Bank of Russia

REPORT ON THE BANK OF RUSSIA'S ANTI-CRISIS MEASURES

Moscow
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CONTENTS

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PART 1. CRISES AND LESSONS LEARNED

Since the beginning of the 21st century, Russia has experienced four major crises. All of them were triggered by external events such as global crises, oil price drops, or sanctions enacted by unfriendly countries. Under these circumstances, the Russian Government and the Bank of Russia implemented coordinated anti-crisis policies, introducing measures to support the economy and the people, and to stabilise the financial markets. These measures allowed to mitigate the impact of the crises on Russia's financial system and economy. Systematic efforts to adjust monetary and fiscal policy mechanisms, develop the financial market, and improve legislation, regulation and supervision in the financial sector also played a crucial role in overcoming the crises. This report is focused on the anti-crisis measures introduced by the Bank of Russia.

2008–2009 crisis

Causes and progression of the crisis

Russia was significantly impacted by the Great Recession of 2007–2009. The underlying causes of this crisis were of a comprehensive nature:

- On the one hand, the causes of the crisis included financial liberalisation and global spread of financial innovations since the early 1980s, which was not accompanied by adequate development of financial regulation and risk management systems in financial institutions.

- On the other hand, the crisis was triggered by global macroeconomic imbalances driven by low inflation and increased demand for risk-free instruments in advanced economies. As a result, the US Fed maintained unusually low interest rates for an extended period, further stimulating financial innovations and global capital flows to higher-rate countries. During the crisis, record capital inflows to emerging markets were replaced by equally significant outflows. This also affected Russia and contributed to the high sensitivity of the Russian economy to the 2008–2009 shocks.

During the early 2000s, low rates resulted in a 'housing bubble' in the US, particularly within the subprime segment where adjustable rates were prevalent. Unprecedented levels of loan securitisation were based on the belief that overall quality of loan portfolios could be enhanced through diversification by including various high-risk assets, primarily mortgage loans.

When inflation accelerated, the US Fed significantly raised its interest rates between 2005 and 2007. This led to issues in the mortgage market that fairly quickly began to escalate into a banking crisis. In the US financial market, weak regulation and improper risk assessment allowed the contagion to gradually spread between various market segments (mortgages, securitised assets, structured products, credit default swaps, etc.), posing a threat to the stability of systemically important banks. Following the collapse of Lehman Brothers in September 2008, the US crisis spread across the global financial system. Ensuing panic in the global financial markets triggered a massive sell-off of high-risk assets amid a flight to quality and a significant drop in asset values. This resulted in unprecedented deleveraging and credit crunch in the financial markets.

The crisis was accompanied by a loss of confidence among market participants and a significant liquidity shortfall in the money markets. Subsequently, financial institutions incurred substantial losses directly from lending activities and due to reduced liquidity and falling prices in the stock market. In December 2007, the US economy entered a recession due to declining investments in construction triggered by a collapse in real estate prices. The US crisis led to a cyclical downturn in major advanced economies.

The dropping prices for oil (Brent crude oil quotes fell 75% from USD 146 to USD 37 per barrel), metals, and farm produce on global markets allowed the crisis to spread to emerging market commodity exporters. Simultaneously, foreign investors massively withdrew their assets from emerging markets to invest in safer assets in advanced economies. Thus, the US crisis spread to the entire global financial system.

In Russia, as in other emerging markets, the build-up of pre-crisis issues was linked to substantial capital inflows during the 2000s. Banks and major non-financial companies extensively sought borrowed funds on global markets. At that time, the Bank of Russia maintained a 'managed float' exchange rate policy. Therefore, non-financial companies overlooked foreign exchange risks when making borrowings. The inflation decreased compared to the 1990s, boosting both corporate and retail lending. Risk management processes were underdeveloped, as the banking sector included many captive banks that provided substantial loans to affiliated borrowers and served as intermediaries to finance their projects. Although regulation and supervision in the 2000s were more robust than in the 1990s, inaccurate reporting and risk disclosures remained common, enabling banks and other financial institutions to engage in risky practices.

In autumn 2008, the initial impact of the global crisis on the Russian economy was marked by a sharp downturn in prices for oil and other Russian exports, along with a massive capital outflow due to global market conditions. The decrease in foreign trade revenues led to a significant reduction in the current account surplus. The changes in the balance of payments and net outflow of private capital (USD 168 billion from August to December 2008) set the stage for depreciation of the ruble.

In the financial markets, this led to a mass exodus of foreign investors from Russian assets, accompanied by extensive purchases of foreign currency on the Russian market by foreign investors, an increase of currency purchases by Russian residents in the context of a gradual devaluation of the ruble, an increase in the yield of government bonds, and a landslide fall in stock market prices.

The Moscow Interbank Currency Exchange (MICEX), the primary stock exchange at the time, lacked a central counterparty to absorb transaction risks. When some brokers failed to settle transactions and the value of collateral dropped, the issues affecting certain participants spread, threatening a non-payment crisis and mass bankruptcies.

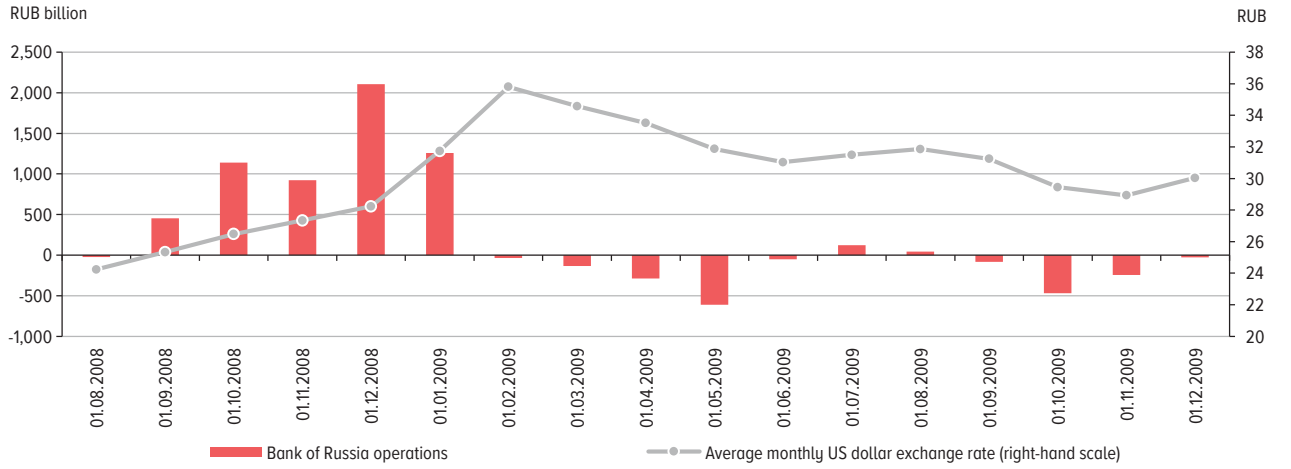
The Exchange was repeatedly closed during business hours and even for several days to facilitate multilateral clearing and reduce the liquidity needed for settlements. Banks with access to the Central Bank's liquidity provision mechanisms started to channel liquidity to brokers. Liquidity distribution between the two exchanges (MICEX and RTS) caused liquidity issues for each of them.

Key anti-crisis measures

Exchange rate policy measures

In 2008, the Bank of Russia maintained a 'managed float' exchange rate policy. The policy provided for a gradual bound adjustment for permissible fluctuations in the value of the dual currency basket. During the period of high oil prices and massive capital inflows, the Bank of Russia accumulated about USD 600 billion in reserves.

BANK OF RUSSIA OPERATIONS IN THE FOREIGN EXCHANGE MARKET (BUYING (-) / SELLING (+) FOREIGN CURRENCY) IN 2008–2009 AND EXCHANGE RATE DYNAMICS *Chart 1.1*



Source: PJSC Moscow Exchange.

The significance of building reserves was affirmed during the 1998 crisis.

During that period, the primary anti-crisis measures included foreign exchange interventions (Chart 1.1) to bolster the ruble exchange rate, accompanied by a gradual adjustment of the exchange rate corridor (gradual devaluation). This allowed to prevent a foreign currency liquidity shortage in banks, yet it fostered speculative tendencies among households and businesses. The retail demand for foreign currency surged. Exporters preferred to take out ruble loans while retaining their foreign currency revenues to profit from the gradual devaluation.

Amid the global crisis, foreign creditors often were unwilling to extend the external debt of Russian companies. Meanwhile, foreign loans were frequently secured by shares of major Russian companies with plummeting market values, which led to margin calls.[1] This situation required the government to support the companies forced to refinance such external loans. For these purposes, the government allocated USD 50 billion via Vnesheconombank,[2] but the actual amount utilised was approximately USD 11.6 billion.

The gradual devaluation allowed to prevent significant losses of the banks from the weakening of the ruble. In the pre-crisis period, Russian banks extensively sought foreign financing, resulting in a short open FX position. At that time, hedging transactions for open FX positions with off-balance-sheet instruments (derivatives) often proved to be fictitious, as the counterparties were bank-affiliated structures unable to close transactions in case of sharp fluctuations in the exchange rate.

[1] A margin call means a demand for transaction counterparties to provide additional collateral.

[2] Currently, State Development Corporation VEB.RF.

Simultaneously, the gradual devaluation policy hindered comprehensive macroeconomic adaptation in Russia. Consequently, the real GDP dropped by 7.8% in 2009, with unemployment exceeding 9% in certain months at the start of the year. Had the exchange rate been flexible, the ruble would have depreciated further, potentially leading to a more substantial reduction in imports and an increase in exports. A long-term negative consequence of the gradual devaluation policy was a significant rise in FX positions of bank balance sheets.

Measures to provide ruble liquidity

As a result of foreign exchange interventions, for the first time since 1999, the Russian international reserves were reduced, leading to a decrease in ruble liquidity in the banking sector. It is important to note that when selling foreign currency in the market, the Central Bank withdraws rubles from circulation. This results in higher interest rates, triggers liquidity issues, and increases the risk of a payment crisis. To avoid this, the Central Bank must have access to the tools that make it possible to promptly provide liquidity to the banking sector.

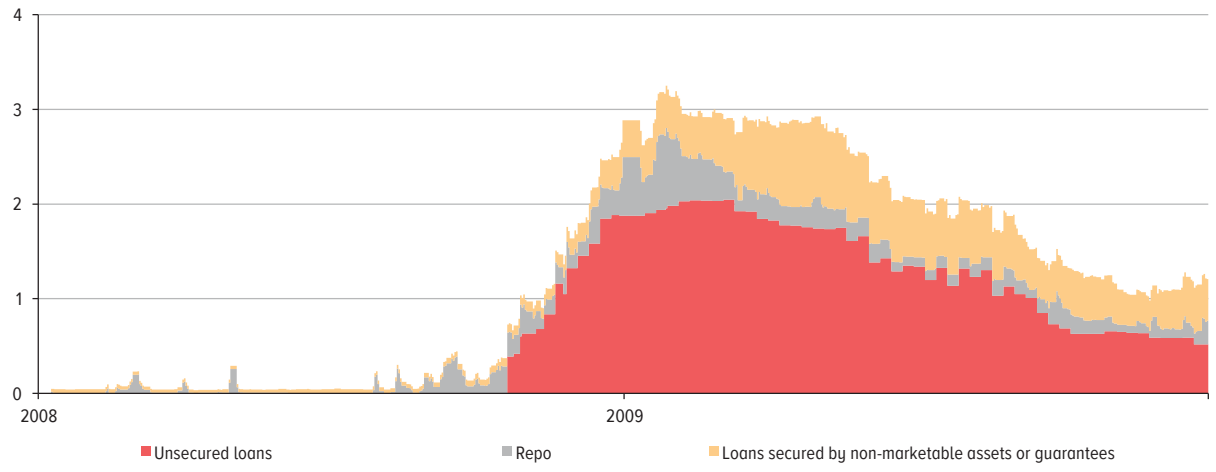
The Bank of Russia achieved a rapid effect by lowering the required reserve ratios, i.e., the minimum amount of rubles that banks must maintain in their accounts at the Central Bank calculated as a percentage of the banks' borrowed funds. However, the impact of this measure was limited. The banks' demand for refinancing operations continued to grow, necessitating a significant increase in liquidity provision through repo transactions and loans secured by non-marketable assets.

Despite the easing of requirements for credit quality of assets included in collateral, the banks lacked sufficient acceptable collateral to meet their liquidity needs. This necessitated the use of unsecured instruments.

Liquidity was provided at auctions; at the time, there was no clear mechanism for managing interest rates, which led to high and volatile money market rates. Overall, the interest rates for the economy were also high, impeding the operational and investment activities of companies.

In response to the crisis, the leading central banks rapidly developed unconventional tools to support the financial system liquidity, and introduced the use of the asset purchase mechanism (quantitative easing).

BANKS' DEBT TO THE BANK OF RUSSIA UNDER LIQUIDITY-PROVIDING OPERATIONS *Chart 1.2*
(RUB TRILLION)



Source: Bank of Russia.

In Russia, as an unconventional measure in 2008, Vnesheconombank supported the stock market through daily purchases of shares in the Russian market using funds from the National Wealth Fund (NWF).

Measures to support resilience of the financial sector

The capital outflow, the inability to refinance loans on foreign markets, and collateral shortage exposed the accumulated problems in the Russian banking sector. Moreover, the crisis significantly worsened the situation for borrowers. Several banks were on the brink of bankruptcy. Neither the Russian Government nor the Bank of Russia had legally established tools for bank resolution and recapitalisation, necessitating their establishment through federal law. The law authorised the Bank of Russia to use a credit resolution scheme[3] for troubled banks. In turn, the Russian Government used Reserve Fund resources to recapitalise major banks.[4] This bolstered depositor confidence in the banking sector's stability and supported lending. Recapitalisation of private banks was subject to additional support from owners. Recapitalised banks were obligated to provide loans to the real sector.

Key lessons learned from the crisis

1. The crisis underscored the need for **greater flexibility in the foreign exchange rate**. The Bank of Russia continued to implement its policy of gradually moving away from strict exchange rate control initiated in 2006. The Bank of Russia developed an exchange rate corridor system, which meant that the rate fluctuated freely within the corridor, but once it approached the corridor bounds, the Bank of Russia intervened by buying or selling foreign currencies. As a certain volume of interventions accumulated, the corridor shifted upwards or downwards depending on the exchange rate trend.

2. The crisis highlighted the need for the development of **refinancing instruments and a system for bank liquidity management**. The instruments that existed before 2008 proved to be insufficient at the peak of the crisis, prompting the Bank of Russia to resort to unsecured lending to stabilise liquidity. Later, the development of monetary policy tools facilitated and expedited the Bank of Russia's shift to inflation targeting. Starting from 2013, the Bank of Russia base rate has been used as the key rate.[5]

The crisis demonstrated that, besides banks, **liquidity risk could affect professional securities market participants** lacking direct access to the Bank of Russia's refinancing instruments. In a normal environment, banks facilitate brokers' access to liquidity through bilateral repo transactions. However, the significant depreciation of securities prevented brokers from closing previously agreed repo transactions. This led to a chain of defaults, virtually halting market operations. The outcome of the crisis necessitated the development of a mechanism for guaranteed clearing of transactions, and the National Clearing Centre (NCC) started centralised clearing in the repo market.

3. Overall, the crisis revealed the need to **improve the financial market infrastructure**. The modernisation of exchange technologies and processes drew on international experience and

[3] In October 2008, Federal Law No. 175-FZ 'On Additional Measures to Strengthen the Stability of the Banking System until 31 December 2011' (in Russian only) was enacted, granting the Deposit Insurance Agency (DIA) the authority to take measures to prevent bankruptcy of banks covered by the deposit insurance system at the suggestion of the Bank of Russia, and regulating the rehabilitation of troubled banks. The DIA received significant state resources to fulfil these functions.

[4] See Bank of Russia Annual Report for 2008 (p. 35, 117).

[5] At that time, the refinancing rate was different from the money market rates and had regulatory meaning, as it was referenced in many laws and regulations.

reforms carried out in other countries. In December 2011, MICEX and RTS merged into the unified Moscow Exchange with enhanced technological systems and risk management processes. Laws were enacted to regulate the operations of the central counterparty (CCP) and the central depository (CD). The Bank of Russia established comprehensive oversight of the stock exchange and other financial infrastructure entities. All these measures helped to bolster market confidence, reduce liquidity issues, and ensure stable functioning of the market in the future.

4. Like central banks in other countries, the Bank of Russia started focusing more on **financial stability and systemic risk analysis**. The Bank of Russia gained an ability to comprehensively assess the overall stability of the financial system through considering the interconnections between different sectors of the economy and analysing risks of individual financial institutions. In 2012, one of the initial focuses of macroprudential analysis were the issues of rapid increase in unsecured consumer lending; in addition, the Bank of Russia developed a crisis response plan and since then has been updating it on a regular basis.

The Bank of Russia started participating in the work of the Financial Stability Board (FSB), which was established in 2009 and became a platform for coordinating global regulatory efforts in the areas of development and implementation of financial regulations, and risk monitoring within the financial system.

5. The crisis exposed **severe issues in the banking sector**: poor quality of business models, inadequate risk management, and unreliable accounting and reporting by numerous banks. Banking supervision required significant improvements, especially in terms of developing a risk-based approach. The Bank of Russia intensified its efforts to refine banking regulations, started participating in the Basel Committee on Banking Supervision (BCBS), and, along with other regulators, started implementing the Basel III framework. In H2 2013, the Bank of Russia initiated systematic efforts to rehabilitate the banking sector.

The lessons learned from the crisis and improvements in management processes at both micro and macro levels meant that the Bank of Russia and the Russian financial system were better prepared for the next crisis in 2014–2015 than for the 2008–2009 crisis. However, many processes, including the rehabilitation of the banking sector and the financial sector in general, were still incomplete, affecting the impact of the 2014–2015 crisis on the Russian financial system and economy and the necessary support measures.

2014–2015 crisis

Causes and progression of the crisis

The 2014–2015 crisis was different from the crisis of 2008–2009. It was primarily triggered by overlaying external shocks: imposition of anti-Russian sanctions and a drop in oil prices driven by the emergence of shale oil producers as a new major market player.

Volatility in the Russian market started to grow in late 2013, as international investors reduced their investments in emerging markets, including Russia, amid the phasing out of quantitative easing in the US, recession in the European Union (EU), and a slowdown in China's economy. In February 2014, the negative response of the Russian markets intensified.

The first signs of crisis emerged in early March 2014. In the spring, investors were concerned about potential sanctions, stricter currency controls, and related issues, which prompted them to withdraw from the Russian market. Retail demand for foreign exchange was also growing. However, the main events unfolded in the summer – early autumn of 2014, when sanctions

were imposed and oil prices began to plummet. Sectoral sanctions against Russian banks and companies imposed by the US, the EU, and a number of other countries resulted in loss of access to external markets as a source of relatively inexpensive and long-term capital.

The ban on financing major Russian companies and banks for periods exceeding 90 days (later reduced to 28 days, 2 weeks, and 1 week) imposed by the US and later the EU necessitated significant restructuring of the business model of Russian banks. They experienced a foreign exchange liquidity shortage, and the imputed interest rates on FX swaps grew.

The sanctions indirectly resulted in non-residents' desire to minimise the risk of sanctions being extended to all Russian companies under a broad interpretation of sanctions circumvention by US and EU authorities. Non-residents began to limit refinancing of external borrowings for a broad range of Russian borrowers (not only those under sanctions) and reduced limits for Russian banks even on non-restricted transactions (FX swaps and short-term loans); in addition, foreign currency payments started to take longer due to stricter compliance.

Alongside the pressure from sanctions, starting from mid-2014, continued stagnation in the EU countries and economic growth downturn in China led to reduced demand for oil. Meanwhile, oil supply volumes continued to increase due to shale oil production in the US. From mid-June to mid-October 2014, the price of Brent crude oil dropped by 28%. Coal and ferrous metallurgy product prices also declined. This resulted in reduced revenues for Russian exporters and increased fiscal risks.

At the same time, Q4 2014 accounted for a large volume of external debt repayments by Russian companies. Facing upcoming repayments, exporters preferred to accumulate foreign currency revenue rather than selling it on the market, or taking out loans to cover ruble expenses. The rapid decline in oil prices following the OPEC meeting in late November 2014, coupled with the looming debt refinancing in December, led to heightened devaluation and inflation expectations and triggered panic in the market.

Asset price fluctuations in 2014 were comparable to those seen in 2008. However, the implemented infrastructure improvements proved effective: the exchange infrastructure did not face any issues, and the CCP facilitated smooth redistribution of liquidity among financial institutions and market functions.

