table 1

	2022 (actual)	2023	2024	2025	2026
Inflation, as % in December YoY	11.9	5.0–6.5	4.0	4.0	4.0
Inflation, average for the year, as % YoY	13.8	5.1–5.7	4.5–5.4	4.0	4.0
Key rate, average for the year, % per annum	10.6	7.9–8.3 <sup>1</sup>	8.5–9.5	6.5–8.5	5.5–6.5
Gross domestic product	-2.1	1.5–2.5	0.5–2.5	1.0–2.0	1.5–2.5
– % change, Q4 YoY	-2.7	1.0–2.0	0.5–2.5	1.0–2.0	1.5–2.5
Final consumption expenditure	-0.3	7.0–9.0	0.0–2.0	0.5–1.5	1.5–2.5
– households	-1.4	6.0–8.0	0.0–2.0	0.5–1.5	1.5–2.5
Gross capital formation	-4.9	3.5–6.5	(-2.5) – (+0.5)	0.0–2.0	1.0–3.0
– gross fixed capital formation	3.3	2.0–5.0	0.0–3.0	0.0–2.0	1.0–3.0
Exports	-14.2	(-7.0)–(-4.0)	0.5–3.5	1.0–3.0	1.0–3.0
Imports	-15.0	13.5–16.5	(-3.5)–(-0.5)	(-0.5)–(+1.5)	1.0–3.0
Money supply in national definition	24.4	17–21	9–14	6–11	6–11
Claims on organisations and households in rubles and foreign currency <sup>2</sup>	12.0	13–17	9–14	8–13	8–13
– on organisations	13.2	12–16	9–14	8–13	8–13
– on households, including mortgage loans	9.4	15–19	8–13	8–13	8–13
	17.6	17–21	10–15	10–15	10–15

<sup>1</sup> Given that from 1 January to 23 July 2023 the average key rate is 7.5%, from 24 July to the end of 2023 the average key rate forecast range is 8.5–9.3%. Additional information on how to interpret the proposed format of the key rate forecast communication is presented in the [methodological note](#).

<sup>2</sup> 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 USD/RUB exchange rate. Mortgage loans net of claims acquired by banks.

Source: Bank of Russia.

RUSSIA'S BALANCE OF PAYMENTS INDICATORS IN THE BASELINE SCENARIO<sup>1</sup>  
(billions of US dollars, if not indicated otherwise)

Table 2

	2022 (actual)	2023	2024	2025	2026
<b>Current account</b>	<b>236</b>	<b>26</b>	<b>30</b>	<b>32</b>	<b>31</b>
Goods	314	97	105	110	111
Exports	591	414	424	439	453
Imports	277	317	318	329	342
Services	-23	-30	-30	-30	-31
Exports	49	45	47	48	50
Imports	71	75	77	78	80
Primary and secondary income balance	-55	-42	-45	-48	-50
Current and capital accounts balance	231	26	30	32	31
<b>Financial account balance, excluding reserve assets</b>	<b>238</b>	<b>29</b>	<b>28</b>	<b>33</b>	<b>36</b>
Net incurrence of liabilities	-131	9	23	20	20
Net acquisition of financial assets, excluding reserve assets	106	39	51	53	56
Net errors and omissions	-1	-2	0	0	0
<b>Change in reserve assets</b>	<b>-7</b>	<b>-6</b>	<b>2</b>	<b>-1</b>	<b>-5</b>
<b>Urals oil price, average for the year, US dollars per barrel</b>	<b>76</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>55</b>

<sup>1</sup> Using the methodology of the 6<sup>th</sup> 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.



## KEY ASSUMPTIONS

The Bank of Russia's forecast rests on a number of assumptions the change of which may materially influence the path of Russia's economy.

- **World economy.** Growth in global economic activity slows down under the impact of implemented monetary tightening and the end of the period of post-pandemic recovery growth. Despite lower inflationary pressures worldwide, the headline CPI so far remains well above target levels in most countries. Core inflation and elevated inflation expectations in many countries turn out to be more resilient to rate hikes and decline more slowly than forecast. Concurrently, financial stability risks from the banking sector of advanced economies have abated. Taken together, this means that the path of monetary tightening in advanced economies will be higher and the normalisation of the policy will be longer than previously assumed.
- **Geopolitical conditions.** The baseline scenario does not assume any significant changes in the geopolitical environment until the end of the forecast horizon. The enacted external restrictions on Russian exports, imports, and investment and technology cooperation will stay in effect over the medium-term horizon.
- **Export prices.** Russian exported goods are still sold in the global market at discounts. For the majority of them, the discount size is expected to remain close to the current level until the end of the forecast horizon. It is assumed that Urals crude prices will stabilise at \$55 per barrel in the medium term, while the average export price of Russian oil will be higher than Urals prices due to other destinations of oil exports, which is taken into account by the Bank of Russia when forecasting the balance of payments.
- **Potential output.** Since 2022, the Russian economy has been operating in a changed external environment. Building new supply chains, setting up new partnerships, looking for alternative sales markets are reasons behind a lower GDP path compared with a previously observed trend. Further on, the rate of potential growth may increase as new production linkages are optimised, the technological level of the economy grows, the skills of labour force and labour productivity are improved, the efficiency of capital use increases, and new means of production are created.
- **Fiscal policy.** The fiscal assumptions in the baseline scenario are based on the Guidelines for Fiscal, Tax, and Customs and Tariff Policy for 2023–2025 (hereinafter, the Fiscal Policy Guidelines for 2023–2025), taking into account the announced adjustments to the forecast of non-oil and gas revenues and planned expenditures as part of the fiscal rule mechanism and information on the breakdown of budget expenditures.
- **Neutral rate of interest.** At the present moment, the longer-run level of the real neutral rate for the Russian economy is shaped by three main factors. First, the lower than in 2017–2019 potential growth rate of the Russian economy is pushing down neutral rate estimates. Second, changes in external conditions and the sanctions regime, limited participation of the Russian economy in global capital markets, increased uncertainty about the prospects of business projects compared with the period before 2022 determine a higher risk premium and produce an upward pressure on the neutral rate. Third, the persistence of foreign inflation in view of a higher path of foreign monetary policy rates suggests a higher foreign neutral rate compared with the pre-pandemic period, which slightly pushes up the neutral rate for Russia as well. Considering the above factors, the updated longer-run neutral rate estimate is 1.5–2.5% for the Russian economy, which corresponds to the nominal neutral rate of 5.5–6.5%, given the inflation target of around 4%.

## MAIN FACTORS FOR ADJUSTING THE FORECAST

[The Bank of Russia published its previous baseline forecast](#) after the meeting of its Board of Directors held on 28 April 2023 and in [MPR 2/23](#). Since then, the regulator has adjusted the forecast as follows.

***The growth rate of global GDP has been raised to 3.0% and 2.9% (+0.1 pp for each year) for 2023–2024 and reduced to 2.7% (-0.3 pp) for 2025.***

- The dynamics of the US and euro-area economies are in line with expectations, economic activity and consumer demand are still resilient to the actual monetary tightening.
- Price pressures in advanced economies are still elevated, especially on core inflation and services.
- The return of inflation to the target levels will necessitate an additional tightening of monetary policy and a slower subsequent normalisation path.

***The surplus of the current account has been revised downwards over the entire forecast horizon: to \$26 billion for 2023, to \$30 billion for 2024, and to \$32 billion for 2025.***

- Exports will be lower over the entire forecast horizon due to lower export prices for gas and other goods.
- Goods and services imports have been raised for 2023 considering a higher estimate for the first six months. A slight decrease in the quantities of goods imports in 2024 reflects a weaker ruble. In 2025, goods and services imports will be close to the levels of the previous forecast.

***The growth rate of Russia's GDP in 2023 has been raised to 1.5–2.5%. Its further changes will be determined by the gradual return to a balanced growth path by the end of the forecast horizon.***

- In the first quarter, economic activity exceeded expectations (-1.8% vs -2.3%) in annualised terms.
- Most industries have reached the pre-crisis level. The recovery phase has been completed in general.
- Consumer demand has grown markedly faster than expected. It is still expanding. In April–May, an increase in sales turnover was observed for all major categories.
- Investment remains high, with the capacity utilisation rate being close to all-time highs.

***The growth rate of lending to the economy has been significantly raised for 2023 to 13–17% (+3 pp), remaining close to the previous forecast in the medium term.***

- Actual data on lending dynamics proved better than expected.
- Given economic and price trends observed in the first six months, nominal GDP will be higher than in the previous forecast.

***The inflation forecast for 2023 has been increased to 5.0–6.5%. Inflation will stabilise close to the 4% target in 2024.***

- Current price growth rates have accelerated to exceed the target level of 4%. In June, seasonally adjusted price growth was 0.52%, which corresponds to 6.4% in annualised terms.
- Adaptation to the new conditions and to the new structure of demand has completed. Demand is growing steadily.
- The economy has virtually returned to its pre-crisis level. The further expansion of demand will be accompanied by supply-side restrictions, including amid the tightness of the labour market.
- The ruble has weakened. The pass-through of this effect to final prices is moderate now but will become more apparent in the future.

***The average key path has been raised over the entire forecast horizon: to the range of 7.9–8.3% for 2023; 8.5–9.5% for 2024; and 6.5–8.5% for 2025.***

- The forecast range for 2023 allows the key rate both to be flat and to increase.
- The step of a possible rate hike will be determined by the extent to which incoming data will influence the assessment of the development of the situation and the balance of risks to achieve the inflation target of close to 4% in 2024.
- The assessment of the longer-run neutral rate, taking into account the influence of structural factors that have changed compared to 2019–2020, has been increased to 1.5–2.5% in real terms, which corresponds to the nominal neutral rate of 5.5–6.5%, with the inflation target of close to 4%.

## EXTERNAL ENVIRONMENT

Global inflation continues to decline, but so far remains markedly above the target level in most economies. Headline inflation is falling faster because of energy prices and the elimination of logistics bottlenecks. Concurrently, core inflation and inflation expectations are declining more slowly than forecast. In advanced economies, inflation and inflation expectations have so far responded to monetary policy to a lesser degree than in EMEs. At the same time, financial stability risks from the banking sector of major economies have decreased significantly. Therefore, central banks in EMEs have largely discontinued monetary tightening, whereas central banks in advanced economies will be forced to pursue tighter monetary policy for a longer period than previously assumed.

Currently, global economic activity turned out to be quite resilient to the tightening of monetary policy rates by the largest countries, which helped the results of the first six months of 2023 slightly exceed expectations. However, the period of the post-pandemic recovery growth, the last impulse of which was the final lifting of all restrictions in China, is ending, with the growth of global economic activity gradually slowing down. The effects of tighter monetary policy pursued by developed economies will become more evident by the end of the forecast horizon and will curb economic growth.

Prices in most commodity markets, including prices for oil, gas and other commodities, continued to decrease. Coupled with a contraction in the physical volume of deliveries, this reduced the value of exports in 2023 Q2. At the same time, imports continued to recover surpassing the levels of both 2022 Q2 and 2021 Q2. As a result, in 2023 Q2, the current account surplus dropped noticeably to be less than assumed in MPR 2/23. This was translated into the ruble depreciation after the publication of MPR 2/23.

The current account surplus forecast was lowered over the entire forecast horizon, with the most marked change occurring in 2023. The main contributor was the downward revision of exports caused by lower export prices for gas and other commodities. Further on, exports may expand amid redirected supplies matched by a comparable increase in imports. As a result, the current account surplus will stabilise at approximately \$30 billion in 2024–2026.

MAIN PARAMETERS OF EXTERNAL CONDITIONS OF THE BANK OF RUSSIA'S BASELINE FORECAST

Table 1

	2019	2020	2021	2022	2023 (forecast)	2024 (forecast)	2025 (forecast)	2026 (forecast)
<b>World GDP, % YoY</b>	<b>2.8</b>	<b>-3.1</b>	<b>6.1</b>	<b>3.4</b>	<b>3.0</b>	<b>2.9</b>	<b>2.7</b>	<b>2.7</b>
GDP, US, % YoY	2.3	-2.8	5.9	2.1	1.5	1.2	1.5	1.7
GDP, euro area, % YoY	1.6	-6.3	5.3	3.5	0.5	1.1	1.0	1.1
GDP, China, % YoY	6.0	1.8	8.6	3.1	5.3	5.1	4.7	4.6
Inflation, US, * % YoY	1.5	1.1	5.0	4.6	4.2	3.2	2.7	2.4
Inflation, euro area, ** % YoY	1.2	0.1	2.6	5.2	4.8	3.7	3.0	2.5
US Fed rate, *** %, as of the year-end	1.82	0.25	0.25	3.84	5.50	5.25	4.75	4.00
ECB rate, **** %, as of the year-end	-0.5	-0.5	-0.5	1.4	4.1	4.6	4.2	3.6

\* Core PCE, US.

\*\* Core HICP, euro area.

\*\*\* Fed Funds target rate, the upper bound of the range, the average for the fourth quarter of a corresponding year.

\*\*\*\* ECB deposit facility rate, the average for the fourth quarter of a corresponding year.

Sources: US Fed, ECB, IMF, Investing, Bank of Russia calculations.

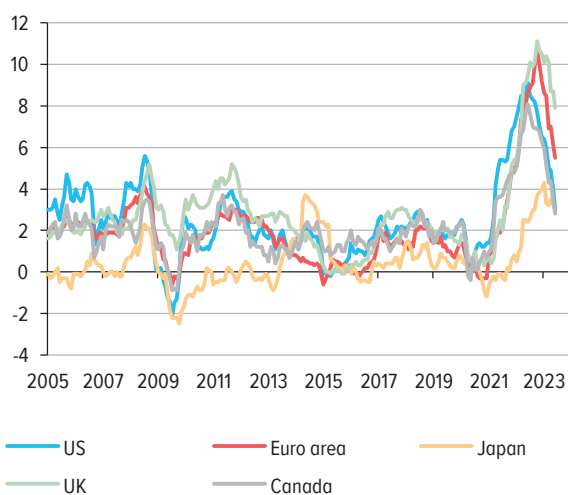
## INFLATION IN MOST COUNTRIES IS STILL ABOVE THE TARGET

In 2023 Q2, inflationary pressures continued to decline worldwide. In some countries, this trend was quite significant (for example, in Brazil and India). Meaningful factors behind the downward price dynamics are a decline in energy and food prices, as well as the final elimination of all logistics bottlenecks accumulated during the period of pandemic restrictions. Nonetheless, the headline CPI growth so far remains well above target levels in most countries.

Moreover, core inflation and elevated inflation expectations in advanced economies prove to be more resilient to higher rates and decline more slowly than forecast by market analysts. One of the main reasons is a strong labour market, especially in the services sector, which is conducive to growth in real incomes and, eventually, consumer demand. Output is already close to potential or even exceeds it (for example, in the US and the euro area). As a result, core inflation may remain elevated longer, requiring tight monetary policy.

INFLATION IN ADVANCED ECONOMIES  
(% change YoY)

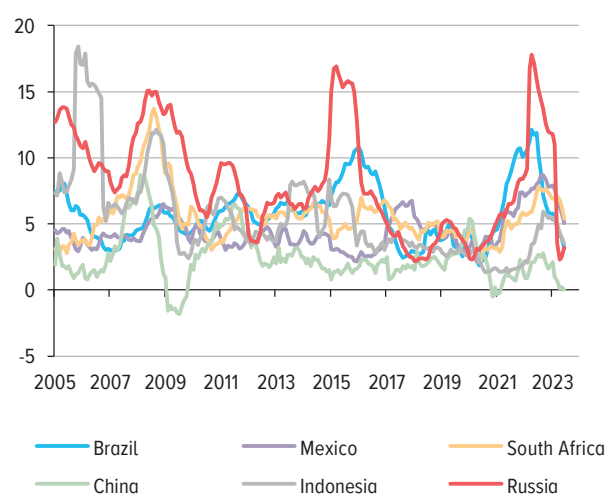
Chart 1



Source: Investing.

INFLATION IN EMES  
(% change YoY)

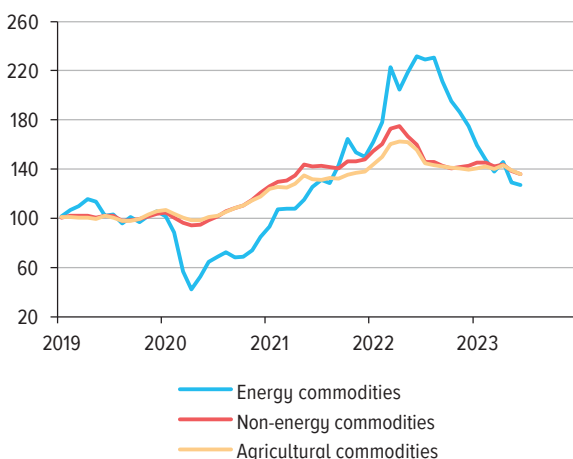
Chart 2



Source: Investing.

CHANGES IN NOMINAL COMMODITY INDICES, \$  
(2019 = 100)

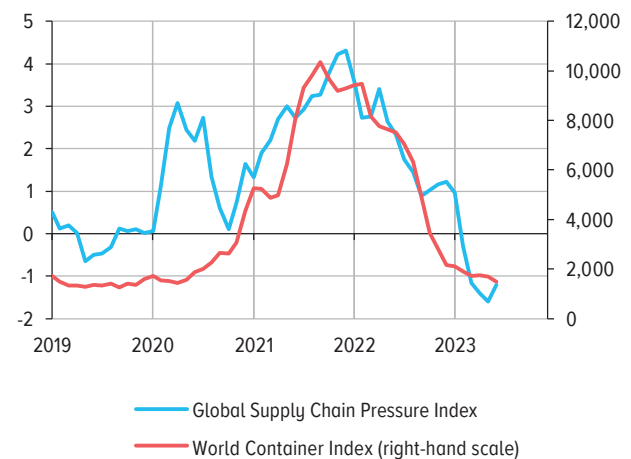
Chart 3



Source: World Bank.

CHANGES IN LOGISTICS PERFORMANCE INDICES  
(p)

Chart 4



Source: Investing.

## GLOBAL ECONOMIC GROWTH SLOWS DOWN

Growth in global economic activity gradually slows down under the impact of implemented monetary tightening and the end of the period of the post-pandemic recovery growth, the last impulse of which was the final lifting of all restrictions in China. Economic activity is supported by the services sector, where demand has been actively growing after the reduction in pandemic risks. At the same time, manufacturing has started to obviously slow down. Among other things, this is evidenced by the PMI Composite indices, which remain above 50 p in many countries due to the services sector, but are below 50 p for manufacturing, especially in advanced economies.

Economic surprise indices, provided as part of economic activity data, suggest that actual statistics are much weaker than the forecasts for the euro area and China. So far, an upside surprise in data remains in the USA.

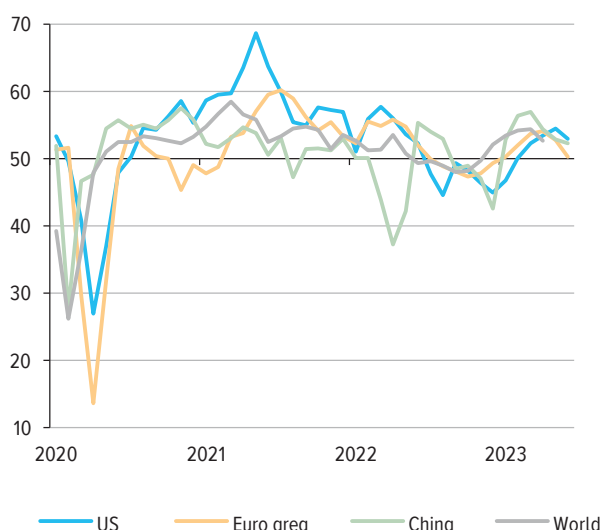
**USA.** In 2023 Q1, the assessments of US economic activity trends were slightly better than MPR 2/23 assumptions. Statistics for the second quarter suggest that the labour market and consumer demand are resilient to the US Fed rate hike and the regional bank turmoil. In April–June, there were over 200,000 new jobs in the non-farm sector (according to Nonfarm Payrolls). However, their growth has been slowing down. The number of job openings (according to Job Openings and Labor Turnover Survey) declines relatively slowly and approximates ten million. That said, this reading fluctuated in the range of 6–8 million vacancies over the ten years preceding the pandemic and reached 12 million in early 2022 as a result of the US unemployment insurance programme. The strong labour market and savings accumulated during the pandemic support consumer demand. However, the Conference Board Leading Economic Index does not rule out the possibility of a recession in the US economy between 2023 Q3 and 2024 Q2, taking into account the cumulative impact of interest rate hikes, as well as high and persistent inflation.

**Euro area.** The revised data for 2022 Q4 and 2023 Q1 demonstrated near-zero growth rates of the euro-area economy. This is in line with MPR 2/23 expectations. Factors that limited the potential reduction in output were energy subsidies and lower gas prices.

In most economies of this region, activity in the services sector remains high. However, the Manufacturing PMI indices evidence the ongoing instability of the current economic situation (for example, in June, it was 40.6 p in Germany and 43.8 p in Italy).

CHANGES IN PMI COMPOSITE  
(p)

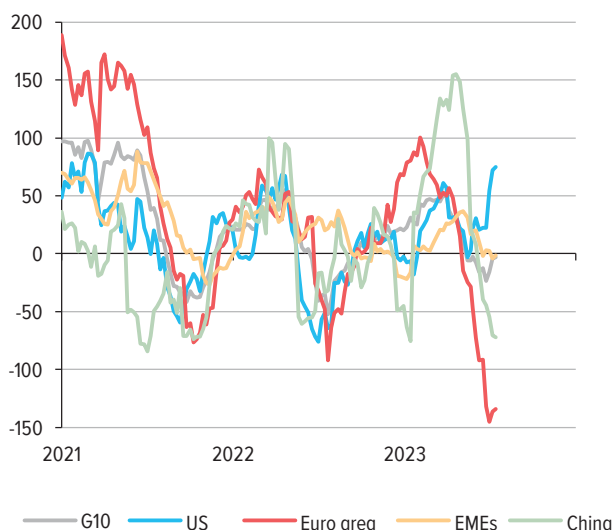
Chart 5



Source: IHS Markit.

CHANGES IN THE ECONOMIC SURPRISE INDEX  
(p)

Chart 6



Source: CitiFX.



**China.** The effect of the final lifting of the restrictions manifested itself in the economy in 2023 Q1. Actual readings exceeded the assumptions of MPR 2/23. However, the Q2 data suggest a considerable slowdown in economic activity growth. The PMI indices for new orders and new export orders are declining, data for retail sales are worse than forecasts. The real estate market remains weak, with investments in real estate dropping at the fastest pace since 2001. Annual inflation is around zero, and the producer price index is declining.

## MONETARY POLICY TIGHTENING WORLDWIDE HAS NOT BEEN COMPLETED YET

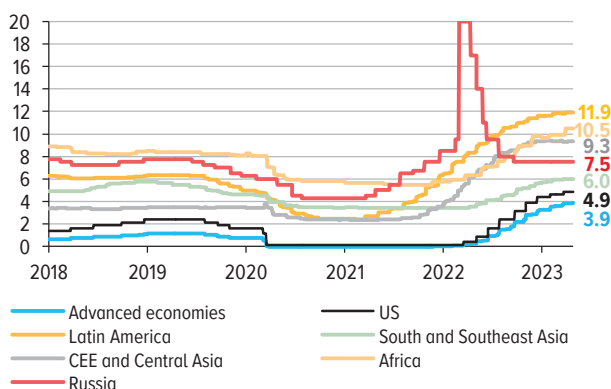
The period of synchronised rate hikes in the world is over. Monetary policies pursued by advanced economies and EMEs become increasingly divergent. In EMEs, most central banks have generally stopped raising policy rates, with inflation there slowing down and real interest rates growing noticeably (**Charts 7 and 8**). At the same time, regulators in EMEs do not yet provide any forward guidance about the possible start of a rate cut cycle, preferring to observe the situation evolving in advanced economies and assessing possible cross-effects.

Central banks in advanced economies are still cautious in assessing the sustainability of inflation slowdown and talk about the need to maintain tight monetary policy over a longer period. The problems faced by certain banks in the US and Europe seem generally resolved. The trade-off between financial stability objectives and returning inflation to the target is becoming less acute. Today, the policy is mainly focused on stabilising price pressures.

US Fed's representatives believe that the rate cut is hardly possible before 2024. ECB representatives indicate that it is difficult to set any time horizon for a possible rate peak at the moment. Market participants anticipate at least one rate hike by the US Fed and two by the ECB.<sup>1</sup>

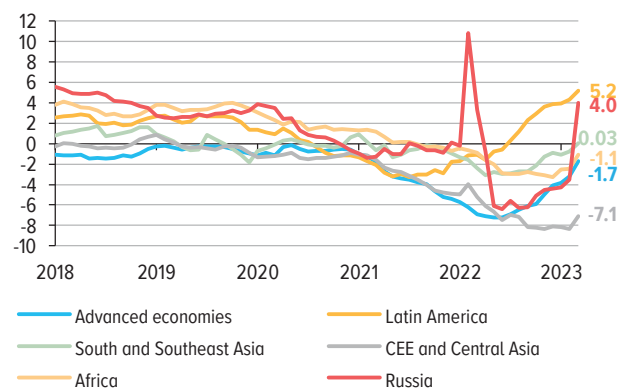
POLICY RATES  
(% p.a.)

Chart 7



REAL INTEREST RATES  
(% p.a.)

Chart 8



*Note.* The calculations are based on the average level of central banks' policy rates weighted by GDP (in current US dollar prices for the respective year) within each group. Groups of countries by region: advanced economies – the US, the euro area, Japan, the UK, Canada, Norway, Sweden, Australia, New Zealand, Israel, Iceland, South Korea, and the Czech Republic; Latin America – Mexico, Colombia, Peru, Brazil, Chile, the Dominican Republic, Jamaica, Costa Rica, Guatemala, Paraguay, and Uruguay; South and Southeast Asia – Thailand, Indonesia, India, the Philippines, and Sri Lanka; CEE and Central Asia – Poland, Hungary, Romania, Serbia, Albania, Moldova, Kazakhstan, Armenia, Georgia, and Uzbekistan; Africa – South Africa, the Republic of Seychelles, Ghana, Uganda, and Kenya.

Sources: Cbonds, World Bank, Bank of Russia calculations.

<sup>1</sup> At its meeting on 26 July 2023, the US Fed raised its federal funds rate by 25 bp (5.25–5.5%). At its meeting on 27 July 2023, the ECB raised its three key rates by 25 bp (deposit facility rate to 3.75%).

## GLOBAL FINANCIAL CONDITIONS HAVE SOFTENED

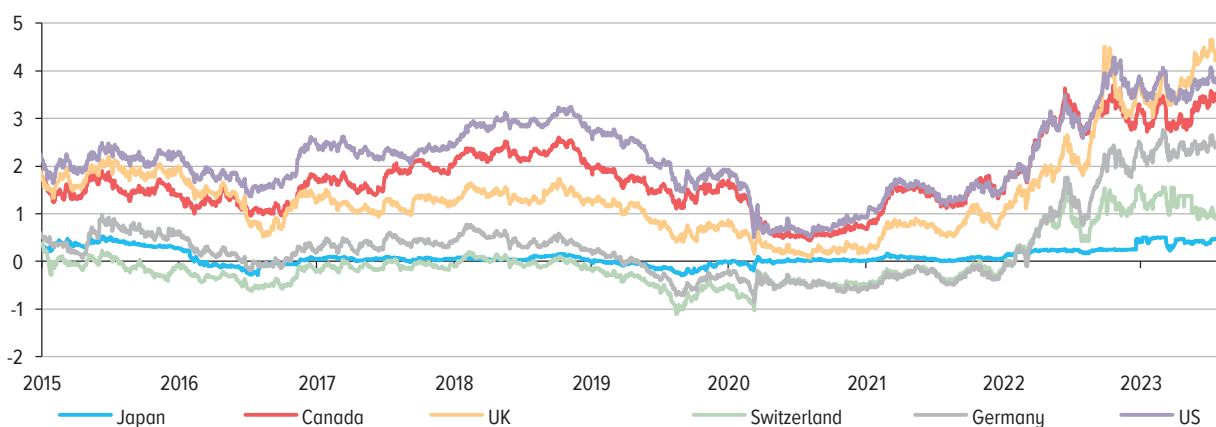
Financial conditions in the US have somewhat softened, though the overall degree of tightness has so far remained average since 2000. Decisions made by regulators and their narrative continue to be tough and force market participants to revise their rate expectations: yields on 10-year bonds are now close to multi-year highs.

At the same time, changes in the indicators of the global cost of risk produce a noticeable softening effect on financial conditions. The Financial Stress Index declined to below -0.7 in response to the fact that investors' concerns about the deterioration of problems in the US and EU banking sector had not materialised. The EMEs' CDS index moved to local lows of the last two years, i.e. to the levels around 125 basis points. The VIX index also reflects investors' optimism: at certain points of time, the index dropped below 15 p (which approximates the values in 2012–2013, 2005–2006). Corporate yield spreads have been also narrowing, though their values are still markedly above the levels of early 2022.

That said, economic indicators remain strong. As a result, despite the noticeable monetary policy tightening worldwide, market participants assess the likelihood of a 'soft landing' as high.

10-YEAR YIELDS ON ADVANCED ECONOMIES' GOVERNMENT BONDS (%)

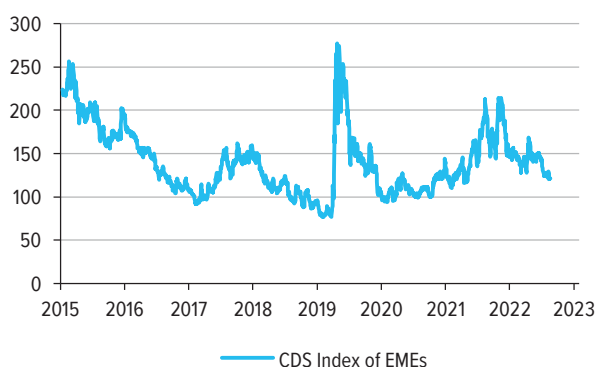
Chart 9



Source: Bank of Russia calculations.

CHANGES IN EME'S CDS INDICES (bp)

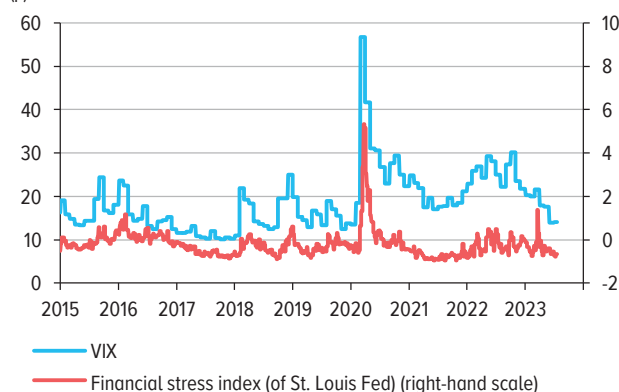
Chart 10



Sources: Cbonds, Bank of Russia calculations.