While a socially sensitive matter, FX mortgage loans posed a relatively minor issue for the banking sector overall. FX mortgage loans were relatively widespread before the 2008 crisis, accounting for 25% of the mortgage portfolio by the end of 2008, although at that time the mortgage market itself was minimal. In early 2014, FX mortgage loans represented 4% of the portfolio. FX mortgages were appealing for consumers due to significantly lower rates compared to ruble mortgages resulting in smaller payments. The lower rate reflected the fact that the risks of exchange rate fluctuations were born by the borrower, and not the bank. However, most retail borrowers did not fully understand the scale of potential payment fluctuations and possible increase in their debt burden. Banks also failed to account for the fact that the borrower's foreign exchange risk could transform into their credit risk in case of the borrower's default. In 2014–2015, these risks materialised. Borrowers lacked FX income, and a significant portion of them struggled with repaying their debts. By early 2016, the share of overdue FX mortgage debt reached 20% and continued to grow later on.

Among corporate borrowers, commercial real estate companies faced the greatest challenges in servicing FX loans, as they traditionally set rental prices and obtained loans in foreign currencies. Tenants were unprepared to pay the sharply increased rents, forcing companies to reduce rent and

switch to collecting payments in rubles. Consequently, in 2014–2015, banks had to restructure a significant portion of debts in the commercial real estate sector.

In 2014, blocking sanctions were imposed on certain banks. As a result, their clients-plastic card holders lost the ability to use them, which was an additional stress factor.

Key anti-crisis measures

Foreign exchange and monetary policy measures

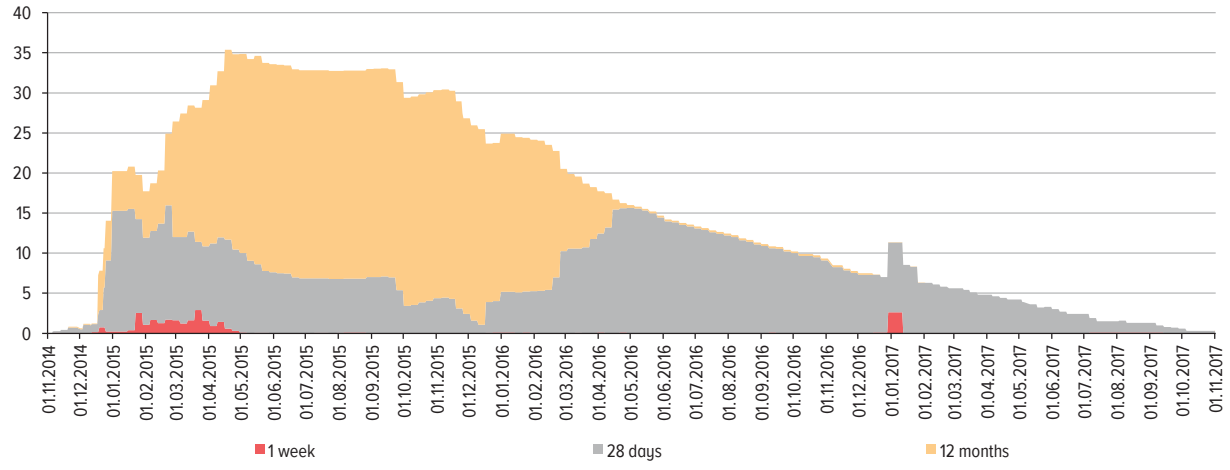
As in the previous crisis, the anti-crisis measures were primary focused on the foreign exchange market. Over the preceding years, the market had grown accustomed to the Central Bank control over the exchange rate and expected that support for the rate would be bolstered during periods of heightened volatility. In 2014, the Bank of Russia progressively eased the parameters of the exchange rate corridor. However, the exchange rate corridor policy resulted in slower exchange rate adjustments, encouraging speculative tendencies. Despite concerns voiced by some economists, the situation analysis confirmed the urgency of accelerating the shift to a floating exchange rate.

These conditions led to a surge in inflation due to a spike in demand as people rushed to purchase goods at old prices. Additionally, retail customers started to withdraw funds from banks. To preserve both price and financial stability, the Bank of Russia increased the key rate by 6 pp to 17% at an extraordinary meeting that took place on 16 December 2014. Raising the key rate helped stabilise the liquidity in banks and alleviate fears of devaluation. There was a final transition to a floating exchange rate and inflation targeting regime. This enabled the stabilisation of the foreign exchange market in January–February 2015. It should be noted that the ongoing rehabilitation of the banking sector gave raise to concerns about its resilience to the increased key rate, which restricted the extent of monetary policy tightening.

The volume of foreign exchange interventions by the Central Bank from January 2014 to January 2015 was considerably lower than that from September 2008 to January 2009 (USD 86 billion vs USD 209 billion).

Besides foreign exchange interventions, to normalise the foreign exchange market situation, the Bank of Russia introduced instruments for providing foreign exchange liquidity on a repayable

FUNDS PROVIDED TO CREDIT INSTITUTIONS IN THE FIRST PART OF FX REPO TRANSACTIONS *Chart 1.3*
(USD BILLION)



Source: Bank of Russia.

basis. FX swaps involving the sale of US dollars for rubles started in September 2014 and later became the Bank of Russia's sole tool for providing foreign exchange liquidity to financial institutions. In 2022, similar operations commenced in euros, and in Chinese renminbi following the sanctions imposed on the Bank of Russia.

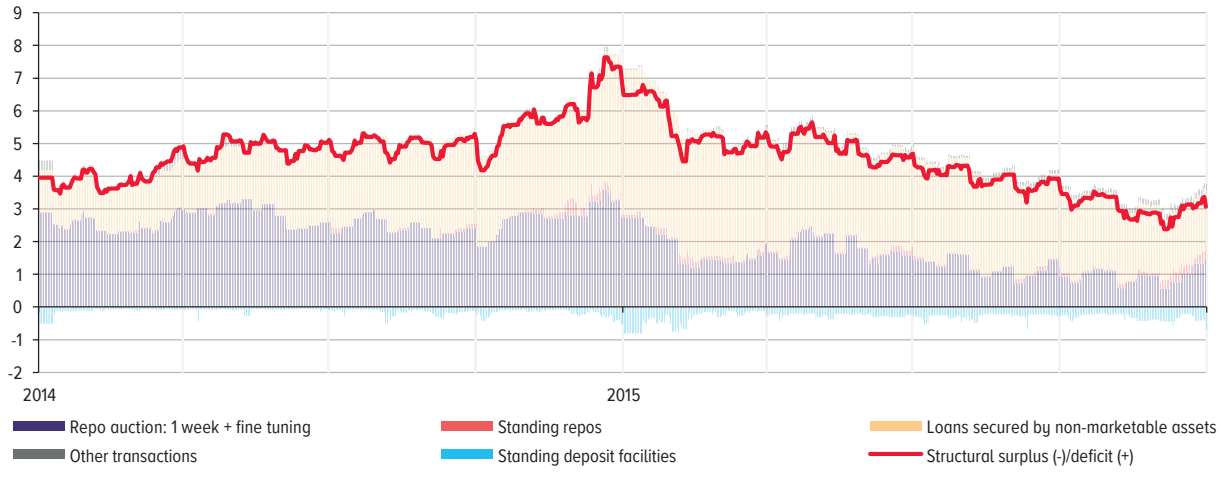
In October–November 2014, the Bank of Russia introduced an additional instrument, FX repo for 1 week, 28 days and 1 year. This provided liquidity over longer periods and at lower rates, significantly supporting the foreign exchange money market (used until 2017). Additionally, in late December 2014, the Bank of Russia introduced another new instrument, FX loans secured by receivables for 28 days and 1 year. The provision of FX funds by the Bank of Russia helped to stabilise the foreign exchange liquidity situation.

Measures to provide ruble liquidity

As in 2008–2009, banks saw a significant rise in the structural liquidity shortage, meaning the increased need to borrow from the Central Bank. The measures implemented by the Bank of Russia since 2008 enabled refinancing of the banking sector without resorting to unsecured lending (Chart 1.4). Over the years following the previous crisis, the Bank of Russia had developed an effective bank refinancing system using various types of collateral and strengthened its control over money market interest rates. With the growing need for refinancing, the list of accepted collateral continuously expanded, and discounts were reduced, but overall, the collateral was adequate to prevent the Central Bank from losing control over interest rates. This ensured significantly greater rate stability than in 2008–2009. The market was also more stable due to the mechanism that allowed banks to provide liquidity to brokers through the CCP.

However, as long as foreign exchange interventions continued, the increase in liquidity provided by the Central Bank fueled inflation and devaluation expectations. Consequently, the Bank of Russia occasionally implemented policies aimed at lowering limits at repo and loan auctions, and restricted the provision of rubles through FX swaps. As a result, banks had to secure loans and funds through the Bank of Russia's repo operations at a higher fixed rate. Due to the existing collateral shortage, imposed restrictions, and the regulator's stringent rhetoric, banks feared that they might not be able to borrow from the Bank of Russia even at fixed rates. This led to ruble rates exceeding the interest rate corridor on certain dates in December 2014. After assessing potential risks to financial stability, including to uninterrupted payments in the banking sector,

STRUCTURE OF BANK OF RUSSIA'S OPERATIONS IN 2014–2015 *Chart 1.4*
(RUB TRILLION)



Source: Bank of Russia.

the Bank of Russia promptly abandoned the policy of limit reductions and subsequently took all necessary measures to fully meet banks' liquidity demands.

Measures to support resilience of the financial sector

During the period of heightened volatility in the foreign exchange market in mid-December 2014, the Bank of Russia granted regulatory exemptions to banks, allowing them to temporarily use the pre-crisis exchange rate for calculating ratios. Amid sharp asset price fluctuations, the Bank of Russia for the first time applied regulatory exemptions for recognising asset prices in ratio calculations. Banks were permitted to use fixed prices for stocks and bonds. Essentially, this amounted to adopting the mark-to-model approach instead of the mark-to-market one.[6] Due to the collapse of asset values in 2014, using market prices would have led to procyclical behaviour among banks, prompting further asset sales and reduction in lending. During the shock, adhering to standard valuation rules appropriate for normal conditions would have prioritised form over substance. The use of fixed asset prices and foreign exchange rates mitigated this impact.

At a time when the sector's rehabilitation was far from complete and bank balance sheets were insufficiently transparent, a spike in the financial market volatility and panic on social media triggered a run on some credit institutions, including certain systemically important banks. The situation in major banks was quickly stabilised, partly due to the Russian Government's announcement of a bank recapitalisation programme. However, some medium-sized banks still encountered insolvency issues. TRUST Bank was the largest of them (ranked thirtieth in asset size), and was resolved in December 2014. An important role in preventing liquidity outflows due to depositor flight from banks was played by the increase in the threshold of insurance of individuals' deposits from RUB 700,000 to 1.4 million in late December 2014.

Borrowers with FX mortgage loans demanded that banks restructure their mortgages into rubles at a more favourable rate. The Bank of Russia advised banks to restructure debts at the exchange rate as of 1 October 2014.[7] The Russian Government and the Bank of Russia were involved in negotiations between banks and borrowers in the settlement of difficult life situations.

In light of the ongoing sanctions pressure, the relevant authorities resolved to establish a national payment card system (NPCS), transfer all foreign cards to Russian hosting, and create the Mir payment card. The Bank of Russia also reformed the rating industry, fostering the growth of national credit rating agencies.

Key lessons learned from the crisis

1. The crisis provided additional arguments for not only maintaining but also accelerating the transition to **inflation targeting and a floating exchange rate regime**. Monetary policy measures made it possible to swiftly stabilise the financial markets. To mitigate devaluation and inflation expectations, it was essential to lower and maintain inflation rates at the target level. This task was accomplished: the inflation target was met in 2017, with an average inflation rate of 4.22% in 2017–2021,[8] and the average annual CPI rates of 4.0% in December 2016–2020. This significantly bolstered the market confidence in the Bank of Russia's monetary policy.

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[6] The mark-to-market approach involves reassessment of the value of assets or liabilities based on changes in their market value. The mark-to-model approach involves using mathematical models to determine the current value of assets or liabilities.

[7] Bank of Russia Letter No. 01-41-2/423, dated 23 January 2015 (in Russian only).

[8] Average monthly CPI growth rate, YoY.

2. In terms of ruble refinancing for banks, a key insight was the recognition of the importance of **meeting banks' liquidity needs** by the Bank of Russia and the adverse effects of quantitative restrictions on liquidity provision. Following the shift to a floating exchange rate and inflation targeting, the Bank of Russia adjusted the parameters of its liquidity-providing operations to fully meet potential bank liquidity needs.

Under the floating exchange rate regime, the Central Bank should act as a lender of last resort in both domestic and foreign currencies, and possess **tools to sustain FX liquidity**. Most FX loans were repaid in early 2016, and FX repo transactions were phased out by late 2017, yet this tool remained available to the Bank of Russia for crisis situations. FX swaps became a standing instrument.

3. The crisis underscored the need to **establish a domestic payment infrastructure**, including the NPCS, the Financial Messaging System of the Bank of Russia (SPFS), **a domestic rating infrastructure, and a reinsurance company**[9] to sustain financial system resilience amid sanctions. Starting from 2014, all domestic payment card transactions were processed by the NPCS. This enabled seamless operation of bank cards for domestic payments following the withdrawal of several international payment systems from Russia in 2022.

4. The crisis confirmed that the banking sector weakness and non-transparency pose material risks to financial stability. Post-crisis, the Bank of Russia extensively pursued policies aimed at **strengthening the banking sector and enhancing regulation and supervision**, including by leveraging the benefits of being a mega-regulator in the financial market (see Box 1). The rehabilitation of banks involved various tools (licence revocations, credit resolution mechanisms, and prevention of major bankruptcies through the Fund of Banking Sector Consolidation starting from 2017) and was largely completed in 2019. This significantly fortified the banking sector. These measures allowed it to navigate the 2020 and 2022 crises without bank resolutions, severe disruptions, and state financial aid.

Box 1. Mega-regulator and anti-crisis policy

On 1 September 2013, the Bank of Russia became a mega-regulator in the financial market. The Federal Service for Financial Markets transferred its authority for supervision, regulation, and development of most financial market sectors[1] to the Bank of Russia (including the insurance sector, collective investments, pension savings, securities market, microfinance market, and financial market infrastructure). This enhanced the overall stability of the financial system and the effectiveness of crisis response measures. The subsequent crises validated the benefits of this institutional structure:

1. Developing consolidated supervision and mitigating regulatory arbitrage risks.

Establishing a mega-regulator enabled a unified regulatory strategy for both credit institutions and non-bank financial institutions, improved supervision, and reduced regulatory arbitrage risks.

Between 2016 and 2018, banking supervision was centralised, transferring all functions from regional divisions to the central office. The reform enabled uniform supervisory standards and swifter supervisory decisions.

Implementing risk-based regulation and unified supervisory standards for NBFIs significantly enhanced their financial resilience and cleansed the market of weak and negligent actors. Supervisory groups were formed to oversee financial groups that include banks and NBFIs. Their efforts focused on swift exchange of information on supervised institutions and developing a comprehensive view of financial associations' operations. Annual macroprudential stress testing facilitated by the mega-regulator's structure was introduced to assess systemic risks of major financial groups.

[1] The leasing sector remains outside the regulatory perimeter.

[9] The Russian National Reinsurance Company (RNRC) was founded in 2016.

2. Effectiveness of banking groups resolution.

During the active rehabilitation phase, several major banks were resolved, including Bank Otkritie, B&N Bank, ATB, and BANK URALSIB. All these banks had significant NBFI affiliates. For instance, Bank Otkritie group included Rosgosstrakh, one of the largest insurance companies, and several major pension funds. The existence of the unified mega-regulator enabled the resolution of the group in 2017, despite the absence of a statutory NBFI resolution mechanism. This mechanism was introduced for insurers in 2018, and for pension funds, in 2021. Additionally, a DIA-based pension savings insurance system was launched.

3. Promptness and standardisation of anti-crisis measures.

The Bank of Russia is able to implement support measures for all financial market participants simultaneously (e.g., a moratorium on asset revaluation or on disclosure of sensitive information). The Bank of Russia issued guidelines for restructuring debts of affected borrowers (along with easing of reserve requirements) for banks, MFOs, and credit cooperatives. Banking and financial supervision units ensured rapid mutual information support and coordinated supervisory actions when necessary.

4. Financial market development.

Between the crises, the mega-regulator made significant efforts to boost the financial market infrastructure. Since 2015, the financial market development goals and objectives for a three-year period have been set in the Bank of Russia's strategic document, 'Guidelines for the Development of the Financial Market'. The financial market development between the crises significantly contributed to the financial sector's resilience to shocks.

5. Situations of extreme **financial asset price drops or severe business environment deterioration due to systemic shocks call for temporary easing of prudential requirements for financial institutions**. In 2014, for the first time, the Bank of Russia permitted financial institutions to temporarily forego market revaluation of financial assets (securities and foreign currency) for calculating prudential ratios. This decision prevented unwarranted worsening of financial indicators and had no adverse side effects. Given that 'overshooting' effects (exchange rates or stock prices falling significantly more than fundamental factors would justify) often occur during crises, it is entirely appropriate to introduce regulatory easings that allow for temporary under-recognition of risks. The Bank of Russia employed this approach in subsequent crisis episodes, including to curb the procyclical behaviour of financial institutions.

However, such regulatory easing should have strict time limits. Prolonged easing distorts risk assessment, prudential reporting and ratios, undermines market discipline, and ultimately degrades management quality, reducing stability and eroding creditor and depositor confidence.[10] Underestimated risks discourage market participants from maintaining independent financial resilience and distort competition. Timely termination of anti-crisis measures fosters balanced market development and informed investment decisions by the market participants.

6. The crisis reaffirmed the need for **developing and implementing macroprudential policy instruments**.

Firstly, the sharp fluctuations in consumer lending dynamics marked by rapid growth in 2012–2013 followed by a swift decline in 2015 highlighted the need for developing countercyclical macroprudential policy instruments. Higher risk ratios were introduced for high-interest loans. In 2019, the Bank of Russia was authorised to employ these ratios in a countercyclical fashion under resolutions of the Board of Directors, increasing them during risk accumulation and reducing them during risk materialisation, thus enabling banks to absorb losses and sustain

[10] These adverse effects triggered the US banking crisis of spring 2023, when regulatory distortions and unrecognised asset losses led depositors to question the resilience of several regional banks.

lending (see page 81 for more details on macroprudential measures). In 2019, to mitigate the risks associated with high levels of household debt, the Bank of Russia introduced a debt service-to-income ratio (DSTI).

Secondly, the crisis demonstrated that heightened demand for foreign currency often stems from a prevalence of FX assets and liabilities in the banking sector. The decline in the quality of FX loans underscored the necessity of aligning the loan currency with the borrower's income currency. On 1 April 2015, the Bank of Russia raised the capital requirements for FX mortgage loans, increasing the risk ratio from 100% to 300%. As of 1 April 2024, the FX mortgage debt constituted only 0.03% of the total mortgage portfolio of banks. The crisis also revealed that FX lending to exporters, even with balanced payments, could pose systemic risks in the event of significant repayments. In 2016, the Bank of Russia initiated a consistent dedollarisation policy, setting macroprudential buffers for corporate FX loans and increasing required reserve ratios for FX deposits.

The Bank of Russia and the Russian financial system were even better prepared to the 2020 crisis than to the 2014–2015 crisis. The financial sector significantly bolstered its position and, unlike in previous crises, instead of requiring financial aid, it was able to provide anti-crisis support to the real economy and households.

2020 crisis

Causes and progression of the crisis

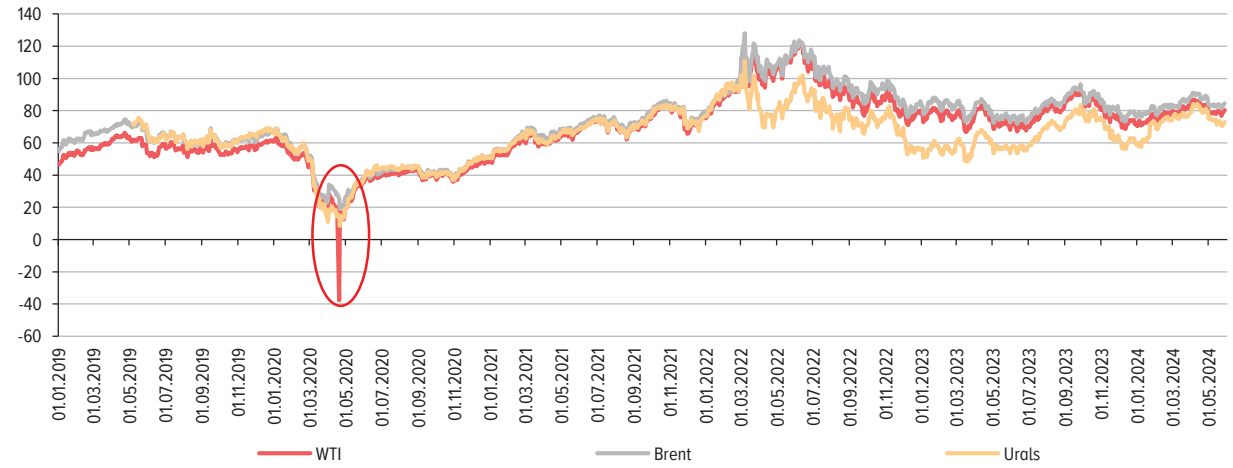
Once again, the 2020 crisis was external and global in nature. The increased volatility and crisis trends in 2020 were linked to the COVID-19 pandemic and the anti-pandemic restrictions implemented in February–March 2020. The restrictions initially impacted the transportation, tourism, and service sectors, and subsequently almost all segments of the real sector due to the need to adapt operations to meet sanitary requirements. Consequently, unemployment grew, including in such major economies as China, the US, and the EU.

The threat of the pandemic and the widespread lockdowns initially led to a sharp decline in global financial markets, capital flight from emerging market countries, and a crash in oil prices. In early February 2020, Urals crude oil traded at USD 55 per barrel, and between March and June, the price ranged from USD 15 to USD 35 per barrel. In April 2020, the May futures for US WTI crude oil dropped to negative values (see Chart 1.5).

Global financial markets responded to the pandemic with outflows from funds and plummeting prices in debt and equity markets (notably, S&P 500 dropped by over 30% in February–March 2020), leading to global foreign exchange liquidity issues (especially in US dollars). Major central banks took unprecedented actions to purchase assets and provide liquidity, which quickly reduced volatility and allowed financial asset prices to start recovering by late March. Central banks of advanced economies were forced to act as lenders of last resort for the economy as a whole. The second stage of the crisis saw a significant decline in demand, which was far more substantial than the contraction in supply capabilities due to disruptions in international and interregional production chains. Sanitary restrictions led to an expansion of the internal economic crisis, accompanied by an income reduction for all economic sectors (non-financial companies, financial sector), households, and governments. The need to halt production activities to alleviate the strain on the healthcare system was another major negative impact of the pandemic on the economy. Due to the downtime, entities lost revenues that they would normally earn.

BRENT, WTI, AND URALS CRUDE OIL PRICES
(USD/BARREL)

Chart 1.5



Source: Cbonds.

In Russia, restrictions were introduced somewhat later than in the EU and the US (towards the end of March 2020), hence the initial crisis phenomena were primarily linked to materialisation of external risks from falling export prices and extensive non-resident withdrawals from Russian assets (declines in stock and bond prices and negative revaluations in bank and NBFI portfolios).

Overall, the progression of the crisis in Russia was similar to that in other countries, particularly in emerging market economies. Late February–March 2020 saw a massive capital outflow from the foreign exchange and stock markets. Simultaneously, there was a spike in consumer demand as households braced for lockdowns. Both factors led to a temporary acceleration of inflation. However, as the Bank of Russia had successfully implemented inflation targeting in previous years, this did not lead to disproportionate inflation expectations. Consequently, the Bank of Russia chose not to raise the key rate but merely postponed its reduction.

Key anti-crisis measures

Foreign exchange and monetary policy measures

During the 2020 crisis, the Bank of Russia ceased using direct foreign exchange interventions as a tool for supporting the exchange rate. To stabilise the currency market, the Bank of Russia initially halted purchases under the budget rule, and later began forward sales.

As a result, the Bank of Russia managed to stabilise the market and maintain investor confidence using significantly less reserves than in previous crises. From 10 March to the end of 2020, the total currency sales from reserves amounted to USD 22.6 billion, which was noticeably less than the interventions in previous crises. All transactions were conducted under the budget rule. In the context of low oil prices, the funds for additional FX sales in the market were obtained by mirroring the NWF investments in Sberbank shares (the Bank of Russia sold a controlling stake in its capital to the Russian Government). After stabilising the situation, the remaining balances of this amount and the accumulated unrealised FX purchases were offset under the budget rule.

Like other countries, Russia experienced increased volatility in the financial market. In this context, some central banks utilised unconventional monetary policy tools to stabilise market conditions, such as purchasing marketable assets, primarily government debt. Unlike other central

banks, the Bank of Russia did not employ this measure for several reasons. Primarily, given the high rates, the Bank of Russia had the capacity to use traditional monetary policy tools, unlike central banks of other economies. Moreover, considering the ongoing deterioration of the economy, bond market price fluctuations did not exceed fundamentally reasonable levels. Such actions could have sparked market fears that the Russian Government was being directly financed by the Central Bank. This could have undermined confidence and led to increased inflation expectations.

The drop in demand during the lockdowns led to a rapid deceleration in inflation following the initial spike. Thus, for the first time in its recent history, the Bank of Russia was able to implement a countercyclical monetary policy and lower the key rate to 4.25%. The 2020 crisis was the only one where the key rate was reduced in response to the shock. This measure helped to sustain domestic demand by expanding lending and reducing the savings rate.

The low interest rates, coupled with advances in digitalisation, led to a significant surge in retail investors' interest in the stock market in 2020–2021. To ensure that their acquisition of complex instruments was informed and less risky, the Bank of Russia introduced a testing procedure and established sales rules requiring detailed disclosure of financial product risks to customers.

Measures to provide ruble liquidity

Preparations for the lockdowns in March 2020 triggered a sharp increase in retail demand for cash rubles. This led to a swift reduction in liquidity surplus. The Bank of Russia started liquidity-providing operations for banks using standard refinancing instruments. As the market had already adapted to inflation targeting, these operations did not spark any concerns about liquidity impacting the foreign exchange market. Therefore, unlike in 2014, the provision of ruble liquidity was not only unrestricted, but was actually expanded through additional fine-tuning repo auctions. Due to increased government borrowing and uneven expenditure of borrowed funds by the Ministry of Finance, liquidity fluctuations in the banking sector intensified. To further reassure the market and encourage banks to restructure existing loans and issue new long-term credits, the Bank of Russia launched one-month and one-year long repo auctions as extra instruments for providing ruble liquidity to credit institutions.

To support small businesses most vulnerable during the lockdowns, the Bank of Russia introduced a special refinancing instrument for small business loans at concessional rates. Subsequently, other state-supported loans (to support employment) were also refinanced under the same limit.

Measures to support resilience of the financial sector

Although overall, the financial sector was functioning normally, certain measures were implemented to enhance its capacity to absorb shocks and support the real sector, which suffered the most from the pandemic.

Firstly, a countercyclical approach was employed in the macroprudential policy. Previously, risk ratios for consumer and mortgage loans were increased to mitigate risks, but during the crisis, macroprudential buffers on existing loans were consistently reduced. This released capital from regulatory constraints, allowing it to be used to absorb losses and continue lending.

Secondly, a set of regulatory easing measures was introduced for banks and NBFIs, including the option to use a fixed exchange rate for calculating ratios and not to revalue securities. Additional easing measures were introduced in terms of credit risk assessment. Amid declining borrower incomes, banks faced a significant demand for loan restructuring.

Since the onset of the pandemic in 2020, banks have restructured debts amounting to RUB 7.2 trillion (about 11% of the loan portfolio). Loan repayment holidays were introduced to support affected households and businesses, while banks received regulatory easing allowing them not to downgrade the financial assessment of borrowers when forming reserves and calculating ratios. By 2020, the financial resilience of the banking sector had seen significant improvements, which enabled the Bank of Russia to implement these measures without providing additional state support to banks. Similar easings were also introduced for other financial institutions.

Some of those measures were purely procedural, allowing financial institution employees to work remotely. Consequently, some reporting requirements were relaxed or cancelled. The Bank of Russia introduced measures to facilitate remote customer service. For example, procedures for remote customer identification were simplified to enhance the provision of remote services, etc.

Amid heightened uncertainty, the Bank of Russia paid extra attention to communication. The Bank of Russia Governor held regular press conferences to discuss current events, their impact on financial stability and the economy, and support measures for the economy and financial system. The Bank of Russia regularly published its analytical review ('Financial Pulse'), which provided detailed coverage of these topics. Additionally, a weekly updated compilation of anti-crisis measures taken by the Bank of Russia was posted on its website.

Key lessons learned from the crisis

1. Sustained low inflation over an extended period allows for the **use of monetary policy easing to support the economy during a crisis**. However, the potential for a rapid rebound in demand in response to accommodative measures should not be underestimated. Maintaining the key rate at a low level throughout 2020 led to a swift recovery in aggregate demand and an acceleration of inflation, prompting the Bank of Russia to tighten monetary policy in 2021.

The experience of providing liquidity during the 2020 crisis validated the approach of fully satisfying banks' demand for liquidity amid increasing financial market volatility. The Bank of Russia's statements on providing necessary liquidity reassured the market and did not trigger an increase in devaluation sentiment.

2. The crisis underscored the importance for banks **to proactively build up capital reserves, including through countercyclical macroprudential buffers**. Macroprudential policy measures help to curb the riskiest lending and aid banks in building additional capital reserves before a crisis, enabling them to maintain stability and resume lending when buffers are released by the regulator.

Countercyclical macroprudential policy and temporary regulatory easing can be coordinated and mutually reinforcing (in particular, the removal of regulatory easing may be accompanied by the release of the macroprudential buffer). The Bank of Russia regularly assessed the feasibility of extending the regulatory easing, weighing market support needs against transparency risks. The swift recovery of the economy and financial sector enabled the Bank of Russia to fully revoke all easings as early as 2021. The Bank of Russia also quickly resumed building macroprudential buffers, enhancing bank resilience in the 2022 crisis.

3. The 2020 crisis significantly accelerated the **adoption of digital financial services**. Amid the spread of the pandemic and travel restrictions, maintaining the ability to conduct key financial operations was crucial, necessitating enhanced measures for remote customer service. The advancement of digitalisation and the provision of remote services helped to soften the impact of the shock for both customers and financial institutions.

4. During the pandemic, the heightened uncertainty significantly increased the **importance of the Bank of Russia's information policy**, its transparency, and responsiveness. The Bank of Russia began to announce regulatory easing measures through packaged press releases, weekly updates of the set of anti-crisis measures posted on its website, and significantly increased the number of regular press conferences.

During the 2020 crisis, the Bank of Russia eased monetary policy, employed countercyclical macroprudential instruments, and implemented regulatory easing. The financial system was better prepared for the crisis, had a capital reserve for absorbing risks, and was able to provide support to the real sector, which was severely impacted by the pandemic.

2022 crisis

Causes and progression of the crisis

The 2022 crisis was markedly different from previous periods of heightened volatility. It was specifically triggered by extensive sanctions imposed by Western countries on the Russian financial sector and key sectors of the economy. Unlike the 2014–2015 and 2020 crises, major economies experienced no downturn in 2022. The shock was purely geopolitical and structural, stemming from the termination of certain financial and economic relations due to sanctions imposed by countries that were previously key trading partners of Russia.

Russian financial institutions faced unprecedented sanctions pressure from unfriendly countries. It aimed to completely isolate the Russian financial system, destabilise the financial market, and create an economic environment that encouraged the sale of Russian assets, including by foreign investors. Initially, the panic in the financial market led to a downturn in Russian asset prices, increased demand for foreign currency, and a weakening of the ruble.

Assets of all major banks and the Bank of Russia's reserves stored in Western jurisdictions were almost immediately frozen. The imposed restrictions effectively severed the financial relationships of major banks with correspondents from unfriendly countries. Russian holders of foreign securities (initially, customers of SDN banks, and after the sanctions being imposed on the NSD, other Russian holders), including those issued abroad by Russian companies, could no longer earn income on these securities, which were subsequently blocked. The US and the EU banned the import of cash dollars and euros into Russia. Authorities in unfriendly countries started pressuring companies operating in Russia to exit the Russian market as quickly as possible. Financial sanctions resulted in a total ban on any form of capital inflows to Russia from unfriendly countries, and encouraged the sale of Russian assets by residents of these countries.

Foreign payment card systems ceased operations with Russian entities and individuals, rendering Russian payment cards non-functional abroad. Restrictions on Russian entities within foreign payment systems led to disruptions and interruptions in the established payment chains for exports and imports. The bans triggered a short-term mass exodus of foreign capital from all financial markets, which was quickly halted by imposing reciprocal restrictions on international capital movement. People began mass withdrawals of cash in both rubles and foreign currencies. The foreign exchange market and other asset markets collapsed.

From the very beginning, the crisis impacted the real economy. The restricted access of Russian non-financial companies to foreign markets led to disruptions in technological, production and logistics chains. The sanctions impacted nearly all economic actors, compelling them to pivot towards markets in friendly states. However, the infrastructure for economic relations with friendly

states was underdeveloped, necessitating the rapid establishment of new trade and financial connections amid ongoing threats of secondary sanctions.

Key anti-crisis measures

Foreign exchange policy measures

In February 2022, after a portion of its international reserves was blocked, the Bank of Russia lost the ability to conduct transactions in 'toxic' currencies, including US dollars and euros, leading to the implementation of certain foreign exchange policy measures and capital movement restrictions to maintain financial stability.

Key currency regulation measures were enacted through decrees issued by the President of the Russian Federation. This included such measures as the mandatory sale of FX revenues by exporters and a general ban on payments to residents of unfriendly countries (payments began to be made to the C-type bank accounts). These measures taken in spring 2022 helped to stabilise the inflow of foreign currency into the market and restrict its outflow. As the Chinese renminbi trading market was undeveloped and interventions in US dollars and euros became impossible due to blocking, the Bank of Russia refrained from market operations. The weakening of the ruble was mitigated through risk management mechanisms by the Moscow Exchange (a gradual adjustment of the upper bounds of rates for bids in response to sharp fluctuations).

By May 2022, the situation in the foreign exchange market had normalised, and the ruble began to strengthen due to increased export revenues and reduced imports amid restrictions on the supply of imported goods to the domestic market. No operations under the budget rule were conducted during that period, helping to avoid additional pressure on the ruble. With the ruble rapidly strengthening, the requirement for mandatory sale of FX revenues was cancelled.

As the sanctions resulted in a shortage of cash foreign currency, restrictions were placed on withdrawing large sums of cash from accounts opened before the crisis (equivalent to USD 10,000). No restrictions were imposed on withdrawals in rubles at the market rate. Initially, strict restrictions on the outflow of non-cash foreign currency were imposed to stabilise the market, but these were significantly relaxed as the situation improved. Specifically, the restrictions for individuals were expanded from USD 5,000 to USD 1 million per month.

Monetary policy measures

To stabilise ruble demand, the base interest rate was increased from 9.5% to 20% per annum. In response, banks significantly raised rates for 3–6 months deposits. Inflation, which had accelerated at the start of the crisis, slowed down dramatically. Risks to financial stability associated with the mass withdrawal of cash rubles were neutralised. Consequently, the Bank of Russia was able to lower interest rates as early as April 2022. This mitigated interest rate risks for banks and borrowers. During the period of high rates, borrowers received substantial support through the Russian Government's concessional lending programmes.

Measures to provide ruble liquidity

The banks' need for liquidity support from the Central Bank linked to the mass withdrawal of cash was more than satisfied through repo transactions and loans secured by non-marketable assets. In some instances, repo auctions were held with no limits. In repo transactions, the Bank of Russia temporarily used fixed asset prices from before the onset of the sanctions crisis. As in past

crises, the Bank of Russia temporarily eased the collateral requirements. The lowering of required reserve ratios also facilitated liquidity release. Additionally, the Bank of Russia continued its deposit operations, aiding in the redistribution of liquidity among market participants. As in 2020, large liquidity-providing operations did not raise concerns about the funds entering the foreign exchange market. The market adapted to the Central Bank's operational procedure, and the high key rate helped to curb inflation and devaluation expectations.

Measures to support and develop markets

Ensuring the sustainable operation of financial markets was a crucial aspect of the Bank of Russia's anti-crisis policy. At the first stage of the crisis, the Bank of Russia introduced predominantly restrictive measures. Given that the shock could not be resolved through market methods, the Bank of Russia implemented unprecedented measures: trading in the stock and forward markets, except for foreign exchange and money market trading, was suspended for nearly a month (from 28 February to 21 March 2022).

About a month after closing all major exchange markets, the Bank of Russia started to gradually reopen them. The OFZ market was the first to be opened. To mitigate the risks of significant market fluctuations, the Bank of Russia preemptively announced potential market support measures and asset purchases. However, these operations proved unnecessary as the market did not experience any increased volatility. Before reopening the market, the Bank of Russia clearly stated its commitment to continue the inflation targeting policy in the new environment and set the timelines for achieving its objective. The market response confirmed that consistent inflation targeting and development of monetary policy communications before the crisis enabled rapid stabilisation and sustained market stability during the crisis. Other markets also reopened without any significant volatility.

The second stage involved liberalisation of regulations and creation of conditions for market operation in the new conditions. Individuals became significant market players, making the protection of their interests and legal rights especially important. To that end, the Bank of Russia implemented a number of measures, including restricting transactions with foreign securities for non-qualified investors. Its efforts were focused on repatriating securities of Russian issuers from foreign to Russian circulation and restoring investors' access to their foreign financial assets. Most of these assets were issued by Russian companies or their affiliated foreign entities. Such financial instruments were unfrozen through replacement bond issues and redomiciliation[11] of companies. The problem with foreign securities was complicated as it required interaction with foreign infrastructures and their regulators.

Sanctions restricted Russian exporters' and importers' access to international insurance market services. This necessitated the development of domestic insurance and reinsurance systems for the international business of Russian companies.

The crisis validated the Bank of Russia's strategy for developing domestic retail payment infrastructure. The availability of a domestic payment infrastructure in Russia (Mir payment system, FPS) enabled banks to continue operations despite the withdrawal of international payment systems. Following the imposition of sanctions, establishing alternative international payment channels became a key focus of financial market development policy. Under the sanctions, the SPFS plays a crucial role as a channel for exchanging payment information for banks, including those disconnected from SWIFT.

[11] Redomiciliation involves changing a company's jurisdiction while retaining all business structures. Redomiciliation of a company positively impacts its share value by eliminating risks associated with being registered in a unfriendly jurisdiction.

Measures to support resilience of the financial sector

Due to the unprecedented scale of sanctions during the 2022 crisis, the Bank of Russia implemented the most extensive set of regulatory easing measures in history. The release of all capital buffers (see Chart 1.6) was accompanied by exemptions from loss provisions, loan repayment holidays for borrowers, etc. These measures contributed to maintaining smooth operation of the market and sustained bank lending.

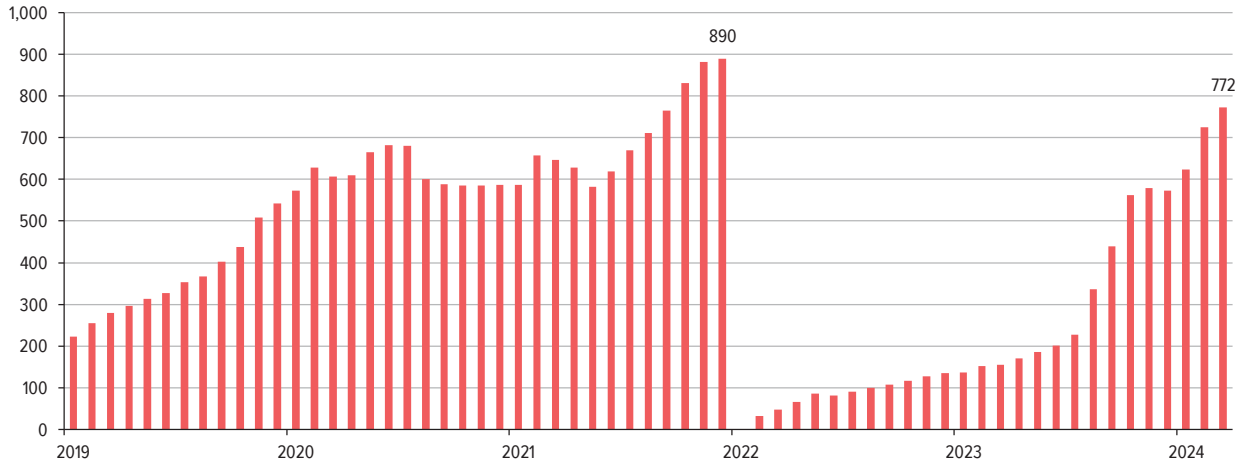
High volatility in the foreign exchange market and significant weakening of the ruble initially were caused by banks closing their open FX positions resulting from sanctions. Consequently, the Bank of Russia not only implemented standard easings allowing to use fixed exchange rates and asset values for regulatory calculations but also permitted banks affected by the sanctions to disregard open FX position limits.

Significant attention was devoted to mitigating sanctions risks. These measures primarily involved non-disclosure of sensitive information (details of management boards, boards of directors, and companies' international business, etc.). However, when allowing non-disclosure of such information, the Bank of Russia balanced the need to mitigate sanctions risks with maintaining adequate market participant awareness. Therefore, the Bank of Russia quickly began reinstating data disclosure requirements. Only the most sanctions-sensitive elements of the reports remained undisclosed.

The public confidence in the stability of banks and the Bank of Russia's measures ensured that no bank runs occurred, and no systemic recapitalisation was required, despite the fact that during this period banks suffered record losses. During the acute phase of the crisis, temporary easings allowed banks not to recognise reductions in capital adequacy, preventing procyclical contraction of loan portfolios, and subsequently, banks restored positive financial performance.

As early as 2023, the Bank of Russia resumed accumulating macroprudential capital buffers for mortgage loans and unsecured consumer loans, ensuring capital adequacy against new shocks. Basel buffers for capital adequacy ratios (for capital conservation and systemic importance) are subject to a five-year exemption period, though credit institutions are encouraged to restore these buffers ahead of the Bank of Russia's schedule.