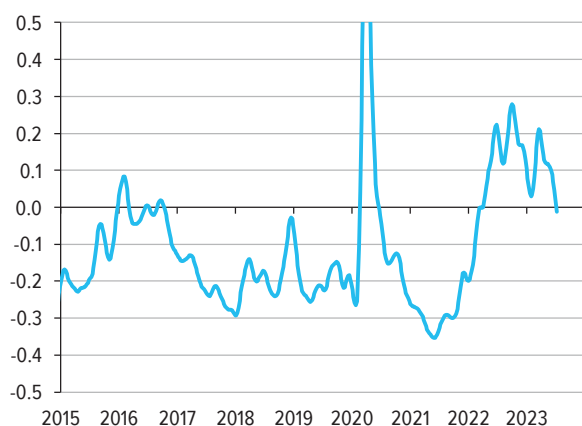
CHANGES IN THE US VIX INDEX AND FINANCIAL STRESS INDEX (p)

Chart 11



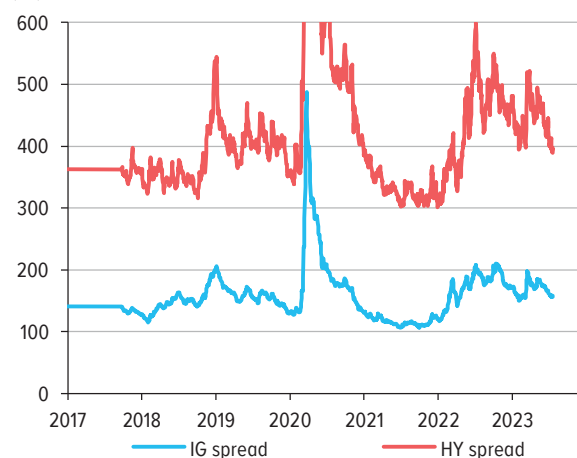
Sources: Cbonds, St. Louis Fed, Bank of Russia calculations.

FINANCIAL CONDITIONS INDEX (OF CHICAGO FED) Chart 12



Sources: Chicago Fed, Bank of Russia calculations.

YIELD SPREADS IN SEGMENTS OF HY-IG ISSUERS IN THE US (bp) Chart 13



Sources: FRED Economic Data, Bank of Russia calculations.

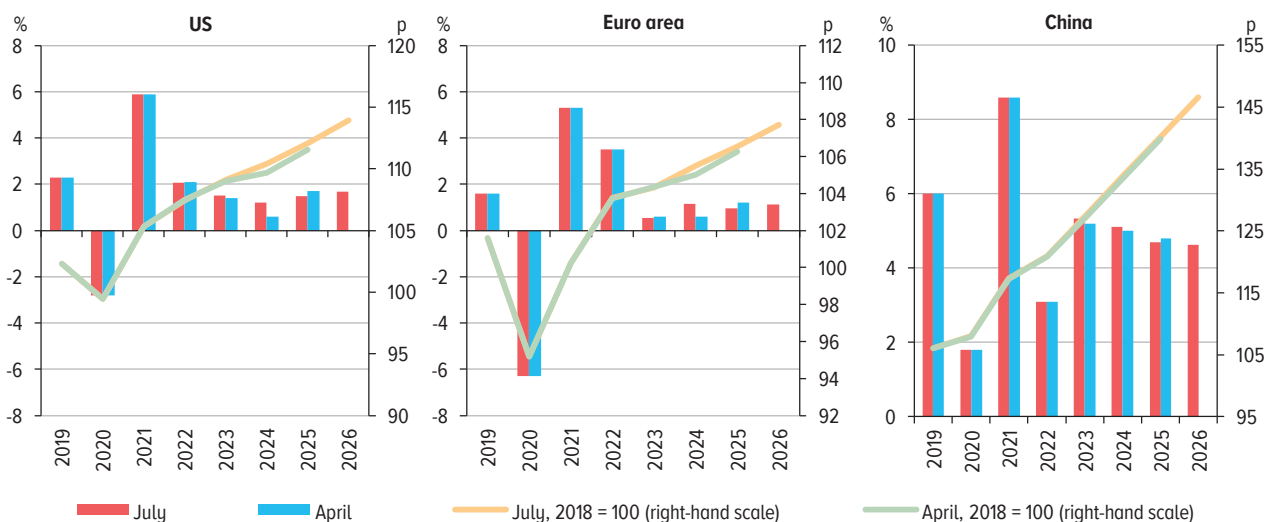
## THE RISK OF A SHARP GLOBAL ECONOMIC SLOWDOWN HAS ABATED

Given strong data for 2023 Q1 and positive flash data for 2023 Q2, the world economic outlook for 2023–2024 has been improved by 0.1 pp to 3.0% and 2.9%, respectively. At the same time, the considerable inertia of inflation expectations and inflation in major advanced economies and, as a result, higher policy rate paths in the US and the euro area strengthen the impact of monetary policy on growth over the medium-term horizon. The 2025 economic outlook is reduced by 0.3 pp to 2.7%, leaving the mid-term path almost flat.

**USA.** The 2023 GDP forecast is slightly increased in view of the actual data for the first quarter and the ongoing strong economic activity in the second quarter. However, as of now, one may not rule out the emergence of negative movements in the third quarter because of the tight monetary conditions. The 2024 forecast is raised considerably, as the resilience of the economy and consumer demand to the actual monetary policy rate hike proved higher than previously expected.

FORECAST FOREIGN GDP GROWTH IN THE BANK OF RUSSIA'S BASELINE SCENARIO

Chart 14



Source: Bank of Russia calculations.

**Euro area.** The 2023 forecast is decreased slightly in view of the actual data for 2023 Q1. However, like in the US, the medium-term output dynamics in the euro area are forecast to be slightly higher than in MPR 2/23, as the economy is responding relatively moderately to the implemented tightening of monetary policy.

**China.** The effect of the lifting of the restrictions largely manifested itself in 2023 Q1. Newly released statistics look weak in part with regard to domestic demand and the real estate sector. However, generally strong data for the first quarter offset weaker growth in subsequent quarters, so the total growth in 2023 is forecast slightly higher than previously expected. The 2024–2025 forecast is close to the projection provided in MPR 2/23.

## PRICES IN COMMODITY MARKETS CONTINUED TO DECLINE

Prices in most commodity markets fell over the period since the publication of MPR 2/23 because of the fears of a slowdown in global economic growth.

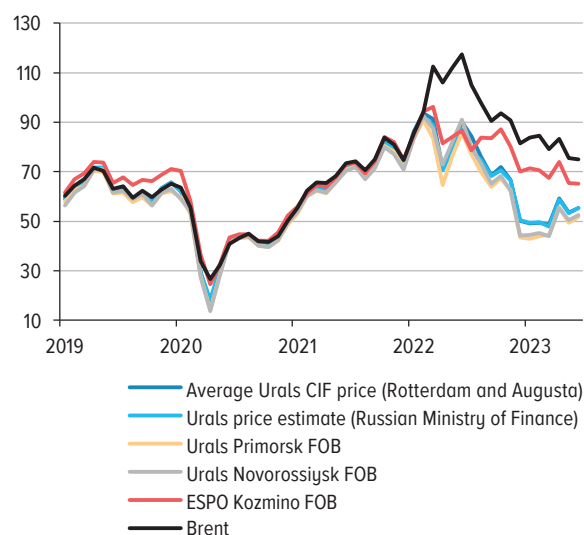
**Oil.** After declining in April–May, global prices for Brent crude stabilised at \$75 per barrel in June thanks to additional oil production cuts announced by OPEC+. Prices were influenced by the anticipated weak demand for oil amid the slowing growth of top economies, including China. In early July, oil prices resumed growth amid oil production cuts by Saudi Arabia. In the near future, prices will be supported by Russia's and Saudi Arabia's additional voluntary oil export cuts by 0.5 mbd and by 1 mbd, respectively.

In June, the Urals price settled down near \$55 per barrel. The Urals discount to Brent continued to narrow gradually to reach \$20 in June. Since Russia exports several grades of oil to different destinations (Urals, Siberian Light, ESPO, Sokol, ARCO and others) with different spreads to Brent, the actual export price of Russian oil is still made up of volume-weighted average prices of individual grades (**Chart 15**).

**Natural gas.** In May, the gas price in Europe continued to decline because of mild weather and a local surplus of LNG. However, in June the downward trend ended due to interruptions in supplies from Norway and the Netherlands' plans to shut down the large Groningen gas field. Overall, in 2023 Q2, the gas price at the TTF hub in the Netherlands fell by 33% compared to 2023 Q1 to around \$427 per 1,000 cubic metres (30% below the 2021 average).

OIL PRICES  
(\$)

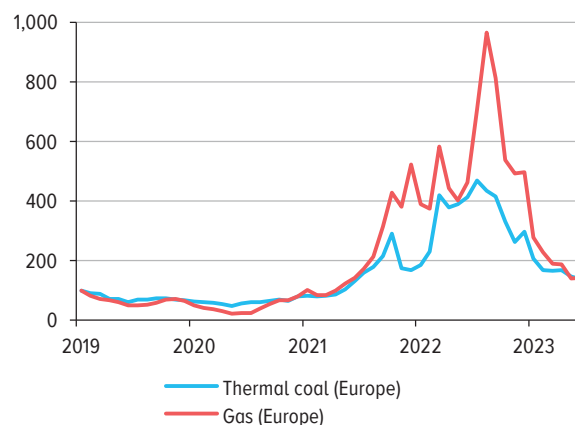
Chart 15



Sources: Bloomberg, Russian Ministry of Finance, Argus.

PRICES FOR COAL AND GAS  
(01.01.2019 = 100)

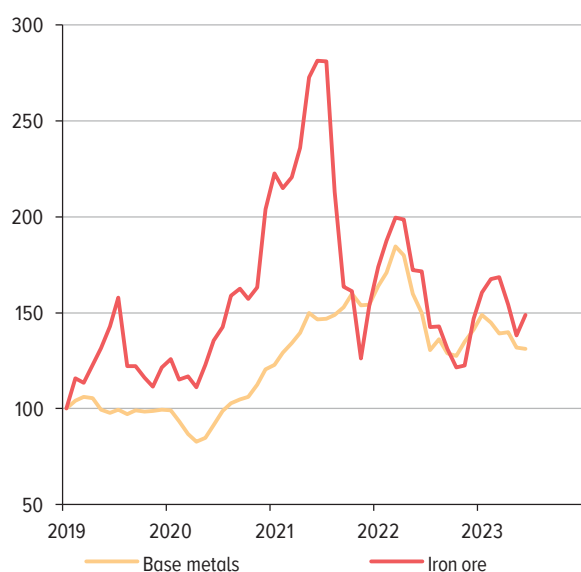
Chart 16



Sources: Bloomberg, World Bank.

METAL PRICES  
(01.01.2019 = 100)

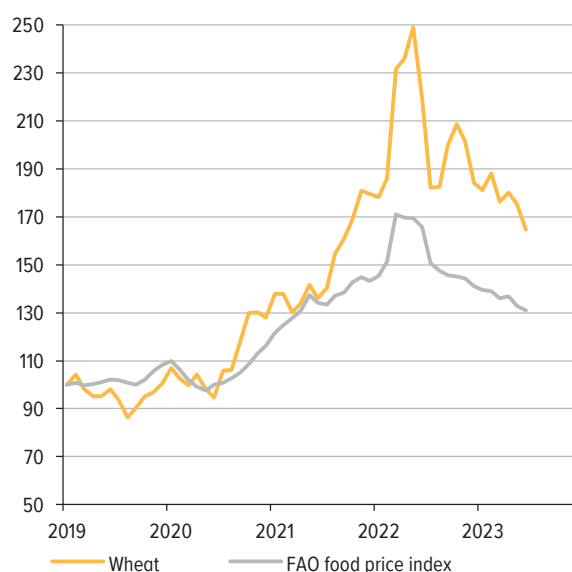
Chart 17



Source: World Bank.

FOOD PRICES  
(01.01.2019 = 100)

Chart 18



Source: World Bank.

**Thermal coal.** Thermal coal prices in Europe were declining following gas prices. In 2023 Q2, the thermal coal price decreased by 16% to \$123 per tonne compared to the first quarter, which was still 3% above the 2021 average.

**Non-ferrous metals.** In 2023 Q2, non-ferrous metals prices were down 7% quarter on quarter due to a deterioration in global growth outlook and the lower demand from China.

**Ferrous metals and coking coal.** Pessimism about global growth outlook also influenced ferrous metals prices: in 2023 Q2, iron ore prices dropped by 11% quarter on quarter, with Black Sea hot-rolled steel prices dropping by 10%. Over the same period, the price of coking coal fell by 40% due to the weaker demand from metallurgical companies and the resumption of purchases of Australian coal by China.

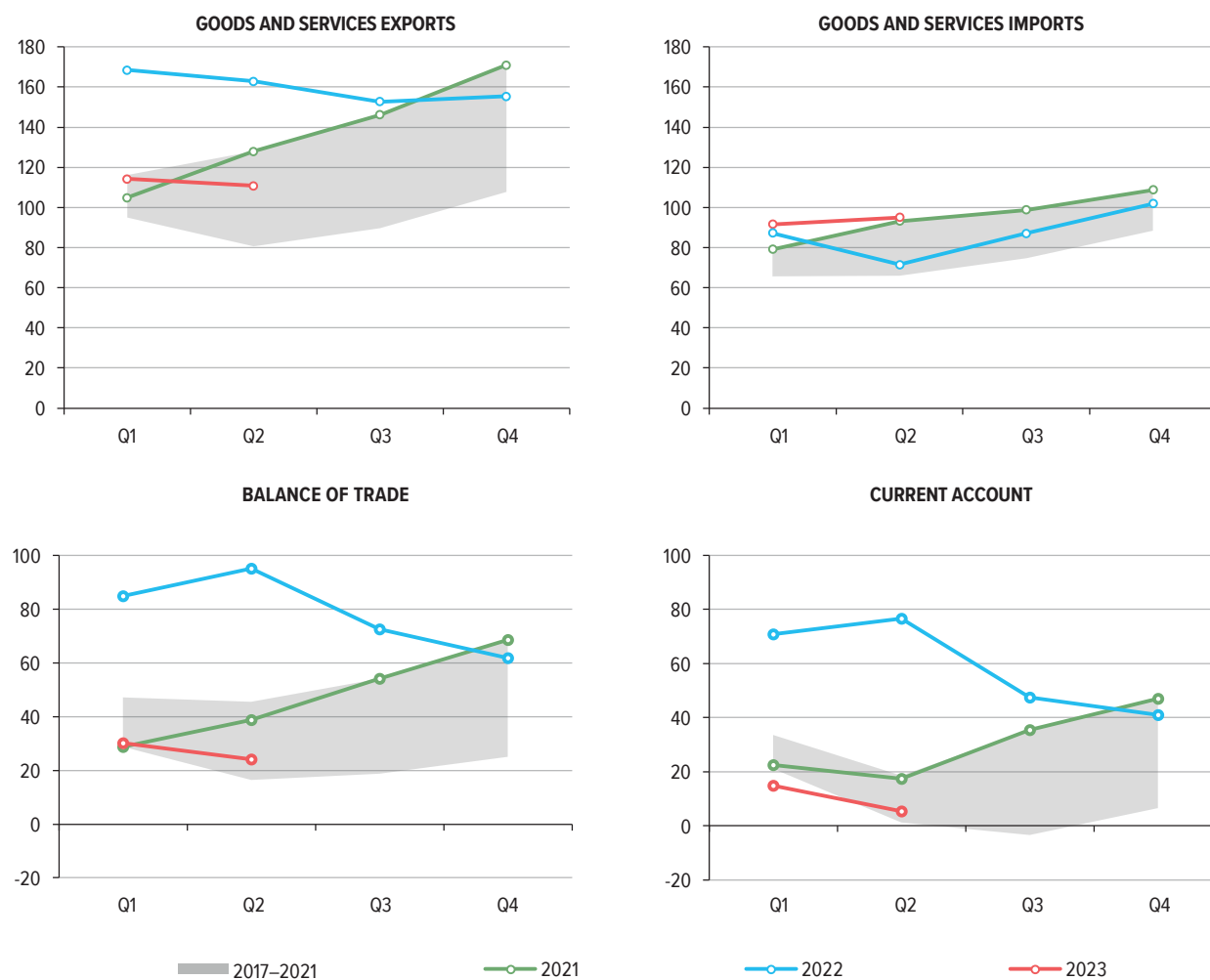
**Agricultural commodities.** Global agricultural commodity prices continued to decline in 2023 Q2, with the FAO Food Price Index falling by 3% compared to the first quarter. Prices for cereals, dairy products and oils dropped the most, falling by around 10%. In contrast, sugar prices rose by 24% in the second quarter due to the deterioration of harvest prospects in India, Thailand and China because of the weather phenomenon El Nino.

## RUSSIAN EXPORTS ADDITIONALLY DECREASED, IMPORTS CONTINUED TO GROW

**Exports.** In 2023 Q2, the value of goods and services exports fell sharply compared with the record levels of 2021–2022 (2023 Q2: \$111 billion; 2022 Q2: \$163 billion). The main reasons were the deterioration of the price situation in the world market, unchanged and considerable discounts on Russian goods, and a decrease in the quantities of supplies. However, exports remain close to the average levels observed in 2017–2021. The deterioration in the external situation is offset by new export destinations to some extent.

**Imports.** The value of goods and services imports continued to recover in the second quarter, once again exceeding the level of the same period in 2021 (2023 Q2: \$95 billion; 2022 Q2: \$71 billion). Goods imports were supported by refocusing on alternative suppliers, the parallel import mechanism and other government measures aimed at streamlining the imports of goods. Services imports expanded significantly due to the foreign travel of Russians.

Chart 19

CURRENT ACCOUNT IN 2017–2023  
(billions of US dollars)

Source: Bank of Russia calculations.

**Current account.** As a result of a concurrent contraction in exports and an increase in imports, the current account surplus decreased to \$5 billion in 2023 Q2 (2022 Q2: \$77 billion). Compared to the first quarter, the decrease in the current account surplus was in part driven by the expansion of the deficit in the primary and secondary income account. This was associated with the seasonal distribution of dividends by Russian companies to foreign investors.

**Financial account.** In 2023 Q2, the financial account surplus was formed by growth in foreign assets, mainly in the form of direct investment. In the second quarter, foreign liabilities rose in part on the back of dividend announcements by Russian companies.

In 2023 Q2, the decrease in reserve assets by \$1.4 billion was mainly due to the fiscal rule-based sales of foreign currency by the Bank of Russia in the domestic foreign exchange market as part of operations with the National Wealth Fund (NWF).

## THE RUBLE EXCHANGE RATE DECLINED IN MAY–JULY

The contraction in the value of exports combined with the growth of imports in May–July exerted the main pressure on the ruble exchange rate. By early July, the ruble exchange rate weakened almost to ₹93 per US dollar and slightly appreciated thereafter.

In addition to export and import transactions, the ruble exchange rate was also influenced by financial account flows, though this influence was not decisive. The seasonal demand for foreign

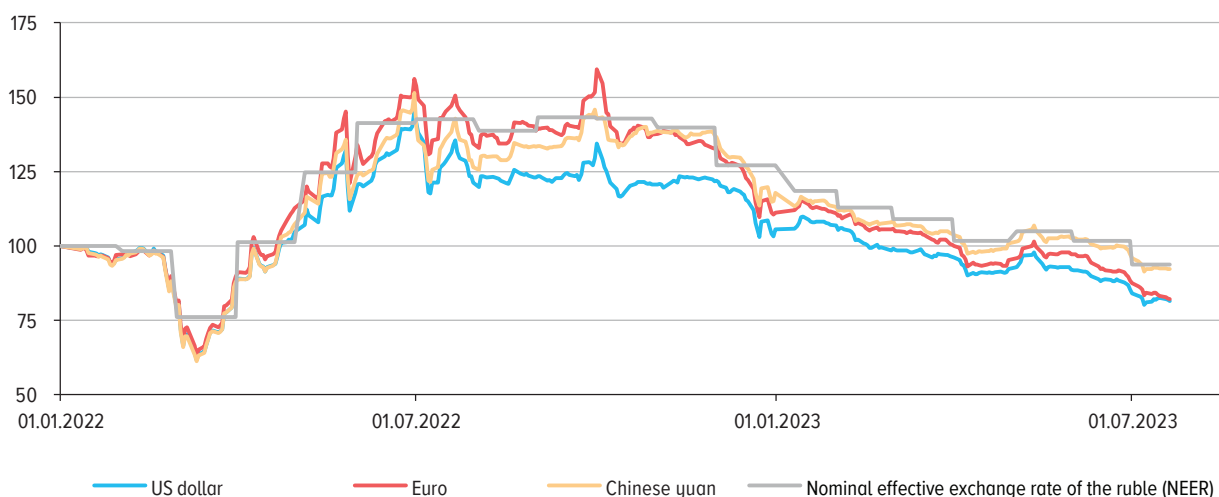


exchange picked up traditionally because of the beginning of the holiday period. However, individuals' transfers to foreign accounts were close to the levels observed in the first quarter. In May–June, operations associated with the decisions made by the Government Commission on Monitoring Foreign Investment were minimal.

At the end of June, the ruble stayed close to the median level since 2015 in real terms, but it fell in early July to the levels observed from the second half of 2015 through the first half of 2016 and from the second half of 2020 through the first half of 2021, according to preliminary estimates (**Chart 21**). During these periods, the balance of goods and services also contracted significantly because of falling exports.

INDICES OF THE NOMINAL EXCHANGE RATE OF THE RUBLE AGAINST MAIN FOREIGN CURRENCIES  
(01.01.2022 = 100)

Chart 20



Sources: Moscow Exchange, Bank of Russia calculations.

INDEX OF THE REAL EFFECTIVE EXCHANGE RATE OF THE RUBLE  
(2013= 100)

Chart 21



Source: Bank of Russia calculations.

## CURRENT ACCOUNT SURPLUS FORECAST FOR 2023–2024 HAS BEEN REDUCED

**Global environment.** The Urals oil price forecast for 2023–2026 remains unchanged at \$55 per barrel. However, the actual export price of Russian crude will be slightly higher, taking into account higher prices for other exportable grades.

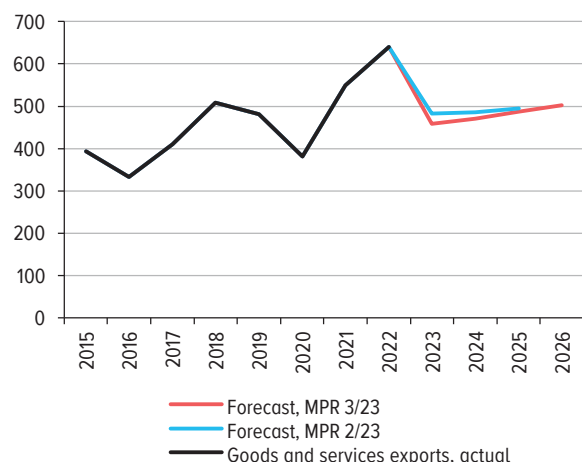
Gas prices in Europe will increase seasonally and remain elevated over the next year on the back of rising demand in the context of stable production, but in 2025–2026, prices will be falling again due to the commissioning of additional high-volume capacities.

In 2023, prices for the rest of Russian export commodities will be below the 2022 elevated levels. Over next years, prices are expected to evolve in a normal way, i.e. to grow slightly.

**Exports.** After the considerable contraction in 2023, export quantities are expected to expand in the following years. Compared to MPR 2/23, export quantities have been adjusted taking into account the less favourable actual trends in gas deliveries since the beginning of the year. Moreover, the additional voluntary reduction in oil exports by 0.5 mbd in August has also been taken into account.

GOODS AND SERVICES EXPORTS  
(billions of US dollars)

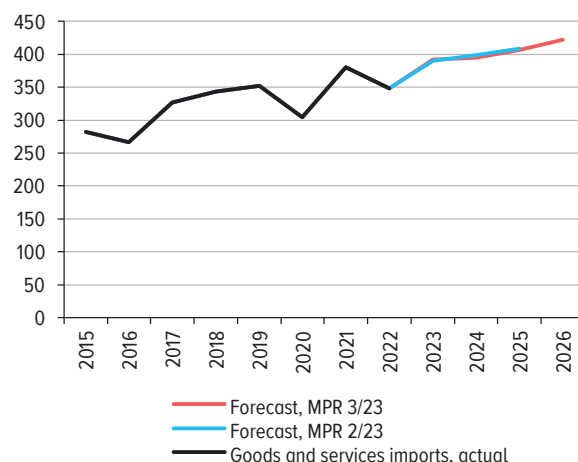
Chart 22



Source: Bank of Russia calculations.

GOODS AND SERVICES IMPORTS  
(billions of US dollars)

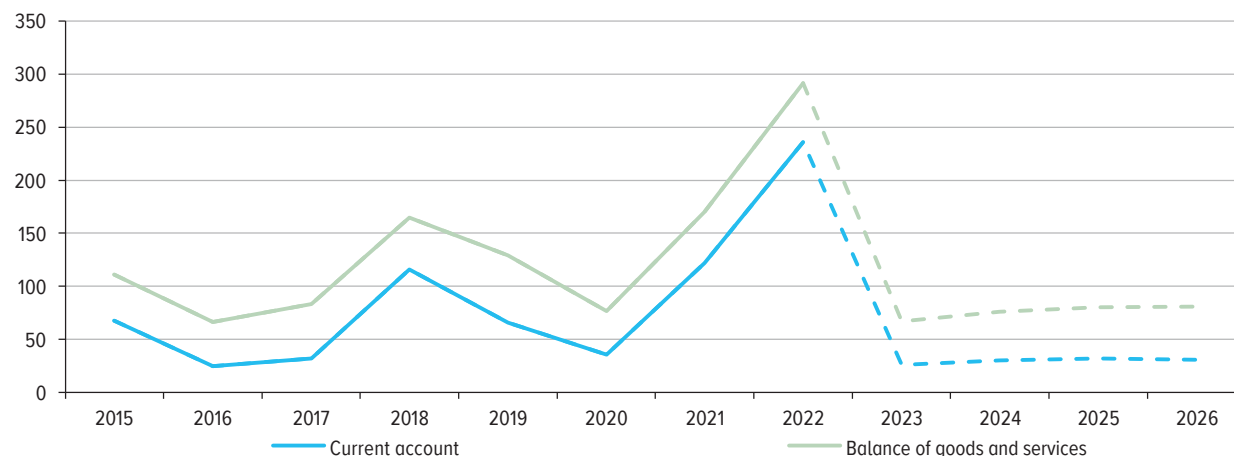
Chart 23



Source: Bank of Russia calculations.

CURRENT ACCOUNT BALANCE  
(billions of US dollars)

Chart 24



Source: Bank of Russia calculations.

Following the downward revision of prices for gas and non-oil and gas exports (of goods and services), the value of total exports over the entire forecast horizon will be lower than in the MPR 2/23 forecast.

**Imports.** The forecast of the goods and services imports value has been slightly increased in 2023, given the better-than-expected assessment in the first six months. The refocusing on alternative suppliers and the creation of new logistics chains lead to the expansion of imports. However, imports will be restrained by a weaker ruble. In 2025–2026, the value of goods and services imports will gradually grow amid higher domestic demand. At the same time, sanctions restrictions will keep the ratio of imports to GDP below the average prior to 2022.

**Current account.** The current account surplus forecast has been reduced over the entire forecast horizon owing to a lower forecast for the value of exports and a slight change in imports. The current account surplus is expected to decrease from \$236 billion (a historical high) in 2022 to \$26 billion in 2023 amid contracting exports and recovering imports. It will expand to around \$30 billion in the coming years due to growing exports amid their redirection to new destinations.

**Financial account.** Reduced revenues from foreign trade lead to a lower accumulation of foreign assets and a smaller financial account balance compared with 2022. The financial account balance is forecast to stabilise in the next years. The change in the forecast reserves is largely formed by fiscal rule-based transactions and mirroring transactions with funds invested by the NWF.

## RUSSIA'S ECONOMY

In the second quarter, monetary conditions continued to soften. Although the OFZ curve shifted upwards along its entire length after the April meeting of the Bank of Russia Board of Directors, the growth of corporate loans remained high. Retail lending accelerated considerably, most markedly in the unsecured consumer lending segment. Households' ruble balances with banks continued to grow.

In 2023 Q1, GDP decreased less in annualised terms than the Bank of Russia's estimate in MPR 2/23. Almost all components by expenditure exceeded expectations, with the most considerable growth recorded in changes in inventories and the record growth – in the consumption of general government. Household consumption also exceeded the forecast expectations. As regards production activity, there was a noticeable growth of value added in construction and real estate, transportation and storage, financial activities and agriculture. The biggest negative contribution was made by trade and mining and quarrying.

In the majority of economic sectors focused on domestic demand, the output already either reached or exceeded the pre-crisis levels. In 2023 Q2, consumer activity continued to grow, with positive trends recorded in all major categories. Business activity also continued to grow in both core and services sectors. In May, the unemployment rate dropped to a new all-time low. The number of vacancies continued to increase. Investment activity indicators pointed to the ongoing growth in fixed capital investment. According to the baseline forecast of the Bank of Russia, GDP will go up by 1.5–2.5% in 2023. The recovery phase of economic growth is ending as a whole, with the economy being due to return to the 2021 level or even to slightly exceed it as of the end of 2023. As a result, the 2024–2025 growth rates will be more moderate.

Inflationary pressure is intensifying. Current consumer price growth rates, supported by a variety of stable indicators, have exceeded 4% in annualised terms and are still increasing. The annual inflation rate is also growing to exceed 4% in the third quarter, as estimated by the Bank of Russia. Households' inflation expectations and companies' price expectations have grown. The Bank of Russia's monetary policy will limit the extent of inflation's upward deviation from the target and will bring it back to 4% in 2024. Given the monetary policy pursued, annual inflation will come in at 5.0–6.5% in 2023, return to 4% in 2024, and stay close to 4% further on.

### SHORT-TERM INFLATION AND GDP DYNAMICS

Table 2

	For reference: central point of the forecast horizon				The Bank of Russia's mid-term forecast				
	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2022 Q4	2023 Q4	2024 Q4	2025 Q4	2026 Q4
Inflation, % YoY	3.5	3.3	5.0*	5.8*	11.9	5.0–6.5	4.0	4.0	4.0
GDP, % YoY**	-1.8	4.8*	3.6*	1.5*	-2.7	1.0–2.0	0.5–2.5	1.0–2.0	1.5–2.5

\* The Bank of Russia's assessment.