MACROPRUDENTIAL CAPITAL BUFFER DYNAMICS *Chart 1.6*
(RUB BILLION)



Source: Bank of Russia.

Key lessons learned from the crisis

1. In the context of severe sanctions (such as the freezing of foreign exchange reserves) and market panic, **capital flow restrictions** allow to mitigate the adverse effects of external shocks on the national financial system. In the long term, under sustained sanctions pressure, countermeasures against non-residents from unfriendly countriesshould remain in force, while domestic measures (mandatory sales of FX revenues, restrictions on retail cross-border transfers, etc.) may gradually be lifted. Maintaining macroeconomic stability and economic growth is only possible through economic methods, such as keeping interest rates at levels that support the inflation target. This policy fosters incentives for exporters to promptly sell their revenues and keep imports at a balanced level.

2. **Anti-crisis regulatory measures may be complemented and reinforced by monetary policy actions**. Although independent under standard conditions, monetary policy and financial regulation should align during crises to support financial stability.[12]

3. It is crucial to proactively **limit the financial sector's exposure to foreign infrastructure**. In 2022, the stock market faced significant challenges due to its dependency on foreign financial infrastructure. Before 2022, using foreign instruments was seen by both issuers and investors as a way to diversify funding and investment channels. However, the 2022 events demonstrated that the risks associated with sanctions outweighed the benefits of diversification. In 2021, the Bank of Russia started to inform the public of the risks of foreign investments in its financial stability reviews, and in 2022, it prohibited brokers from purchasing securities from unfriendly issuers on behalf of non-qualified investors.[13] The sanctions policy of unfriendly countries significantly increased the risks of foreign investments for Russian investors.

4. During the 2022 crisis, a **wide range of measures was introduced on the securities market** for the first time. All advantages and disadvantages of the **suspension of exchange trading** should be carefully weighed before introducing it as an anti-crisis measure. Market trading suspensions should shield the market from overshoot effects but not from changes in the fundamental value of instruments. Therefore, the regulator should not hinder the initial revaluation of financial instruments based on new market conditions. It should be noted that without trading, some market participants may face additional losses due to their inability to close positions timely. The feasibility of this measure should be evaluated considering both market volatility factors and possible financial losses for market participants.

During the 2022 crisis, the significance of NBFIs continued to grow, while brokers occasionally struggled to attract liquidity. In the future, the Bank of Russia will evaluate the **feasibility of providing liquidity to NBFIs** (including through repo transactions) during crises.

The 2022 crisis emerged as the most significant challenge. The crisis was multifaceted and encompassed financial, foreign trade, production, and technological aspects, necessitating a comprehensive range of emergency measures and extensive systemic efforts by the Russian Government and the Bank of Russia to support the adaptation of the Russian economy and financial sector to the new conditions. In addition to the anti-crisis measures of the Russian Government and the Bank of Russia, in 2022, banks and NBFIs played a crucial role in the recovery of the financial sector and economy and were able to swiftly adapt to the new conditions due to their stable financial standing.

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[12] Information on monetary policy decisions during the 2014–2015, 2020, and 2022 crises has been published in the Monetary Policy Review in the section on the interaction between monetary policy and financial stability.

[13] This ban does not fully eliminate the practice, as retail investors can still make such purchases through foreign brokers, bypassing the Russian financial infrastructure.

COMPARISON OF CRISES *Table 1.1*

	2008–2009	2014–2015	2020	2022
Deepest decline and subsequent recovery of GDP[1]	-11.2% (Q2 2009) 5% (Q2 2010)	-3.3% (Q2 2015) -0.4% (Q2 2016)	-7.4% (Q2 2020) 10.5% (Q2 2021)	-4.5% (Q2 2022) 5.5% (Q3 2023)
Deepest decline and subsequent recovery of real household income[2]	-5.4% (July 2009) 6.7% (June 2010)	-10.6% (March 2015) 1.5% (March 2016)	-2.0% (April 2020) 7.8% (April 2021)	-7.2% (April 2022) 13.3% (March 2023)
Inflation peak[3]	15.2% (June 2008)	16.9% (March 2015)	4.9% (December 2020)	17.8% (April 2022)
Maximum decline of the stock market[4]	-74% (20.05.2008–27.10.2008)	-12% (25.06.2014–07.08.2014)	-34% (21.01.2020–18.03.2020)	-44% (17.02.2022–24.02.2022)
Maximum/minimum key rate values	–[5]	⬆ 17% (16.12.2014–30.01.2015)	⬇ 4.25% (27.07.2020–19.03.2021)	⬆ 20% (28.02.2022–08.04.2022)
Money market rate peak[6]	27.56% (21.01.2009)	28.65% (18.12.2014)	6.24% (27.03.2020)	21.21% (10.03.2022)
10-year OFZ yield peak	13.6% (February 2009)	15.8% (December 2014)	8.6% (March 2020)	13.6% (March 2022)
Weakening of the ruble against the US dollar[7]	-36.4% (17.07.2008–07.02.2009)	-50.4% (29.06.2014–18.12.2014)	-24.3% (11.01.2020–24.03.2020)	-37.9% (12.02.2022–11.03.2022)
Reduction of Russia's international reserves due to domestic market operations	-24% (01.08.2008–01.01.2009)	-21% (01.01.2014–01.01.2015)	-4% (01.03.2020–01.07.2020)	-2% (01.02.2022–01.10.2022)
State budget deficit[8]	-7.9% (2009) -3.9% (2010)	-0.5% (2014) -2.4% (2015)	-4.0% (2020) 0.8% (2021)	-2.3% (2022) -1.9% (2023)
Maximum share of non-performing corporate loans[9]	12% (February 2010)	9% (H2 2015)	11% (H1 2020)	7.5% (H1 2022)
Maximum share of restructured corporate loans per month[10]	–	–	5% (April, December 2020)	8.5% (April 2022)
NPL 90+,[11] mortgage loans	6.3% (01.06.2010)	3.1% (01.03.2016)	1.5% (01.09.2020)	0.7% (01.02.2022)
NPL 90+, unsecured consumer loans	12.9% (01.04.2010)	17.7% (01.03.2016)	9.3% (01.09.2020)	8.9% (01.03.2023)
Restructuring per quarter,[12] mortgage loans	–	–	2.7% (Q2 2020)	0.6% (Q2 2022)
Restructuring per quarter, unsecured consumer loans	–	–	4.0% (Q2 2020)	1.1% (Q2 2022)
Corporate loan portfolio (YoY)[13]	-1% (January 2010)	4% (December 2015)	4% (February 2020)	9% (July 2022)
Mortgage loan portfolio (QoQ)[14]	-3.0% (Q2 2009)	0.7% (Q1 2015)	3.0% (Q2 2020)	0.5% (Q2 2022)
Unsecured consumer loan portfolio (QoQ)[15]	-5.3% (Q2 2009)	-5.2% (Q1 2015)	-1.5% (Q2 2020)	-3.7% (Q2 2022)
Banking sector net profit[16]	2008:	2014:	2019:	2021:
	RUB 0.3 trillion / -22% YoY	RUB 0.5 trillion / -36% YoY	RUB 1.7 trillion / 72% YoY	RUB 2.3 trillion / +47% YoY
	2009:	**2015:**	**2020:**	**2022:**
	RUB 0.1 trillion / -54% YoY	**RUB 0.1 trillion / -78% YoY**	**RUB 1.6 trillion / -6% YoY**	**RUB 0.2 trillion / -91% YoY**
	2010:	2016:	2020:	2023:
	RUB 0.5 trillion / +230% YoY	RUB 0.7 trillion / +509% YoY	RUB 2.3 trillion / +47% YoY	RUB 3.2 trillion / +1,493% YoY

Table 1.1 continued

	2008–2009		**2014–2015**		**2020**		**2022**	
Corporate profits before tax, net of losses[17]	2007:		2013:		2019:		2020:	
	RUB 6.0 trillion	+6% YoY	RUB 6.9 trillion	-12% YoY	RUB 16.6 trillion	+34% YoY	RUB 33.9 trillion	+153% YoY
	2008:		**2014:**		**2020:**		**2022:**	
	RUB 3.8 trillion	**-37% YoY**	**RUB 4.3 trillion**	**-37% YoY**	**RUB 13.4 trillion**	**-19% YoY**	**RUB 22.3 trillion**	**-34% YoY**
	2009:		2015:		2020:		2023:	
	RUB 4.4 trillion	+17% YoY	RUB 7.5 trillion	+73% YoY	RUB 33.9 trillion	+153% YoY	RUB 33.3 trillion	+49% YoY
Value of state recapitalisation	RUB 0.9 trillion		RUB 1.1 trillion		–		–	
Maximum amount of funds provided to credit institutions under ruble refinancing operations	RUB 3.25 trillion (27.01.2009)		RUB 8.02 trillion (20.12.2014)		RUB 1.12 trillion (04.04.2020)[18]		RUB 10.02 trillion (03.03.2022)	
including under ruble repo transactions[19]	RUB 0.85 trillion (27.01.2009)		RUB 3.83 trillion (22.12.2014)		RUB 0.89 trillion (04.04.2020)[18]		RUB 5.65 trillion (16.03.2022)	
Maximum value of FX swaps for foreign exchange sales for rubles	–		USD 1.6 billion (29.12.2014)		–		USD 6.5 billion + EUR 3 billion (25.02.2022)	
Maximum amount of funds provided to credit institutions in the first part of FX repo transactions[19]	–		USD 35.4 billion (16.04.2015)		–		–	

[1] *The deepest local decline and the most significant increase in the annual growth of real GDP based on quarterly data.*
[2] *The deepest local decline and the most significant increase in the annual growth of real wages based on monthly data.*
[3] *The largest surge in the annual growth rate of consumer prices (CPI) based on monthly data.*
[4] *Decrease in IMOEX from a local maximum to a local minimum within a year.*
[5] *The key rate was introduced after the 2007–2009 crisis. Peak of the refinancing rate in 2007–2009: 13%.*
[6] *For the 2008–2009 crisis, we used the data on weighted average rates on actual ruble loans granted by Moscow banks (1 day MIACR), in other cases, the data on RUONIA rate.*
[7] *Weakening of the Russian ruble against the US dollar from a local maximum to a local minimum within a year based on the daily official exchange rate of the Bank of Russia.*
[8] *Annual federal budget surplus (+)/deficit (-), in % of GDP.*
[9] *Quality categories IV–V, source: Form 0409115. Peak value: 12.7% in July 2018 (extensive efforts of the Fund of Banking Sector Consolidation).*
[10] *Loans and acquired rights of claim (financial and non-financial companies, including non-residents) restructured during the reporting month, Form 0409303.*
[11] *Highest share of loans overdue by more than 90 days as a percentage of the retail portfolio (excluding the structure effect).*
[12] *Restructuring per quarter as a percentage of the portfolio at the end of the quarter.*
[13] *Annual growth rates excluding foreign currency revaluation, Form 0409101.*
[14] *Lowest quarterly portfolio growth rate (minimum value for the period), Reporting form 0409316, taking into account securitisation and acquired rights of claim.*
[15] *Quarterly growth/decline rates of unsecured loan portfolio (minimum value for the period), source: Reporting form 0409115.*
[16] *Net profit of the banking sector for 12 months and annual growth rate. In 2019–2022, the values are given for the banking sector excluding the Bank of Non-core Assets.*
[17] *Change in the difference between corporate profit and loss (excluding small businesses, credit institutions, state (municipal) institutions, non-bank financial institutions) on an annual basis.*
[18] *Maximum value in spring 2020.*
[19] *Morning debt.*

COMPARISON OF ANTI-CRISIS MEASURES *Table 1.2*

	2008–2009	2014–2015	2020	2022
Foreign exchange market				
Capital flow restrictions				
Mandatory sales of FX revenues by exporters	–	–	–	✓
Restrictions on FX purchases on the Russian market for non-residents from unfriendly countries	–	–	–	✓
Quantitative restrictions on FX cash withdrawals and cross-border FX transfers	–	–	–	✓
Other measures				
Additional commissions for certain types of FX purchases	–	–	–	✓
Foreign exchange interventions and proactive FX sales under the budget rule	✓	✓	✓	✓[1]
Use of instruments for providing foreign exchange liquidity	–	✓	✓	✓[1]
Stock market				
Restriction of operations for participants from unfriendly countries	–	–	–	✓
Suspension of short sales on the exchange and OTC markets	✓	–	–	✓
Mass suspension of market trading	–	–	–	✓
Reduced leverage in margin trading	–	–	–	✓
Purchase of shares in the Russian market at the expense of the NWF	✓	–	–	–
Monetary policy and liquidity provision				
Expansion of the Lombard List, the list of non-marketable collaterals, easing of discounts and adjustment ratios	✓	✓	✓	✓
Fixed value of securities for use in the Bank of Russia's refinancing operations	–	–	–	✓
Daily liquidity provision auctions	–	–	✓	✓
Use of unsecured liquidity provision mechanisms	✓	–	–	–
Reduced required reserve ratios	✓	–	–	✓
Increase of the key rate / base interest rates	✓	✓	–	✓
Regulatory easing				
Suspension of foreign currency revaluation for calculating ratios	–	✓	✓	✓
Moratorium on recognising negative revaluation of securities	–	✓	✓	✓
Suspension of derivatives revaluation	–	–	–	✓
Possibility of non-recognition of deteriorated debt service quality for certain categories of borrowers	✓	✓	✓	✓
Changes in risk ratios for certain categories of borrowers	–	✓	✓	✓
Fixed international ratings	–	✓	–	✓
Release of macroprudential buffers	–	–	✓ (partial)	✓ (full)
Reduction of macroprudential buffers on new loans	–	–	✓	✓
Exemptions from compliance with certain ratios	✓	–	✓	✓
Cancellation of Basel buffers for capital adequacy ratios[2]	–	–	–	✓

[1] *In the first two days of the crisis, before the imposition of blocking sanctions against the Bank of Russia.*
[2] *Introduced in 2015.*

PART 2. ASSESSMENT OF EFFECTIVENESS OF THE BANK OF RUSSIA'S ANTI-CRISIS MEASURES

Summary

The four periods of instability were characterised by similar key events that led to the transition of the situation to the crisis phase and compelled the Bank of Russia to introduce large-scale support measures. The crises entailed issues in the foreign exchange and stock markets, a deterioration of the situation with ruble and foreign exchange liquidity, a weakening of lending dynamics, and a deterioration in the financial position of banks and NBFIs. To overcome these challenges, the Bank of Russia implemented a comprehensive set of measures, including measures of macroprudential and microprudential policies, monetary policy, and foreign exchange policy.

Foreign exchange market

In almost all crises, the foreign exchange market was the first to be affected. To mitigate volatility and infuse the market with foreign exchange liquidity, the Bank of Russia implemented a series of stabilising measures. In each crisis, the mechanisms for market support were continuously improved and broadened. The Bank of Russia switched from directly influencing the exchange rate through foreign exchange interventions to adopting a comprehensive approach, which also involved the use of instruments for providing foreign exchange liquidity on a repayable basis (swaps, repo transactions). Currently, due to the sanctions, the Bank of Russia can only use foreign exchange refinancing instruments in Chinese renminbi. In 2022, amid unprecedented sanctions pressure and the freezing of foreign exchange reserves, Russian authorities imposed additional restrictions on FX transactions. Several limits were set on FX transactions within the country, including a ban on transactions by non-residents from unfriendly countries, and a compulsory sale of FX revenues by exporters.

Money market

If settlement participants fail to meet their obligations, a liquidity crisis could unfold within hours. Thus, the primary objective of the Central Bank when addressing systemic threats to bank liquidity is to swiftly provide the necessary funds and prevent any disruptions in payments. Liquidity challenges in the Russian banking sector were noted in 2008, 2014–2015, and spring 2022, while in 2020, the liquidity situation was more stable. This issue was most severe in 2008–2009 when standard refinancing instruments proved insufficient, compelling the Bank of Russia to extend unsecured loans to banks. In later crises, liquidity risks were averted as the operational procedure of the monetary policy was inherently designed to help banks manage sudden liquidity withdrawals using the Central Bank's standard instruments. Thus, in 2014–2015, 2020, and 2022, the Bank of Russia's efforts involved expanding the range of collateral, increasing operation limits, and removing bottlenecks in refinancing mechanisms. Due to the use of standard mechanisms, the Bank of Russia did not require any exit strategies from anti-crisis measures, and the interbank money market swiftly recovered post crisis.

Stock market

During the three crisis episodes starting from 2014–2015, the Bank of Russia introduced a moratorium on recognising negative revaluations of securities portfolios, which was most widely used in 2022. Banks that used the moratorium significantly increased their OFZ purchases and continued buying stocks, unlike those that did not take this option.

The 2022 decision to temporarily halt trading of securities and derivatives on the Moscow Exchange helped to curb market volatility and limit the drop in quotations. Trading could have been halted at the onset of the crisis, but continuing trades for the first two days allowed the market to revalue instruments based on the ongoing fundamental changes, enabling participants to close positions and limit losses. In 2022, maintaining the listing of issuers' securities on Russian exchanges was a key easing measure facilitating continued exchange trading.

In addition, a significant portion of the stock market measures in 2022 was aimed not only at curbing volatility but also at reducing the reliance on foreign financial infrastructure. To facilitate registration and circulation of Russian issuers' securities tracked in a foreign context, the Bank of Russia established mechanisms for transferring these securities to the Russian infrastructure, including automatic and mandatory conversion of depository receipts and bypassing foreign infrastructure in payments on Russian eurobonds and bonds related to Russian debtors. The Bank of Russia also adopted a strategy to resume operations with investment units of blocked assets of unit investment funds (UIFs).

In response to the hostile actions of certain countries, counter-sanctions were implemented to block asset withdrawal by non-residents linked to these countries. These measures softened the adverse effects of sanctions, enabled the Russian infrastructure to adapt to the changing economic environment, and ensured the uninterrupted operation of the Russian financial market, as evidenced by the stable functioning of infrastructure institutions and the increasing number of customers.[14]

Supporting bank resilience

To bolster stability of the banking sector and help banks meet regulatory ratios (primarily capital adequacy) during the crises, the Bank of Russia introduced regulatory easing measures that allowed banks to refrain from reassessing risks during periods of heightened uncertainty. In 2020 and 2022, to support banks under stress, the Bank of Russia also implemented macroprudential measures, such as releasing previously accumulated buffers.

In 2014–2015, these measures added 0.9 pp[15] on average to the actual capital adequacy ratio for systemically important banks (SIBs),[16] in 2020, 0.5 pp for all banks (0.6 pp for SIBs), and in 2022, 3.5 pp for all banks (3.9 pp for SIBs).

The modest impact of the measures on capital adequacy in 2014–2015 was due to a relatively narrow range of exemptions and their low utilisation by banks. Suspension of foreign currency revaluation for calculating required ratios was a key measure,[17] contributing 1 pp to the overall impact.[18]

[14] The number of active customers of depository services grew from 2.6 million (as of 31 March 2022) to 3.5 million (as of 30 June 2023).

[15] Impact of measures on the capital adequacy ratio is the sum of weighted average impacts of individual measures on capital adequacy across a sample of banks. The average impact of each measure on a bank's capital adequacy (for the duration of its application) is weighted according to the bank's share in the average assets of the sample during the relevant period.

[16] Data for 2014–2015 are given only for SIBs.

[17] The assessed measures included the following regulatory easings (in Russian only).

[18] Impact of a measure on the capital adequacy ratio is the sum of weighted average impacts of the measure on capital adequacy across a sample of banks that used this measure. The average impact of a measure on a bank's capital adequacy (for the duration of its application) is weighted according to the bank's share in the average assets of the sample of banks that used this measure during the relevant period.

In 2020, the impact of the measures on the capital adequacy ratio was the lowest for the crisis periods reviewed due to the rapid recovery of the economy. The most effective measures in 2020 included fixing borrowers' financial positions (0.2 out of 0.5 pp of the overall impact) and macroprudential policy measures. For SIBs, releasing capital buffers for consumer and mortgage loans contributed 0.4 out of 0.6 pp of the overall impact on the capital adequacy ratio.

In the 2022 crisis, the Bank of Russia's regulatory easing had the most significant impact on banks' capital adequacy ratios due to both the unprecedented scale of the crisis and the extensive range of the measures. For the banking sector as a whole, the most impactful measures included the easing in terms of credit risk[19] (1.5 out of 3.5 pp of the overall impact) and the release of the macroprudential buffer (0.9 pp), while for SIBs, the suspension of foreign currency revaluation also made a significant contribution to capital adequacy ratios (0.9 pp out of 3.9 pp of the overall impact).

Impact of measures on lending

The key function of the banking system is to convert savings into loans for the economy. The overall lending dynamics during a crisis were shaped by the situation in the banking sector and the recovery of demand. Lending was significantly influenced not only by regulatory measures but also by the Bank of Russia's monetary policy decisions and state programmes for subsidising interest rates.

The 2014–2015 crisis was marked by a credit crunch. This period required a substantial key rate hike, while state-subsidised interest rate measures were limited. During the 2020 crisis, lending consistently grew due to the lowered key rate and state concessional lending programmes. In 2022, although monetary policy tightening was intense, it was brief, causing lending to slow only at the onset of the crisis. Subsequently, lending rapidly expanded due to the normalisation of monetary policy, bank stability, replacement of external financing with domestic loans, extensive regulatory easing by the Bank of Russia, and the Russian Government's programmes aimed at subsidising interest rates.

During each crisis, lending dynamics varied by groups of banks, influenced by the use of easing measures and their impact on capital adequacy. Banks that benefited from the easing (positive impact on capital adequacy ratios) saw significant growth in their loan portfolios. However, this does not imply that regulatory easing automatically leads to increased lending. The easing provides a temporary space to ensure business continuity; without such measures, banks would be unable to continue active lending. However, permanently maintaining these measures would not achieve the same effect. Prolonged under-recognition of risks deters market participants from enhancing investment efficiency and maintaining their financial stability independently. To assess the impact of regulatory easing on lending, the report employed various methods, including panel regression modelling.

Using panel regression modelling, we determined that regulatory easing generally led to an increase in the banking sector's loan portfolio (compared to a scenario without easing): in 2014, by RUB 0.3 trillion (0.8% of the portfolio), in 2020, by RUB 0.2 trillion (0.4% of the portfolio), and in 2022, by RUB 6.0 trillion[20] (7.6% of the portfolio). In 2022, the impact of the Russian Government's concessional programmes amounted to approximately RUB 2 trillion

[19] Taking into account the easing for blocked assets. In terms of credit risk, a conservative upper estimate is shown, including the impact of certain measures that do not directly impact prudential buffers but could influence banks' risk appetite.

[20] RUB 1.7 trillion of which represent the synergistic effect of the Bank of Russia's regulatory easing and the Russian Government's measures.

(based on detailed information on loans within state programmes across individual banks). Thus, the cumulative effect of support measures in 2022 amounted to about RUB 8 trillion (approximately 10.2% of the loan portfolio). In 2022, the impact of regulatory easing on lending was the greatest for all crisis episodes, with loan growth rates surpassing pre-crisis levels six months after the onset of the crisis (including in the context of a reduction in the key rate).

The multiplier effect on lending of regulatory easing measures aimed at maintaining capital adequacy varied for the crisis periods. In 2014, the multiplier effect was 1.7, meaning that the easing impacting capital by RUB 0.2 trillion led to a RUB 0.3 trillion increase in the loan portfolio. In 2020, the multiplier effect was about 1.2, and in 2022, it amounted to 5.0, taking into account the synergistic effect of the Bank of Russia's regulatory easing and the Russian Government's measures. Considering that, generally, within a year after the onset of each crisis, the growth rate of the loan portfolio for most bank groups exceeded pre-crisis lending dynamics, the regulatory easing can be deemed an effective measure.

KEY ASSESSMENTS OF THE STUDY[1] *Table 2.1*

Analysed indicators	Crisis		
	2014–2015	2020	2022
Capital reserves and macroprudential buffer (pre crisis), RUB trillion (% of assets)	1.6 (2.0)	4.7 (4.8)	7.0 (5.7)
Impact of the measures under review on N1.0, pp[2]	0.9	0.5	3.5
Contribution of the Bank of Russia's anti-crisis measures to lending dynamics (% of loan portfolio)	0.8	0.4	7.6

[1] *Taking into account the synergistic effect of the Bank of Russia's regulatory easing and the Russian Government's measures.*
[2] *Sum of the weighted average impacts of individual measures on capital adequacy across a sample of banks. The average impact of each measure on a bank's capital adequacy (for the duration of its application) is weighted according to the bank's share in the average assets of the sample during the relevant period.*
Source: Bank of Russia.

Supporting resilience of non-bank financial institutions

Over the past decade, the NBFI sector has significantly grown and increased in importance. During the crises, the Bank of Russia expanded its toolkit of support measures for the sector. In 2014, the Bank of Russia introduced a moratorium on recognising negative revaluation of securities portfolios for NBFIs.

In 2020, as NBFI regulation evolved and new prudential ratios were introduced (including risk-sensitive financial stability and solvency requirements for insurance companies, stress-testing requirements for NPFs, capital adequacy requirements and liquidity coverage ratios for professional securities market participants), temporary regulatory easing measures became relevant.

In 2022, a broad spectrum of anti-crisis measures focused on minimising the consequences of sanctions and asset freezes affecting NBFIs. The Bank of Russia introduced a special mechanism for separating blocked UIF assets, allowing insurance companies to gradually write off blocked assets, and brokers to gradually discount blocked assets when calculating capital and form loss provisions when calculating capital adequacy ratios. The role of the RNRC, established post-2014 sanctions, increased dramatically.

Support measures enabled NBFIs to better navigate periods of high financial market volatility, adapt to long-term structural changes, and maintain their financial stability and solvency.

1. MANIFESTATIONS OF CRISES IN FINANCIAL MARKETS AND THE BANK OF RUSSIA'S MEASURES

1.1. Foreign exchange market

All considered crisis periods were marked by increased demand for foreign currency and ruble exchange rate volatility, which significantly contributed to the deterioration of the situation. During certain periods, demand for foreign currency was exhibited not only by non-residents but also by households and companies. Given the higher liquidity of the foreign exchange market, during shock periods, non-residents' FX purchases exceeded OFZ and stock sales.

DYNAMICS OF THE RUSSIAN FOREIGN EXCHANGE MARKET DURING PERIODS OF HIGH VOLATILITY *Table 2.2*

Period		Indicators of the foreign exchange market response	
		Weakening (+)/strengthening (-) of the ruble against the US dollar, %	Net FX purchases (+)/sales (-) by non-residents and banking subsidiaries, RUB billion
2008–2009	1 July 2008 – 5 February 2009 (financial and oil shocks)	55.1	872.4
2014	1 August – 16 December (oil and geopolitical shocks)	97.2	186.4
2020	20–28 February (COVID-19)	5.2	164.5
	2–19 March (COVID-19 and oil shock)	18.4	314.3
2022	13–25 January (global security negotiations)	5.3	164.3
	21–28 February (increase in geopolitical risks)	26.6	429.4
	1 March – 22 April (anti-crisis measures)	-43.7	-180
	20–30 September (increase in geopolitical risks)	-2.8	139.5

Source: PJSC Moscow Exchange.

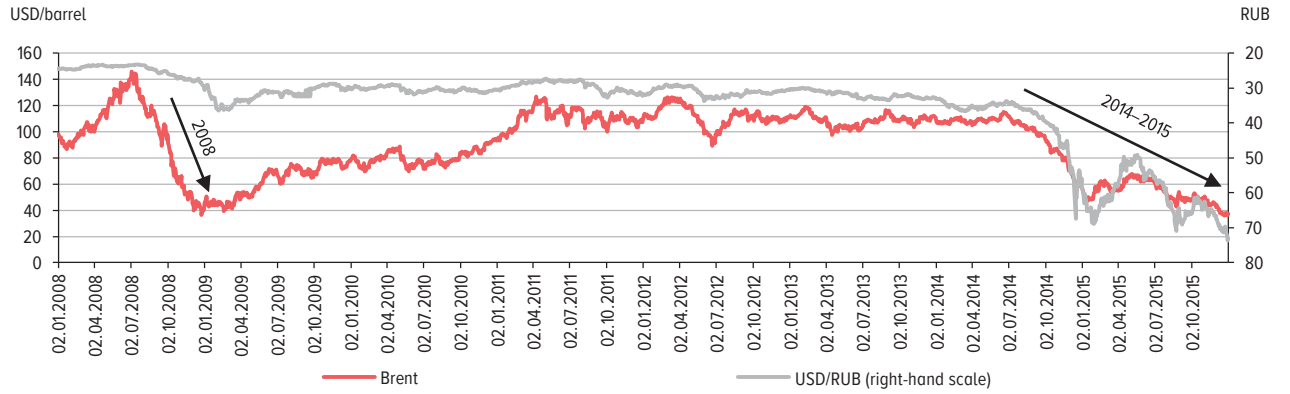
2008–2009 crisis

The 2008–2009 crisis was particularly notable for the heightened residents' demand for foreign currency, including for speculative purposes. During that period, the Bank of Russia's exchange rate policy used a managed floating exchange rate regime. The target bounds for permissible exchange rate fluctuations were adjusted based on changes in fundamental factors shaping the country's balance of payments, gradually shifting towards a more flexible exchange rate policy.

H1 2008 saw a significant change in external factors determining the domestic foreign exchange market's landscape. The emergence of a new wave of crisis phenomena in global financial markets significantly increased the demand for foreign currency in the domestic market (Chart 2.1), as market participants reassessed the risks associated with investing in Russian assets. From 1 July 2008 to 5 February 2009, net FX purchases by foreign investors totalled RUB 872.4 billion.

To stabilise the foreign exchange market and slow the ruble's weakening, the Bank of Russia significantly scaled up its foreign exchange interventions. From 1 August 2008 to 1 January 2009, the Bank of Russia sold a total of USD 144 billion in foreign currencies. The share of the

DYNAMICS OF BRENT CRUDE OIL PRICES AND RUBLE EXCHANGE RATE *Chart 2.1*



Source: Investing.

Bank of Russia in the foreign exchange market averaged 41%. By February 2009, the Bank of Russia switched to purchasing currency as it adjusted the ruble exchange rate corridor. From September 2008 to the end of January 2009, the ruble depreciated from RUB 24.7 to RUB 35.8 per US dollar (a 45% relative depreciation). Changes in external economic conditions, which drove the national currency's weakening, necessitated a revision of the exchange rate policy to adapt the economy to external market shifts and adjust bounds for permissible fluctuation in the value of the dual currency basket.

Overall, from 1 August 2008 to 1 January 2009, the Bank of Russia's international reserves decreased by 24% due to domestic market FX transactions. In early 2009, the market experienced a shortage of ruble liquidity. Q1 2009 saw a historic high (more than RUB 2 trillion) of credit institutions' debt to the Bank of Russia from unsecured lending (see Section 1.3). Banks managed to fully repay this debt by the end of 2010.

The foreign exchange interventions were partly driven by the increasing reliance of the real and financial sectors on external debt and non-residents' reluctance to refinance it during global stress. In 2008, the ratio of the total external debt of the Russian Federation and all economic entities to GDP amounted to 29%, but by 2009, it rose to 38%.[21] Amid the outflow of foreign capital and a sharp decline in the current account in Q4 2008 (exports exceeded imports by just USD 10.5 billion, while the average quarterly surplus in the first three quarters of 2008 amounted to USD 31.2 billion), it was necessary to offset the foreign currency inflow to the domestic market.

INFLATION LEVELS DURING CRISIS PERIODS IN RUSSIA *Table 2.3*
(%)

Crisis periods	Annual inflation rate	Peak monthly inflation rate, YoY[1]
2008	13.3	31.5
2009	8.8	32.5
2014	11.4	36.4
2015	12.9	57.4
2020	4.9	10.4
2022	11.9	141.1

[1] *Based on inflation data for calendar months, assuming inflation remains at the specified level throughout the year.*

[21] IMF proposed threshold values: 30% — low risk, 40% — medium risk, 50% — high risk.

The ruble's depreciation impacted inflation growth: assuming a pass-through ratio of 0.1, the weakening during the Bank of Russia's FX sales period added 4.5 pp to the actual inflation rate (in 2008, the inflation rate was 13.3%) (Table 2.3).

Under the managed floating exchange rate regime, foreign exchange interventions led to a limited weakening of the national currency. However, the policy to support the exchange rate also had significant side effects:

1) ruble liquidity shortage (the ruble equivalent of the foreign exchange interventions was withdrawn from financial market participants[22]);

2) lack of comprehensive macroeconomic adaptation (in the event of more serious weakening of the ruble, imports could contract more, and exports could increase, resulting in a less severe GDP decline);

3) anticipating further weakening of the exchange rate, residents shifted funds from rubles to foreign currencies to earn additional income. However, this led to a higher share of FX deposits over the long term.

2014–2015 crisis

The 2014–2015 foreign exchange market crisis was triggered by a dual shock: heightened geopolitical tensions and a global energy market crisis. The ruble exchange rate nearly halved (Table 2.2), with the lowest point reached in December 2014.

Fears of sanctions and subsequent sectoral sanctions against Russian banks and companies imposed by unfriendly countries resulted in an outflow of foreign capital and increased demand for foreign exchange liquidity from local investors. In 2014, demand for foreign currency was exhibited not only by non-residents but also from bank customers (both corporate and retail), which engaged in procyclical behaviour and increased their foreign currency assets.

Subsequently, the ruble's weakening spurred increased interest in FX purchases. From August to December 2014, the net household FX purchases totalled USD 17.4 billion (Table 2.4). The highest value of purchases occurred in October, amounting to USD 6.3 billion. For comparison: from January to September 2014, household purchases on average amounted to about USD 3.1 billion per month. In December 2014, the value of cash foreign currency held by households surged again (by USD 8.1 billion), however, this time, the surge was driven by cash withdrawals from bank accounts (USD 4.4 billion); net FX purchases totalled USD 3.8 billion.

[22] From September 2008 to January 2009, the Bank of Russia's FX sales amounted to RUB 5.9 trillion.

HOUSEHOLD DEMAND FOR CASH FOREIGN CURRENCY
(USD BILLIONS)

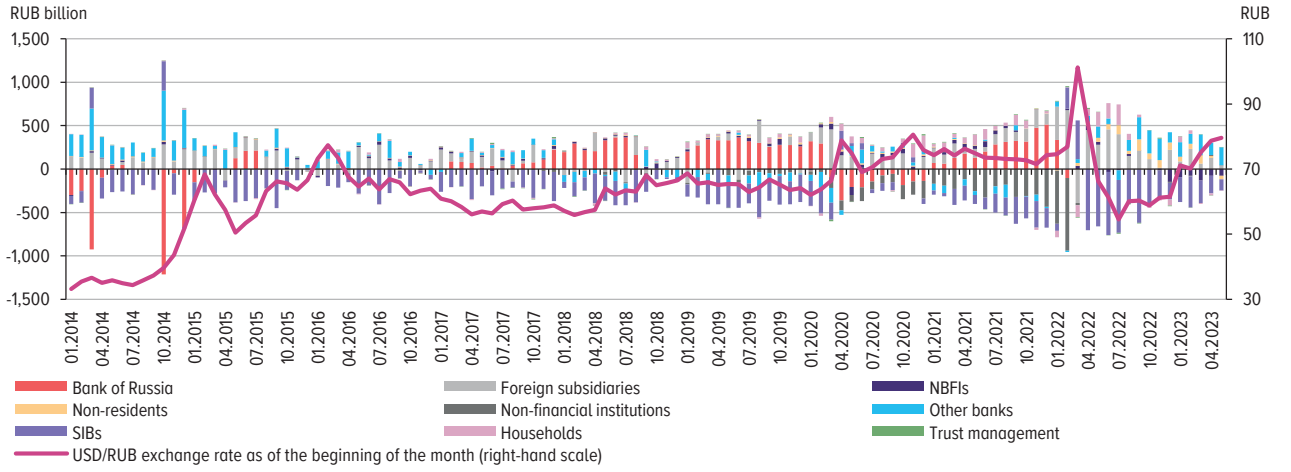
Table 2.4

Period		Net cash FX purchases (+)/sales (-) by households in banks[1]	Net non-cash FX purchases (+)/sales (-) by households[2]		Change in FX deposits of households in banks[3]
			in banks	on the exchange	
2014	August – December (oil and geopolitical shocks)	17.40	No data	0.46	-6.71
2020	March (COVID-19 and oil shock)	-0.63	-0.05	0.71	-4.99
2022	13–25 January (global security negotiations)	-0.05	-0.07	-0.97	-0.79
	21–28 February (increase in geopolitical risks)	0.03	0.30	-0.55	-8.50
	1 March – 22 April (anti-crisis measures)	-1.50	-2.54	-0.74	-9.57
	20–30 September (increase in geopolitical risks)	-0.04	-2.44	-0.28	-4.86

[1] *Data for 2014–2020: Reporting form 0409601, data for 2022: survey of the largest banks.*
[2] *Source: Survey of the largest banks, PJSC Moscow Exchange.*
[3] *Reporting forms 0409101, 0409301.*

DYNAMICS OF NET PURCHASES (+)/NET SALES (-) OF 'TOXIC' CURRENCIES FOR RUSSIAN RUBLES ON THE SPOT EXCHANGE MARKET AND EXCHANGE RATE DYNAMICS AT THE BEGINNING OF THE REPORTING MONTH

Chart 2.2

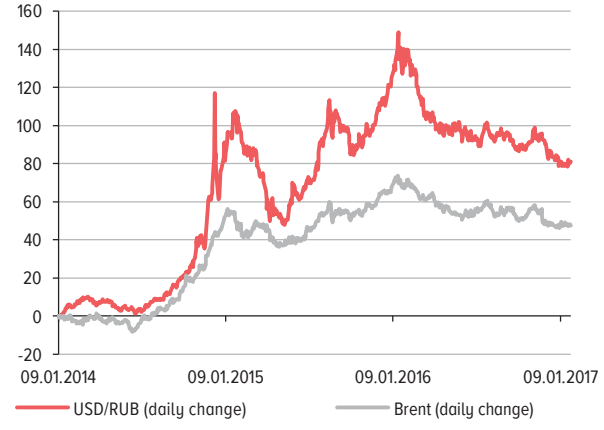


Source: PJSC Moscow Exchange.

WEAKENING OF THE RUBLE AGAINST THE US DOLLAR AND DOWNTURN IN THE PRICE OF BRENT CRUDE OIL BEFORE THE INTRODUCTION OF THE NEW BUDGET RULE MECHANISM

Chart 2.3

(%)

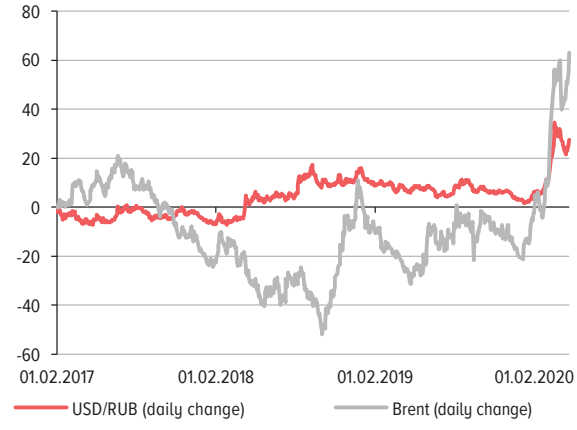


Sources: PJSC Moscow Exchange, Bloomberg.

WEAKENING OF THE RUBLE AGAINST THE US DOLLAR AND DOWNTURN IN THE PRICE OF BRENT CRUDE OIL AFTER THE INTRODUCTION OF THE NEW BUDGET RULE MECHANISM

Chart 2.4

(%)



Sources: PJSC Moscow Exchange, Bloomberg.

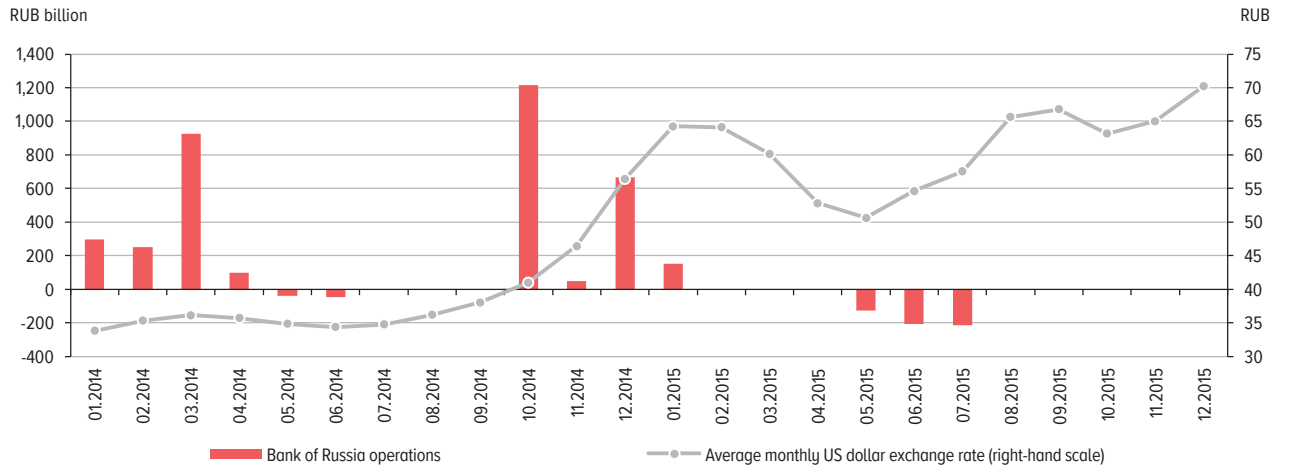
In 2014, the impact of falling oil prices on the exchange rate was not smoothed out by FX purchases/sales under the budget rule. The budget rule was based on a multiyear average oil price of USD 93 per barrel and limited spending to basic income plus 1% of GDP. The primary mechanism of the exchange rate policy involved interventions by the Bank of Russia and adjustments to the limits of the exchange rate corridor (permissible values of the dual-currency basket). From January to November 2014, the Russian foreign exchange market continued to operate under the managed floating exchange rate regime. This mechanism prevented the exchange rate from acting as a full-fledged stabiliser for external shocks. Meanwhile, expectations of households and businesses for further ruble weakening became self-fulfilling: the exchange rate continued to weaken over an extended period, and its nominal weakening exceeded the real level (overshoot effect).