\*\* The values of the GDP and inflation growth for 2023 Q3–Q4 correspond to the centres of the shaded areas in Chart 43 'GDP growth path in the Bank of Russia's baseline scenario' and Chart 50 'Inflation path in the Bank of Russia's baseline scenario' and are provided for reference. The ranges for Q4 in 2023–2026 are the Bank of Russia's forecast.

Source: Bank of Russia.

## THE OFZ CURVE HAS SHIFTED UPWARDS

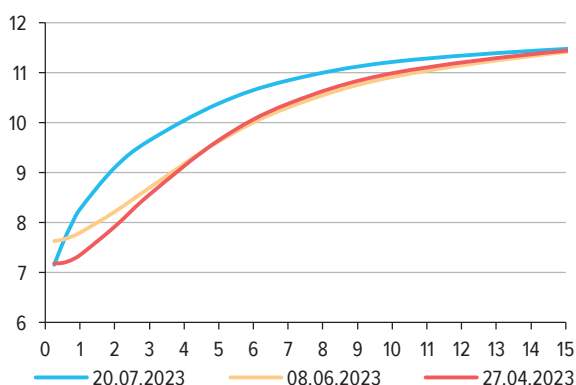
Since the Board of Directors' meeting held at the end of April, the OFZ curve has shifted upwards, most notably for mid-term maturities. Growing short-term yields largely reflect the change in market expectations about the key rate path both in view of incoming data pointing to a pickup in inflation and in response to a gradual tightening of the Bank of Russia's signal about future decisions.

The increase in mid- and long-term yields, in turn, rather reflects changes in long-term inflation expectations. The real yields on OFZ-IN maturing in 2028 have been virtually flat for the recent six months, remaining below 3%. In contrast, implied inflation, which reflects the difference between the nominal yields on OFZ-PD with the same maturity date in 2028 and the real yields on OFZ-IN, have increased again over recent months to reach 7%.

The credit spread between corporate bond yields and OFZs and share prices have demonstrated positive dynamics since the April meeting. The spread narrowed to its lowest values since 2022 Q4. The MOEX Index has been demonstrating a further robust growth since the beginning of the year.

OFZ ZERO COUPON YIELD CURVES AS OF THE DATE OF THE BANK OF RUSSIA BOARD OF DIRECTORS' MEETING  
(%)

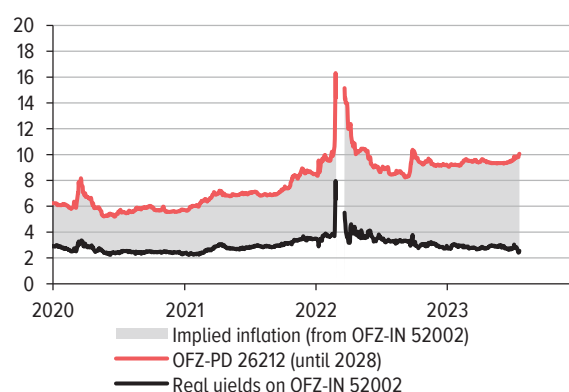
Chart 25



Sources: Moscow Exchange, Bank of Russia calculations.

IMPLIED INFLATION (FROM OFZ-IN)  
(%)

Chart 26



Sources: Moscow Exchange, Bank of Russia calculations.

SPREAD BETWEEN YIELDS ON CORPORATE AND GOVERNMENT BONDS  
(bp)

Chart 27



Sources: Cbonds, Bank of Russia calculations.

MOEX INDEX  
(p)

Chart 28



Source: Moscow Exchange.

## THE INFLOW OF FUNDS INTO RUBLE ACCOUNTS REMAINED HIGH

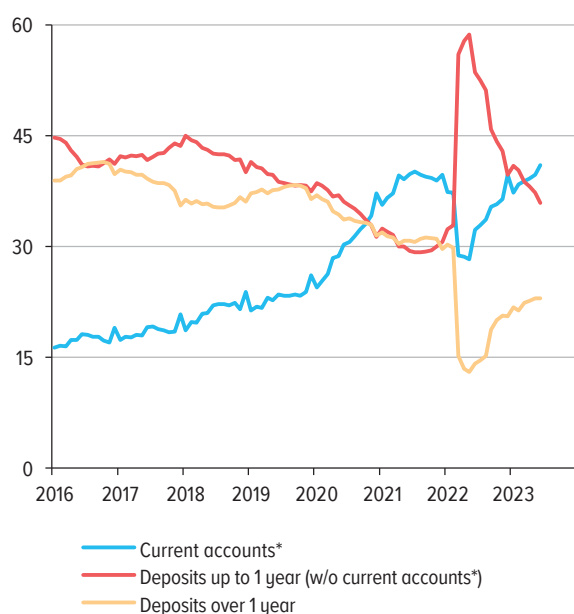
During most of the second quarter, deposit rates were unchanged; in June, they slightly increased following the growth of OFZ yields. This maintained households' interest in placing funds in ruble accounts and deposits.

At the end of the second quarter, the annual growth of household funds held with banks was 12.8% vs 12.4% at the end of March. The increase in household funds continued to be formed by ruble operations. In the second quarter, the average monthly inflow slightly exceeded the inflow during the corresponding period of the previous year, when the returns on deposits, primarily short-term ones, were markedly higher. In terms of the structure of funds, growth was mainly noted in balances in liquid current accounts, including interest-bearing savings accounts. The share of ruble current accounts in the ruble retail deposit portfolio continued the growth, which started in the second half of 2022 (**Chart 29**). Moreover, attractive interest rates on mid- and long-term deposits spurred a rapid increase in placements in this segment.

Appetite for foreign currency accounts and deposits was still low (**Chart 30**).

SHARES OF DEPOSITS OF VARYING MATURITIES  
IN THE RUBLE RETAIL DEPOSIT PORTFOLIO OF  
RUSSIAN BANKS (%)

Chart 29

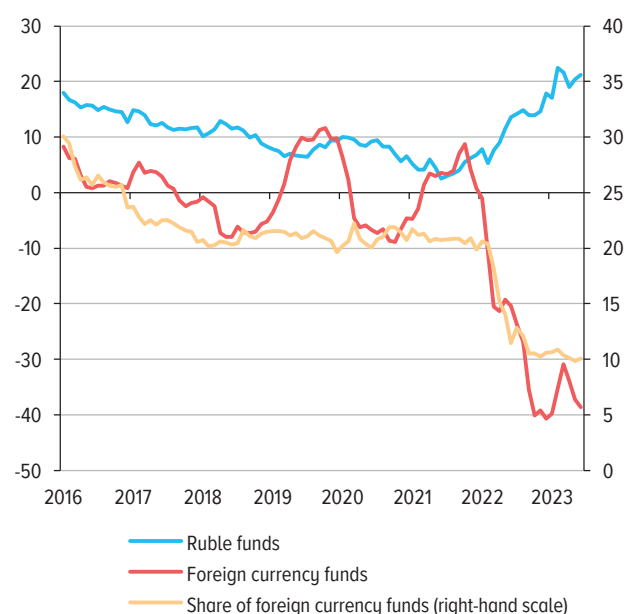


\* Including demand deposits.

Source: Bank of Russia.

ANNUAL GROWTH OF FUNDS IN INDIVIDUALS'  
ACCOUNTS WITH RUSSIAN BANKS (%)

Chart 30



Source: Bank of Russia.

## MONETARY CONDITIONS CONTINUED TO EASE

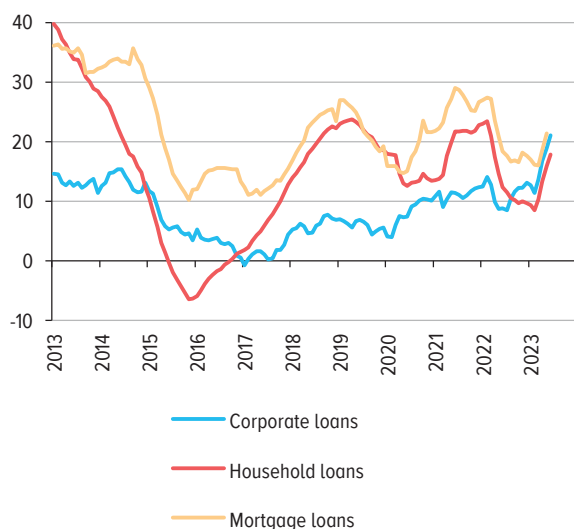
At the beginning of the second quarter, all key segments of the market saw a slight increase in interest rates in response to the growth of OFZ yields in February–March. In the mortgage segment, the increase in the weighted average interest rate was additionally driven by Bank of Russia measures to mitigate risks under 'developer subsidised mortgage' programmes. As a result, interest rates offered in the primary segment approached market values. However, in general, monetary conditions were softer than expected in MPR 2/23 mainly due to non-price conditions.

Lending activity of retail clients remained high. At the end of June, the growth rate of retail lending accelerated to 17.8%. High activity continued to be observed in the mortgage lending segment (in April–June, the average amount of new mortgage loans was close to the highs of



ANNUAL GROWTH OF INDIVIDUAL COMPONENTS  
WITHIN RUSSIAN BANKS' LOAN PORTFOLIO  
(%)

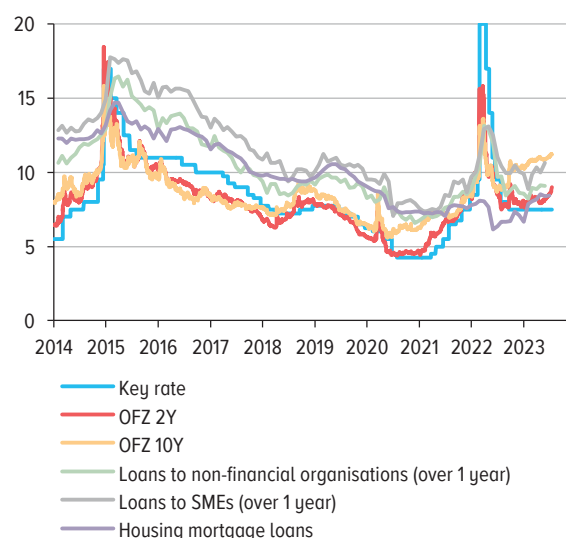
Chart 31



Source: Bank of Russia.

INTEREST RATES AND INFLATION  
(%)

Chart 32



Sources: Bank of Russia, Rosstat.

recent years). In the second quarter, the recovery of consumer lending became more noticeable, with the annual rate of lending increasing from 5.1% at the end of March to 11.8% at the end of June.

Despite a slight increase in interest rates, corporate demand for loans was also robust in the second quarter due to the ongoing improvement in business sentiment. At the end of June, the annual growth rate of the corporate loan portfolio was 21.0%. Businesses were mainly raising long-term ruble borrowings. At the same time, contraction in the foreign currency loan portfolio slightly slowed down due to borrowings in Chinese yuan.

Thus, over the period after the publication of MPR 2/23, lending growth was supported not only by retail lending, but also by corporate lending (**Chart 31**).

## FORECAST GROWTH OF CLAIMS ON THE ECONOMY HAS BEEN RAISED

The Bank of Russia Board of Directors' baseline forecast published on 21 July assumes that the annual average key rate path will be higher over the entire forecast horizon than expected in April. Taking into account the decision made on 21 July, the key rate range will be 8.5–9.3% p.a. from 24 July to the end of the year (or 7.9–8.3% p.a. on average for 2023). Though this range allows the key rate to be unchanged, the Bank of Russia does not rule out the chance of a further key rate hike, given the significantly increased proinflationary risks. The step of a possible rate hike will be determined by the extent to which incoming data will influence the assessment of the development of the situation and the balance of risks to achieve the inflation target of close to 4% in 2024.

The forecast growth of claims on the economy in 2023 has been markedly raised. This is associated with both actual lending dynamics in the first six months of 2023 and a higher level of nominal GDP for this year. Higher lending activity is predicted for both the retail and corporate segments of the market. The largest contribution to the revision of the forecast of retail lending is made by mortgage loans, as the total amount of new loans in this segment may hit a fresh high in 2023. In addition, other segments of the retail lending market may also demonstrate a moderate revival. In 2024–2025, lending is forecast to gradually slow down at rates close to those predicted in MPR 2/23. Macroprudential measures taken by the Bank of Russia will somewhat limit the growth of retail lending.

In 2023, growth in money supply in the national definition (M2) will be supported both by higher rates of lending and by ongoing expansionary fiscal policy together with the continued flow of funds from foreign currency deposits into ruble ones. At the same time, the effect of these factors will be in part limited by weaker dynamics of net foreign assets because of the lower forecast for the current account surplus. As a result, the growth of M2 will be in the range of 17–21% in 2023 due in part to the effect of the fiscal rule. In 2024–2025, the contribution of fiscal operations to changes in money supply will gradually decrease, with the main contribution to the growth in money supply coming from claims on the economy. As the potential of funds transfers from foreign currency deposits to ruble ones is exhausted, the growth rates of M2 and broad money supply (M2X) will converge.

**BOX 1. LONG-TERM INTEREST RATES AND THE KEY RATE**

The current value of the central bank's key rate directly influences the level of short-term interest rates. The cost of capital in the economy, especially in the financing of investment projects and mortgage lending, is largely determined by the level of long-term interest rates. Long-term rates are massively influenced by future inflation expectations, i.e. factors that will shape the inflation landscape, and by the long-term level of the key rate that will be needed to maintain low inflation at the target level.

In general, nominal long-term interest rates are formed based on real long-term rates with due regard to future inflation expected by investors and depositors of banks. This is exactly why **it is necessary to anchor inflation at the target to preserve a moderate level of nominal long-term interest rates**, which can only be achieved by keeping actual inflation at the target for a long time.

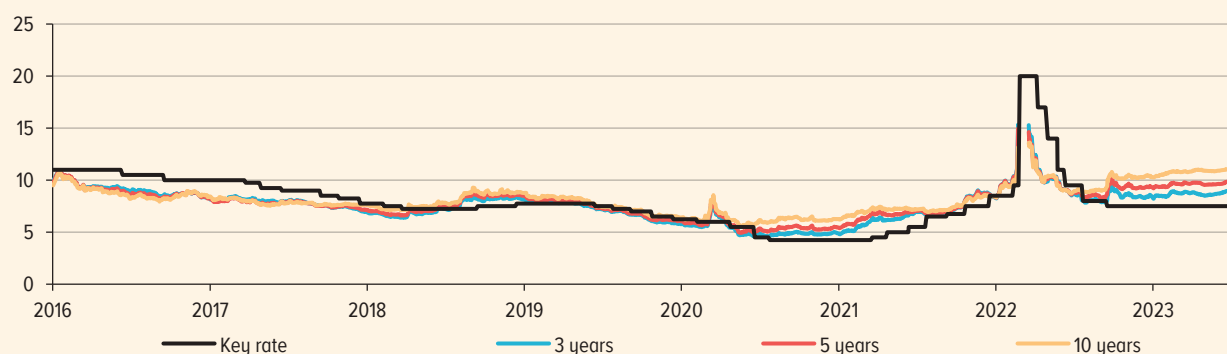
Real long-term rates depend on expectations of long-term economic growth. All else equal, the higher the long-term economic growth (potential GDP growth rates) is, the higher the real long-term rates are, which means a tougher competition between good projects for funding. Another source of influence is risk premiums. These may include risks associated with the impact of geopolitical conditions, reduced market depth and liquidity, and others. Higher risk premiums push up real long-term rates, as there emerges a shortage of long money. That is why the reduction of such risks will also bring down long-term interest rates in the economy.

As for expected inflation, when inflation is sustainably maintained at the target and there is high confidence that it is kept at that level further on, expected inflation coincides with the target level. If inflation deviates from the target level, inflation expectations grow, thereby affecting nominal rates and driving them up even if the key rate remains unchanged. Moreover, if the key rate does not respond to the increase in inflationary pressures and inflation expectations well enough to return inflation to the target, this can provoke an additional rise in long-term interest rates. This might be caused by the further growth of inflation risks, which households, investors, banks and businesses will incorporate into their savings, deposit and lending decisions.

The fact that **long-term interest rates are determined not only by the current level of the key rate is evidenced by the recent history of the Russian financial market**. The most informative indicator of long-term rates are yields on government bonds, OFZs with various maturities. One can examine their correlation with key rate movements (**Chart B-1**).

ZERO COUPON YIELD CURVE OF GOVERNMENT BONDS (%)

Chart B-1



Sources: Moscow Exchange, Bank of Russia calculations.

Starting from late 2014, the time of the transition to inflation targeting and a floating exchange rate, there were three periods when the key rate was in the 7.5–8.5% range:

- from September 2017 to March 2018
- from September 2021 to January 2022
- over recent 12 months from July 2022.

During the first of these periods, when annual inflation slowed down below 4% and the market was getting increasingly confident that inflation would remain at the target level thereafter, OFZ yields with two to ten-year maturities were below the key rate. During the second period, when inflation accelerated significantly and it was clear that a tighter monetary policy would be needed to contain inflation, OFZ yields were slightly above the key rate and were rising slightly ahead of the key rate.

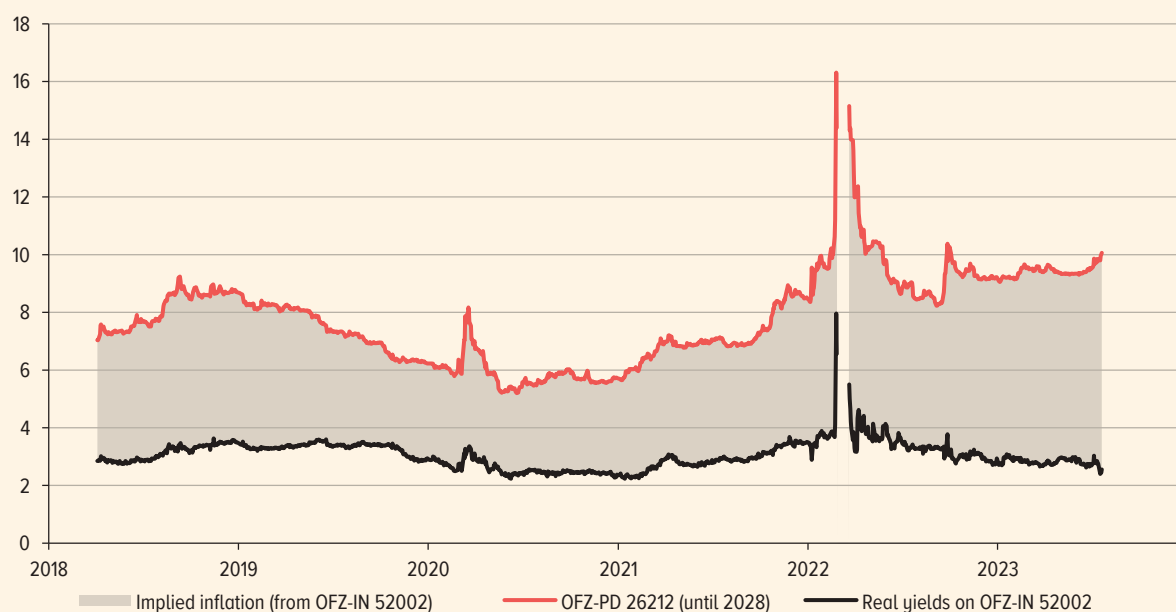
During the last period, from autumn 2022, OFZ yields exceeded considerably the key rate. Moreover, they were growing gradually though the key rate remained flat at 7.5% from 19 September 2022 to 23 July 2023.

The fact that this increase in OFZ yields since September last year reflects the increase in inflation expectations and inflation risk premium, embedded in nominal interest rates, is evident from changes in OFZ-INs, inflation-indexed federal government bonds. Their real yields have been changing within a very limited range and have even edged down since early 2023, whereas implied inflation, i.e. the difference between these real yields and nominal yields on permanent coupon-income federal government bonds (OFZ-PD) with a similar maturity, exceeded 7% **(Chart B-2)**.

The return to more moderate levels of nominal long-term yields on OFZs and, accordingly, corporate bonds, and also of lending interest rates, linked with them via the transfer curves of commercial banks, is only possible as long-term inflation expectations and related additional inflation risk premiums decrease. To achieve this, the regulator needs to create such monetary conditions that will stabilise inflation around the 4% target using the key rate, its pass-through to short-term rates in the economy and their translation into aggregate demand and inflation.

YIELDS ON OFZ-IN BONDS  
(%)

Chart B-2



Sources: Moscow Exchange, Bank of Russia calculations.

## GROWTH IN ECONOMIC ACTIVITY REMAINS HIGH

Actual data on GDP growth in 2023 Q1 in annualised terms proved markedly higher than expected in MPR 2/23 (-1.8% vs -2.3%). Almost all components by expenditure exceeded expectations, with the most considerable growth shown by changes in inventories and the record growth – by the consumption of general government. Household consumption exceeded flash indicators (for example, the balance of household money income and spending, data from the Social and Economic Situation in Russia report, and from the SberIndex laboratory). Overall, domestic demand in the Russian economy continued to recover steadily. According to Bank of Russia estimates, in 2023 Q1, gross capital formation and final consumption (SA) exceeded the values of 2021 Q4. The current GDP deceleration relative to pre-crisis levels is conditioned on the decline of net exports.

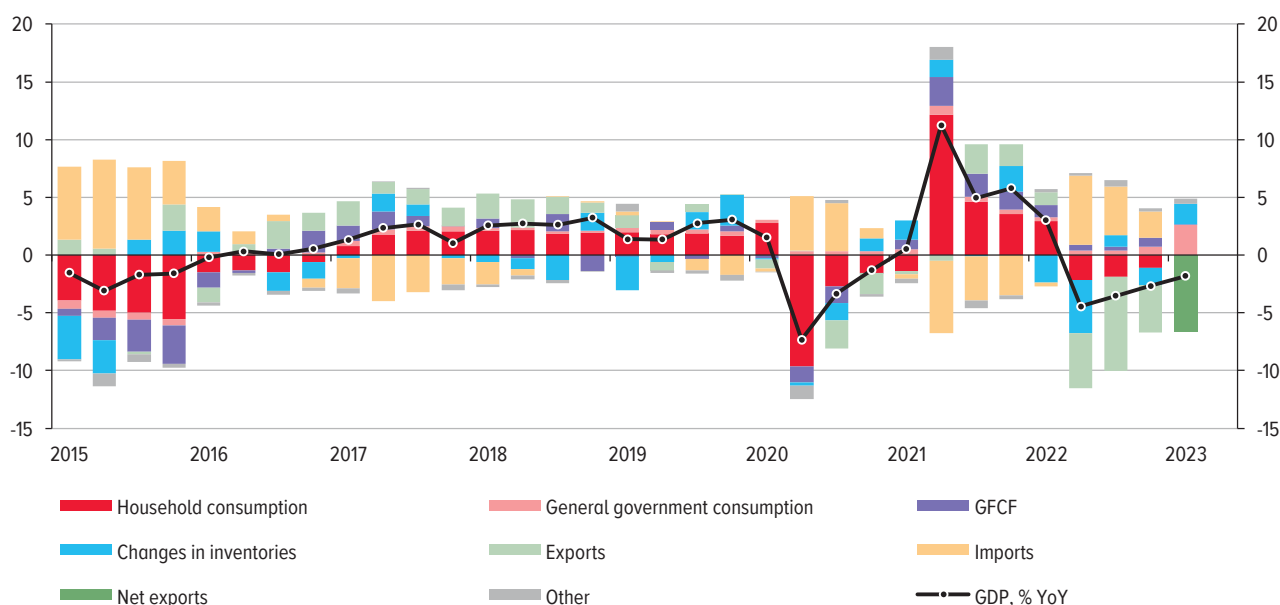
In terms of GDP by production approach, there was a noticeable growth of value added in construction and real estate, transportation and storage, financial activities and agriculture. The biggest negative contribution was made by trade and mining and quarrying.

In April-May 2023, business activity in the Russian economy grew (SA) both in core and services sectors. Manufacturing, retail trade and construction made the largest contribution to the increase in output in this period compared to 2023 Q1 (SA).

Growth in manufacturing was observed for all major product groups, i.e. investment, intermediate and consumer goods. Similarly to the first quarter, the most significant growth in output was posted by investment goods (electrical equipment, motor vehicles (w/o passenger cars), finished metal products, computers, electronic and optical devices, etc.). An elevated demand demonstrated by the construction industry remains a meaningful growth factor. As estimated by the Bank of Russia, the volume of construction works continues to hit fresh records: in May, it exceeded the level of 2021 Q4 by almost 12% (SA).

DECOMPOSITION OF ANNUAL GROWTH IN GDP BY EXPENDITURE  
(pp)

Chart 33



Sources: Rosstat, Bank of Russia calculations.

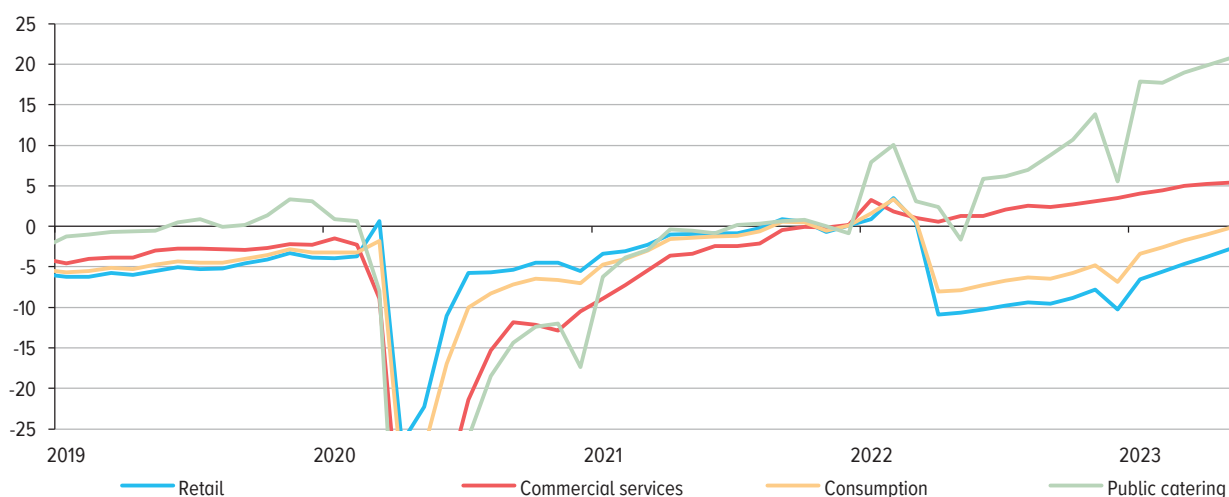
## CONSUMER DEMAND IS GROWING SUSTAINABLY

Consumer demand continued to recover throughout the entire second quarter. In April–May 2023, turnover grew in all major categories, with the biggest contribution made by the non-food retail trade segment. The turnover of food retail trade also expanded sustainably, whereas the value of commercial services grew more modestly. According to Bank of Russia estimates, in May, food sales (SA) almost reached the level of 2021 Q4, with non-food sales still remaining considerably lower.

In June 2023, according to flash indicators (for example, consumer spending assessment by the SberIndex laboratory), consumption continued to grow.

CONSUMER ACTIVITY  
(% change on 2021 Q4, SA)

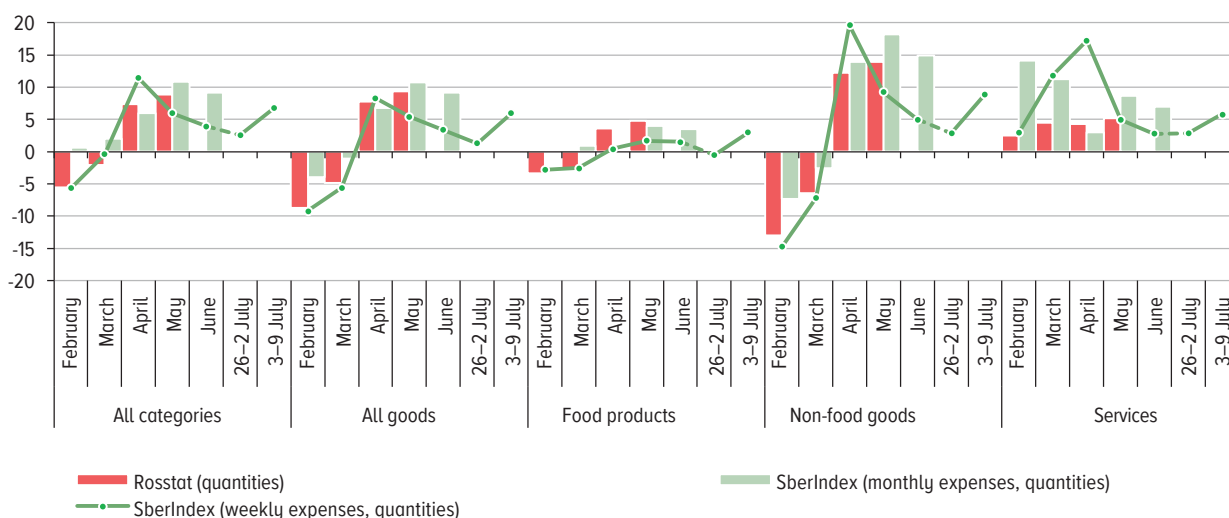
Chart 34



Sources: Rosstat, Bank of Russia calculations.

HIGH-FREQUENCY INDICATORS OF CONSUMER ACTIVITY  
(% change YoY)

Chart 35



Note. The data of the SberIndex laboratory on consumer spending are published in nominal terms. The quantity indices are calculated using the price deflators of retail sales (of food and non-food goods) and the deflator of the value of commercial services to households. Weekly deflators are calculated based on the deflator for the previous month adjusted for the change in weekly inflation. If the monthly deflator of retail sales and the value of commercial services was not released, it is calculated based on the available deflator for the previous month adjusted for the change in monthly inflation.

Sources: Rosstat, SberIndex laboratory, Bank of Russia calculations.



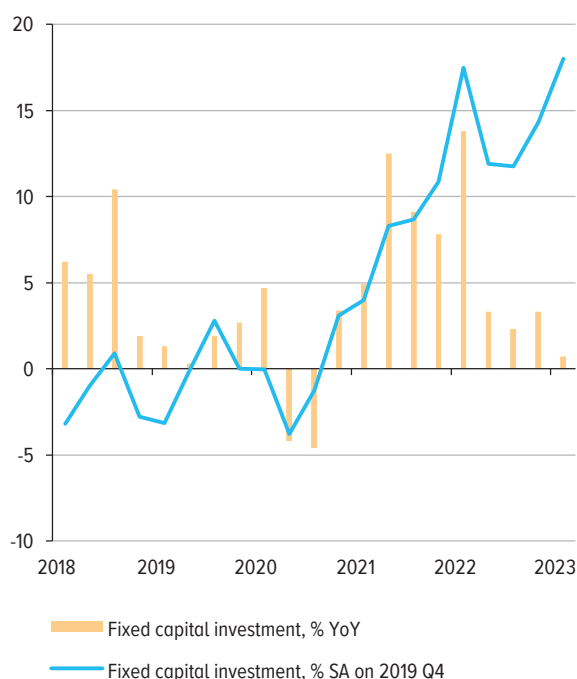
## INVESTMENT ACTIVITY CONTINUES TO EXPAND

According to Rosstat, fixed capital investment in 2023 Q1 increased by 0.7% in annualised terms (**Chart 36**). Gross fixed capital formation (GFCF) also gained 0.6% in 2023 Q1 year-on-year. Leading indicators of investment activity (for example, the volume of construction works, railway transportation of construction materials, and production of investment goods) evidence the ongoing increase in capital investment.

Based on statistics for Q1 and leading indicators for Q2, one may conclude that investment activity continued to grow. These conclusions are also confirmed by the results of business surveys conducted by the Bank of Russia. Capacity utilisation remained record high. Businesses continued to build up capacities and modernised production amid refocusing on domestic demand and activation of import substitution programmes.

FIXED CAPITAL INVESTMENT

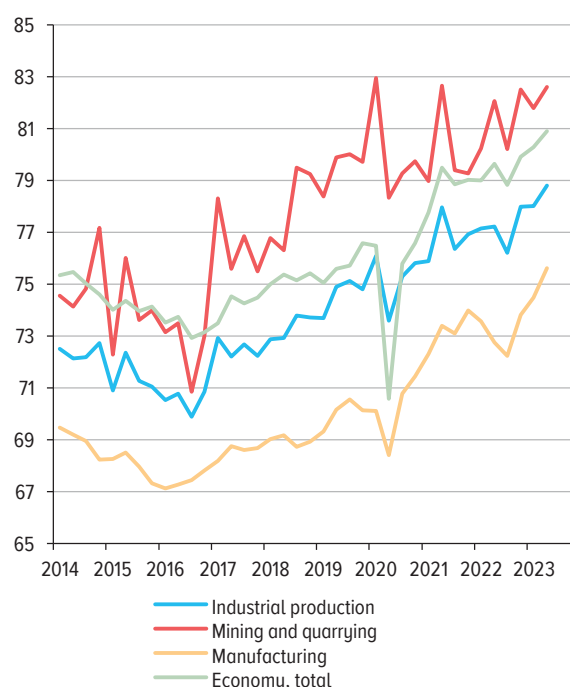
Chart 36



Sources: Rosstat, Bank of Russia calculations.

PRODUCTION CAPACITY UTILISATION (% SA)

Chart 37



Sources: monitoring of businesses, Bank of Russia.

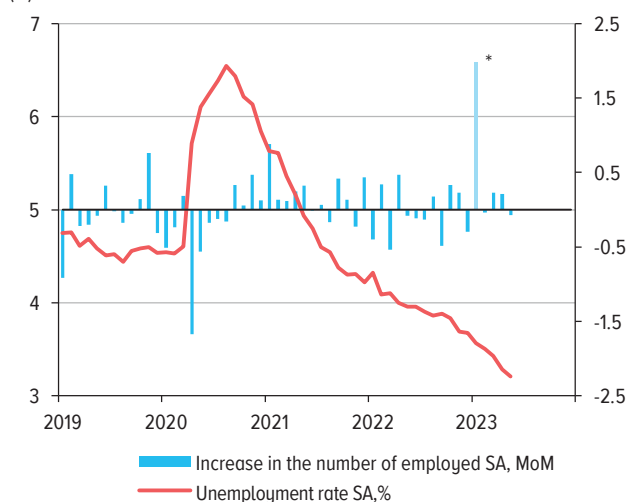
## UNEMPLOYMENT HIT A FRESH HISTORICAL LOW

Labour demand continues to grow in the Russian economy. In May 2023, the unemployment rate hit its fresh historical low reaching 3.2% (SA) (**Chart 38**). During the period from February to May 2023, the number of the employed (SA) grew by 0.2 million. According to HeadHunter, the number of job vacancies has been constantly growing since August 2022, and employers' demand for new staff has been growing at a high pace since March 2023 (**Chart 39**). By May, labour market tightness determined by the ratio of vacancies to CVs reached the maximum since 2017, according to HeadHunter (or alternatively determined by the ratio of the number of the unemployed, according to Rosstat, to HeadHunter job vacancies) (**Chart 40**).

Labour market tightness reflects the degree of employer competition for staff. An increase in this indicator may imply the need to raise wages. Indeed, real wages continue to rise rapidly (**Chart 41**). In January 2023, average real wages (SA) in the economy as a whole almost fully recovered after falling in April 2022. They continued to grow between February and March 2023 to exceed the March 2022 level (SA) by 2.2%. In February–April 2023, manufacturing sectors were the main contributors to wage growth rates.

**UNEMPLOYMENT RATE AND NUMBER OF EMPLOYED, SA**  
(%)

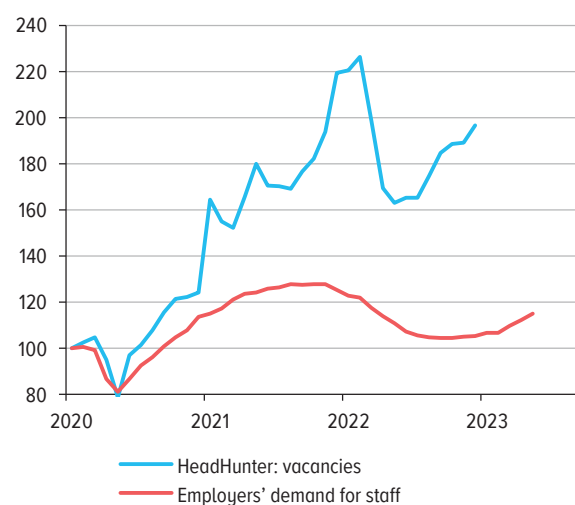
Chart 38



Sources: Rosstat, Bank of Russia calculations.

**LABOUR DEMAND, SA**  
(January 2020 = 100)

Chart 39

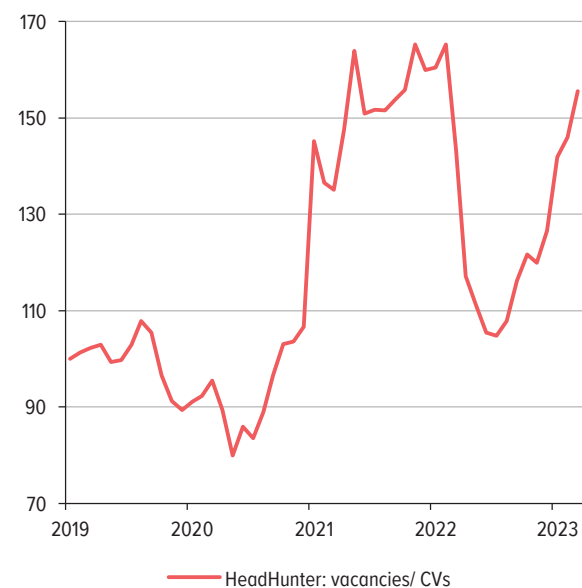


Sources: HeadHunter, Federal Service for Labour and Employment, Bank of Russia calculations.

\* Since January 2023, Rosstat has been drawing a sample for the Labour Force Survey based on the 2020 Russian General Census (RGC 2020). According to the RGC 2020, as of the end of 2021, the number of Russia's resident population is 1.6 million higher than on 1 January 2022, based on the RGC 2010, taking into account the current recording of natural and migration growth rates. Rosstat attributed this excess to the category of employed persons, as a result of which in January 2023, there was a sharp increase in the number of the employed according to official statistics. Thus, employment data for 2023 are not comparable with past values, but are comparable with each other.

**LABOUR MARKET TIGHTNESS, SA**  
(January 2017 = 100)

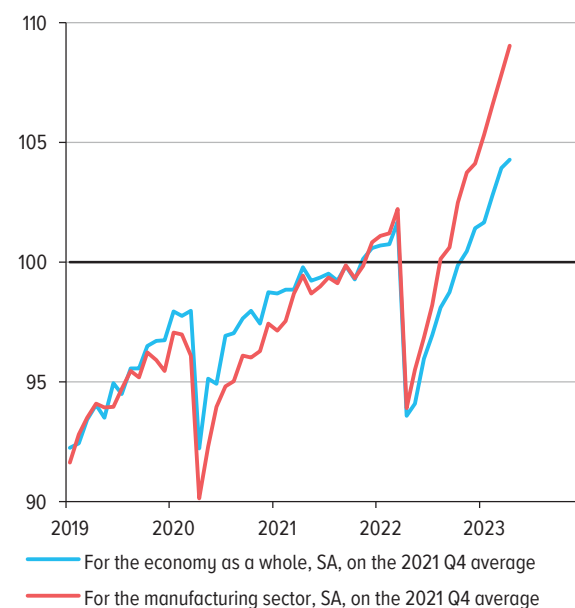
Chart 40



Sources: HeadHunter, Rosstat, Bank of Russia calculations.

**REAL WAGES**  
(2021 Q4 = 100)

Chart 41



Sources: Rosstat, Bank of Russia calculations.

## BUDGET EXPENDITURE EXECUTION WAS CLOSE TO NORMAL IN THE SECOND QUARTER

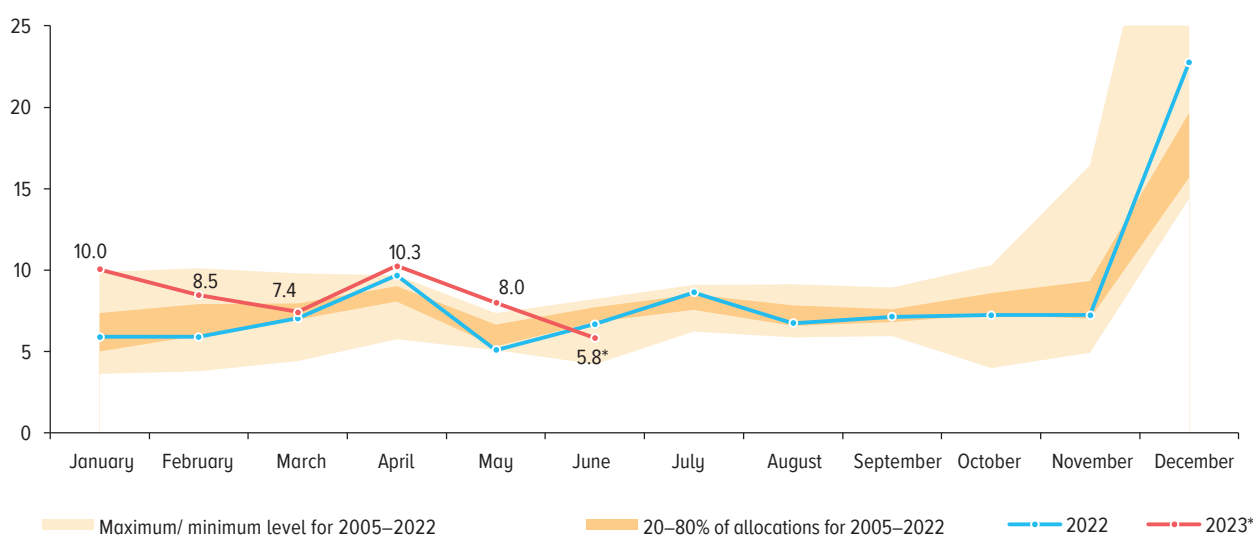
In the first six months of 2023, the shift in the budget expenditure schedule relative to the traditional seasonality generated high fiscal stimulus in the economy (see Box 2). After an accelerated advance financing of expenditures in the first several months of the year, the pace of budget expenditure execution slowed down and returned to the historical norm in May–June 2023 (**Chart 42**). At the same time, amid recovering domestic demand, there was an improvement in the inflow of revenues, mainly non-oil and gas revenues. The budget revenues were also supported by the record-high dividends from Sberbank (₽0.3 trillion). This helped reduce the total budget deficit to ₽2.6 trillion at the end of the first six months in 2023<sup>1</sup> from the peak values at the beginning of the year (in January–April: ₽3.0 trillion).

The normalisation of expenditure execution is in line with the parameters of expenditure in accordance with the fiscal rule established by Federal Law No. 366-FZ, dated 5 December 2022, 'On the Federal Budget for 2023 and the Plan Period of 2024 and 2025' (hereinafter, the Budget Law). However, the expenditure plan for 2023 may be increased due to the receipt of additional non-oil and gas revenues. These indicators may include higher economic growth rates, the ruble weakening, the receipt of additional one-off revenues (dividends from Sberbank, the 2021–2022 windfall tax, etc.).

Given the unchanged medium-term parameters of fiscal policy, the faster intra-year execution of budget expenditures, compared to the typical seasonality of previous years, does not by itself seriously influence the medium-term contribution of fiscal policy to aggregate demand and price dynamics. Nonetheless, it creates a stronger short-term fiscal impulse and increases aggregate demand in the first half of the year, which, all else equal, contributes to the gradual acceleration of the current price growth. Besides, the fiscal impulse is impacted by operations to invest funds from the NWF. This is factored into the 2023 inflation forecast. Further out, if the fiscal rule remains in place as is, the fiscal impulse will weaken.

FEDERAL BUDGET EXPENDITURE EXECUTION BY MONTH  
(% of actual expenditures/ budget allocations)

Chart 42



\* 2023 – percentage of the consolidated list of budget allocations as of 13 July 2023 (₽29.9 trillion), January–June 2023 – according to the preliminary budget execution by the Russian Ministry of Finance.

Sources: Russian Ministry of Finance, Bank of Russia.

<sup>1</sup> According to the preliminary assessment of federal budget execution for January–June 2023 (the Russian Ministry of Finance).

## GDP FORECAST FOR 2023 HAS BEEN RAISED AGAIN

Actual data for 2023 Q1 and flash data for 2023 Q2 indicate a higher GDP growth path in 2023 than assumed in the MPR 2/23 forecast. According to the Bank of Russia's baseline forecast, economic growth will come in at 1.5–2.5%. The recovery phase of economic growth is ending, with the economy due to return to the 2021 level or even to exceed it as of the end of 2023. As a result, the 2024–2025 growth rates will be more moderate. In 2026, the Russian economy will return to the balanced growth path of 1.5–2.5% (**Chart 43**).

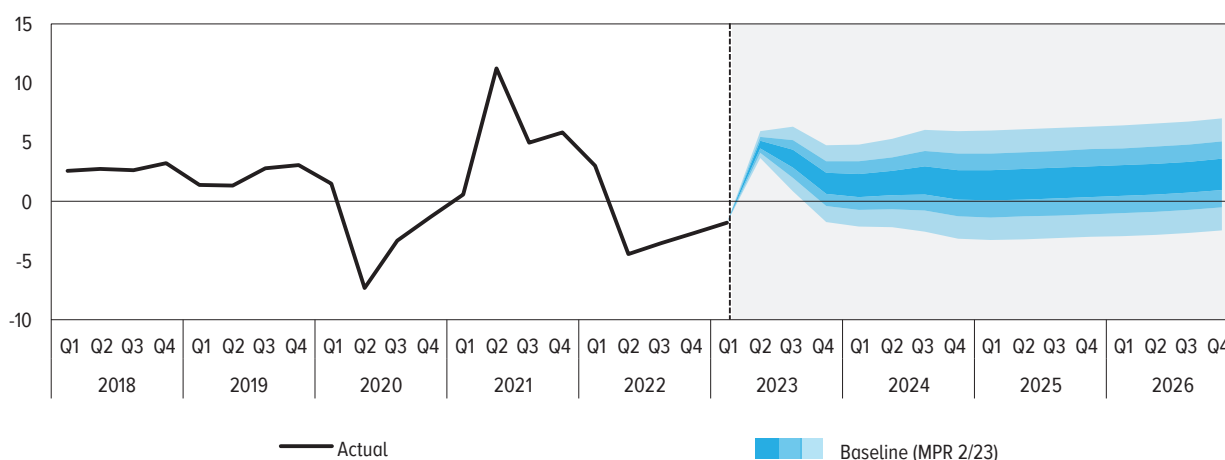
In 2023, economic activity expansion will be largely driven by domestic demand: the levels of consumption, GFCF and imports are estimated higher, whereas the level of exports is estimated to be lower than in the MPR 2/23. In the next years, the contribution of exports will edge up, but in general, its relative significance will be lower than it has been historically.

In 2023 Q1, **household consumption** exceeded expectations and, judging by flash data on consumer activity, the same conclusion can be drawn about 2023 Q2. The level of 2021 Q4 was achieved between 2023 Q1 and Q2. This explains a 2.5 pp increase in the household consumption growth rate for 2023 to 6.0–8.0% compared to the MPR 2/23. In 2024–2025, household demand will slow down amid a weaker recovery impulse and also because of the tighter monetary policy required to return inflation to the target. Having considerably exceeded expectations in 2023, general government consumption will make a much smaller contribution in 2024–2025 because of the fiscal policy normalisation. In 2026, the contribution of aggregate consumption and its components will return to the level consistent with the balanced growth of the economy.

**Investment** has been on a sustainable upward track since the middle of 2020. According to the Bank of Russia's monitoring of businesses, business sentiment remains optimistic which may suggest the ongoing growth of the private sector investment. In 2023, the contribution of investment will expand. In addition to growing private investment, this trend will be supported by the investment of NWF resources in infrastructure projects within the Russian economy. Moreover, large-scale investment projects, implemented predominantly by state-owned companies, will continue to make a significant positive contribution to output. In 2024–2025, as fiscal policy normalises, the fiscal impulse will fade out and the contribution of public investment will decrease, which will influence

GDP GROWTH PATH IN THE BANK OF RUSSIA'S BASELINE SCENARIO  
(% change YoY)

Chart 43

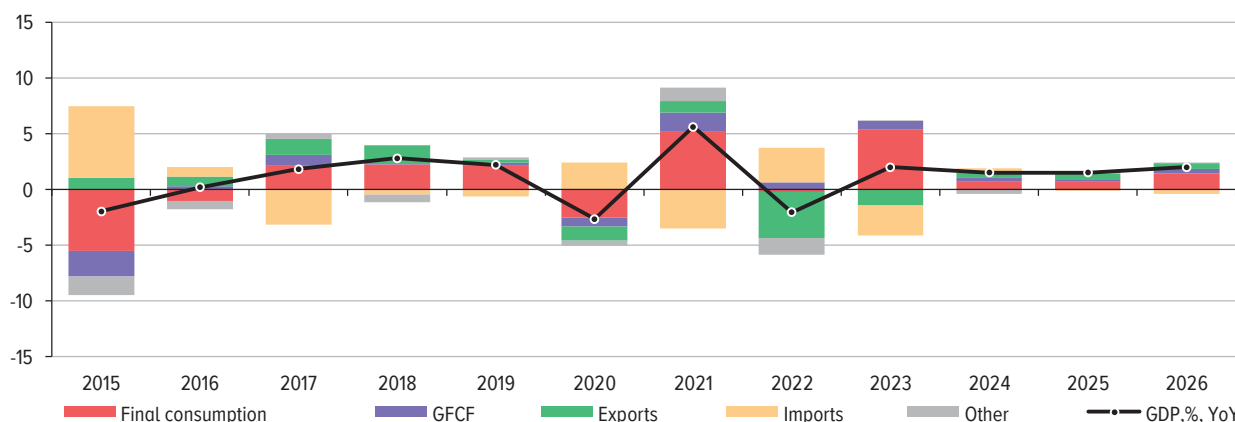


*Note. The shaded blue areas on the forecast horizon show the probability of different GDP growth values. Confidence intervals are symmetrical and based on the historical estimates of GDP growth uncertainty. If baseline scenario assumptions are implemented, the value of GDP growth rate will lie within 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.

## DECOMPOSITION OF GDP GROWTH OVER THE FORECAST HORIZON

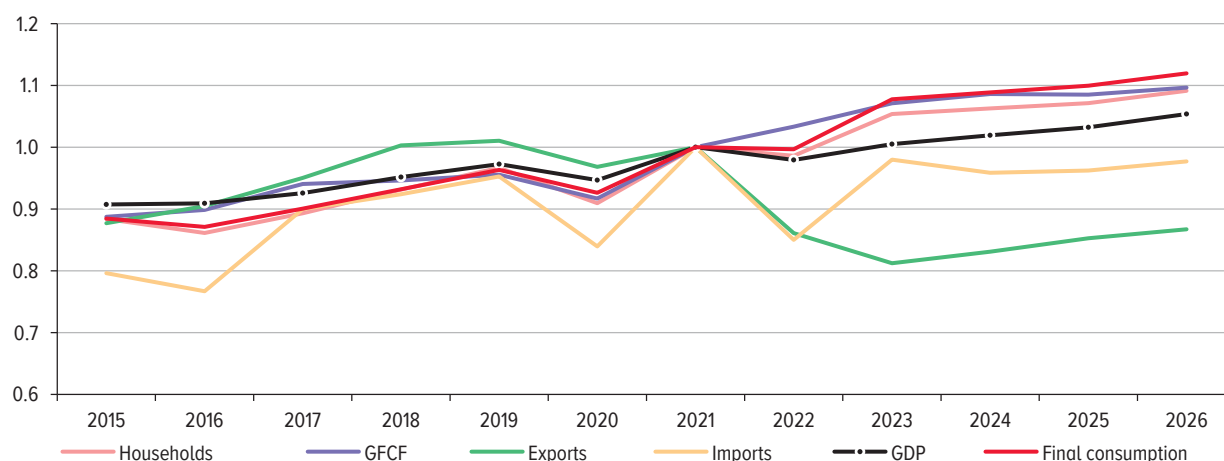
Chart 44



Note. The above decomposition is calculated with due regard to growth rates corresponding to the central points of the forecast ranges, as well as the percentages of components in GDP based on the forecast values of GDP components and the GDP value. The decomposition is given for illustrative purposes and should not be viewed as the Bank of Russia's quantitative forecast.  
Source: Bank of Russia calculations.

CHANGE IN GDP COMPONENTS BY EXPENDITURE  
(2021=1)

Chart 45



Note. The presented change in component levels is calculated taking into account the growth rates corresponding to the central points of the forecast ranges. The change in levels is given for illustrative purposes and should not be viewed as the Bank of Russia's quantitative forecast.  
Source: Bank of Russia calculations.

the evolution of the aggregate indicator. By the end of the forecast horizon, the contribution of investment will stabilise and will be predominantly made by the private sector.

Exports will start to stabilise in 2024 after making a noticeable negative contribution in 2023 amid implemented external restrictions. Imports are determined by changes in domestic demand and relative prices for imported goods and services compared with domestic ones. After a considerable increase in 2023 coupled with the expanded household consumption, imports will decline in 2024 due to both slowing demand and the shift to domestically produced goods because of rising prices amid the growing pass-through effects of the 2023 ruble depreciation. This will in turn support output. By 2026, exports and imports will return to long-term sustainable levels, with their contribution being consistent with the balanced economic growth.

## BOX 2. BUDGET SECTOR'S CONTRIBUTION TO AGGREGATE DEMAND AND MONETARY AGGREGATES

In early 2023, fiscal policy continued to ease, stimulating output and demand. According to recent data published by the Russian Ministry of Finance, the federal budget (FB) for the first half of 2023 was executed with a deficit of **₽2.6 trillion**, which is a high level of deficit, given the deficit of **₽2.9 trillion** planned in the Budget Law and the traditional seasonality of the FB execution. At the beginning of 2023, the considerable FB deficit was formed on the back of the weak dynamics of revenues (mainly oil and gas revenues) and intensified execution of FB expenditures.

To assess the impact of fiscal policy on demand and inflation, it is necessary to pay attention to several important features.

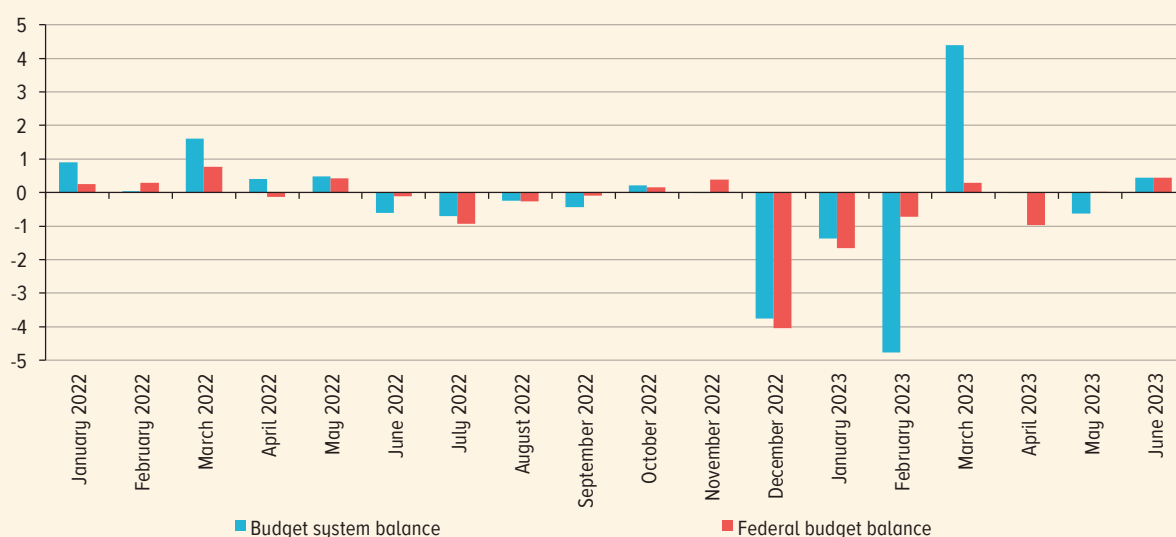
Overall, fiscal policy influences the economy not only through FB flows, but also through operations related to **other elements of the budget system (BS)**, i.e. extra-budgetary funds and the consolidated budget of the constituent territories of the Russian Federation. In the first six months of 2023, a part of the executed expenditures of the FB included transfers to extra-budgetary funds and regional budgets. These transfers were not used by regional budgets and extra-budgetary funds to execute their planned expenditures, as a result of which the BS deficit was smaller than the FB deficit. Thus, it is **the performance of the BS as a whole** that is important for the understanding of the effects produced by fiscal policy.

As estimated by the Bank of Russia using data from the Electronic Budget portal, the BS deficit in the first six months of 2023 came in at **₽1.9–2.0 trillion**, which is below the FB deficit. This assumes that at the level of regional budgets and extra-budgetary funds, there was a surplus of **₽0.6 trillion** formed due to the relatively positive dynamics of own revenues which had been received but not allocated within own expenditures by regional budgets and extra-budgetary funds, as well as transfers received from the federal centre.

The historically major portion of the BS balance is located at the federal level. However, during certain periods of time, one could observe a noticeable discrepancy between the BS and FB balances. For example, the 12-month moving balance of the BS turned out much smaller than the FB balance in 2013–2016 due to the expansion of expenditure liabilities of regional budgets and extra-budgetary funds (implementation of social programmes and the 2012 May executive orders, indexation of social transfers financed by extra-budgetary funds amid the suspension of indexation of civil servants' and military personnel's wages financed

MONTHLY BALANCE OF THE BUDGET SYSTEM AND THE FEDERAL BUDGET IN 2022–2023  
(trillions of rubles)

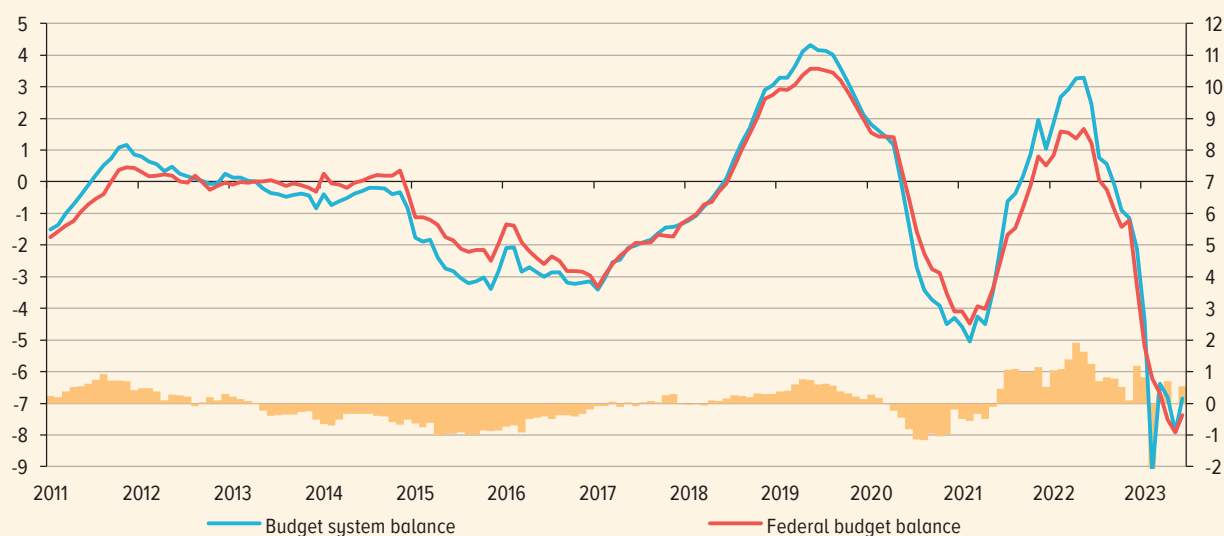
Chart B-1



Sources: Russian Ministry of Finance, Federal Treasury, Bank of Russia calculations.

BALANCE OF THE BUDGET SYSTEM AND THE FEDERAL BUDGET IN 2011–2023  
(trillions of rubles)

Chart B-2



Sources: Russian Ministry of Finance, Federal Treasury, Bank of Russia calculations.

from the FB) and a lower resilience of regional revenues to external shocks in 2015–2016 (**Chart B-2**). In 2018–2019, the execution of expenditures of regional budgets and extra-budgetary funds was modest amid the positive changes in their revenues (**Chart B-2**).

Since the middle of 2021, the 12-month moving FB balance has exceeded the BS balance by over **₽0.5 trillion** (**Charts B-1 and B-2**). The federal centre actively financed anti-pandemic measures, anti-crisis expenditures, one-off payments and unplanned indexations, large-scale public procurements for national defence and security, and also made social fiscal transfers to extra-budgetary funds and regions in advance, which did not yet reach final recipients.