To reduce foreign exchange market volatility and keep the exchange rate within the dynamic corridor, the Bank of Russia sold USD 43.9 billion worth of foreign currency from January to April 2014 (significantly less than during the 2008 crisis), which helped to maintain the ruble exchange rate within the 32–37 rubles per US dollar. On one day in March 2014, the amount of foreign currency sold on the exchange market exceeded USD 11 billion, with the Bank of Russia's share of sales reaching 96%.

However, amid changing fundamental factors and falling oil prices since mid-2014, the exchange rate corridor gradually shifted towards weakening. In October and November, amid heightened demand for foreign exchange liquidity, the Bank of Russia resumed and intensified its FX sales. In just 1.5 months, USD 30.4 billion of foreign currency was sold as part of foreign exchange interventions (Chart 2.5). The average daily share of the Bank of Russia in total market sales during this period amounted to 39%, compared to 21% in January – April. The increased intensity of foreign exchange interventions helped to limit exchange rate fluctuations and slow the pace of its weakening.

Similarly to 2008–2009, this mechanism was accompanied by rising demand for foreign currency among companies and households, and due to the aforementioned negative effects, the Bank of Russia abolished the previous exchange rate policy mechanism ahead of schedule (on 10 November 2014). At the end of September, the Bank of Russia introduced new tools for providing foreign exchange liquidity, including FX repo (see Section 1.3). Thus, in 2014, the Bank

BANK OF RUSSIA OPERATIONS IN THE FOREIGN EXCHANGE MARKET (PURCHASE (-)/SALE (+)) IN 2014–2015 AND EXCHANGE RATE DYNAMICS *Chart 2.5*



Source: PJSC Moscow Exchange.

of Russia completed the transition to a floating ruble exchange rate as part of the final shift to inflation targeting starting from early 2015.

Meanwhile, the Bank of Russia retained the option to use foreign exchange interventions to ensure financial stability. Amid worsening external conditions, local market expectations, and the need to repay a substantial amount of external debt (USD 32.6 billion in December[23]), the first half of December 2014 saw a sharp increase in ruble exchange rate volatility. To maintain financial and price stability, the Bank of Russia increased the key interest rate to 17% per annum, enhancing the appeal of ruble-denominated instruments as an alternative to FX purchases (see Section 1.3), and resumed foreign exchange market operations from early December, including selling remaining Federal Treasury account funds, with FX sales in December 2014 – January 2015 totalling USD 14.1 billion. As the foreign exchange market stabilised and financial stability risks diminished, the Bank of Russia halted its foreign exchange interventions. Overall, from January 2014 to January 2015 (inclusive), the total FX sales amounted to USD 85.7 billion. The reduction in international reserves due to foreign exchange interventions and foreign exchange refinancing operations was less significant than in 2008–2009.

Amid materialisation of geopolitical risks, the absence of interventions by the Bank of Russia would have led to significantly greater foreign exchange market volatility (due to no other market participant being able to cover the resulting foreign currency shortage). This also fueled demand for foreign currency among households and businesses, ultimately increasing banks' long-term exposure to foreign exchange risk (from 2014 to 2015, the share of FX positions in bank balance sheets grew from 29% to 38%). As a result, starting in 2016, the Bank of Russia implemented macroprudential measures that helped reduce the share of FX positions in both assets (macroprudential buffers on FX loans) and liabilities (increased required reserve ratios for FX liabilities).

2020 crisis

Amid the spread of the pandemic, the surge in global financial market volatility in March 2020 made oil prices plummet to multiyear lows and caused an investment outflow from emerging market countries, including Russia. In 2020, compared to 2014, the downturn in oil prices was even more pronounced, preventing full compensation for the shortfall in oil and gas budget revenues under the budget rule. At the end of 2020, amid low oil prices, the current account balance stood at USD 35.4 billion, which was significantly less than in previous years,[24] with only USD 11.5 billion accounted for in Q2–Q4.

Despite the decreased elasticity of the ruble exchange rate to oil prices following the introduction of the budget rule mechanism, the stability margin of FX purchases/sales under the budget rule proved insufficient amid such substantial oil market fluctuations.[25] Significant FX purchases by non-residents in the domestic market adversely affected the ruble dynamics, leading to its sharp depreciation.

To stabilise the foreign exchange market and reduce volatility, the Bank of Russia adjusted the foreign exchange market operation schedule under the budget rule starting from March 2020. Considering the average Urals crude oil price in February 2020 (USD 54.2 per barrel) (Chart 2.6) and the value of additional oil and gas revenues, from 6 March to 6 April, the Bank of Russia

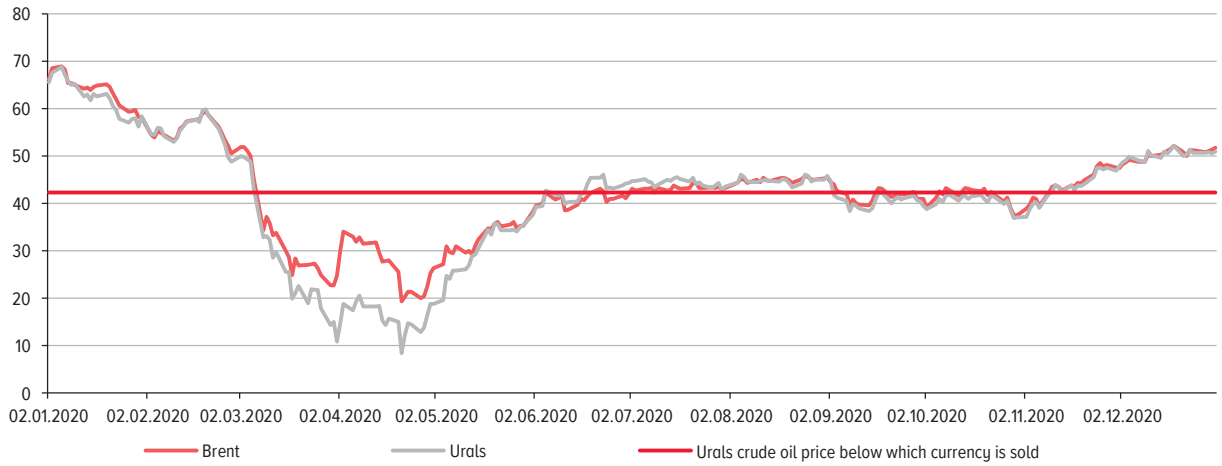
[23] The actual repayment amount was lower than scheduled, totalling USD 25.6 billion.

[24] In 2019, USD 66.7 billion, in 2018, USD 118.7 billion.

[25] From January 2014 to January 2017, the coefficient of correlation between price and exchange rate amounted to -0.98, but after the budget rule mechanism was introduced in February 2017, it dropped to -0.11.

DYNAMICS OF BRENT AND URALS CRUDE OIL PRICES
(USD/BARREL)

Chart 2.6



Source: Investing.

was supposed to buy USD 1.7 billion under the budget rule (USD 82 million per day). However, to reduce volatility, the Bank of Russia suspended FX purchases under the budget rule starting from 9 March.

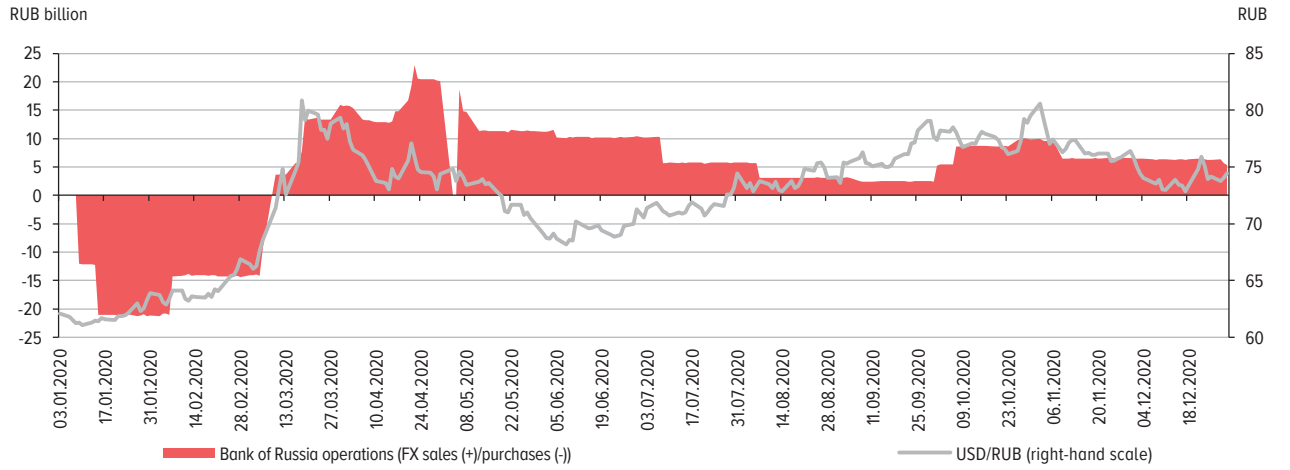
Amid a sharp acceleration in the downturn of global oil prices, Urals crude oil quotes fell below the budget rule's baseline (USD 42.4 per barrel) and closed at USD 32.9 on 9 March. If oil prices fell below the baseline, according to the existing budget rule mechanism, the unmet oil and gas revenue needs of the budget were to be financed by the NWF, with corresponding FX sales in the market occurring with a one-month lag, meaning actual market sales would only begin in early April.

However, as early as 10 March, the Bank of Russia began proactive FX sales in the domestic market from its own reserves. The initial value of FX sales on the market was minimal and amounted to only USD 50 million per day; however, as oil prices continued to drop below the baseline, it dynamically increased and reached USD 97 million by 18 March (Chart 2.7).

From March 19, 2020, in addition to standard operations under the budget rule, the Bank of Russia started FX sales in the domestic market as part of the transaction for the acquisition by the Russian Government of a block of shares in PJSC Sberbank at the expense of the NWF. Due to the heightened market volatility, the Bank of Russia developed a sales mechanism to enhance the budget rule's stabilising effect: additional FX sales were calculated to fully offset the decline in domestic foreign exchange market supply due to the decreased export revenues from oil, petroleum products, and natural gas sales if Urals crude oil prices dropped below USD 25 per barrel. As a result, the Bank of Russia significantly offset the shortfall in current account receipts and ensured a balance between demand and supply in the foreign exchange market.

The total value of FX sales during the peak period of volatility (taking into account proactive sales and as part of the sale of Sberbank shares) amounted to USD 2 billion. The share of Bank of Russia sales in the total value increased to 25% by late March, averaging 12.4% for the period. Acting solely under the budget rule, the Bank of Russia would have allocated USD 1.3 billion for FX purchases during this period. The transition to preemptive actions helped to alleviate demand pressures and increased the inflow of foreign currency by a total of USD 3.3 billion. In general, in 2020, the Bank of Russia sold USD 11.8 billion in foreign currencies, with USD 22.6 billion sold

RUBLE EXCHANGE RATE DYNAMICS AND BANK OF RUSSIA'S OPERATIONS IN THE FOREIGN EXCHANGE MARKET (FX PURCHASES (-)/SALES (+)) *Chart 2.7*



Source: PJSC Moscow Exchange.

from 10 March to the end of 2020 (at the beginning of the year, net purchases were made under the budget rule). Nevertheless, this was significantly less than in 2014.

As early as the beginning of June 2020, the US dollar exchange rate returned to its pre-crisis level. It should be noted that, unlike the 2014–2015 crisis, during the COVID-19 pandemic, the risks of Russian residents fleeing into foreign currency did not materialise. Conversely, households exhibited countercyclical behaviour: they sold foreign currency as the ruble weakened to lock in profits. In March 2020, net cash FX sales by households totalled USD 0.6 billion. This stems from the shift to a floating exchange rate policy in November 2014 and the public awareness that the exchange rate could move either way.

2022 crisis

In February – March 2022, the Russian financial sector faced unprecedented sanctions pressure from unfriendly countries. The 2022 crisis was marked by the fact that the demand for foreign currency was exhibited not only by non-residents and bank customers (households and businesses) as in 2014, but also by banks themselves that sought to stabilise their FX positions. The heightened demand for foreign currency in 2022 was driven by several factors.

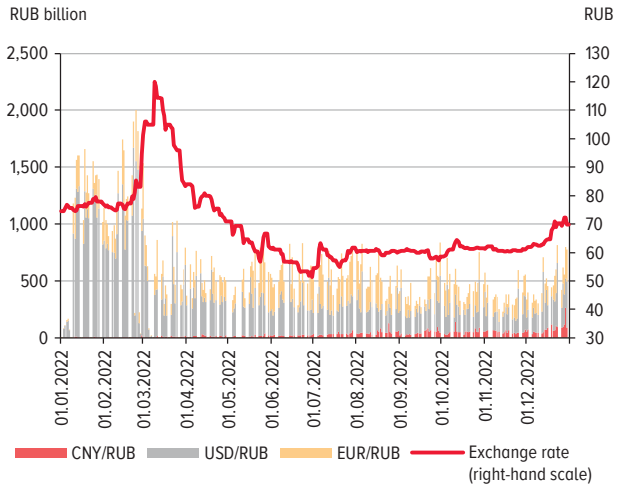
- *Termination of transactions by foreign participants.*

Influenced by sanctions, foreign investors and non-resident banks decided to exit the Russian market, which included closing of existing transactions. Non-residents held the most substantial positions in the FX derivatives market, especially in FX swaps.

Non-residents opened positions by placing rubles against foreign currency, performing ruble to foreign currency exchanges when closing transactions (as long as it was permitted). The value of open positions for FX swaps and forwards significantly reduced: from February 2022 to the end of the year, the total value plummeted from USD 229 billion to USD 50 billion (Chart 2.9). During the first week of the shock (21–28 February), foreign investors purchased RUB 429 billion worth of foreign currency, accounting for 25% of the total net FX purchases. During this period, the ruble weakened by 27%.

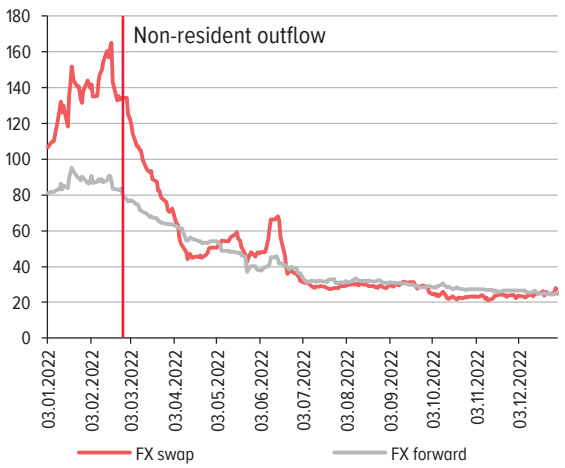
- *Outflow of banks' FX deposits and customer demand for foreign currency.*

TRADING IN THE SPOT EXCHANGE MARKET FOR MAJOR CURRENCY PAIRS AND US DOLLAR EXCHANGE RATE *Chart 2.8*



Sources: PJSC Moscow Exchange, Interfax.

OPEN POSITIONS FOR FX SWAPS AND FORWARDS (USD BILLION) *Chart 2.9*

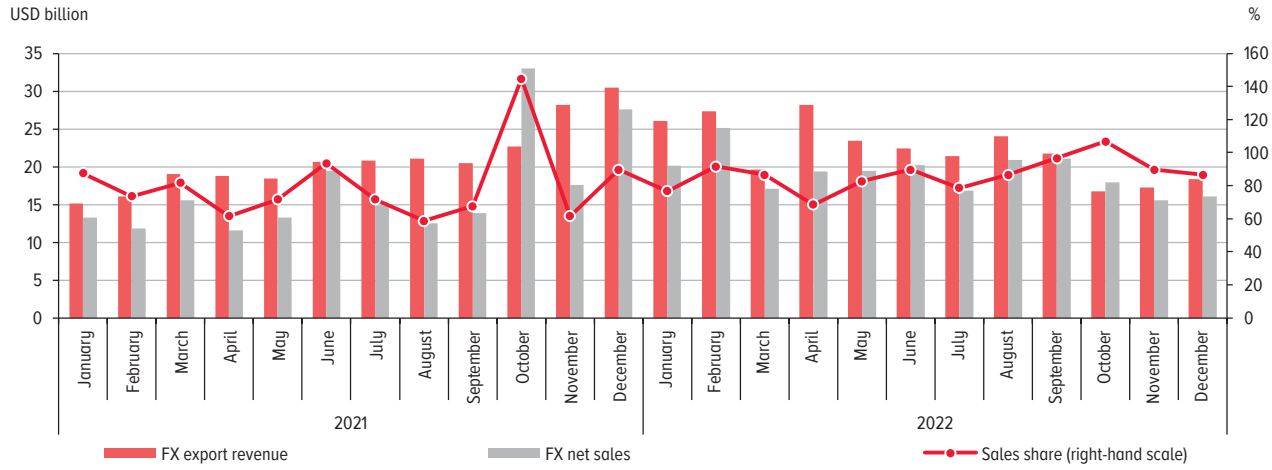


Sources: PJSC Moscow Exchange, NCI JSC NSD.

The accelerated outflow of customer funds in foreign currency required banks, especially those under the sanctions, to engage in FX purchases on the market. Several banks required foreign currency to manage their open FX position. In March, the total net FX purchases by banks on the Moscow Exchange exceeded USD 40 billion. Consequently, the weakening of the exchange rate on the exchange market peaked on 9 March 2022, reaching 60%.

At the initial stage of the crisis, as in 2014, bank customers exhibited procyclical behaviour and purchased foreign currency. Moreover, in February – March 2022, the value of cash foreign currency in circulation increased by USD 14 billion[26] due to withdrawals from FX accounts. In this context, the Bank of Russia increased the key rate to 20% per annum as a systemic measure to dampen the demand for cash foreign currency (see Section 1.3). This action aided in stabilising the foreign exchange market, along with mitigating risks to price and financial stability.

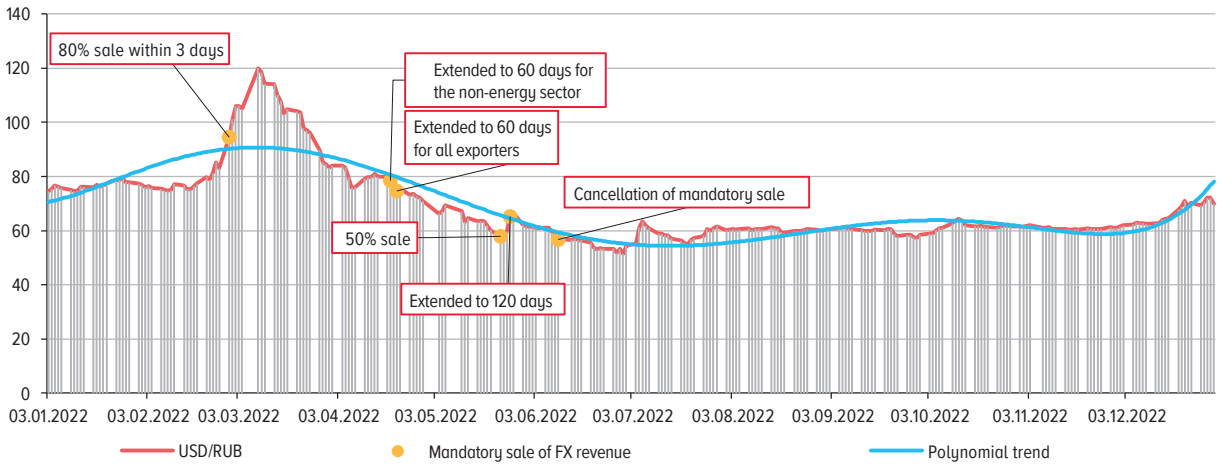
FX EXPORT REVENUE AND SHARE OF NET FX SALES IN FX EXPORT REVENUE *Chart 2.10*



Source: Bank of Russia calculations.

[26] Source: Households Savings. The value in dollar terms is based on the average exchange rate for February and March 2022.

EXCHANGE RATE DYNAMICS AND MANDATORY SALE OF FX REVENUE *Chart 2.11*
(RUB)



Sources: PJSC Moscow Exchange, Bank of Russia calculations.

Sanctions against the Bank of Russia significantly complicated achieving a balance between demand and supply in the foreign exchange market. The freezing of the Bank of Russia's FX accounts in February 2022 restricted the ability to conduct transactions in major world reserve currencies to counter financial instability risks. This also resulted in the suspension of certain budget rule provisions. The asset freeze necessitated the introduction of temporary foreign exchange controls to stabilise the situation and reduce market volatility.