The assessment of the resulting influence of fiscal policy should take into account the execution of regional budgets and extra-budgetary funds, as well as the net investment of NWF resources in infrastructure projects within the Russian economy. The amount of this net investment totalled **₽0.3 trillion** in the first six months of 2023.

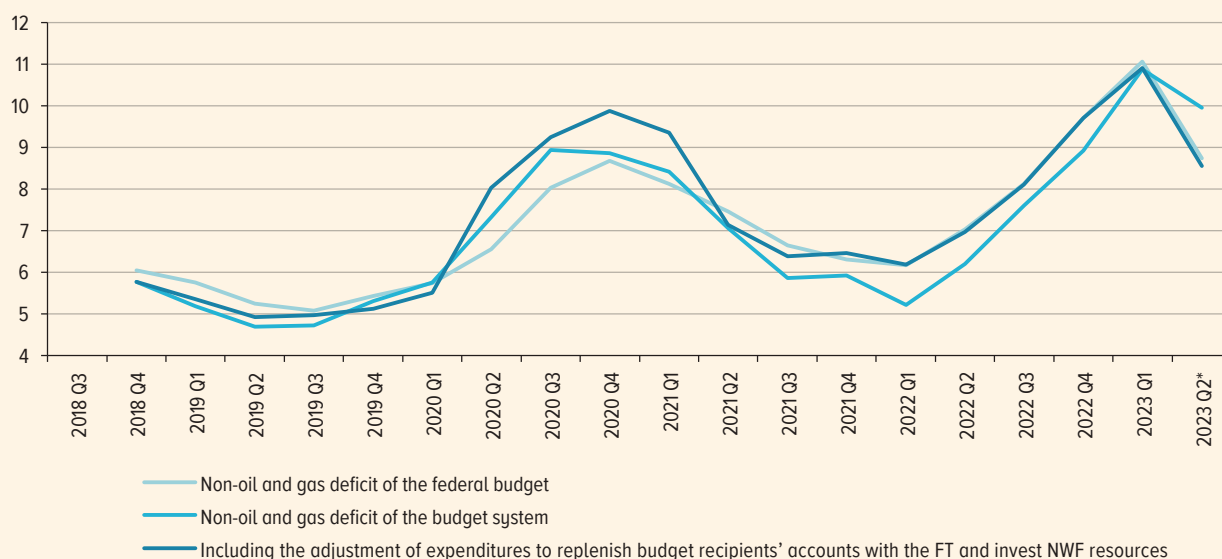
In addition, an important role in making fiscal policy influence the change in demand and monetary aggregates is played by the following peculiarities of budget execution in 2023, i.e. the transition to the unified tax payment (UTP) regime and **intensive advance financing of future expenditures through the replenishment of balances in the accounts of budget recipients with the FT** without the actual delivery of funds to the economy. Whereas the problem with the shift in time of the receipt of revenues by budgets as part of the UTP manifested itself mainly in January–February 2023 (a part of revenues was received in the following months, taking into account the calendar factor), the effect of the factor of the intensive advance financing of expenditures in excess of the historical norm remained in April–June, as a result of which the value of undelivered funds exceeded **₽1.6 trillion** at the end of the first six months. A part of the expenditures reflected in budget statements was not actually delivered to the economy and did not affect changes in budget recipients' accounts with credit institutions (the funds are accumulated in their accounts with the Federal Treasury (FT) and are redistributed between the extended budget accounts with the Bank of Russia).

At the end of 2023 Q1, the non-oil and gas deficit of the budget system, taking into account additional adjustments for the net investment of the NWF, and the replenishment of budget recipients' accounts with the FT were at maximum levels seen in recent years (above the peak levels of 2020), showing **a significant accumulated stimulating contribution**: over the four quarters (from the end of 2022 Q1 to the end of



NON-OIL AND GAS AND STRUCTURAL DEFICIT OF THE BUDGET IN 2018–2023  
(four-quarter moving averages, % GDP)

Chart B-3



\* 2023 Q2 – Bank of Russia's estimates using data from the Electronic Budget portal.

Sources: Russian Ministry of Finance, Federal Treasury, Rosstat, Bank of Russia calculations.

2023 Q1), the adjusted non-oil and gas deficit of the BS expanded **by 4.6–5.4 pp of GDP (Chart B-1)**. At the same time, starting from 2023 Q2, there has been a slight decrease in the intensity of expenditure execution and activation in the receipt of non-oil and gas revenues **(Chart B-3)**.

Given the incomplete delivery of transfers from the federal centre to the economy and the retention of a part of advanced expenditures in the accounts with the FT, the stimulating effect of fiscal policy on the economy and inflation in the first six months of 2023 was more limited than it appeared from the key data on the federal budget execution. The effects of these expenditures will be seen in the second half of the year.

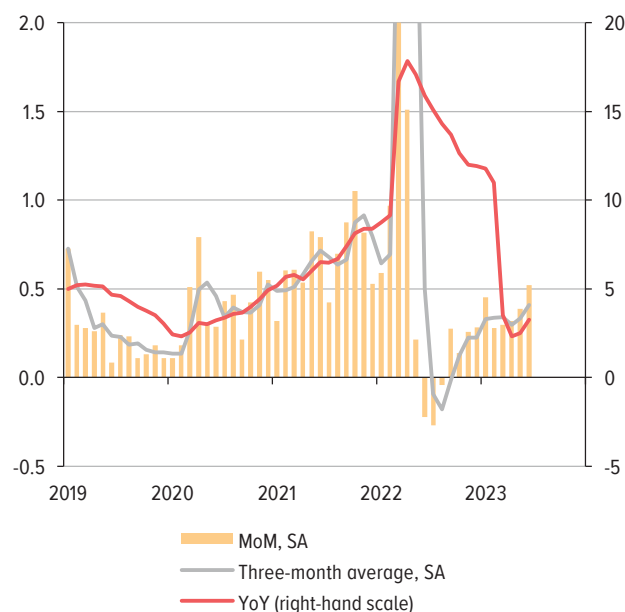
In line with the Budget Law, the normalisation of fiscal policy and the subsequent return to the fiscal rule-based formation of budget expenditures will continue over the medium-term horizon, which implies a consistent reduction in the non-oil and gas and structural deficit of the budget. Additionally, the further investment of NWF resources in infrastructure projects will make a positive contribution to changes in aggregate demand and monetary aggregates. The extent of this contribution will depend on the value and areas of investment.

## PRICE GROWTH HAS PICKED UP MARKEDLY

In 2023 Q2, annual inflation passed the local minimum and started to accelerate. In June, annual price growth stood at 3.3%, which was still below 4% because of the previous year's low base effect **(Chart 46)**. However, in the coming months, as the base effect will diminish, the annual inflation indicator will continue to rise. The additional effect will be produced by an increase in the current price growth rate. In June 2023, the current price growth rate was 0.37% (in May, prices grew by 0.31%). In June, seasonally adjusted monthly price growth was 0.52%, which corresponds to 6.4% in annualised terms (in May: 0.39% and 4.8%, respectively). In the second quarter, the average price growth rate corresponded to the annual inflation rate of 5.0%.

PRICE GROWTH, ALL GOODS AND SERVICES (%)

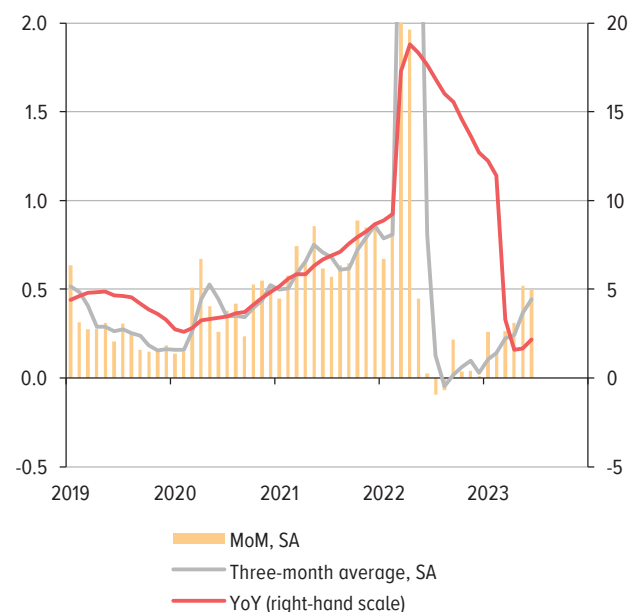
Chart 46



Sources: Rosstat, Bank of Russia calculations.

PRICE GROWTH, ALL GOODS AND SERVICES, EXCLUDING MAIN VOLATILE AND REGULATED COMPONENTS (%)

Chart 47



Sources: Rosstat, Bank of Russia calculations.

The price growth acceleration in the second quarter was accompanied by wider fluctuations in the changes of prices for individual goods and services. The contribution of volatile goods and services was predominantly proinflationary and ensured a significant part of the pickup in price growth. Due to the ruble weakening amid persistently high demand, prices for tourist services and cars increased considerably. The planned change in the parameters of the damper mechanism pushed up petrol prices.

In 2023 Q2, price growth indicators net of volatile components continued to grow. Most of them exceeded the level corresponding to the annual inflation of 4%. However, in contrast to the previous quarters, growth in prices accelerated for both services and goods.

One of the main proinflationary factors was higher consumer activity. Households gradually adapted to the new product range and the set of available brands, whereas the stocks accumulated over the period of rush demand last year began to run out. Another important reason underlying the acceleration in prices became the growing cost pressure from the labour market. The partial pass-through of the ruble weakening, which occurred over the past six months, also intensified proinflationary trends.

## INFLATION EXPECTATIONS INCREASED

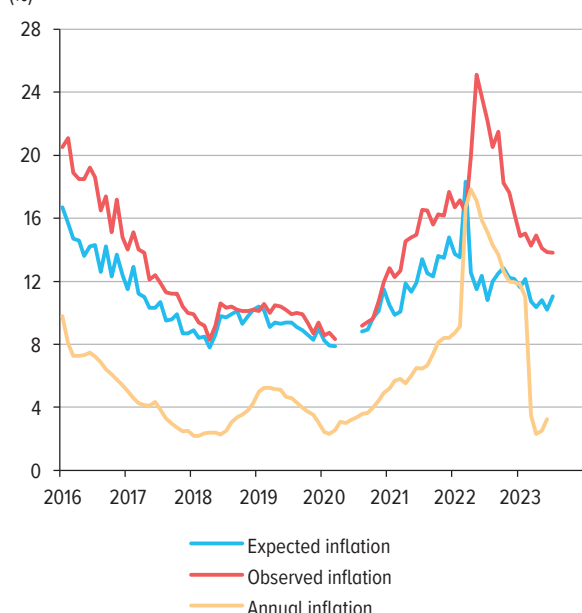
In May–June, household inflation expectations changed negligibly (**Chart 48**). In July, inflation expectations increased to 11.1% (in June: to 10.2%). Overall, over the three months (May–July), expectations increased among respondents both with and without savings. In May–July, inflation observed by households declined. In July 2023, it was 13.8%. During the three months, the estimates of observed inflation declined among respondents both with and without savings.

According to the Bank of Russia's monitoring of businesses, price expectations of companies decreased in May–June, but increased in July<sup>2</sup> (**Chart 49**). The July increase in price expectations was mainly driven by the ruble depreciation, faster growth in costs and higher business risks. Price expectations in retail trade rose to the 2021 levels.

The accelerated price growth rates affected not only companies' price expectations and households' inflation expectations, but also analysts' expectations (see Box 3).

INFLATION OBSERVED AND EXPECTED BY HOUSEHOLDS

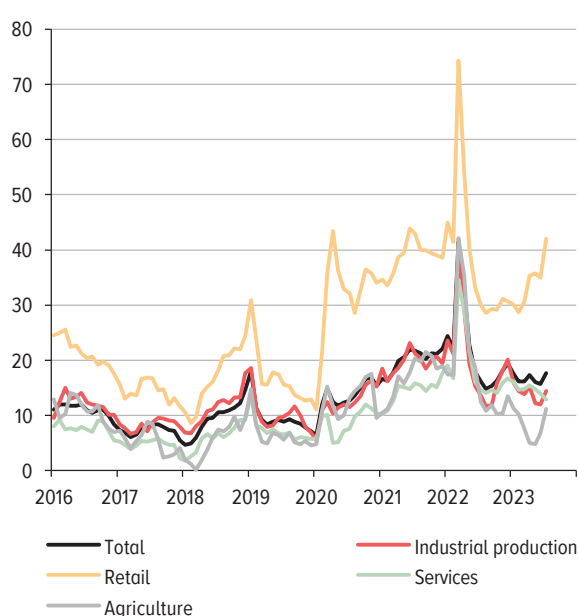
Chart 48



Sources: InFOM, Rosstat.

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

Chart 49



Source: Bank of Russia.

## INFLATION WILL RETURN TO 4% IN 2024

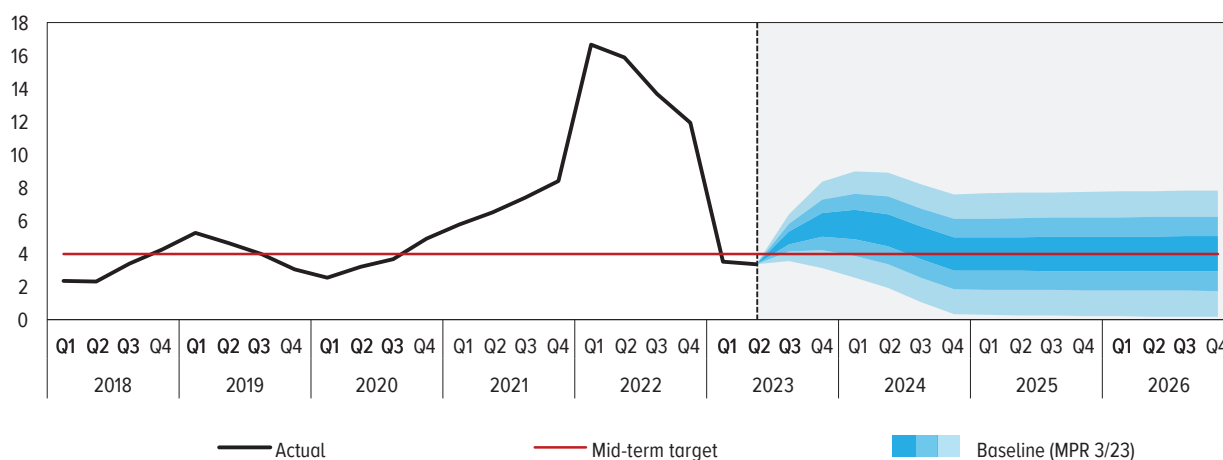
Annual price growth rates are accelerating, as the impact of the low base effect of the 2022 spring on prices is fading out. Higher inflationary pressure is seen across an increasingly broader range of goods and services. According to Bank of Russia estimates, the inflation component net of seasonality and random shocks also accelerates and is elevated, which evidences an increase in persistent inflationary pressure. The Bank of Russia forecasts that annual inflation will overshoot 4% in 2023 Q3 and continue to accelerate in 2023 Q4.

The increase in inflation is mainly driven by a considerably higher-than-expected growth of domestic demand. The adaptation to the new range of goods occurred earlier than expected. A further expansion of demand may exceed output expansion capabilities. The shortage of labour force will lead to higher inflationary pressure from the growing labour costs of companies.

<sup>2</sup> [Data](#) on the price expectations of companies in July were released after the Bank of Russia Board of Directors' meeting. However, at the time of the decision-making, the Board of Directors had information from Bank of Russia main branches that provided qualitative description of companies' price expectations.

INFLATION PATH IN THE BANK OF RUSSIA'S BASELINE FORECAST  
(% change YoY)

Chart 50



*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, outcomes 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.*

Additionally, deteriorating terms of trade due to both lower export prices and lower export quantities, coupled with growing imports have noticeably weakened the ruble exchange rate. In the first six months of the year, the pass-through of the weaker exchange rate of the ruble to prices was moderate. In the second half of the year, it will manifest itself to a greater extent.

The Bank of Russia has raised the lower bound of the forecast 2023 inflation range by 0.5 pp to 5.0–6.5%. The Bank of Russia's monetary policy will limit the extent of inflation's upward deviation from the target and will bring it back to 4% in 2024. In 2024, given the monetary policy pursued and if the situation develops in line with the baseline forecast, annual inflation will return to 4% in 2024 and will stay close to 4% further on.

**BOX 3. ANALYSTS' CONSENSUS FORECASTS**

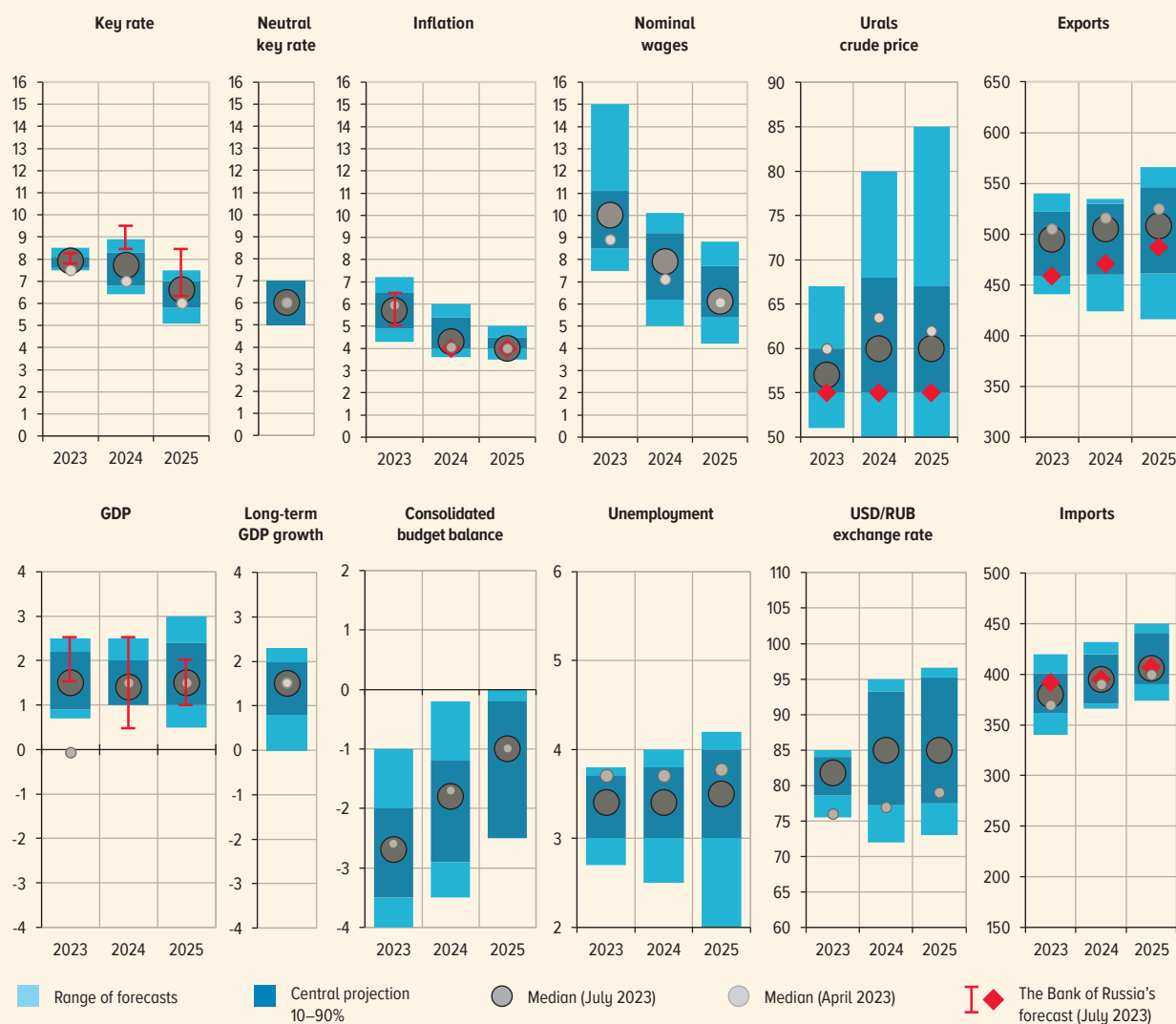
According to the findings of the Bank of Russia's macroeconomic survey conducted on 7–11 July 2023 before the key-rate decision made by the Bank of Russia Board of Directors on 21 July, analysts expect **inflation** to equal 5.7% this year. Opinions vary from 4.3% to 7.2%; with the central projection<sup>1</sup> coinciding with the Bank of Russia's forecast. Analysts believe that inflation will slow down to 4.3% next year and return to 4% in 2025. According to the Bank of Russia's forecast, inflation will return to the target in 2024.

Analysts' central projection of the 2023 **key rate** is almost in line with the Bank of Russia's forecast range, but is slightly skewed to the downside against it. In 2024–2025, analysts expect a slightly lower key rate path.

Analysts forecast a 1.5% growth in **GDP** for 2023, which corresponds to the lower bound of the Bank of Russia's forecast range. The upper bounds of Bank of Russia forecasts for 2023 and 2024 coincide with the maximum estimates of analysts. The median expectations for 2024–2025 correspond to the centre of Bank of Russia forecast ranges.

## ANALYSTS' CONSENSUS FORECASTS

Chart B-1



Source: the Bank of Russia's macroeconomic survey.

<sup>1</sup> Hereinafter, the central projection implies the forecast range excluding the 10% of the lowest and highest values.

Analysts forecast that **unemployment** will range from 3.4% to 3.5% over the entire horizon. Analysts slightly upgraded their forecasts of growth in nominal wages. According to expectations, they will grow more slowly than in 2021–2022. However, taken together, nominal wages will exceed the 2021 level by more than 40% by the end of the forecast horizon. The range of forecasts for this year is very wide. It slightly narrows by the end of the forecast horizon.

Analysts' median forecast assumes a deficit of the consolidated **budget** in 2023–2025. The spread of opinions also does not suggest a budget surplus before the end of the horizon – the 2025 forecasts vary from the deficit of 2.5% of GDP to a balanced budget.

Analysts anticipate a weakening of the **ruble** over the entire horizon. The forecast for 2023 is ₸81.8 per US dollar; for 2024 and 2025, it is ₸85.0 per US dollar. The forecast range expands by the end of the horizon in both directions from the median.

According to analysts, the average annual price for Urals **crude** will be about \$57–60 per barrel over the forecast horizon. The forecast range expands considerably by the end of the forecast period. The Bank of Russia's forecast of \$55 per barrel is lower.

Analysts' forecasts for **exports** are more optimistic than the Bank of Russia's forecasts. Their opinions about **imports** are similar. The ranges of analysts' forecasts continue to narrow, but their forecasts for exports expand by the end of the forecast horizon.

In July, analysts have preserved their estimate of the **neutral key rate** at 6.0% per annum. It corresponds to the centre of the Bank of Russia's revised estimate (5.5–6.5% per annum for the nominal neutral rate). Analysts' central projection was up to 5.0–7.0% per annum. The median estimate of **long-term GDP growth** remained unchanged at 1.5%.

## MAIN RISKS FOR THE BASELINE FORECAST

Over the medium-term horizon, the balance of risks has shifted even more towards proinflationary risks, which have considerably increased. Disinflationary risks are insignificant.

### *Proinflationary risks:*

- ▲ The main risk is the growing deviation of the Russian economy upwards from the balanced growth path, including due to persistently higher growth rates of consumer lending and a further aggravation of labour shortages. Consumer demand may intensify further if the demand from the public sector remains strong. In this case, the expansion of domestic demand may significantly exceed potential output.
- ▲ Amid the limited availability of labour resources, growth in labour productivity may lag behind growth in real wages to a greater extent.
- ▲ The persistence of elevated inflation expectations for a long time coupled with a sharper pass-through of the ruble depreciation to prices may exacerbate the second-round effects of inflation expectations.
- ▲ The strengthening of external trade and financial restrictions, including a possible tightening of the sanctions regime, may additionally erode demand for Russian exports and have a proinflationary effect through exchange rate dynamics. Moreover, the increasing complexity of supply chains and payments due to the external restrictions could push up import prices.
- ▲ Deterioration in the world economic outlook may lead to an even deeper decline in Russian exports and a short-term increase in price growth rates because of the pass-through of exchange rate dynamics.

### *Disinflationary risks:*

- ▼ Faster growth of the global economy may support demand for Russian exports and eventually lead to a certain short-term disinflationary effect through a stronger ruble.
- ▼ A higher harvest of agricultural crops may lead to a more noticeable drop in food prices in light of existing high stocks of some crops.



# SYSTEM OF MONETARY POLICY INSTRUMENTS AND OTHER MONETARY POLICY MEASURES

**Banking sector liquidity.** Between the second half of April and the first half of July 2023, the structural liquidity surplus averaged ₹1.0 trillion (vs ₹2.1 trillion over the February–March APs) across the required reserve (RR) averaging periods (APs). Over the APs, the surplus decreased on average primarily due to an increase in the RR ratios since the April AP. Fiscal operations and demand for cash had diverse effects on the banking liquidity.

In May–June 2023, the surplus decreased from ₹0.6 trillion to ₹0.5 trillion. At the beginning of the month, the value of the structural surplus largely depends on whether the FT is able to deposit promptly available budgetary funds with banks and on banks' strategies for averaging the required reserves. Specifically, in early May, the surplus shrank temporarily as the FT did not return funds it had received from tax payments in April to banks at once but did it with a small lag.<sup>1</sup> In early July, a low surplus was associated with an uneven averaging by some large banks. They maintained small balances in their correspondent accounts at the beginning of the June AP, but increased them after tax payments at the end of the month, simultaneously decreasing their deposits with the Bank of Russia.

That is why, the average value of the liquidity position over the APs makes it possible to assess the impact of long-term factors on the banking sector liquidity in a more unbiased manner than the value as of a fixed date (in particular, fiscal operations, cash in circulation trends).

**Budget account operations.** In May–June 2023, fiscal revenues and expenditures rose in nominal terms year-on-year according to the Bank of Russia Payment System. Expenditures were mainly financed from taxes and OFZ placements. At OFZ auctions, the Russian Ministry of Finance raised ₹0.5 trillion on a net basis, with fiscal rule-based sales of foreign currency totalling ₹0.1 trillion. In addition, the banking sector received funds from the NWF to buy shares and bonds of several companies. An increase in FT deposits and budgets of the constituent territories of the Russian Federation resulted in an inflow of liquidity into banks. First, this was associated with a calendar effect as funds from tax payments due in May and partially in April returned to banks in May. Second, the FT reduced its balances in the treasury single account (TSA) thanks to the development of short-term investment tools. Specifically, the FT started using overnight accounts in late April and recurring bank deposits in early June. The FT may initiate a full or partial withdrawal of funds from these deposits before maturity on any business day. The placement of funds on such terms help the FT mitigate the risk of a cash gap and manage budgetary funds balances more efficiently. As a result, banks received ₹1.8 trillion via FT transactions in May–June, with the inflow of liquidity from fiscal and other transactions totalling ₹2.3 trillion.

**Cash in circulation.** In May–June 2023, cash in circulation grew by ₹0.7 trillion. This exceeds seasonal values typical of this period. The deviation might have been driven by an extra demand for cash in the new Russian regions, among other factors. Moreover, households usually tend to receive some part of fiscal transfers in cash. Thus, an increase in social and other fiscal transfers in 2023 might have contributed to the greater demand for cash. Some part of the extra demand might be associated with the use of cash to arrange travel to the CIS countries, among others.

Growth in the amount of cash in circulation does not cause problems for the implementation of monetary policy. The related liquidity outflow is taken into consideration by the Bank of Russia when defining parameters for its operations with banks.

<sup>1</sup> See [Monetary Policy Report 2/23](#).

**System of monetary policy instruments and operational objective of monetary policy.** In the April–June 2023 APs, the spread between short-term interest rates in the IBL segment of the money market<sup>2</sup> and the key rate was -25 bp on average over the APs (vs -21 bp in the February–March 2023 APs), fluctuating from -72 bp to +8 bp (vs from -58 bp to +15 bp in the February–March 2023 APs).

In the April AP, the spread between RUONIA and the key rate expanded. One of the reasons was that banks did not fully utilise their limits at Bank of Russia one-week deposit auctions. As a result, there remained a liquidity overhang in the banking sector, putting downward pressures on money market rates. The spread narrowed to the 2019–2022 average values on the back of an increasing utilisation of the limits and a further allocation between banks of budgetary funds received in late 2022 and early 2023.

Furthermore, the mix of market participants in the IBL segment of the money market is still changing. Some banks have switched from the overnight segment to the fixed-term segment, namely one-week transactions. This behaviour may be driven by higher rates on such transactions as they are formed with a premium to the key rate. In turn, borrowing banks are able to raise more robust funds compared to overnight borrowings. As a result, supply in the overnight segment dropped, pushing up the cost of borrowing for banks.

In May–July 2023, the Bank of Russia continued to gradually reduce the limits of one-month repo auctions. Given better efficiency of funds distribution among banks, including in the money market, the amount of funds provided through these transactions decreased from ₺0.9 trillion in April to ₺0.1 trillion in July. Demand dropped from ₺0.9 trillion to ₺0.4 trillion. Lower borrowings at Bank of Russia repo auctions were partially offset by bank borrowings in the money market, which narrowed the spread between RUONIA and the key rate.

Given the movements in the structural liquidity surplus and to ensure a further dedollarisation of credit institutions' balance sheets, the Bank of Russia raised the RR ratios three times starting from the March reporting period.<sup>3</sup> Since the April AP, the RRs subject to averaging in correspondent accounts increased by ₺1.1 trillion. In the May AP, the regulator applied novel differentiated RR ratios to liabilities denominated in the currencies of friendly and unfriendly countries, with higher ratios set for the latter.<sup>4</sup>

In the July AP, banks started to maintain in their correspondent accounts RRs calculated based on new ratios.<sup>5</sup> All else equal, this led to the scheduled increase in banks' demand for liquidity by ₺0.6 trillion. In line with the above, the Bank of Russia was decreasing limits at its weekly deposit auctions.

**The structural liquidity surplus forecast for the end of 2023 was lowered by ₺0.8 trillion, with the forecast interval being expanded to range from ₺1.3 trillion to ₺2.2 trillion.** The average liquidity surplus over the December AP is estimated in the range from ₺1.1 trillion to ₺2.0 trillion. The change is due to an increase in the estimated growth of cash in circulation in 2023 to ₺2.0–2.5 trillion, taking into account actual data for the first six months. In addition, foreign currency sales are projected to amount to ₺0.25 trillion from August to December 2023 as the NWF funds will be invested in eligible financial assets within the Russian economy. As before, the forecast takes into account the application of the fiscal rule in 2023 and fiscal rule-based foreign currency sales in the domestic FX market. Besides, fiscal expenditures may be partially financed through the operations of the Government of the Russian Federation. These operations will form the main liquidity flow to banks. The current forecast assumes an increase in balances in banks' correspondent accounts by ₺1.1–1.3 trillion by the end of 2023 compared to the beginning of the year.

<sup>2</sup> The IBL (interbank lending) interest rate is the RUONIA (Ruble Overnight Index Average) rate, which is the weighted average interest rate on overnight interbank ruble loans (deposits) that reflects the estimated cost of unsecured overnight borrowing.

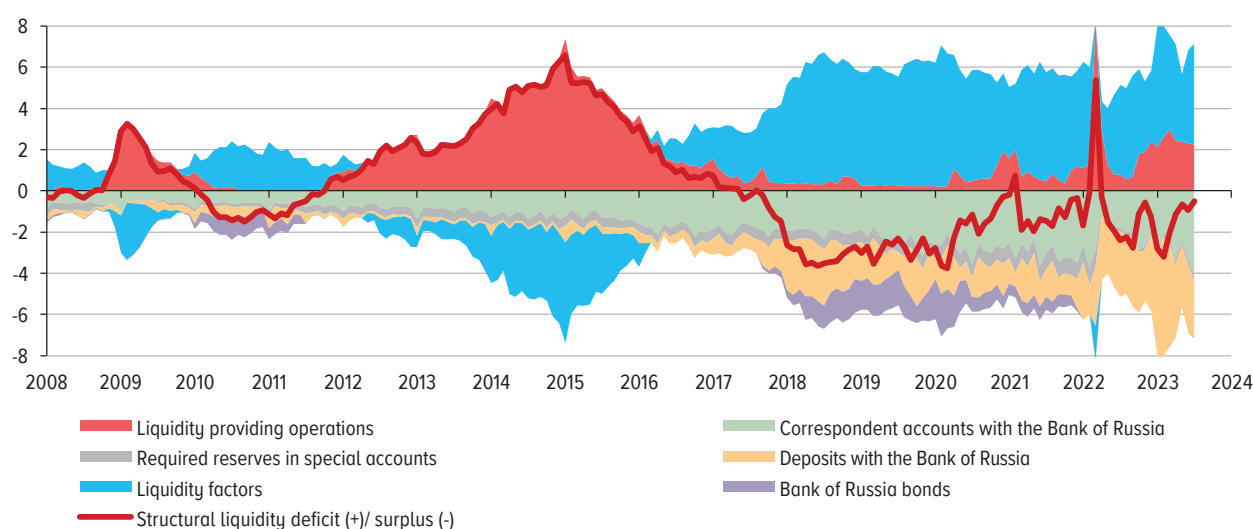
<sup>3</sup> See the [press release](#) of the Bank of Russia, dated 13 February 2023.

<sup>4</sup> See the [press release](#) of the Bank of Russia, dated 21 March 2023.

<sup>5</sup> See the [press release](#) of the Bank of Russia, dated 23 May 2023.

## THE BANK OF RUSSIA'S BALANCE SHEET (start of business, trillions of rubles)

Chart SI-1

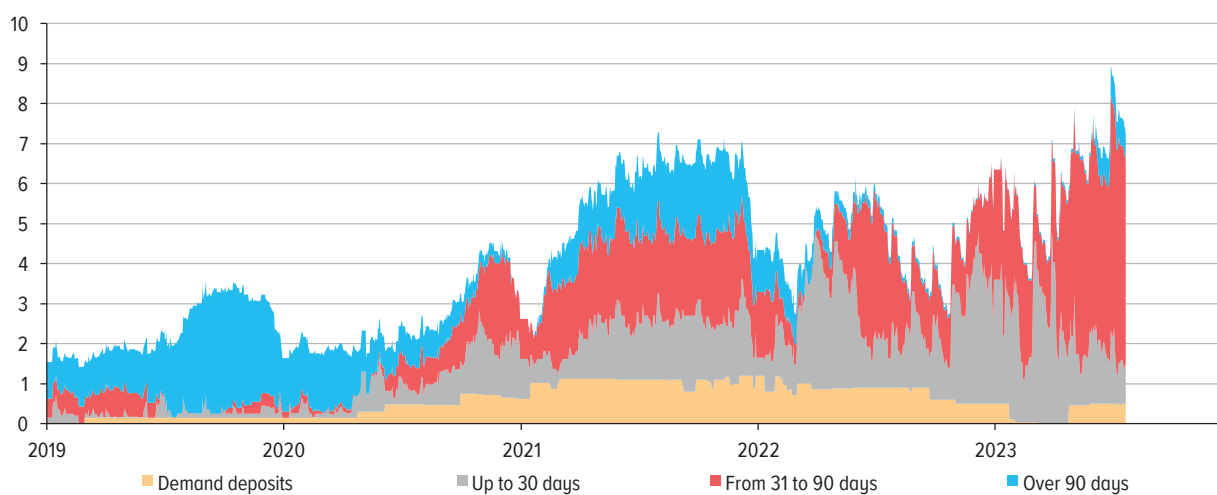


\* This item is balancing and comprises changes in all other, not differentiated, items of the Bank of Russia's balance sheet.

Source: Bank of Russia calculations.

## BANKS' OUTSTANDING AMOUNTS ON FEDERAL TREASURY OPERATIONS (trillions of rubles)

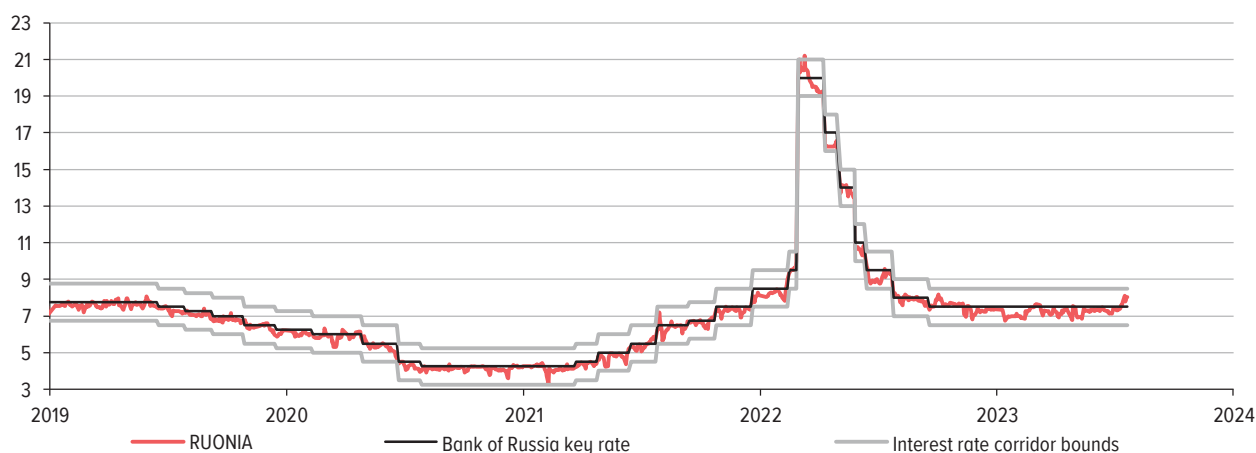
Chart SI-2



Sources: Federal Treasury, Bank of Russia calculations.

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

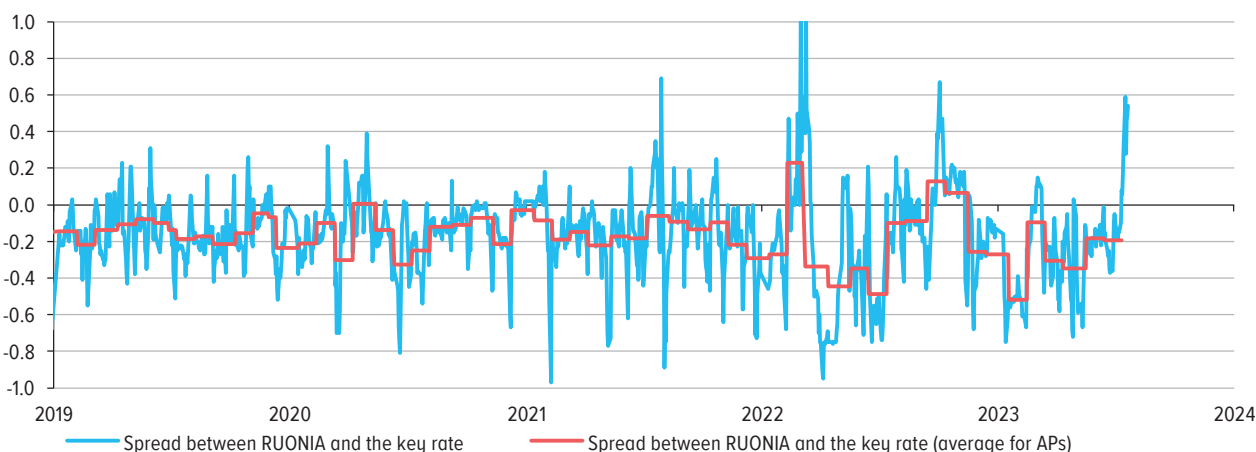
Chart SI-3



Source: Bank of Russia.

SPREAD BETWEEN RUONIA AND THE KEY RATE  
(pp)

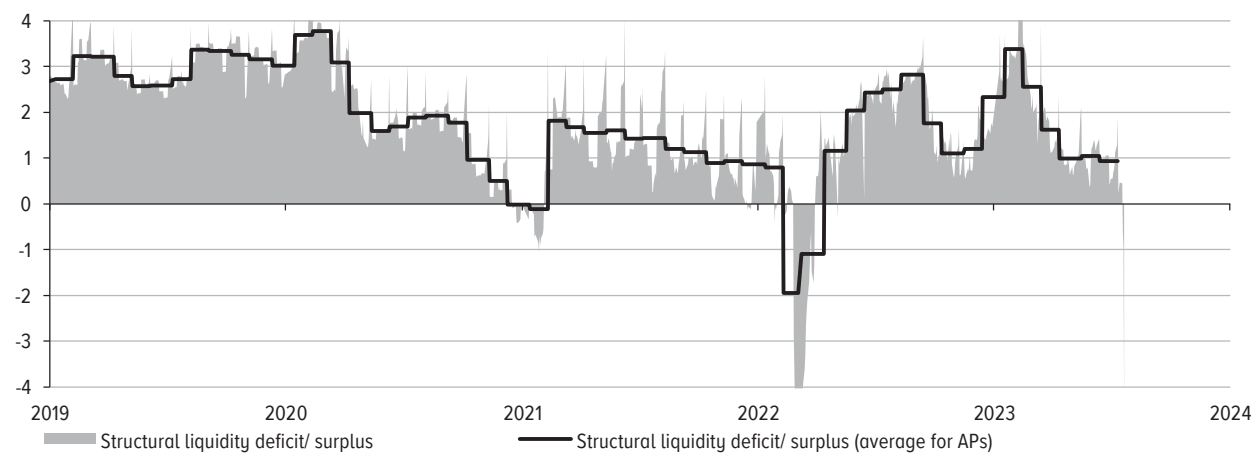
Chart SI-4



Source: Bank of Russia calculations.

STRUCTURAL LIQUIDITY SURPLUS  
(trillions of rubles)

Chart SI-5



Source: Bank of Russia calculations.

STRUCTURAL LIQUIDITY SURPLUS AND LIQUIDITY FACTORS  
(trillions of rubles)

Table SI-1

	May 2023	June 2023	2023 (forecast)
<b>1. Liquidity factors</b>	<b>1.2</b>	<b>0.4</b>	<b>[-0.1; 0.6]</b>
– change in the balances of funds in general government accounts with the Bank of Russia, and other operations*	1.4	0.8	[2.5; 2.7]
– change in the amount of cash in circulation	-0.2	-0.5	[-2.5; -2.0]
– regulation of banks' required reserves with the Bank of Russia	0.0	0.0	-0.1
<b>2. Change in free bank reserves (correspondent accounts)</b>	<b>0.9</b>	<b>0.8</b>	<b>[1.1; 1.3]</b>
<b>3. Change in banks' claims on deposits with the Bank of Russia and coupon OBRs</b>	<b>0.2</b>	<b>-0.5</b>	<b>[-2.5; -1.6]</b>
<b>4. Change in outstanding amounts on Bank of Russia refinancing operations (4 = 2 + 3 - 1)</b>	<b>0.0</b>	<b>-0.1</b>	<b>-1.0</b>
<b>Structural liquidity deficit (+)/ surplus (-) (as of the period-end)</b>	<b>-0.9</b>	<b>-0.5</b>	<b>[-2.2; -1.3]</b>

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

# ANNEX

## QUARTERLY PROJECTION MODEL WITH A LABOUR MARKET COMPONENT

The labour market is one of the most important factors of price dynamics in any economy. Changes in nominal wages are conditioned on the response of employers and employees to inflation movements, that is often used as a basic indexation ratio, rather than on a demand and supply balance in the labour market and the assessment of development prospects by firms. The flexibility of wages defines how fast inflation expectations second-round effects develop. Changes in real wages on a sustainable growth path should match changes in labour productivity. If an increase in real wages exceeds labour productivity growth, inflationary pressures will rise in the economy.

In the foreseeable future, the Russian labour market will be affected by long-term demographic trends, namely a reduction in and ageing of population. In turn, this will cause both a gradual decline in the labour force and a potential drop in labour productivity. Therefore, labour market analysis becomes crucially important. The introduction of a toolkit to assess the impact of changes in the labour market on the economy makes it possible to have a better understanding of key correlations and enhance economic performance analysis in the course of preparing materials for Board of Directors' key rate meetings. The quarterly projection model with a labour market component (QPM) is a further development of one of the Bank of Russia's models. The previous version of the model was published in the [Quarterly Projection Model for Russia](#) analytical note (Orlov A., March 2021).<sup>1</sup> Its adaptation to the capital flow control framework is presented in a box in [MPR 2/22](#).

To include the labour market component in the model, it is necessary to correlate output with the use of production factors, i.e. to do structural modelling of the supply side. To this end, a multi-level production function was added to the QPM. In particular, separate production functions for **domestic output** and **output for exports** (broken down by oil and gas and non-oil and gas exports)<sup>2</sup> were set for the model.

### SUPPLY IN DOMESTIC MARKET

In the model, the production process is set as a series of product transformations from intermediate goods to final marketable ones. To reflect the above process, a number of product categories are introduced into the model.

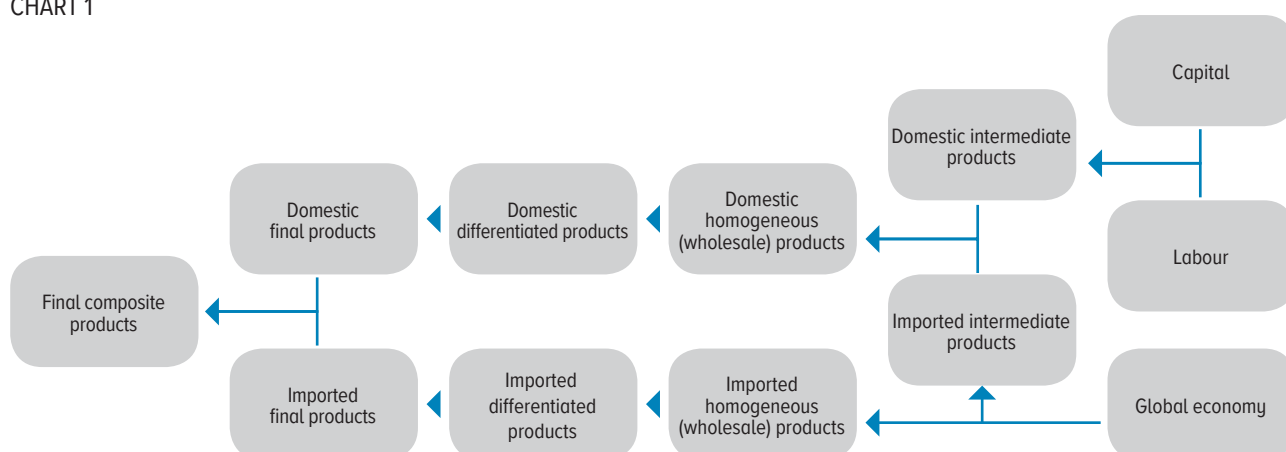
The process starts from **homogeneous (wholesale)** products. These are uniform products that need additional processing so that they have consumer properties. There are two types of the wholesale products, namely imported and domestic products. The imported wholesale products are fully manufactured abroad and imported to the country. The domestic wholesale products are manufactured inside the country. First, domestic intermediate products are manufactured using production factors available in the country (labour and capital). As the actual production process often relies on imported raw materials, we include this factor in the production of the **domestic wholesale products** as well. Thus, the domestic wholesale products are manufactured using three production factors, namely labour, capital and imported intermediate products.

A choice between the three production factors is recorded in the model as a production function which takes into account the relative cost of each factor and the cost of its increase. Concurrently,

<sup>1</sup> Publication of the updated analytical note is scheduled for autumn 2023.

<sup>2</sup> The production profile and production functions are specified in a similar manner as a multi-level production function in the Bank of Canada's core models ToTEM I (2006) and ToTEM II (2013), the Riksbank's core model Ramses II (2013), and the Bank of Brazil's core model SAMBA (2011).

CHART 1



the costs are assumed to rise in the following order: imports, capital and labour (i.e. the easiest task is to increase imported intermediate products and the most difficult one is to increase labour). As the wholesale products are homogeneous, their producers operate in a perfect competition market.

The next step is to prepare the wholesale products for sale. This takes place at the stage of **differentiated products**. To get such products, it is necessary to arrange the packaging of the wholesale products and render them marketable rather than to use a complicated production process involving production factors. Thus, the domestic differentiated products are packaged domestic wholesale products while the imported differentiated products are packaged imported wholesale products. Producers of the differentiated products (as they add new features to the wholesale homogeneous products in the course of packaging) operate in a monopolistic competition market.

Eventually, final products enter the domestic market. As the **final products** may be both imported and domestic, a single variable – **final composite products** – is introduced into the model for convenience. The final composite products are a mix of the domestic and the imported final products. The composite products satisfy internal demand which, in turn, depends on the level of interest rates in the economy, fiscal stimulus, labour incomes and terms of trade.

The entire chain of the product transformation in the domestic market is presented in Chart 1.

## SUPPLY TO EXPORT MARKET

Two types of products are supplied to the export market, namely oil and gas and non-oil and gas goods. We assume that as **oil and gas** exports rely on an established extraction process, it is not necessary to detail the production function for them. So, they are modelled exogenously.

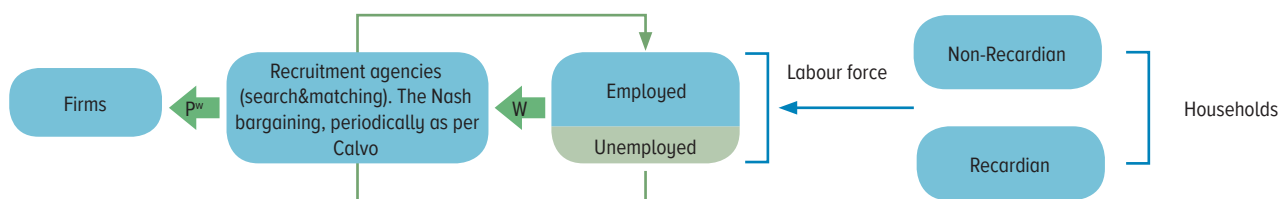
The production of **non-oil and gas** exports is largely similar to that of the domestic wholesale products. The imported intermediate products are actually used in the production of exports to a lesser extent on average than in the production of goods for the domestic market (for example, one may compare the production of cars and that of steel slabs). That is why, the model assumes that the production of non-oil and gas exports relies on two production factors only – labour and capital. In addition, we assume that the output of non-oil and gas exports is more capital intensive compared to the output for the domestic market, and the employment rate in this sector is not generally high as regards to the entire economy.

## LABOUR MARKET

Labour force in the labour market is formed by households. A household consists of two types of members: forward-looking (**Recardian**) members and members consuming all disposable income (**non-Recardian**). The Recardian members of a household are financially literate people that are



CHART 2



Note.  $W$  – wages,  $p^w$  – cost of labour for firms.

able to save some part of income for future consumption (intertemporal smoothing) by purchasing financial assets, among other things. They also own capital that is leased to firms. The Recardian members maximise an expected discounted benefit from consumption amid budget constraints. The non-Recardian members are not engaged in the intertemporal smoothing of consumption. They consume the entire current income.

Each household member is either unemployed or employed. The distribution of workers by labour status does not depend on the type of household members. Any new household member is unemployed initially. A household member who has accepted a job offer becomes employed.

Search for both workers (by companies) and jobs (by the unemployed) is not smooth and quick in real life. Often, employers and job seekers have mismatching requirements for each other (in terms of education and qualification, relevant experience, and location). So, it takes time and, often, extra costs to make them match. Such a mismatch in the requirements coupled with a lengthy process of their matching is the main source of unemployment in the model. That is why, apart from market wage rates, job seekers take into consideration the likelihood of their hiring and the amount of unemployment benefits if their search fails. In each period, search may prove successful. When it fails a job seeker remains unemployed.<sup>3</sup> The model also assumes that some portion of employees exogenously quit their jobs in each period (for reasons beyond the model).

In the model, the labour market functions via **recruitment agencies**.<sup>4</sup> Firms (producers of the domestic wholesale products and non-oil and gas exports) apply to such agencies to find workers. Recruitment agencies publish job advertisements and define the rate of hiring. The recruitment process involves certain costs (e.g. for advertising, paperwork, etc.). Thus, the more intensive the recruitment is, the higher costs recruitment agencies incur. To keep the model logic clear, employees are assumed to get wages from recruitment agencies rather than from production firms themselves.

Recruitment agencies generally perceive a current and expected wage path as pre-set. However, they have an opportunity to change wages from time to time. In this case, a recruitment agency and an employee make a contract stating new wages already in a current period, otherwise the recruitment agency indexes wages of a previous period (the price revision mechanism similar to Calvo<sup>5</sup>). The new contractual wages are set in the course of the so-called Nash bargaining: a recruitment agency assesses an increase in company profits from hiring an additional worker while a job seeker assesses his/ her gains from employment. After the bargaining or the indexation, the wages of the current period are set for all new and current employees. Employees who were hired between the bargaining episodes get the current wages of the recruitment agency's employees.

<sup>3</sup> The search process in the labour market corresponds to the Diamond – Mortensen – Pissarides search and matching model.

<sup>4</sup> The labour market is described in a similar way as in M. Gertler, L. Sala, A. Trigari (2008). An Estimated Monetary DSGE Model with Unemployment and Staggered Nominal Wage Bargaining. *Journal of Money, Credit and Banking*. Vol. 40, No. 8 (Dec., 2008) and L. Christiano, Eichenbaum, Trabandt (2013). Unemployment and business cycles. No. 1089. International Finance Discussion Papers. Board of Governors of the Federal Reserve System.

<sup>5</sup> See G. A. Calvo (1983). Staggered Prices in a Utility-Maximizing Framework. *Journal of Monetary Economics* 12 (3): 383 – 398.

One of the main mechanisms to adjust the current number of employees to production needs is to regulate **labour intensity**. In other words, labour demand in the model is met not only by the number of employees but also by the intensity of labour efforts. If a producer needs to increase output, first of all, it raises the intensity of labour of current employees and then increases the number of staff if it is still necessary to scale up production. This generally corresponds to the Russian labour market practices where companies prefer to start with decreasing or increasing work loads of current employees (for example, by introducing additional shifts or reducing existing ones) rather than hiring or firing, as the case may be depending on the economic situation.

## INFLATION

An inflation component in the model was modified to reflect the correlation between the production process and inflation. In particular, we **switched to core and non-core inflation components** from the breakdown into food and non-food goods and services, excluding utility services.

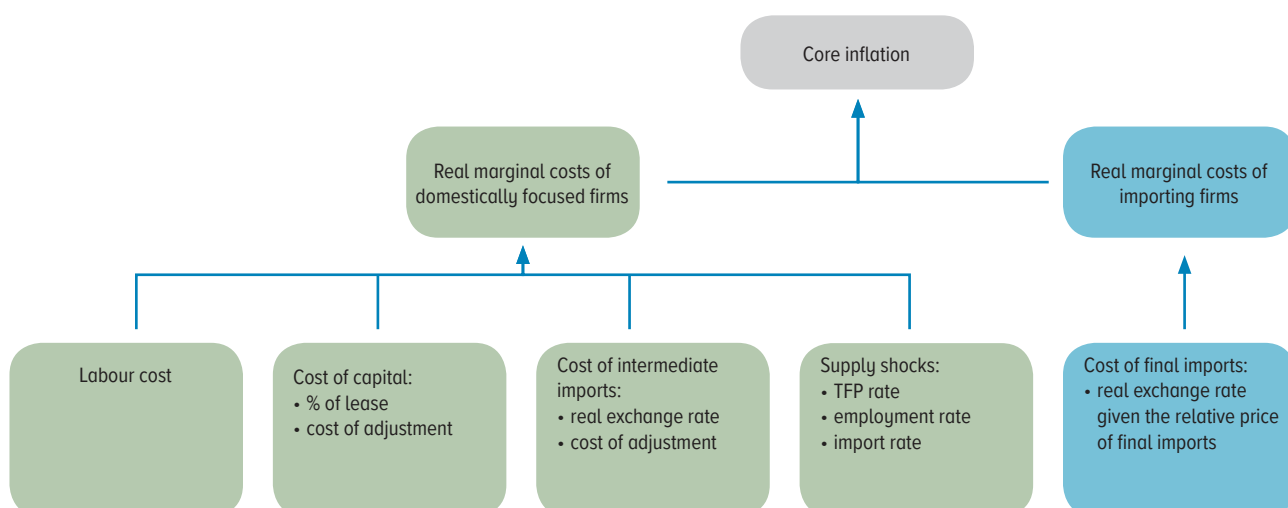
The non-core inflation components include fruit and vegetables, petroleum products, administered services and other volatile components. We are modelling price dynamics of the non-core inflation components based on a standard price change process on the basis of last values (autoregression) with a convergence to the inflation target taking into account the deviation of relative prices.

Core inflation means inflation adjusted for administrative, seasonal or volatile factors. Its modelling involves the description of a clear correlation between real marginal costs of firms and a price level in the economy (via the Phillips Curve). In the model, the marginal costs are incurred by domestic producers and importing firms. As the producers of the wholesale products (both domestic and imported) operate in the perfect competition environment, major price pressures are exerted by the producers of the differentiated products because they operate in the monopolistic competition environment enabling them to set prices. However, the initial amount and structure of the marginal costs are formed at the level of wholesale firms as the weighted cost of production factors. Thus, core inflation shows the aggregate pressure of the real marginal costs in the economy.

The correlation between the real marginal costs of firms and inflation is presented in Chart 3.

Therefore, in the QPM with the labour market component, **employment**, an **unemployment** rate and **real wages** are derived from the volume of labour demand from firms (given the rigidities of wages and special features of the Russian labour market). In turn, inflation is impacted by the **real marginal costs** of domestic producers and importing firms and reflects the **demand and supply balance** in the economy, including the demand for/ supply of production factors.

CHART 3



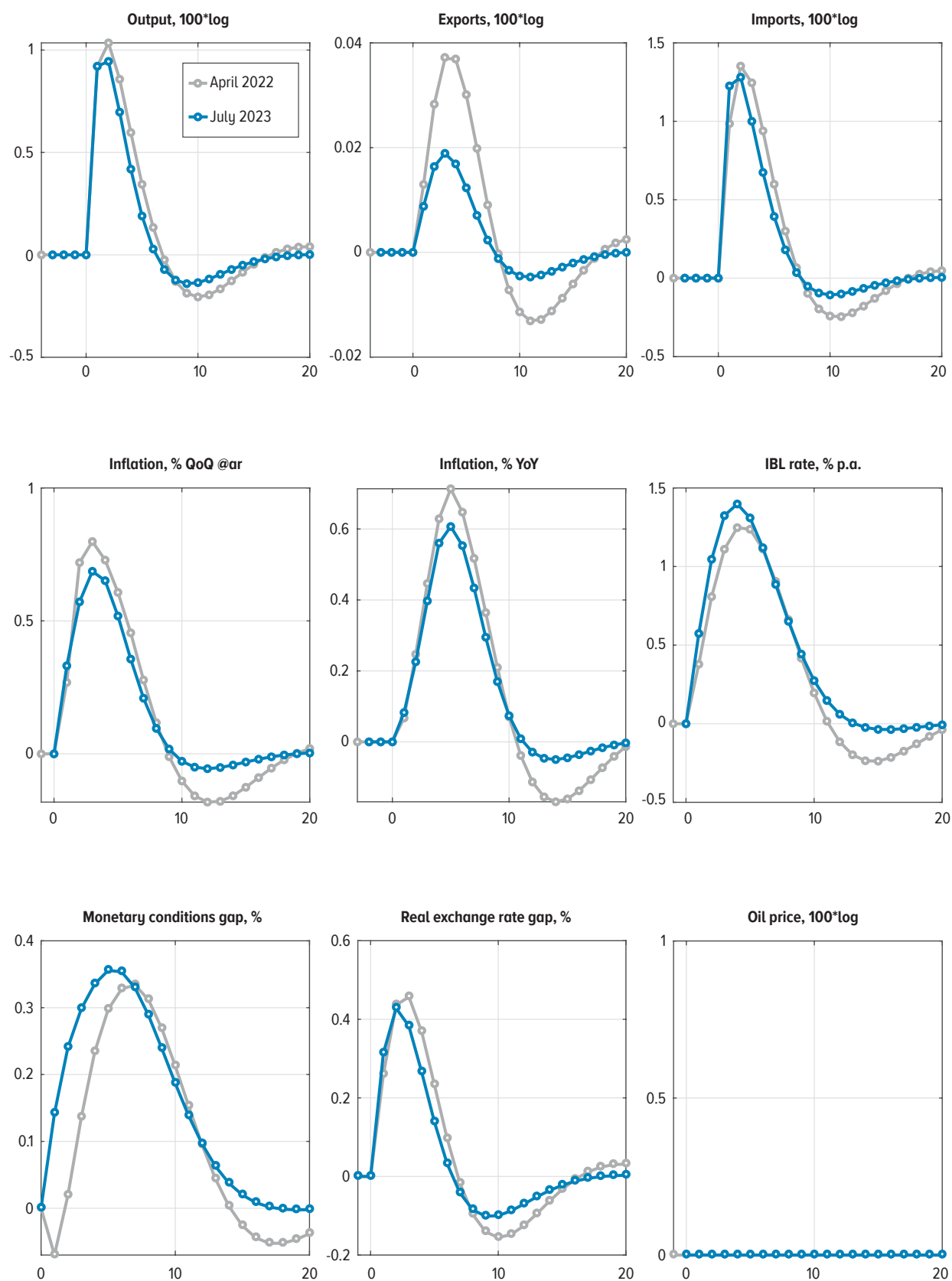
## COMPARISON OF IMPULSE RESPONSES

In terms of quality, the responses of inflation, IBL interest rates and other economic indicators to **domestic demand shocks**, an **IBL interest rate shock** and an **oil price shock** are comparable to those in the previous version of the model, however, they may slightly differ in terms of quantity.