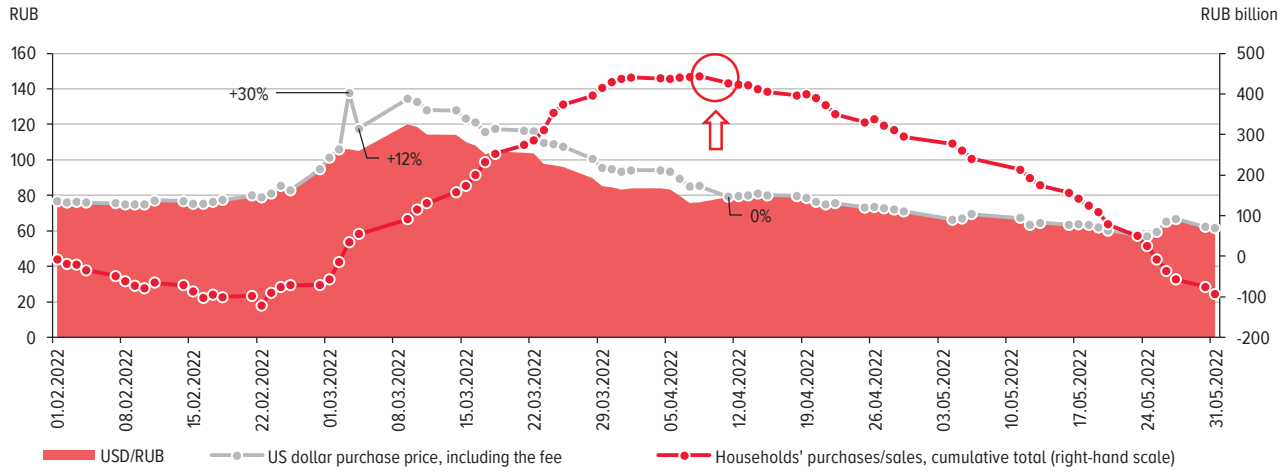
One of the key foreign exchange controls introduced by a decree of the President of the Russian Federation was the mandatory sale of 80% of FX revenue by exporters from 28 February 2022. Exporters were required to sell their FX revenues within 3 days of the funds being credited to the transit account. This measure compensated for the absence of the Bank of Russia's operations in the foreign exchange market and restored the balance of foreign exchange liquidity.

The mandatory sale of FX revenue by exporters ensured a steady influx of foreign currency into the Russian market during the shock, significantly reducing volatility. In 2021, when this measure was not in use, the share of net sales in the monthly FX export revenue of the 29 largest exporters varied widely (from 59% to 145% per month). Thus, the inflow of foreign currency to the Russian market could be delayed, and FX sales were concentrated in specific periods. From March to June 2022, the share of net sales in the FX export revenue of the largest exporters fluctuated between 69% and 90% per month, averaging 82% (Chart 2.10).

As the demand and supply balance in the domestic foreign exchange market was restored, the situation stabilised, allowing for the swift easing of foreign exchange controls. Starting from 19 April 2022, the Bank of Russia increased the mandatory FX sale deadline to 60 days for non-commodity non-energy sector exporters, and from 21 April, this was extended to all exporters. In May, as the ruble strengthened below pre-crisis levels, easing measures continued; from 23 May, the share of mandatory sale of FX revenue by exporters was reduced to 50%, and from 26 May, the mandatory sale deadline was extended to 120 business days. From 10 June, the mandatory sale of FX revenue requirement was completely cancelled (Chart 2.11).

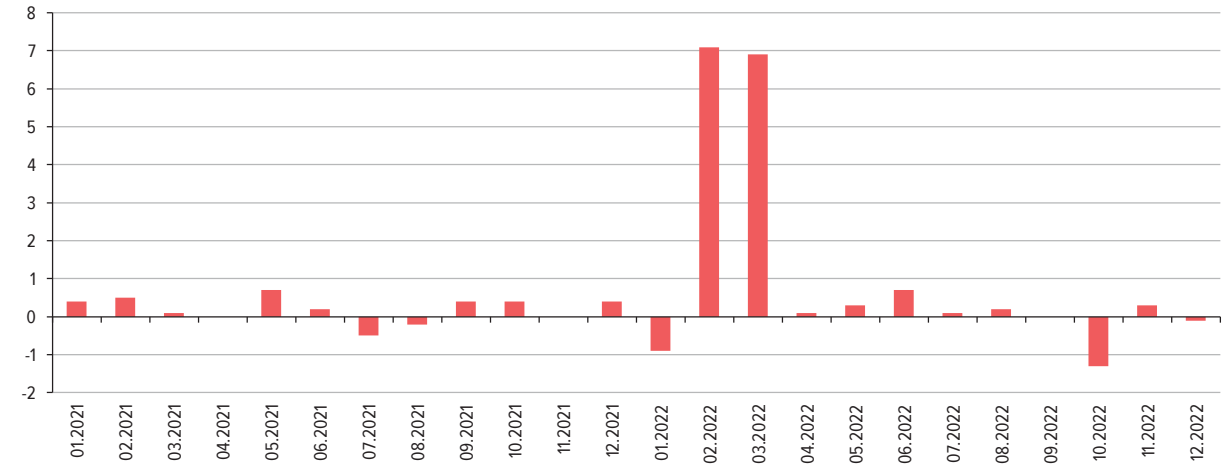
Amid the blocking of some international reserves and limited capabilities of the Bank of Russia for interventions in the foreign exchange market, non-residents' FX purchases were restricted (including initially for non-residents from friendly states, though this restriction was later lifted).

FOREIGN EXCHANGE RATE DYNAMICS TAKING INTO ACCOUNT FEE ON FX PURCHASE AND FX PURCHASES (-)/ SALES (+) BY HOUSEHOLDS, CUMULATIVE TOTAL *Chart 2.12*



Source: PJSC Moscow Exchange, survey of major banks, Bank of Russia calculations.

INCREASE/DECREASE IN CASH FOREIGN CURRENCY HELD BY HOUSEHOLDS* (USD BILLION) *Chart 2.13*



** Based on 'Households Savings' data. Data in ruble equivalent, US dollar equivalent calculated at the average monthly exchange rate.*
Source: Bank of Russia.

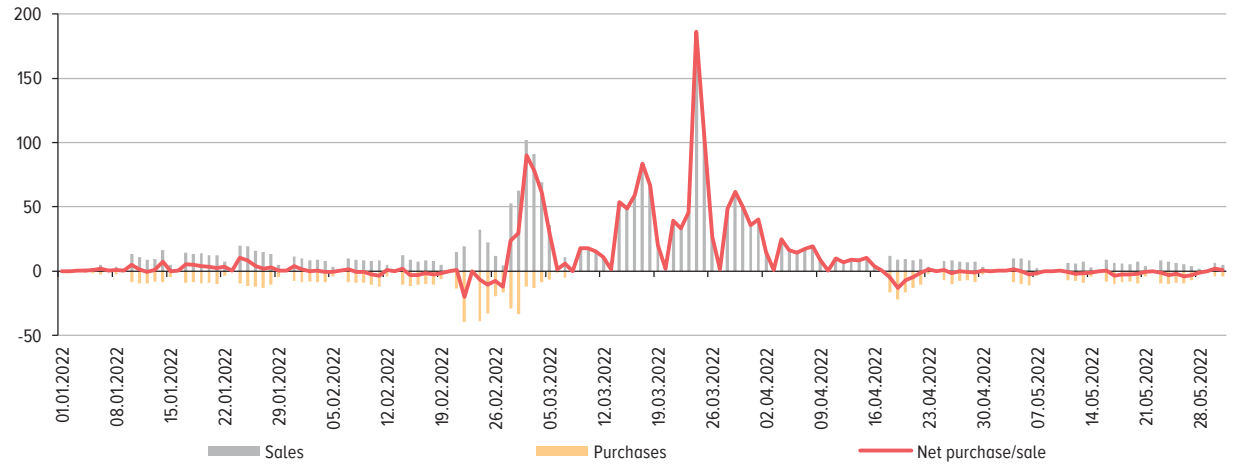
Additionally, restrictions impacted residents' demand for foreign currency: several limits and fees were imposed on domestic FX transactions.

The Bank of Russia mandated brokers to set a 30% fee on retail FX purchases from 3 March.[27] On that day, net retail FX sales totalled RUB 48.5 billion, RUB 24.0 billion of which were on the exchange market. The following day, the fee was reduced to 12%, and to level the playing field, a similar fee was also applied to purchase orders of businesses.

The imposed fees were in effect on the foreign exchange market until 10 April, inclusive. During this period (from 3 March to 10 April 2022), the total FX sales by households (including over-the-counter transactions) amounted to RUB 458.6 billion. Given that households predominantly switched to FX sales, brokers' commission revenues from FX purchase transactions were limited.

[27] A fee was introduced for executing retail orders for FX purchases in three currency pairs (USD/RUB, EUR/RUB, GBP/RUB).

NET HOUSEHOLDS' CASH FX PURCHASES (-)/SALES (+) IN MAJOR BANKS *Chart 2.14*
(USD MILLION)



Source: Survey of major banks.

Following the complete removal of FX purchase fees and the stabilisation of the foreign exchange market, a shift occurred on 11 April: households switched to extensive net FX purchases. On 11 April alone, RUB 18.6 billion worth of foreign currency was purchased, and from 11 April to 31 May, the net purchases by households exceeded the amount sold during the fee period, totalling RUB 538.5 billion (Chart 2.12). Thus, the introduced fees allowed for redistribution of household demand for foreign currency over time and helped to stabilise the foreign exchange market.

Amid sanctions imposed by unfriendly countries, including a ban on importing cash foreign currency (euros and US dollars) into Russia, the Bank of Russia was compelled to impose restrictions on the circulation of cash foreign currency within the country. On 9 March, the Bank of Russia implemented a special procedure for withdrawing funds from retail FX deposits and accounts. A withdrawal limit for cash foreign currency was set at USD 10,000. The remaining FX funds could be withdrawn in rubles at the market rate as of the day of withdrawal.[28]

This mechanism helped to slow down the withdrawal of FX deposits and reduce the demand for cash foreign currency. The introduced measures significantly slowed the growth rate of cash foreign currency held by households; in April, this indicator increased by only USD 0.1 billion (Chart 2.13), which was 70 times less than in March.

Additionally, from 9 March, retail FX sales through banks and exchange offices were restricted. During the restriction period from 9 March to 17 April 2022, total retail FX sales amounted to USD 1.2 billion (Chart 2.14), which also helped to saturate the foreign exchange market with cash liquidity. The partial ability to sell cash foreign currency through banks resumed on 18 April, but only currency received by bank cash desks from 9 April 2022, onwards was eligible for sale. As the situation stabilised, the restrictions on purchasing cash foreign currency were progressively eased.

Without restrictions on FX withdrawal and purchase operations, panic buying could have caused an even larger disparity between non-cash and cash foreign exchange rates than what was observed during this period.

[28] The mechanism for withdrawing foreign currency in rubles at the exchange rate was expanded to include transfers from banks outside Russia and electronic wallets.

- *Regulatory easing regarding foreign currency revaluation and fixed value of derivatives.*

Considering the significant weakening of the ruble and its adverse impact on banks' capital adequacy, the Bank of Russia introduced exemptions from foreign currency revaluation during each crisis episode. In 2014, the Bank of Russia allowed banks to use the foreign exchange rate as of 1 October 2014 for calculating mandatory ratios. Initially, the list of foreign currencies eligible for this measure was unrestricted. Later, after an extension in June 2015 and until 30 December 2015, the measure applied to five foreign currencies.

In 2020, this measure applied to six foreign currencies,[29] with official exchange rates set by the Bank of Russia as of 1 March 2020 (in force from 1 March to 30 September 2020). In 2022, the measure also applied to six foreign currencies for a duration of 10 months (from 25 February to 31 December).

Additionally, in 2022, the value of derivatives remained fixed from 15 March to 31 December 2022. This measure was implemented for the first time amid a large-scale revaluation of derivatives due to the exit of non-residents from the Russian financial market. However, it did not become widely adopted by credit institutions nor did it demonstrate significant effectiveness.

The 2022 currency crisis had a number of specific characteristics due to the extensive sanctions imposed by unfriendly countries and the need to find alternative settlement and saving methods. Consequently, the foreign exchange market structure was drastically altered, shifting towards the currencies of friendly states, primarily the Chinese renminbi. The stability of the Russian foreign exchange market in 2022 was underpinned by the fact that at the onset of the crisis, the ratio of the total external debt of the Russian Federation and its economic entities to GDP was at 17%, the lowest since 2004. Moreover, the banking sector managed to reduce the share of FX positions in bank balance sheets compared to previous crises, including due to the measures implemented by the Bank of Russia.

1.2. FX liquidity

Periods of heightened volatility in the foreign exchange market occasionally lead to a shortage of foreign exchange liquidity, driven by an imbalance between demand and supply in the foreign exchange money market. This liquidity shortage is marked by a sharp increase in the cost of foreign currency borrowings, spurred by urgent demand from borrowers or reduced supply from lenders.

In 2008, the Bank of Russia used foreign exchange interventions to ensure availability of foreign exchange liquidity. Additionally, approximately USD 50 billion was allocated from the NWF to refinance external loans (the actual volume utilised was approximately USD 11.6 billion). Subsequently, to meet the demand for foreign exchange liquidity, the Bank of Russia utilised FX swaps (in 2014–2015, FX repos and loans were also used).

The Bank of Russia's FX swaps and repos are designed to assist credit institutions with foreign exchange liquidity when access to it is restricted and the cost of foreign currency borrowings grows. Unlike other tools used during the crises, FX swaps serve as a standing liquidity enhancement and volatility smoothing instrument not limited to crisis periods, allowing the Bank of Russia to address emerging imbalances.

During the 2014–2015 and 2022 crises, the Russian market faced a severe foreign exchange liquidity shortage, though the causes and consequences varied. In 2014, the foreign exchange

[29] US dollar, euro, pound sterling, Swiss franc, Japanese yen, Chinese renminbi.

liquidity shortage was triggered by the sanctions restricting external financing and a substantial amount of external debt due for repayment.

Another factor contributing to the foreign exchange liquidity shortage was the decline in FX revenues from major exporters and their reluctance to sell revenues amid rising market demand for foreign currency (see Section 1.1). As a result, there was a significant reduction in transactions in the FX IBL and FX swap markets. The supply and demand imbalance led to increased costs of foreign currency borrowings. The foreign exchange liquidity shortage distorted pricing even in the ruble money market, with banks seeking to attract US dollars and euros through the FX swap market and offering ruble liquidity at low rates. From early August 2014 until the Bank of Russia began its extensive foreign exchange liquidity-providing operations, the RUONIA rate remained in the lower half of the interest rate corridor, despite IBL rates with a positive spread to the key rate being typical during structural deficits. In 2022, the foreign exchange liquidity shortage resulted from customer withdrawals of FX funds from banks and the Bank of Russia's inability to provide liquidity through US dollar and euro refinancing instruments.

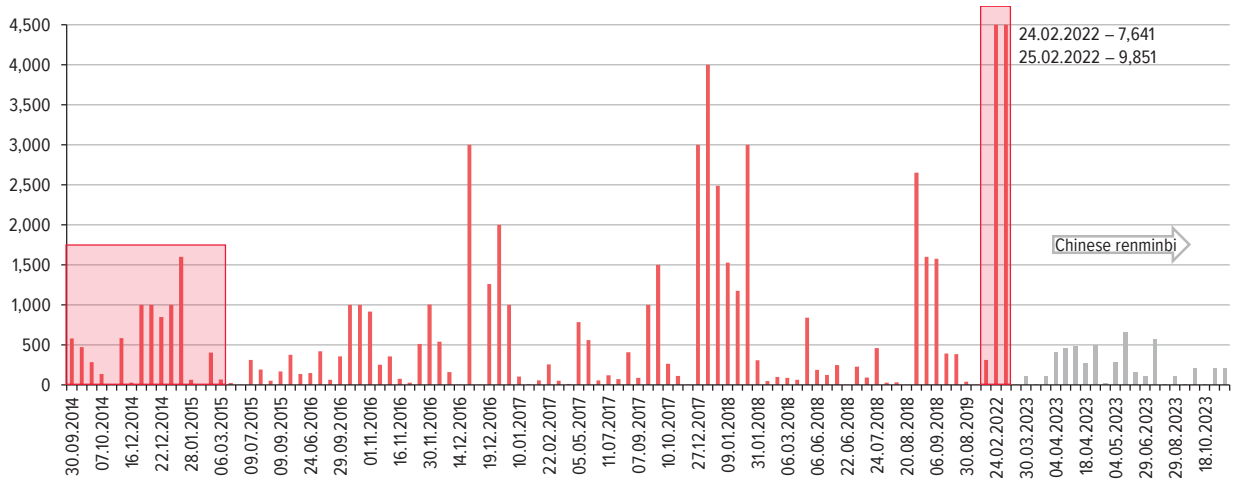
2014–2015 crisis

To stabilise the foreign exchange market, from 17 September 2014, the Bank of Russia launched overnight FX swaps to sell US dollars for rubles (at fixed interest rates).[30] Consequently, credit institutions were able to borrow US dollars from the Bank of Russia daily for a one-day period in exchange for rubles (euro operations were introduced later in February 2022).

During the 2014–2015 crisis, amid foreign exchange liquidity shortages, the limit for FX sales under the Bank of Russia's FX swaps reached USD 3 billion per day, yet it was not fully utilised. Significant demand for foreign exchange liquidity among market participants emerged in the second half of December 2014, with the maximum amount of foreign currency provided through FX swaps reaching USD 1.6 billion (Chart 2.15).

In addition to FX swaps, in autumn 2014, the Bank of Russia introduced a new tool for providing foreign exchange liquidity, FX repo (for one week, 28 days, one year). This instrument was used from 2014 to 2017 to supply credit institutions with dollar liquidity.

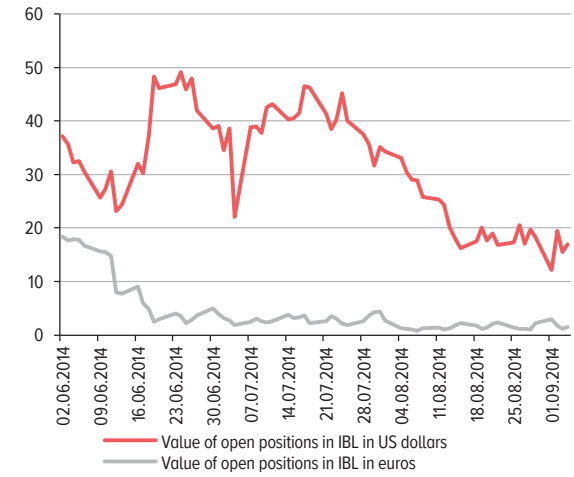
FX SWAP FOREIGN EXCHANGE SALES TRANSACTIONS FOR RUBLES *Chart 2.15*
(USD MILLION)



Source: Bank of Russia.

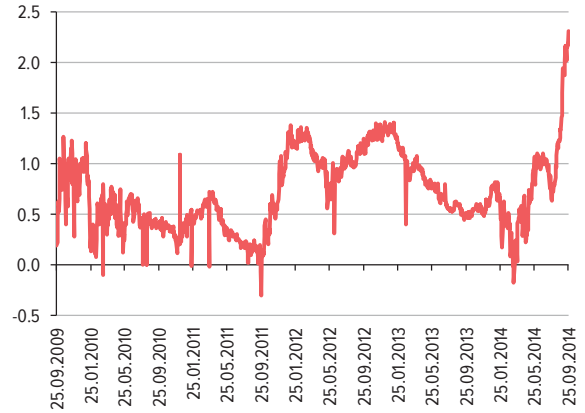
[30] In US dollars, 1.5%, in rubles, 7%, i.e., the key rate minus one pp.

OPEN POSITIONS OF UP TO 7 DAYS IN THE FX IBL MARKET *Chart 2.16*
(RUB BILLION)



Source: Bank of Russia.

DIFFERENCE BETWEEN RATES FOR 1-YEAR RUBLE INTEREST RATE SWAPS AND CROSS-CURRENCY SWAPS RUB/USD (1-YEAR FOREIGN EXCHANGE BASIS) *Chart 2.17*
(PP)



Source: Bloomberg.

The value of foreign currency funds provided by the Bank of Russia through FX repo transactions significantly exceeded that of FX swaps, reaching USD 20.2 billion in December 2014. In December, the banking sector predominantly raised funds through 28-day FX repo transaction, which accounted for 74% of all funds raised (USD 15.1 billion). By mid-April 2015, the maximum value of foreign currency raised amounted to USD 35.4 billion, USD 23.7 billion of which were primarily secured through one-year repo agreements.

Compared to the Bank of Russia's FX swaps, repo agreements offered foreign exchange liquidity at lower rates and for a longer duration without the need for daily renewal. During the 2014–2015 crisis, the Bank of Russia's FX repo significantly supported the foreign exchange money market by largely compensating for the shortfall in foreign exchange liquidity and reducing the foreign exchange needs of market participants.

Additionally, in late December 2014, the Bank of Russia created a new instrument, Bank of Russia loans in foreign currency, secured by the pledge of receivables, for 28 and 365 calendar days.