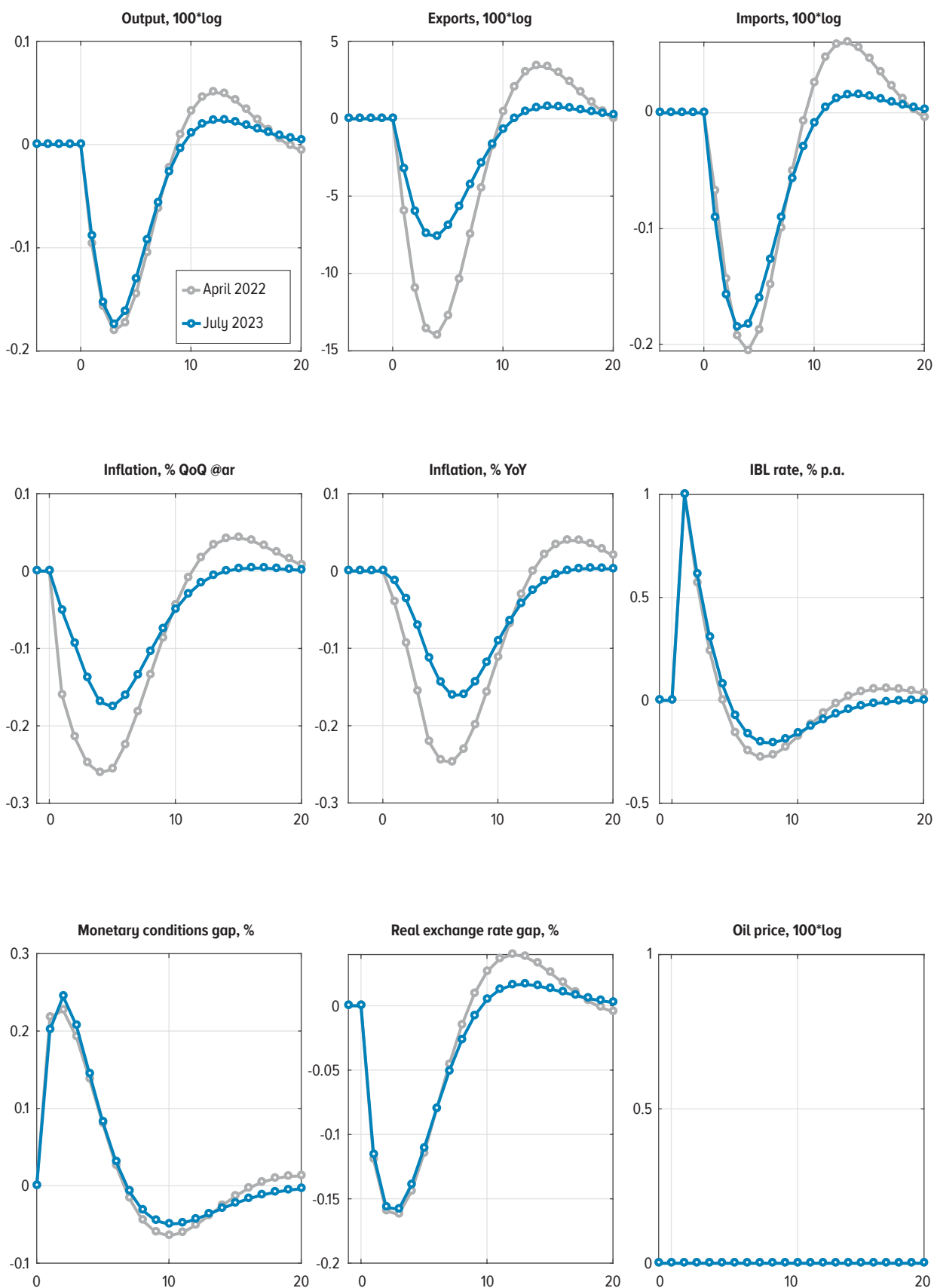
In the new version, the impulse responses mainly change in response to **external demand shocks** compared to the previous version of the model. Rising external demand makes it necessary to ramp up the output of non-oil and gas exports. This, in turn, prompts an increase in demand for the production factors – labour and capital. As non-oil and gas exports compete for the production factors with the domestically focused output in the model, the expansion of non-oil and gas output leads to higher inflationary pressures from production factors costs. As a result, monetary policy tightening becomes necessary which pushes the IBL interest rates up. This is a key distinction between the responses in this and the previous version of the model where the rising external demand involves a prevailing effect of a stronger exchange rate (this response is better aligned with intuition).

## IMPULSE RESPONSES

## DOMESTIC DEMAND SHOCK

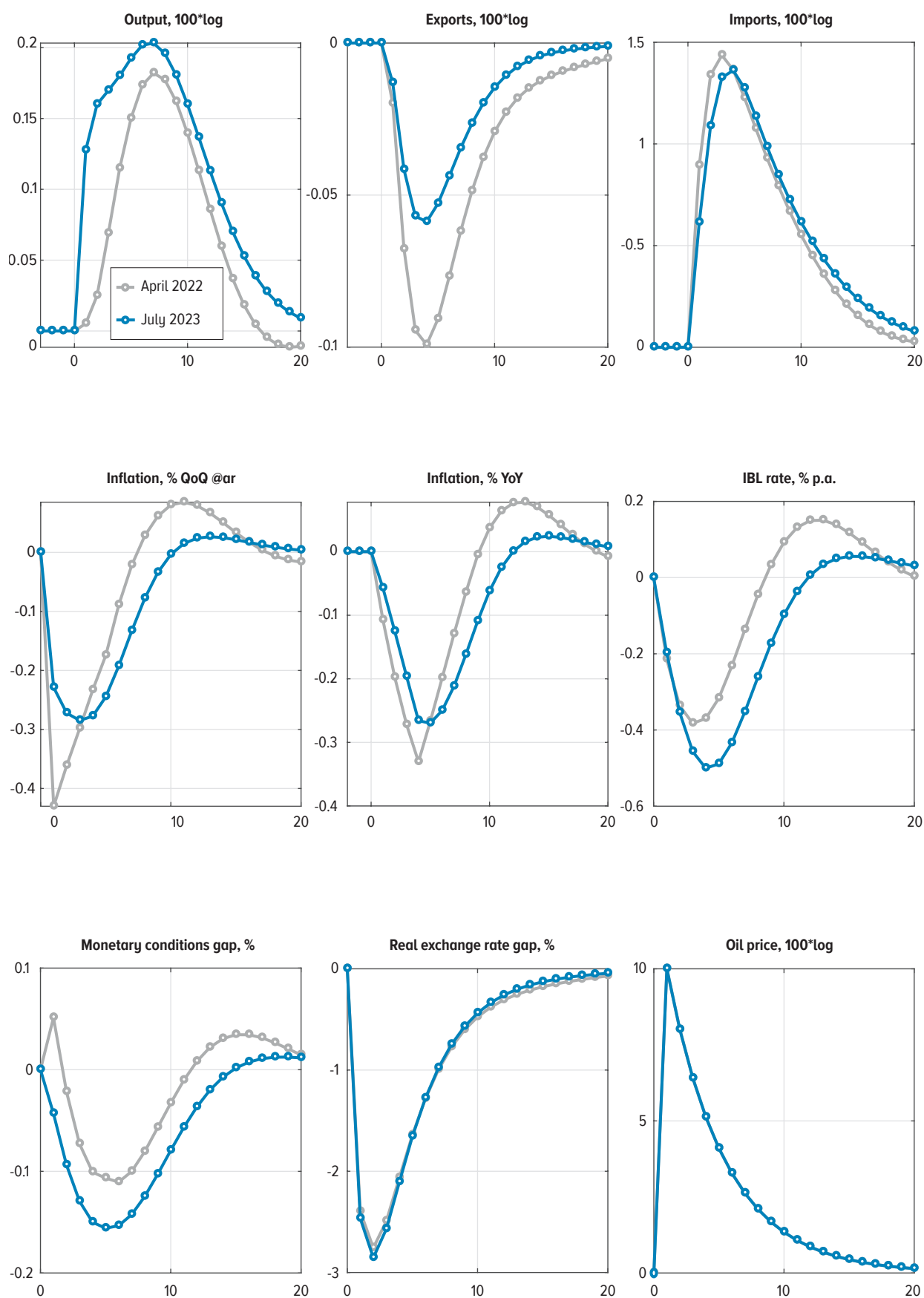


## IBL RATE SHOCK\*

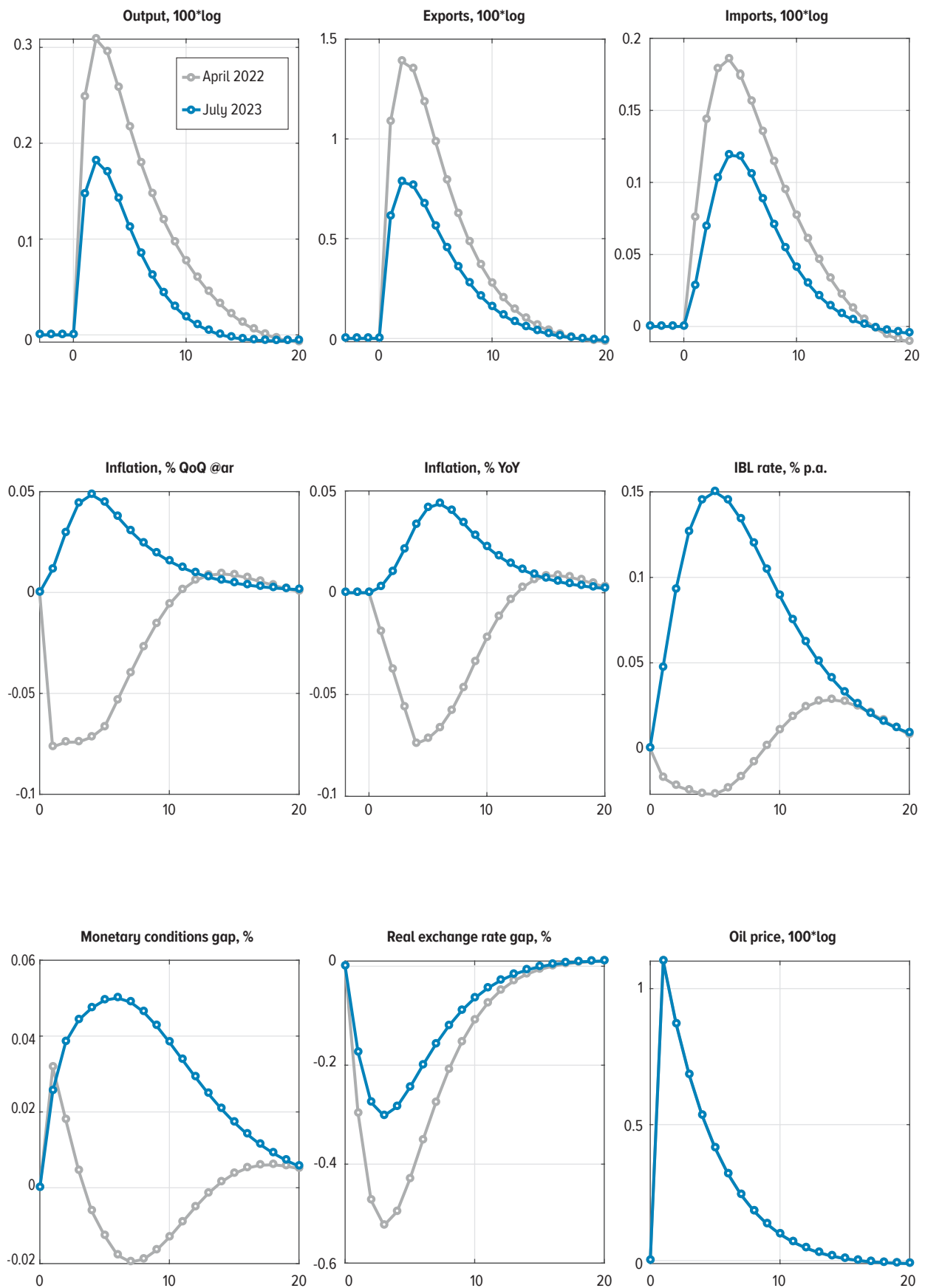


\* The IBL rate shock means an unexpected change in the key rate while other conditions and variables of the model remain unchanged.

## OIL PRICE SHOCK



## EXTERNAL DEMAND SHOCK





## MAIN EQUATIONS OF THE QUARTERLY PROJECTION MODEL WITH THE LABOUR MARKET COMPONENT

This annex presents final log-linear equations of the model. Structural behavioural equations and related optimisation tasks will be presented in an analytical note.

### 1. Expanded supply-side equations

- **Production of the domestic homogeneous (wholesale) products** (hereinafter stated with the index d, domestic)

**The production function of the domestic homogeneous (wholesale) products:**

$$\hat{y}_t^h = \hat{y}_t^d = \hat{a}_t^y + (1 - \tilde{\alpha}^m) \left[ \tilde{\alpha}^d \hat{l}_t^d + (1 - \tilde{\alpha}^d) \hat{k}_t^d \right] + \tilde{\alpha}^m \hat{m}_t^y,$$

where  $\hat{a}_t^y$  is a temporary shock of the total factor productivity (TFP);  $\hat{k}_t^d$  is a capital gap;  $\hat{l}_t^d$  is a total labour factor gap;  $\hat{m}_t^y$  is a gap of an imported intermediate products volume.

**A criterion for choosing between capital and labour and between the domestic and the imported intermediate products:**

$$\hat{k}_t^d = \hat{l}_t^d + \sigma_K \left( \hat{p}_t^w - \hat{r}_t^{K,d} - \hat{a}_{c_t}^{K,d} + \varepsilon_t^{\zeta, K^d} \right),$$

$$\hat{l}_t^d = \hat{n}_t^d + \hat{e}_t^d,$$

$$\hat{z}_t + \hat{a}_{c_t}^M = \hat{p}_t^h + \frac{1}{\sigma_H} (\hat{y}_t^h - \hat{m}_t^y) + \frac{\sigma_H - 1}{\sigma_H} \hat{a}_t^y,$$

where  $\hat{n}_t^d$  is an employment gap;  $\hat{e}_t^d$  is a labour intensity gap;  $\hat{p}_t^w$  is a producer labour cost gap;  $\hat{r}_t^{K,d}$  is a capital lease rate gap;  $\hat{z}_t$  is a real exchange rate gap;  $\hat{p}_t^h$  is a gap of the real price of the domestic intermediate products (equals to a gap of the real marginal producer costs of the domestic wholesale products).

**Correlations for the adjustment costs,  $\hat{a}_{c_t}^{\zeta,*}$ , the production factors taking into consideration adjustment cost shocks,  $\varepsilon_t^{\zeta,*}$ :**

$$\hat{a}_{c_t}^M = \chi_\xi^M [\hat{m}_t^y - \hat{y}_t^h - (\hat{m}_{t-1}^y - \hat{y}_{t-1}^h)] - \varepsilon_t^{\zeta, M} - \text{intermediate import adjustment costs},$$

$$\hat{a}_{c_t}^{K,d} = \chi_\xi^{K,d} [\hat{k}_t^d - \hat{y}_t^h - (\hat{k}_{t-1}^d - \hat{y}_{t-1}^h)] - \varepsilon_t^{\zeta, K^d} - \text{capital adjustment costs},$$

$$\hat{a}_{c_t}^{N,d} = \chi_\xi^{N,d} (\hat{n}_t^d - \hat{n}_{t-1}^d) - \varepsilon_t^{\zeta, N^d} - \text{employment adjustment costs},$$

$$\hat{e}_t^d = \hat{a}_{c_t}^{N,d} - \text{compensation through labour intensity}.$$

**The real marginal cost gap of the producers of the domestic homogeneous (wholesale) products:**

$$\begin{aligned} r\hat{m}_{c_t}^d = (1 - \tilde{\alpha}^m) & \left[ \tilde{\alpha}^d \hat{p}_t^w + (1 - \tilde{\alpha}^d) (\hat{r}_t^{K,d} + \chi_\xi^M (\Delta \hat{k}_t^d - \Delta \hat{y}_t^h) - \varepsilon_t^{\zeta, K^d}) \right] + \dots \\ & + \tilde{\alpha}^m \left[ \hat{z}_t + \chi_\xi^M (\Delta \hat{m}_t^y - \Delta \hat{y}_t^h) - \varepsilon_t^{\zeta, M} \right] - \hat{a}_t^y - \hat{q}_t^{d,c} + (1 - \omega^c) \hat{q}_t^{nc,c}, \end{aligned}$$

where  $\hat{q}_t^{d,c}$  is a gap between the relative price of the domestic final product and the price of the final composite product and  $\hat{q}_t^{nc,c}$  is a gap of the relation between the price index based on inflation of non-core components and the basic CPI.

**Domestic output supply shock,  $\varepsilon_t^{\bar{y}^d}$ , taking into consideration the form of the production function:**

$$\varepsilon_t^{\bar{y}^d} = \varepsilon_t^{\bar{a}} + (1 - \tilde{\alpha}_m) \tilde{\alpha}^d \varepsilon_t^{\bar{n}} + \tilde{\alpha}^m \varepsilon_t^{\bar{m}},$$

where  $\varepsilon_t^{\bar{a}}$  is a shock of the equilibrium TFP level,  $\varepsilon_t^{\bar{n}}$  is equilibrium employment,  $\varepsilon_t^{\bar{m}}$  is equilibrium imports.

**Real marginal costs including supply shock:**

$$r\hat{m}c_t^{d,a} = r\hat{m}c_t^d - \gamma^{\varepsilon, \bar{y}^d} \varepsilon_t^{\bar{y}^d}.$$

Smoothing of the domestic producer real marginal cost curve using the MA-function:

$$r\hat{m}c_t^{d,ma} = f^{ma}(r\hat{m}c_t^d) := 0,25 \cdot r\hat{m}c_{t-2}^{d,a} + 0,50 \cdot r\hat{m}c_{t-1}^{d,a} + 0,25 \cdot r\hat{m}c_t^{d,a}.$$

**Importer real marginal costs (in importer prices):**

$$r\hat{m}c_t^m = \hat{z}_t - \hat{\varrho}_t^{m,c} + (1 - \omega^c) \hat{\varrho}_t^{nc,c},$$

where  $\hat{\varrho}_t^{m,c}$  is a gap between the relative price of the imported final product to the price of the final composite product.

- **Production of non-oil and gas exports** (hereinafter stated with the index x, export)

**The production function of non-oil and gas exports:**

$$\hat{y}_t^{x,no} = \hat{x}_t^{no} = \hat{a}_t^x + [\tilde{\alpha}^x \hat{l}_t^x + (1 - \tilde{\alpha}^x) \hat{k}_t^x].$$

**A criterion for choosing between capital and labour:**

$$\hat{k}_t^x = \hat{l}_t^x + \sigma_K^x (\hat{p}_t^w - \hat{r}_t^{K,x} - \hat{a}_t^{K,x}),$$

$$\hat{l}_t^x = \hat{n}_t^x + \hat{e}_t^x.$$

**Correlations for production factors' adjustment costs:**

$$\hat{a}_t^{K,x} = \chi_\xi^{K,x} [\hat{k}_t^x - \hat{y}_t^{x,no} - (\hat{k}_{t-1}^x - \hat{y}_{t-1}^{x,no})] - \text{capital adjustment costs},$$

$$\hat{a}_t^{N,x} = \chi_\xi^{N,x} (\hat{n}_t^x - \hat{n}_{t-1}^x) - \text{employment adjustment costs},$$

$$\hat{e}_t^x = \hat{a}_t^{N,x} - \text{compensation through labour intensity}.$$

## 2. Equations for the labour market component

The number of the unemployed as of the beginning of the period:

$$\hat{u}_t^b = \frac{1}{\bar{u}^r} \left[ \hat{l}_t - (1 - \bar{u}^r) \bar{\rho}^s (\hat{n}_{t-1} + \hat{\rho}_t^s) \right].$$

Exogenous dismissal gap:

$$\hat{\rho}_t^s = \rho_{\hat{\rho}^s} \hat{\rho}_{t-1}^s + \varepsilon_t^{\hat{\rho}^s}.$$

The number of successful hires:

$$\hat{m}_t = \varsigma^M \hat{u}_t^b + (1 - \varsigma^M) \hat{v}_t,$$

Where  $\hat{v}_t$  is a gap of the number of published open jobs.

The required intensity of hiring:

$$\hat{h}_t = \hat{q}_t + \hat{v}_t - \hat{n}_{t-1}.$$

Employment dynamics:

$$\hat{n}_t = \hat{n}_{t-1} + (1 - \bar{\rho}^s)\hat{h}_t + \bar{\rho}^s\hat{\rho}_t^s.$$

The probability of filling in a vacancy:

$$\hat{q}_t = \hat{m}_t - \hat{v}_t.$$

The probability of finding a job:

$$\hat{f}_t = \hat{m}_t - \hat{u}_t^b.$$

A discount at which a worker estimates cash flows from wages:

$$\hat{\epsilon}_t^w = \beta^e \mathbb{E}_t \left[ \hat{\epsilon}_{t+1}^w + \hat{\rho}_{t+1}^s + \hat{\Lambda}_{t,t+1} + \chi_w \hat{\pi}_t - \hat{\pi}_{t+1} - \hat{\gamma}_{t+1}^a \right],$$

where  $\hat{\Lambda}_{t,t+1}$  is a gap of the stochastic discount factor from the consumer task.

A discount at which a recruitment agency estimates expected cash flows from hiring a worker:

$$\begin{aligned} \hat{\mu}_t^w = & \beta_h^\mu \mathbb{E}_t [\hat{h}_{t+1}] + \beta_\rho^\mu \mathbb{E}_t [\hat{\rho}_{t+1}^s] + \beta_w^\mu \mathbb{E}_t [\hat{w}_t - \hat{\pi}_{t+1} - \hat{\gamma}_{t+1}^a + \chi_w \hat{\pi}_t - \hat{w}_{t+1}] \dots \\ & + \beta_\mu^\mu \mathbb{E}_t [\hat{\mu}_{t+1}^w + \hat{\Lambda}_{t,t+1} - \hat{\pi}_{t+1} - \hat{\gamma}_{t+1}^a + \chi_w \hat{\pi}_t]. \end{aligned}$$

The portion of the worker in the distribution of gains from the new contract taking into account dynamic discounts:

$$\hat{\chi}_t = -\beta^\chi [\hat{\mu}_t^w - \hat{\epsilon}_t^w].$$

Producer labour costs:

$$\hat{p}_t^w = \beta_w \hat{w}_t + \beta_h \hat{h}_t - \beta_{h^e} \mathbb{E}_t \hat{h}_{t,t+1} - \beta_\Lambda \mathbb{E}_t \hat{\Lambda}_{t,t+1} - \beta_\rho \mathbb{E}_t \hat{\rho}_{t,t+1}^s.$$

Average real wages in the economy:

$$\hat{w}_t = \gamma_b (\hat{w}_{t-1} - \hat{\pi}_t + \chi_w \hat{\pi}_{t-1} - \hat{\gamma}_t^a) + \gamma_o \hat{w}_t^o + \gamma_f \mathbb{E}_t (\hat{w}_{t+1} + \hat{\pi}_{t+1} - \chi_w \hat{\pi}_t + \hat{\gamma}_{t+1}^a) + \varepsilon_t^{\hat{w}},$$

where  $\hat{\gamma}_t^a$  is a gap of the TFP growth rates taking into account TFP level shocks relative to long-term TFP growth rates.

Optimal wages in the absence of nominal rigidities:

$$\hat{w}_t^o = \beta_p^o \hat{p}_t^w + \beta_h^o \mathbb{E}_t \hat{h}_{t+1} + \beta_f^o \mathbb{E}_t \hat{f}_{t+1} + \beta_\Lambda^o \mathbb{E}_t \hat{\Lambda}_{t,t+1} + \beta_\chi^o \mathbb{E}_t [\hat{\chi}_t - \beta_{\chi^e}^o \mathbb{E}_t \hat{\chi}_{t+1}].$$

### 3. Inflation equations

#### • Core inflation

Core inflation of composite products is weighted Phillips curves for the domestic and the imported final products.

The Phillips curve for the **domestic final products**:

$$\begin{aligned} \pi_t^d &= \gamma_b^d \pi_{t-1}^d + (1 - \gamma_b^d) \mathbb{E}_t^w \pi_{t+1}^d + \gamma_{rmc}^d r \hat{m} c_t^{d,ma} + \varepsilon_t^{\pi^d}, \\ \varepsilon_t^{\pi^d} &= \rho_{\pi^d} \varepsilon_{t-1}^{\pi^d} + e_t^{\pi^d}, \end{aligned}$$

where  $\mathbb{E}_t^w$  is weighted inflation expectations:

$$\mathbb{E}_t^w \pi_{t+1}^d = \gamma_b^{d,e} \pi_{t-1}^d + (1 - \gamma_b^{d,e}) \mathbb{E}_t \pi_{t+1}^d + \gamma_e (\pi_t^{nc} - \pi_t^c) + \varepsilon_t^{\pi^{d,e}}.$$

The Phillips curve for the **imported final products**:

$$\pi_t^m = \gamma_b^m \pi_{t-1}^m + (1 - \gamma_b^m) \mathbb{E}_t^w \pi_{t+1}^m + \gamma_{rmc}^m r \hat{m} c_t^m,$$

where  $\mathbb{E}_t^w$  is weighted inflation expectations:

$$\mathbb{E}_t^w \pi_{t+1}^m := \gamma_b^{m,e} \pi_{t-1}^m + (1 - \gamma_b^{m,e}) \mathbb{E}_t \pi_{t+1}^m.$$

- **Non-core components**

For non-core components, the relative price is broken down into an equilibrium part,  $\bar{\varrho}$ , and a gap,  $\hat{\varrho}$ . The equilibrium part of the relative price is modelled using a simple autoregression:

$$\bar{\varrho}_t = \bar{\varrho}_{t-1} + 0,25 \cdot \Delta \bar{\varrho}_t + \tilde{\gamma}_{rp} \hat{\varrho}_t + \varepsilon_t^{\bar{\varrho}}, \text{ where } \Delta \bar{\varrho}_t = \rho_{\Delta \bar{\varrho}} \cdot \Delta \bar{\varrho}_{t-1} + \varepsilon_t^{\Delta \bar{\varrho}}.$$

Inflation of **fruit and vegetables**:

$$\begin{aligned} \pi_t^{veg} &= \gamma_{lag}^{veg} \pi_{t-1}^{veg} + (1 - \gamma_{lag}^{veg})(\bar{\pi}_t + \Delta \bar{\varrho}_t^{veg}) + \gamma_{\Delta z}^{veg} \Delta \hat{z}_t - \gamma_{rp}^{veg} \hat{\varrho}_t^{veg} + \varepsilon_t^{\pi^{veg}}, \\ \varepsilon_t^{\pi^{veg}} &= \epsilon_t^{\pi^{veg}} - \chi \epsilon_{t-1}^{\pi^{veg}}, \end{aligned}$$

where  $\varrho_t^{veg}$  is the relative price of fruit and vegetables (i.e. the log-level of vegetable prices,  $p_t^{veg}$ , relative to the log-level of the basic CPI,  $p_t^c$ ); it is the same for the other non-core components.

Inflation of **petroleum products**:

$$\pi_t^{fuel} = \gamma_{lag}^{fuel} \pi_{t-1}^{fuel} + (1 - \gamma_{lag}^{fuel})(\bar{\pi}_t + \Delta \bar{\varrho}_t^{fuel}) + \gamma_{oil}^{fuel} (\hat{q}_t^{oil} + \hat{z}_t) - \gamma_{rp}^{fuel} \hat{\varrho}_t^{fuel} + \varepsilon_t^{\pi^{fuel}}.$$

Inflation of **administered services** (the same for volatile components):

$$\pi_t^{sreg} = \gamma_{lag}^{sreg} \pi_{t-1}^{sreg} + (1 - \gamma_{lag}^{sreg})(\bar{\pi}_t + \Delta \bar{\varrho}_t^{sreg}) - \gamma_{rp}^{sreg} \hat{\varrho}_t^{sreg} + \varepsilon_t^{\pi^{sreg}}.$$

- **Headline inflation index:**

$$\pi_t = \omega^c \pi_t^c + (1 - \omega^c) \pi_t^{nc},$$

where  $\pi_t^c$  is core inflation (model inflation of the final composite products),  $\pi_t^{nc}$  is inflation of the non-core components.

#### 4. Demand equations

**Aggregate demand for domestic products:**

$$\hat{d}_t^f = \delta_{lag} \hat{d}_{t-1}^f + \delta_{fwd} \mathbb{E}_t \hat{d}_{t+1}^f - \delta_r \hat{r}_t^{avg} + \delta_w (\hat{w}_t + \hat{n}_t + \delta_{ub} \hat{u}_t) + \delta_{oil} \hat{q}_t^{oil} + \varkappa_t + \varepsilon_t^{\hat{d}^f},$$

where  $\hat{r}_t^{avg}$  is a monetary conditions gap (a weighted indicator of gaps of real interest rates of various maturities) from a satellite component of the term structure of interest rates,  $\varkappa_t$  is a non-oil and gas fiscal stimulus.

**Demand for non-oil and gas exports:**

$$\hat{x}_t^{no} = \hat{y}_t^f + \epsilon_x \hat{z}_t + \varepsilon_t^x,$$

Where  $\hat{y}_t^f$  is an aggregate external demand gap.

# LIST OF PUBLICATIONS

Bank of Russia information and analytical commentaries released after the publication of MPR 2/23 on 11 May 2023:<sup>1</sup>



1. [Consumer Price Dynamics, No. 4 \(88\), April 2023 \(17 May 2023\).](#)



9. [Monetary Conditions and Monetary Policy Transmission Mechanism, No. 6 \(12\), June 2023 \(11 July 2023\).](#)



2. [Consumer Price Dynamics, No. 5 \(89\), May 2023 \(15 June 2023\).](#)



10. [Russia's Balance of No. 2 \(15\), 2023 Q2 \(25 July 2023\).](#)



3. [Consumer Price Dynamics, No. 6 \(90\), June 2023 \(14 July 2023\).](#)



11. [Regional Economy: Commentaries by Bank of Russia Main Branches, No. 20, May 2023 \(31 May 2023\).](#)



4. [Inflation Expectations and Consumer Sentiment, No. 5 \(77\), May 2023 \(24 May 2023\).](#)



12. [Regional Economy: Commentaries by Bank of Russia Main Branches, No. 21, July 2023 \(12 July 2023\).](#)



5. [Inflation Expectations and Consumer Sentiment, No. 6 \(78\), June 2023 \(26 June 2023\).](#)



13. [Monitoring of Businesses: Assessments, Expectation and Comments, May 2023 \(24 May 2023\).](#)



6. [Inflation Expectations and Consumer Sentiment, No. 7 \(79\), July 2023 \(25 July 2023\).](#)



14. [Monitoring of Businesses: Assessments, Expectation and Comments, June 2023 \(21 June 2023\).](#)



7. [Monetary Conditions and Monetary Policy Transmission Mechanism, No. 4 \(10\), April 2023 \(12 May 2023\).](#)



15. [Monitoring of Businesses: Assessments, Expectation and Comments, July 2023 \(24 July 2023\).](#)



8. [Monetary Conditions and Monetary Policy Transmission Mechanism, No. 5 \(11\), May 2023 \(9 June 2023\).](#)

<sup>1</sup> The date in the brackets is the date of publication on the Bank of Russia website.

# CALENDAR OF KEY RATE DECISIONS FOR 2023

Date	Event
<b>10 February 2023</b>	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate with the medium-term forecast
	Press conference by the Governor of the Bank of Russia
20 February 2023	Monetary Policy Report
17 March 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate
	Press conference by the Governor of the Bank of Russia
<b>28 April 2023</b>	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate with the medium-term forecast
	Press conference by the Governor of the Bank of Russia
11 May 2023	Monetary Policy Report
9 June 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate
	Press conference by the Governor of the Bank of Russia
<b>21 July 2023</b>	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate with the medium-term forecast
	Press conference by the Governor of the Bank of Russia
31 July 2023	Monetary Policy Report
15 September 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate
	Press conference by the Governor of the Bank of Russia
<b>27 October 2023</b>	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate with the medium-term forecast
	Press conference by the Governor of the Bank of Russia
7 November 2023	Monetary Policy Report
15 December 2023	Bank of Russia Board of Directors' key rate meeting
	Press release on the key rate
	Press conference by the Governor of the Bank of Russia

*Note. The dates in bold are those of the core meetings of the Bank of Russia Board of Directors on the key rate that are held four times a year (once a quarter). The core meetings are followed by the release of a medium-term forecast within the baseline scenario. After each core meeting, the Bank of Russia also publishes its Monetary Policy Report.*

# STATISTICAL TABLES

MONETARY POLICY RATES OF TO THE BANK OF RUSSIA AND RUONIA<sup>1</sup>  
(% p.a.) Table 1

Period	Key rate	Key rate change, pp	RUONIA (average)	Overnight standing deposit facilities 1 day	Open market operations: main auctions and fine-tuning auctions <sup>2</sup> 1 week and from 1 to 6 days	Open market operations: auctions for longer maturities <sup>3</sup>			Standing liquidity provision facilities	
						Repo auctions	Loan auctions	Loans, repos, FX swaps <sup>4</sup>	From 2 to 90 days	From 91 to 549 days
Rule: spread to the key rate, pp						1 month	1 year	3 months		
From 24.07.2023	8.50	▲ 1.00		-1.00	0.00	+0.10	+0.25	+0.25	+1.00	+1.75
19.09.2022–23.07.2023	7.50	▼ -0.50	7.33	7.50	8.50	8.60	8.75	8.75	9.50	10.25
25.07.2022–18.09.2022	8.00	▼ -1.50	7.92	7.00	7.50	7.60	7.75	7.75	8.50	9.25
14.06.2022–24.07.2022	9.50	▼ -1.50	9.11	8.50	9.50	9.60	9.75	9.75	10.50	11.25
27.05.2022–13.06.2022	11.00	▼ -3.00	10.60	10.00	11.00	11.10	11.25	11.25	12.00	12.75
04.05.2022–26.05.2022	14.00	▼ -3.00	13.82	13.00	14.00	14.10	14.25	14.25	15.00	15.75
11.04.2022–03.05.2022	17.00	▼ -3.00	16.30	16.00	17.00	17.10	17.25	17.25	18.00	18.75
28.02.2022–10.04.2022	20.00	▲ 10.50	19.86	19.00	20.00	20.10	20.25	20.25	21.00	21.75
14.02.2022–27.02.2022	9.50	▲ 1.00	9.57	8.50	9.50	9.60	9.75	9.75	10.50	11.25
20.12.2021–13.02.2022	8.50	▲ 1.00	8.22	7.50	8.50	8.60	8.75	8.75	9.50	10.25
25.10.2021–19.12.2021	7.50	▲ 0.75	7.31	6.50	7.50	7.60	7.75	7.75	8.50	9.25
13.09.2021–24.10.2021	6.75	▲ 0.25	6.65	5.75	6.75	6.85	7.00	7.00	7.75	8.50
26.07.2021–12.09.2021	6.50	▲ 1.00	6.36	5.50	6.50	6.60	6.75	6.75	7.50	8.25
15.06.2021–25.07.2021	5.50	▲ 0.50	5.43	4.50	5.50	5.60	5.75	5.75	6.50	7.25
26.04.2021–14.06.2021	5.00	▲ 0.50	4.78	4.00	5.00	5.10	5.25	5.25	6.00	6.75
22.03.2021–25.04.2021	4.50	▲ 0.25	4.38	3.50	4.50	4.60	4.75	4.75	5.50	6.25
27.07.2020–21.03.2021	4.25	▼ -0.25	4.13	3.25	4.25	4.35	4.50	4.50	5.25	6.00
22.06.2020–26.07.2020	4.50	▼ -1.00	4.25	3.50	4.50	4.60	4.75	4.75	5.50	6.25
27.04.2020–21.06.2020	5.50	▼ -0.50	5.32	4.50	5.50	5.60	5.75	5.75	6.50	7.25
10.02.2020–26.04.2020	6.00	▼ -0.25	5.86	5.00	6.00	–	–	6.25	7.00	7.75
16.12.2019–09.02.2020	6.25	▼ -0.25	6.04	5.25	6.25	–	–	6.50	7.25	8.00
28.10.2019–15.12.2019	6.50	▼ -0.50	6.42	5.50	6.50	–	–	6.75	7.50	8.25
09.09.2019–27.10.2019	7.00	▼ -0.25	6.78	6.00	7.00	–	–	7.25	8.00	8.75
29.07.2019–08.09.2019	7.25	▼ -0.25	7.08	6.25	7.25	–	–	7.50	8.25	9.00
01.07.2019–28.07.2019	7.50	–	7.24	6.50	7.50	–	–	7.75	8.50	9.25

<sup>1</sup> Established by the Bank of Russia Board of Directors.  
<sup>2</sup> The minimum possible bid rate for repo auctions and the maximum possible bid rate for deposit auctions are specified. Depending on the liquidity situation, either a repo auction or a deposit auction is held.  
<sup>3</sup> The minimum possible rate is specified in the bid; based on the results of auctions, loans are granted and repo transactions are concluded at a floating interest rate linked to the key rate. Repo auctions were introduced on 14 May 2022; for one-month repo auctions, the floating rate is set from 9 January 2023. Decisions to conduct loan auctions are made in the situation of a large-scale sustainable structural deficit; these auctions have not been held from April 2016.  
<sup>4</sup> Interest rate for the ruble leg is specified for FX swaps; these operations were suspended in April 2022.  
<sup>5</sup> Lombard loans from 25 March 2022; loans are granted at a floating interest rate linked to the key rate.  
<sup>6</sup> From 1 March 2022; previously: +1.75%.  
Source: Bank of Russia.



THE USE OF MONETARY POLICY INSTRUMENTS<sup>1</sup>  
(billions of rubles) Table 2

	Overnight standing deposit facilities	Open market operations					Standing liquidity provision facilities					
		Deposit auctions (main and fine-tuning ones)	Repo auctions (main and fine-tuning ones)	Auctions for the placement of OBRs	Repo auctions (long maturities)		Overnight loans	Repos	FX swap operations <sup>2</sup>	Lombard loans <sup>3</sup>	Loans secured by non-marketable assets	
		1 week and from 1 to 6 days	1 week and from 1 to 6 days	Up to 3 months	1 month	1 year	1 day	1 day	1 day	From 1 to 90 days	From 1 to 549 days	
01.07.2023	1,007.8	1,746.6	0.0	0.0	0.0	301.7	1,076.5	0.0	1.5	0.0	25.4	521.3
01.04.2023	1,094.3	2,450.0	0.0	0.0	0.0	1,005.8	759.8	0.0	7.6	0.0	32.2	266.4
01.01.2023	1,328.2	3,621.2	0.0	0.0	0.0	1,007.3	484.3	0.0	7.9	0.0	95.9	213.1
01.10.2022	1,291.0	1,663.9	0.0	0.0	0.0	0.0	166.0	0.0	9.5	0.0	91.4	1,211.5
01.07.2022	1,341.1	1,838.4	0.0	0.0	0.0	100.7	70.0	0.0	9.9	0.0	47.3	52.1
01.04.2022	3,107.8	0.0	2,212.2	0.0	0.0	11.1	75.1	0.0	91.6	0.0	38.7	55.5
01.01.2022	1,177.9	1,625.9	0.0	0.0	0.0	100.8	15.6	0.0	2.6	0.0	0.0	790.1
01.10.2021	243.1	780.0	0.0	603.4	60.3	60.3	47.9	0.0	10.6	0.0	0.0	35.2
01.07.2021	123.5	1,190.7	0.0	626.4	100.4	100.4	47.9	0.0	0.4	0.0	0.0	5.4
01.04.2021	122.1	1,650.0	0.0	645.1	50.2	50.2	52.6	0.0	0.4	0.0	0.0	246.1
01.01.2021	376.7	843.9	0.0	574.9	810.2	810.2	36.7	5.4	0.1	118.4	0.0	5.1

<sup>1</sup> Bank of Russia claims under liquidity providing instruments and liabilities under liquidity absorbing instruments.

<sup>2</sup> Basically, a new OBR issue is offered once a month and subsequently – on a weekly basis. If the reporting date falls on a weekend or a holiday, the amount of outstanding OBRs at face value should be specified including the coupon yield accrued as of the first business day following the reporting date. Beginning from 19 October 2021, auctions for placing OBRs have not been held.

<sup>3</sup> Operations were suspended in April 2022 due to changes in external economic conditions.

Source: Bank of Russia.

REQUIRED RESERVE RATIOS<sup>1</sup>  
(%) Table 3

	Ruble-denominated <sup>2</sup> liabilities of banks with a universal licence and non-bank credit institutions	Ruble-denominated liabilities to non-resident legal entities for banks with a basic licence	Ruble-denominated liabilities to households and other liabilities for banks with a basic licence	Liabilities in foreign currency <sup>2</sup> (excluding the currencies of unfriendly countries) of banks and non-bank credit institutions	Liabilities in foreign currency <sup>2</sup> (in the currencies of unfriendly countries) of banks bank credit institutions	Liabilities in foreign currency <sup>2</sup> of non-bank credit institutions
From 01.06.2023	4.50	1.00	1.00	6.00	8.50	-
01.04.23–31.05.2023	4.00	1.00	1.00	5.50	7.50	-
01.03.23–31.03.2023	4.00	1.00	1.00	-	-	7.00
01.08.22–28.02.2023	3.00	1.00	1.00	-	-	5.00
01.05.22–31.07.2022	2.00	1.00	1.00	-	-	2.00
01.04.22–30.04.2022	2.00	1.00	1.00	-	-	2.00
03.03.22–31.03.2022	2.00	2.00	1.00	-	-	2.00
01.07.19–02.03.2022	4.75	1.00	1.00	-	-	8.00

<sup>1</sup> For more details see [required reserve ratios](#).

<sup>2</sup> Liabilities to non-resident legal entities, liabilities to households and other liabilities.

Source: Bank of Russia.

Table 4

## REQUIRED RESERVE AVERAGING RATIOS

	Banks	Non-bank credit institutions
From 03.03.2022	0.9	1.0
From 01.07.2019	0.8	1.0

Note. From 1 January 2022 through 31 March 2022, credit institutions meeting certain criteria were entitled to calculate the averaged amount of required reserves using the averaging ratio not exceeding the averaging ratios established by the Bank of Russia. From 1 April 2022, unified averaging ratios are mandatory.  
Source: Bank of Russia.

Table 5

## REQUIRED RESERVES AVERAGING SCHEDULE AND INFORMATION ON CREDIT INSTITUTIONS' COMPLIANCE WITH RESERVE REQUIREMENTS

Averaging period to calculate required reserves for a corresponding reporting period	Averaging period duration (days)	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)	Memo item:	
					Reporting period	Required reserves regulation period
09.12.2020–12.01.2021	35	2,902	2,791	714	November 2020	14.12.2020–16.12.2020
13.01.2021–09.02.2021	28	2,879	2,818	721	December 2020	22.01.2021–26.01.2021
10.02.2021–09.03.2021	28	2,895	2,825	722	January 2021	12.02.2021–16.02.2021
10.03.2021–06.04.2021	28	2,965	2,906	741	February 2021	15.03.2021–17.03.2021
07.04.2021–11.05.2021	35	3,011	2,934	749	March 2021	14.04.2021–16.04.2021
12.05.2021–08.06.2021	28	3,082	3,006	772	April 2021	18.05.2021–20.05.2021
09.06.2021–06.07.2021	28	3,134	3,032	772	May 2021	15.06.2021–17.06.2021
07.07.2021–10.08.2021	35	3,169	3,039	774	June 2021	14.07.2021–16.07.2021
11.08.2021–07.09.2021	28	3,194	3,059	778	July 2021	13.08.2021–17.08.2021
08.09.2021–12.10.2021	35	3,243	3,104	789	August 2021	14.09.2021–16.09.2021
13.10.2021–09.11.2021	28	3,265	3,132	794	September 2021	14.10.2021–18.10.2021
10.11.2021–07.12.2021	28	3,292	3,149	800	October 2021	16.11.2021–18.11.2021
08.12.2021–11.01.2022	35	3,353	3,207	815	November 2021	14.12.2021–16.12.2021
12.01.2022–08.02.2022	28	3,323	3,245	825	December 2021	21.01.2022–25.01.2022
09.02.2022–08.03.2022	28	3,307	3,305	843	January 2022	14.02.2022–16.02.2022
09.03.2022–12.04.2022	35	1,465	1,283	150	February 2022	15.03.2022–17.03.2022
13.04.2022–17.05.2022	35	1,542	1,421	162	March 2022	14.04.2022–18.04.2022
18.05.2022–14.06.2022	28	1,465	1,326	146	April 2022	23.05.2022–25.05.2022 (as recalculated)
15.06.2022–12.07.2022	28	1,774	1,631	146	May 2022	17.06.2022–21.06.2022
13.07.2022–09.08.2022	28	1,720	1,569	146	June 2022	18.07.2022–20.07.2022
10.08.2022–13.09.2022	35	1,694	1,562	146	July 2022	16.08.2022–18.08.2022
14.09.2022–11.10.2022	28	2,452	2,321	146	August 2022	16.09.2022–20.09.2022
12.10.2022–15.11.2022	35	2,430	2,323	146	September 2022	18.10.2022–20.10.2022
16.11.2022–13.12.2022	28	2,407	2,305	146	October 2022	17.11.2022–20.12.2022
14.12.2022–17.01.2023	35	2,461	2,322	146	November 2022	16.12.2022–20.12.2022
18.01.2023–14.02.2023	28	2,513	2,432	146	December 2022	24.01.2023–26.01.2023
15.02.2023–14.03.2023	28	2,496	2,402	265	January 2023	16.02.2023–20.02.2023 (as recalculated)
15.03.2023–11.04.2023	28	2,540	2,453	265	February 2023	17.03.2023–21.03.2023
12.04.2023–16.05.2023	35	3,634	3,548	265	March 2023	18.04.2023–20.04.2023
17.05.2023–13.06.2023	28	3,693	3,612	271	April 2023	19.05.2023–23.05.2023
14.06.2023–11.07.2023	28	3,690	3,621	271	May 2023	19.06.2023–21.06.2023

Source: Bank of Russia.

## REQUIRED RESERVES AVERAGING PERIODS IN 2023

Table 6

Averaging period to calculate required reserves for a corresponding reporting period	Averaging period duration (days)	Memo item:	
		Reporting period	Required reserves regulation period
18.01.2023–14.02.2023	28	December 2022	24.01.2023–26.01.2023
15.02.2023–14.03.2023	28	January 2023	16.02.2023–20.02.2023 (as recalculated)
15.03.2023–11.04.2023	28	February 2023	17.03.2023–21.03.2023
12.04.2023–16.05.2023	35	March 2023	18.04.2023–20.04.2023
17.05.2023–13.06.2023	28	April 2023	19.05.2023–23.05.2023
14.06.2023–11.07.2023	28	May 2023	19.06.2023–21.06.2023
12.07.2023–08.08.2023	28	June 2023	18.07.2023–20.07.2023
09.08.2023–12.09.2023	35	July 2023	16.08.2023–18.08.2023
13.09.2023–10.10.2023	28	August 2023	18.09.2023–20.09.2023
11.10.2023–14.11.2023	35	September 2023	17.10.2023–19.10.2023
15.11.2023–12.12.2023	28	October 2023	17.11.2023–21.11.2023
13.12.2023–16.01.2024	35	November 2023	18.12.2023–20.12.2023

Note. The required reserves regulation period in 2023 for the annual recalculation of required reserves deposited in the required reserves account: from 16 through 20 February 2023.  
Source: Bank of Russia.

Table 7

## KEY ECONOMIC AND FINANCIAL INDICATORS

		June 2022	July 2022	August 2022	September 2022	October 2022	November 2022	December 2022	January 2023	February 2023	March 2023	April 2023	May 2023	June 2023
<b>Real sector</b>														
Inflation	% YoY	15.90	15.10	14.30	13.68	12.63	11.98	11.94	11.77	10.99	3.51	2.31	2.51	3.25
GDP <sup>1</sup>	% YoY	-4.5			-3.5			-2.7			-1.8			
GDP in current prices <sup>1</sup>	trillions of rubles	36.5			38.2			42.3			36.0			
Output by key EA	% YoY	-5.0	-2.7	-1.1	-3.3	-3.0	-2.7	-4.5	-2.5	-2.2	1.1	5.5	8.7	
Industrial output	% YoY	-2.5	-0.5	0.0	-3.1	-2.6	-1.8	-4.3	-2.4	-1.7	1.2	5.2	7.1	
Agricultural output	% YoY	8.2	7.7	15.4	13.6	10.9	8.2	6.1	2.7	2.6	3.3	3.2	2.9	
Construction	% YoY	0.0	6.5	6.7	2.8	8.7	5.1	6.9	9.9	11.9	6.0	5.7	13.5	
Fixed capital investment <sup>1</sup>	% YoY	3.3			2.3			3.3			0.7			
Freight turnover	% YoY	-5.7	-5.0	-3.9	-7.0	-6.6	-5.5	-4.5	-1.7	0.0	-3.3	-3.0	-4.6	
PMI Composite Index	% SA	50.4	52.2	50.4	51.5	45.8	50.0	48.0	49.7	53.1	56.8	55.1	54.4	55.8
Retail turnover	% YoY	-9.4	-9.1	-9.4	-10.9	-10.2	-7.9	-10.4	-7.5	-8.7	-4.8	7.8	9.3	
Real disposable income <sup>1</sup>	% YoY	-0.8			-3.4			0.9			0.1			
Real wages	% YoY	-3.2	-3.2	-1.2	-1.4	0.4	0.3	0.6	0.6	2.0	2.7	10.4		
Nominal wages	% YoY	12.2	11.4	12.9	12.1	13.1	12.3	12.6	12.4	13.2	6.3	13.0		
Unemployment	% SA	4.0	3.9	3.9	3.9	3.8	3.7	3.7	3.6	3.5	3.4	3.3	3.2	
<b>Banking sector</b>														
Broad money <sup>2</sup>	% YoY, AFCR	12.5	13.6	14.6	14.3	13.6	12.9	14.0	14.5	15.2	15.9	14.8	15.6	15.9
Money supply (M2 monetary aggregate) <sup>2</sup>	% YoY	16.8	19.3	22.6	23.9	24.4	23.4	24.4	25.9	25.9	24.4	23.6	24.9	25.0
Household deposits	% YoY, AFCR	7.2	6.7	6.6	4.4	3.4	4.2	6.4	5.8	11.0	12.4	10.6	11.6	12.8
in rubles	% YoY	13.6	14.1	14.8	14.0	13.9	14.7	17.8	17.1	22.5	21.7	19.0	20.4	21.2
in foreign currency	% YoY	-20.4	-23.6	-26.9	-35.6	-40.1	-39.2	-40.7	-39.8	-35.3	-30.9	-33.9	-37.3	-38.6
dollarisation	%	11.5	12.8	12.1	10.5	10.5	10.2	10.6	10.7	10.9	10.4	10.1	9.8	10.0
Loans to financial and non-financial institutions	% YoY, AFCR	8.8	8.5	10.4	11.6	12.2	12.3	13.1	12.6	11.4	13.7	16.8	18.9	21.0
short-term (up to 1 year)	% YoY, AFCR	4.8	5.6	9.0	10.1	9.6	7.4	4.7	0.6	0.1	8.4	8.8	8.4	9.4
long-term (more than 1 year)	% YoY, AFCR	11.7	10.2	11.8	13.1	14.1	15.4	16.8	17.5	15.8	17.3	21.2	24.4	26.3
Household loans	% YoY, AFCR	12.4	11.5	10.5	10.2	9.6	9.9	9.7	9.3	8.5	10.3	13.3	15.9	17.8
housing mortgage loans	% YoY, AFCR	18.3	17.6	16.7	16.8	16.5	18.1	17.6	16.9	16.1	16.0	18.6	21.4	
unsecured consumer loans	% YoY	7.7	6.6	5.8	5.0	3.9	3.2	2.7	2.5	1.7	5.1	8.0	10.3	11.8

Note:

YoY – on the same period of the previous year

SA – seasonally adjusted

EA – economic activity

AFCR – adjusted for foreign currency revaluation

<sup>1</sup> Data for the quarter.<sup>2</sup> Preliminary estimate for June 2023 on the basis of data from credit institutions' Reporting Forms 0409101 and 0409301.

Sources: Rosstat, IHS Markit, Bank of Russia calculations.

Table 8

## KEY ECONOMIC AND FINANCIAL INDICATORS: BALANCE OF PAYMENTS

	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2 <sup>1</sup>
<b>Current account</b>	<b>billions of US dollars</b>	<b>22.4</b>	<b>17.3</b>	<b>35.5</b>	<b>46.9</b>	<b>70.9</b>	<b>76.7</b>	<b>41.0</b>	<b>14.8</b>	<b>5.4</b>
Balance of trade	billions of US dollars	28.7	38.8	54.2	68.5	84.8	95.0	61.8	30.2	24.1
Exports	billions of US dollars	93.3	114.9	132.1	154.0	154.5	151.8	143.1	104.6	101.0
Imports	billions of US dollars	64.6	76.1	77.9	85.5	69.8	56.8	81.3	74.3	76.9
Balance of services	billions of US dollars	-3.0	-4.1	-6.9	-6.4	-3.6	-3.7	-8.3	-7.6	-8.5
Exports	billions of US dollars	11.5	13.0	14.1	17.0	13.9	11.1	12.3	9.7	9.7
Imports	billions of US dollars	14.5	17.1	21.0	23.3	17.5	14.7	20.6	17.3	18.2
Balance of primary and secondary income	billions of US dollars	-3.3	-17.5	-11.9	-15.2	-10.2	-14.7	-12.5	-7.8	-10.2
<b>Capital account</b>	<b>billions of US dollars</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>-1.1</b>	<b>-1.5</b>	<b>-0.2</b>	<b>-0.1</b>
<b>Current and capital account balance</b>	<b>billions of US dollars</b>	<b>22.6</b>	<b>17.2</b>	<b>35.5</b>	<b>46.9</b>	<b>70.9</b>	<b>75.5</b>	<b>39.5</b>	<b>14.6</b>	<b>5.3</b>
<b>Financial account, excluding reserve assets</b>	<b>billions of US dollars</b>	<b>19.0</b>	<b>9.8</b>	<b>4.1</b>	<b>26.1</b>	<b>78.5</b>	<b>78.2</b>	<b>38.7</b>	<b>18.4</b>	<b>5.7</b>
Net incurrence of liabilities	billions of US dollars	-0.3	2.9	32.2	2.9	-35.9	-53.7	-27.4	-10.8	11.6
Net acquisition of financial assets, excluding reserve assets	billions of US dollars	18.7	12.7	36.3	29.1	42.6	24.5	11.3	7.6	17.3
<b>Net errors and omissions</b>	<b>billions of US dollars</b>	<b>0.1</b>	<b>1.1</b>	<b>-1.8</b>	<b>0.9</b>	<b>-3.0</b>	<b>3.8</b>	<b>-0.4</b>	<b>-1.3</b>	<b>-1.1</b>
<b>Change in reserve assets</b>	<b>billions of US dollars</b>	<b>3.7</b>	<b>8.5</b>	<b>29.6</b>	<b>21.7</b>	<b>-10.6</b>	<b>1.2</b>	<b>0.4</b>	<b>-5.1</b>	<b>-1.4</b>
<b>Balance of payments<sup>2</sup></b>										
Urals crude price	% YoY	23.1	126.5	64.7	76.2	48.6	17.8	-19.9	-45.0	-29.3
Exchange rate against the US dollar ('+' – appreciation and '-' – depreciation of the ruble)	% YoY	-11.1	-2.5	0.1	5.0	-12.3	12.4	16.5	16.5	-18.5
Goods and services exports	% YoY	1.6	58.5	63.0	58.5	60.7	27.3	-9.1	-32.1	-32.0
Goods and services imports	% YoY	4.6	40.9	32.5	23.0	10.3	-23.3	-6.3	5.0	33.0

<sup>1</sup> Estimate.<sup>2</sup> Signs according to BPM6.

# GLOSSARY

## **BANKING SECTOR LIQUIDITY**

Credit institutions' ruble-denominated funds held in correspondent accounts with the Bank of Russia primarily for making payments via the Bank of Russia's payment system and for fulfilling the reserve requirements.

## **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 Bank of Russia one-week repo auctions and to the maximum interest rate at Bank of Russia 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 (Rosstat). The CPI reflects changes over time in the overall level of prices for goods and services purchased by households for consumption. The CPI is calculated based on data on the actual structure of consumer spending and is, therefore, the principal indicator of the cost of living. In addition, the CPI has a range of characteristics making it convenient for common use, namely a simple and clear method of construction, monthly calculation, and timely publication.

## **CORE INFLATION**

An indicator of inflation characterising its most sustainable 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.).

## **DEFLATION**

A steady general decline in prices for goods and services in the economy for at least 12 months and negative annual growth rates of consumer prices.

## **DOLLARISATION OF BANK DEPOSITS (LOANS)**

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

## **FEDERAL GOVERNMENT BONDS**

Domestic government securities issued by the Ministry of Finance of the Russian Federation within its borrowing programme to cover the deficit of the federal budget.

## **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 where the central bank establishes no targets, including operational ones, whether for the level or movements of the exchange rate, with the exchange rate forming under the influence of market factors. However, the central bank reserves the right to purchase foreign currency to replenish the country's international reserves or to sell foreign currency in the case of any threats to financial stability.

**INFLATION**

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

**INFLATION EXPECTATIONS**

Economic agents' expectations regarding price growth in the future. Inflation expectations are formed by businesses, households, financial markets, and analysts. Economic agents make economic decisions and their plans for the future (including those related to consumption, saving, borrowing, investment, and loan and deposit rates) relying on their expectations. Inflation expectations impact inflation and are, therefore, a critical indicator for making monetary policy decisions.

**INFLATION TARGETING**

A strategy of monetary policy based on the following principles: price stability is the key goal of monetary policy; the inflation target is clearly specified and announced; under a floating exchange rate regime, monetary policy influences the economy primarily through interest rates; monetary policy decisions are made based on the analysis of a wide range of macroeconomic indicators and their forecasts; the Bank of Russia seeks to provide clear benchmarks for households and businesses, including through enhancing 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 Russian rubles. In the narrow sense of the term, the monetary base comprises cash in circulation (outside the Bank of Russia) and credit institutions' funds in required reserve accounts for ruble-denominated funds raised by credit institutions. The broad monetary base includes cash in circulation (outside the Bank of Russia) and credit institutions' total funds in accounts and Bank of Russia bonds.

**MONEY SUPPLY**

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

**MONEY SUPPLY IN THE NATIONAL DEFINITION (M2 MONETARY AGGREGATE)**

The total amount of cash in circulation outside the banking system and 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. The latter calculates indices for individual countries (including Russia), global indices (for various regions, advanced and emerging market economies), and the World Index.

**NEUTRAL RATE OF INTEREST**

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

**REFINANCING OPERATIONS**

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

**REQUIRED RESERVE RATIOS**

Ratios that 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 when credit institutions demonstrate stable demand for liquidity from the Bank of Russia. 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

**AFCR** – adjusted for foreign currency revaluation

**bp** – basis point (0.01 percentage points)

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

**CCPI** – Core Consumer Price Index

**CEE** – Central and Eastern Europe

**Coupon OBR** – Bank of Russia coupon bond

**CPI** – Consumer Price Index

**ECB** – European Central Bank

**EME** – emerging market economy

**EU** – European Union

**FT** – Federal Treasury

**GDP** – gross domestic product

**GFCF** – gross fixed capital formation

**HY spread** – the difference between yields on bonds of corporate issuers whose rating is below the investment grade (‘BB’ and below) and the yield curve of US Treasury bonds

**IBL** – interbank lending

**IG spread** – the difference between yields on bonds of corporate issuers having an investment-grade rating (‘BBB’) and the yield curve of US Treasury bonds

**InFOM** – Institute of the Public Opinion Foundation

**LNG** – liquefied natural gas

**mbd** – million barrels per day

**MPR** – Monetary Policy Report (2/22 – No. 2, 2022; 2/23 – No. 2, 2023; 3/23 – No. 3, 2023)

**NWF** – National Wealth Fund

**OBR** – Bank of Russia bond

**OFZ** – federal government bond

**OPEC** – Organization of the Petroleum Exporting Countries

**PMI** – Purchasing Managers' Index

**pp** – percentage point

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

**RRs** – required reserves

**SA** – seasonally adjusted

**US Fed** – US Federal Reserve System