The provision of FX funds by the Bank of Russia helped to ease tensions in the FX IBL market. Starting in March 2015, the Bank of Russia raised rates for foreign exchange liquidity-providing operations, and suspended one-year auctions from 1 June 2015.

Without the Bank of Russia's measures to infuse the foreign exchange market with liquidity, the total foreign currency shortage in the Russian market during 2014–2015 could have led to a significant market imbalance, a more pronounced weakening of the ruble, and consequently, heightened inflation risks and risks to financial stability.

2020 crisis

During the 2020 crisis, there was no acute shortage of foreign exchange liquidity, as the crisis was global and accompanied by extensive support measures from major central banks. The support included providing liquidity in reserve currencies to local banks, ensuring its sufficient level in the global market. During that period, the Bank of Russia's standing FX swap instrument was not in demand by banks.

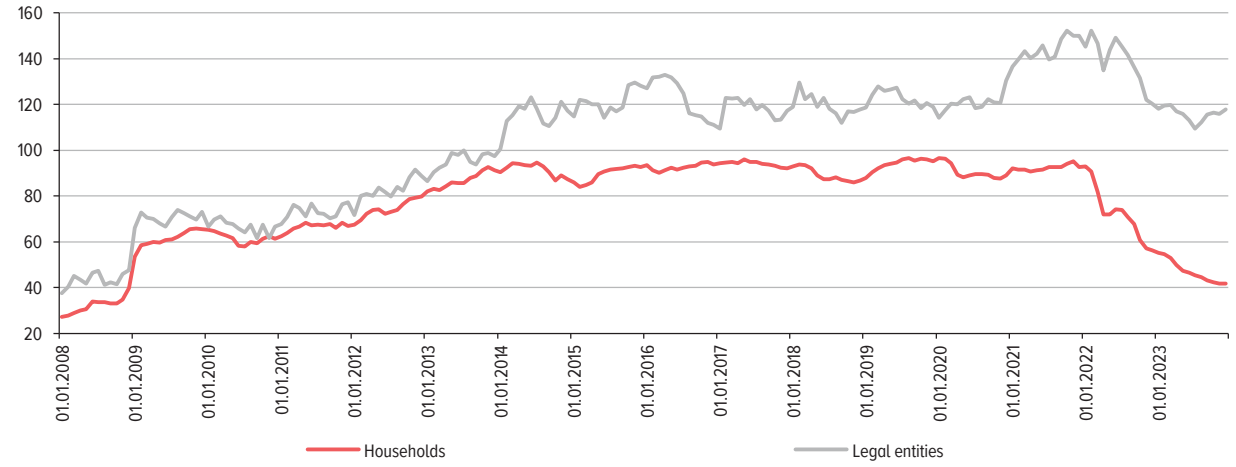
2022 crisis

As in 2014–2015, the 2022 crisis saw a significant foreign exchange liquidity shortage. With major banks included in sanctions lists, households and companies massively withdrew FX deposits, including in order to transfer their funds overseas, convert them to cash, or switch to ruble deposits with high rates. From 20 February to 10 March 2022, the value of FX retail and corporate deposits dropped by USD 16.4 billion and USD 21.5 billion, respectively (by 18.8% and 15.0%).

Amid the blocking of international reserves in the currencies of unfriendly countries, the Bank of Russia had to employ foreign exchange controls and capital movement restrictions to stabilise the situation. The Bank of Russia set limits on FX transfers abroad at USD 5,000 for individuals (later increasing the amount to USD 1 million per month), which helped to slow down the rate of FX deposit withdrawals.

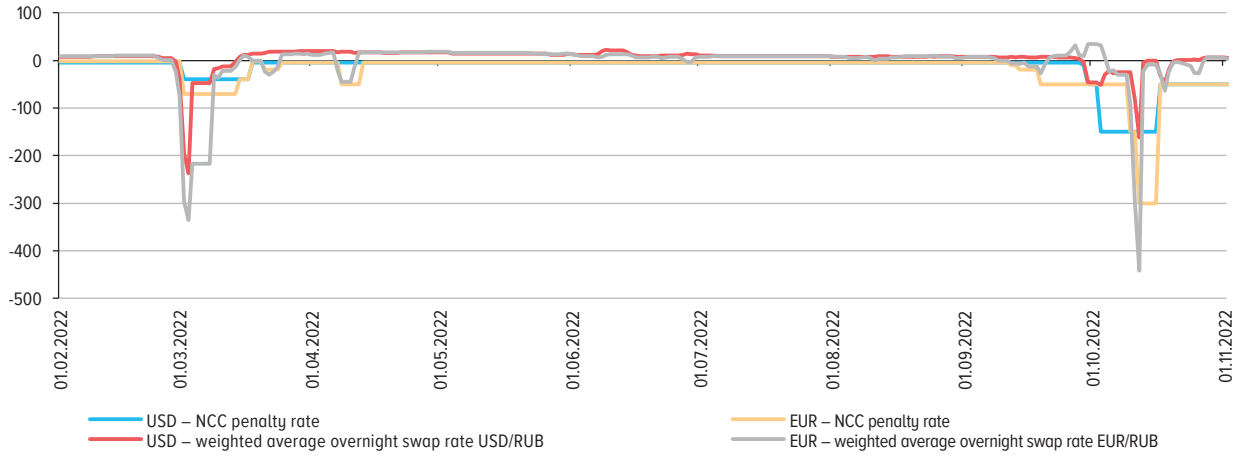
Prior to the entry into force of the sanctions imposed on the Bank of Russia, a record amount of liquidity in US dollars and euros totalling USD 9.85 billion was provided to the banking sector through swap transactions (25 February) (Chart 2.15). In combination with foreign exchange interventions, this allowed to keep the exchange rate within RUB 90 per US dollar, and on

DYNAMICS OF FX DEPOSITS AND FUNDS ON ACCOUNTS OF RUSSIAN CREDIT INSTITUTIONS *Chart 2.18*
(USD BILLION)



Source: Reporting form 0409101.

INDICATIVE RATES OF SWAP TRANSACTIONS AND NCC PENALTY RATES *Chart 2.19*
(%)



Source: PJSC Moscow Exchange.

Friday, 25 February 2022, the ruble closed at RUB 83 per US dollar. However, following the freeze on foreign exchange reserves, the ruble plummeted by 14%. Had sanctions not been imposed on the foreign exchange reserves, the Bank of Russia would have been able to provide the market with the necessary foreign exchange liquidity, including through FX swaps, which would have helped to reduce market volatility and curb the weakening of the national currency.

Due to the Bank of Russia's inability to operate in this manner, the 2022 FX swap market periodically experienced a severe liquidity shortage in certain unfriendly countries' currencies. For instance, amid the rapid reduction of liabilities in 'toxic' currencies and the need to manage open FX positions, some banks had to attract foreign exchange liquidity. Consequently, during this period, overnight swap rates in the FX section of the Moscow Exchange dipped into negative territory, indicating a foreign currency shortage.[31] In the order-driven trading mode, the minimum rates plummeted to -300% per annum for US dollars and -800% per annum for euros. In response to the situation, the NCC increased the penalty rates for the rollover of outstanding obligations from -4% to -150% per annum for US dollars and from -5% to -300% per annum for euros (Chart 2.19).

Sanctioned banks were hit particularly hard. Due to the imposed restrictions, they were unable to conduct transactions in 'toxic' currencies, thus unable to carry out conversion transactions to manage their open FX positions. Consequently, the Bank of Russia allowed some leeway by permitting temporary non-compliance with open FX position limits in 'toxic' currencies for sanctioned banks, and for all banks with divergent positions in US dollars and euros under certain conditions. To enhance the resilience of credit institutions to future foreign exchange risks, the Bank of Russia has amended the regulations on open FX positions (effective from 1 July 2024). Specifically, considering that during the 2022 crisis, foreign exchange risks materialised due to non-fulfillment/early termination of hedging derivatives, a limit on the balance-sheet open FX positions will be enforced.

To manage foreign exchange risk, banks have started using 'non-toxic' currencies, primarily the Chinese renminbi, as a proxy tool for managing open FX positions. Several banks with a net long position in 'toxic' currencies engaged in conversion transactions using the Chinese renminbi, a currency with performance closely mirroring that of 'toxic' currencies. Thus, the demand for Chinese renminbi as a hedging currency has become one of the drivers behind the development of the domestic Chinese renminbi market.

The transformation of the foreign exchange market led to an increase in the value of funds placed by banks in friendly states, and a rise in the proportion of their foreign exchange liquidity in 'non-toxic' currencies. The Bank of Russia started conducting its operations, including those involving the use of the NWF funds, in Chinese renminbi.

1.3. Ruble liquidity

In the event that materialisation of liquidity risk leads to a potential halt in payments, the Bank of Russia's monetary policy operational procedure serves as the first line of support to mitigate the crisis in the banking sector. The Bank of Russia's system of monetary policy instruments and timely decisions allowed it to successfully manage liquidity crises in 2008–2009, 2014–2015, and spring 2022. The crises occurred during periods with varying liquidity conditions: in 2014–2015, the banking sector operated under a structural liquidity deficit, while before the crises

[31] Clearing members that placed rubles were forced to pay for raising US dollars and euros. Previously, under normal conditions, these transactions were profitable due to the difference in interest rates between the Bank of Russia and foreign central banks.

in 2008–2009 and 2022, the sector saw a structural surplus.[32] The spring 2020 crisis primarily affected other economic sectors, with banks experiencing no significant liquidity problems. The effectiveness of the Bank of Russia's liquidity support measures is primarily based on experiences from 2014–2015 and 2022.

Liquidity risk in the banking sector materialises very quickly and can lead to a halt in payments, inability to settle transactions, and consequently, widespread disruptions in financial markets. Therefore, the acute phase of the liquidity crisis is brief,[33] yet it demands swift intervention by the Bank of Russia to prevent defaults of credit institutions and suspension of payments, and curb the spread of the crisis throughout the financial sector.

Despite their different natures, crisis phenomena generally have a similar impact on the liquidity of the banking sector. Amid increasing uncertainty, households tend to convert a portion of their savings into cash. The Federal Treasury and financial authorities of the Russian Federation's constituent entities may also reduce the value of funds placed with banks, including in order to implement support measures for the economy. This leads to a liquidity outflow from banks. Simultaneously, an increase in customer account turnovers may also boost banks' demand for liquidity. As money market activity declines, banks close transaction limits and reduce maturity of transactions, diminishing the ability to redistribute liquidity among market participants. Asset prices drop, reducing banks' refinancing potential and their ability to use assets as collateral in secured transactions.

During a liquidity crisis, the primary task of the Bank of Russia is to provide banks with funds required to make payments and meet obligations to counterparties. Thus, the Bank of Russia's measures to support bank liquidity can be categorised as follows: 1) raising the key rate to stabilise inflation and devaluation expectations; 2) expanding banks' refinancing capabilities; 3) modifying the parameters of existing and introducing new monetary policy instruments. These strategies are interconnected and align with other efforts of the Bank of Russia aimed at resolving the crisis.

1. Factors contributing to liquidity deficit and the Bank of Russia's interest rate policy measures

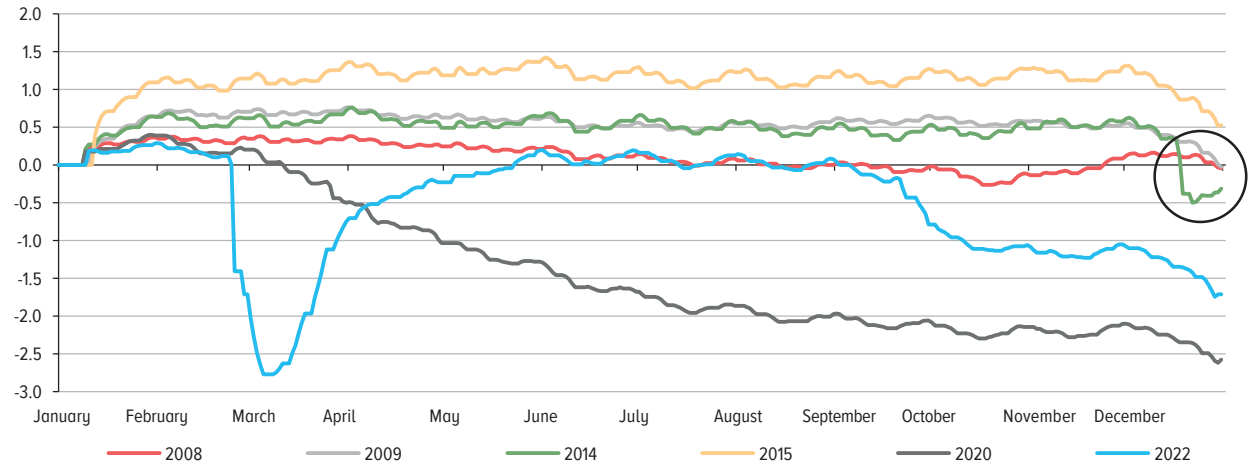
In 2008 and 2014, the liquidity outflow from the banking sector was mainly driven by the Bank of Russia's foreign exchange interventions (see Section 1). After the end of 2014, when the Bank of Russia adopted a floating exchange rate, the impact of its operations in the domestic foreign exchange market on the banking sector liquidity significantly decreased.

In 2014, the increase in cash circulation was a key factor in the liquidity outflow. SMS alerts about an alleged cash shortage in certain banks triggered panic and withdrawal of some ruble savings. From 18 December to 22 December 2014, the value of cash outside the Bank of Russia increased by RUB 0.8 trillion (Chart 2.20). However, by the last ten days of December, cash began to flow back into the banking system. Following the key rate hike to 17% per annum on 16 December 2014, banks raised their deposit rates, prompting households to redeposit their withdrawn funds. Moreover, amid heightened inflation and devaluation expectations, households

[32] Hereinafter, the structural deficit/surplus, excluding correspondent accounts, is defined as the difference between the Bank of Russia's claims on banks for refinancing operations and the Bank of Russia's liabilities to banks for liquidity-absorbing operations. Structural liquidity deficit indicates a consistent need of the banking sector to secure funding from the Bank of Russia. Structural liquidity surplus indicates that banks have excess funds beyond what is needed for settling payments and meeting reserve requirements.

[33] Hereinafter, the study identifies the following acute crisis phases: 10 December 2014 – 1 January 2015; 11 March – 1 April 2020; 24 February – 1 April 2022.

IMPACT OF CASH ON LIQUIDITY (DECREASE IN CIRCULATION, LIQUIDITY INFLOW (+)/INCREASE IN CIRCULATION, LIQUIDITY OUTFLOW (-), ACCUMULATED SINCE THE BEGINNING OF THE YEAR) *Chart 2.20*
(RUB TRILLION)



Source: Bank of Russia.

began purchasing more imported durable goods. This led to an increase in banks' collection of revenue from merchants. Nevertheless, the maximum cumulative reduction in household deposits from 1 November to 25 December 2014 amounted to 5.1% adjusted for exchange rate revaluation.

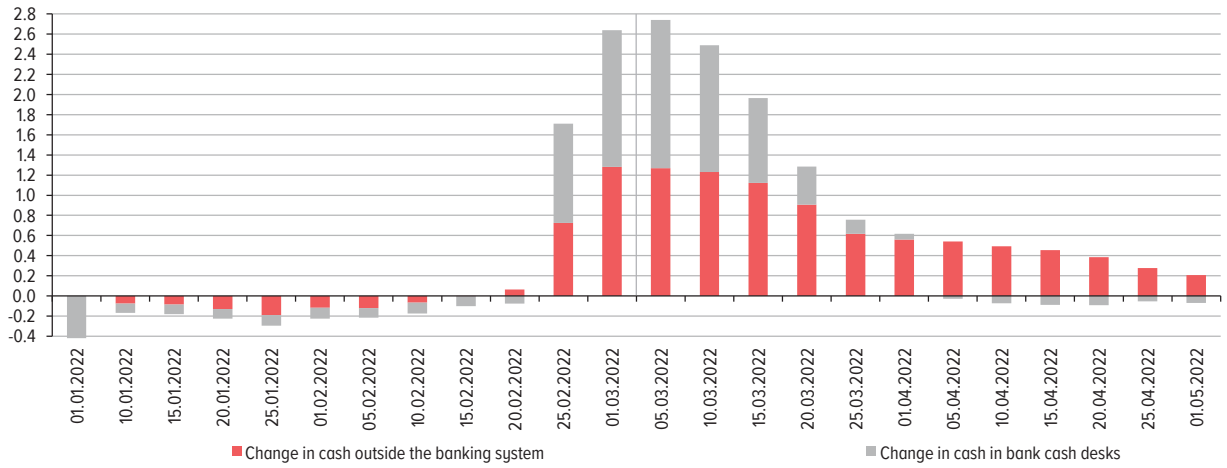
The withdrawal of cash by households led to a deterioration of the banks' liquidity situation and an increase in interest rates in the money market. The situation in 2014–2015 was exacerbated by the banking sector's structural liquidity deficit, with a significant portion of bank collateral already engaged in operations of the Bank of Russia.

Raising the key rate to 17% per annum and maintaining it at this level until 1 February 2015 (for 47 days) helped to stabilise the inflation expectations of the public and facilitated the inflow of household deposits. As a result, by Q1 2015, the outflow of household deposits shifted to an inflow, predominantly into ruble deposits (their growth rate increased from -2.6% to +6.2% YoY from 1 January to 1 May 2015). The inflow of household deposits was also encouraged by the enactment of a law that raised the maximum insurance compensation for bank deposits from RUB 0.7 million to RUB 1.4 million.

In 2020, the outflow of liquidity from the banking sector was also driven by increased demand for cash: households withdrew funds from their bank accounts to replenish their cash reserves for transactions during the lockdowns. In March, due to uncertainties regarding customer payments, banks temporarily increased the funds in their correspondent accounts with the Bank of Russia. However, by the end of the March averaging period, the value of correspondent accounts dropped, so overall, there was no overhang of correspondent accounts over required reserves. Unlike in 2014, the banking sector was in a state of structural liquidity surplus: from January to May 2020, the structural liquidity surplus of the sector was approximately halved, decreasing by RUB 1.3 trillion.

Although generally moderate, the outflow of liquidity was unevenly distributed among credit institutions. An additional outflow from several banks was driven by their payment of margin fees for operations with centralised clearing. The increase in margin fees was associated with the growing volatility of financial markets and tighter requirements of the central counterparty for the formation of clearing collateral deposits. At the same time, the growth of margin fees occurred as a result of an increase in the ruble value of positions on operations in the foreign exchange market due to the weakening of the ruble. As a result, despite the ongoing structural liquidity surplus, some banks needed to obtain funds from the Bank of Russia.

CHANGE IN VALUE OF CASH OUTSIDE THE BANK OF RUSSIA (ACCUMULATED TOTAL SINCE THE BEGINNING OF THE YEAR) *Chart 2.21*
(RUB TRILLION)



Source: Change in the value of cash in circulation (outside the Bank of Russia), operational reporting data from credit institutions according to Form 0409301.

In 2022, increased uncertainty led to heightened household demand for cash to safeguard their savings. It was accompanied by a surge in demand in the consumer market. Additionally, the accelerated withdrawal of deposits was prompted by a certain part of the population leaving Russia, including due to the exit of some foreign companies from the country. In March, the accumulated increase in cash outside the Bank of Russia reached approximately RUB 3 trillion. About half of the increase in cash outside the Bank of Russia was attributed to the balances of bank cash desks (Chart 2.21): banks accumulated cash reserves to quickly disburse them to customers as needed.

In late February – March 2022, the situation with depositor flight resembled that of December 2014 due to sharply rising devaluation and inflation expectations. High uncertainty amid extensive sanctions led to a surge in market volatility, accompanied by increased demand for cash rubles. Amid an outflow of liquidity due to growing household demand for cash, significant end-of-month tax payments, and reduced fund placements in banks by the Federal Treasury, the banking sector shifted to a structural liquidity deficit, exacerbating the situation in the money market.

To maintain financial and price stability and protect households' savings from devaluation, on 28 February 2022, the Bank of Russia raised the key rate from 9.5% to 20% per annum. The drastic tightening of the monetary policy lowered inflation expectations and resulted in higher bank deposit rates. The rise in interest rates made bank deposits an appealing component of household savings, leading to a growth in savings and deposits, as well as a reallocation of funds from the stock market to deposits as a more stable option. With the reduced household demand for cash, banks quickly lowered their cash reserves to pre-crisis levels, facilitating a liquidity inflow to their correspondent accounts.

The stabilisation of household deposit dynamics, increased savings tendencies due to overall macroeconomic uncertainty, and signs of reduced pro-inflationary risks enabled the Bank of Russia to begin lowering the key rate on 11 April 2022. Consequently, the key rate was maintained at its peak for 42 calendar days, comparable to the duration of the peak key rate period in 2014. By June 2022, the key rate returned to its pre-crisis level.

The return of funds to the banking sector was slightly less dynamic compared to the corresponding period in 2014. Deposits returned to their pre-crisis levels by the summer of 2022. Thus, the full return of deposits to the system took three months during the 2022 crisis,

compared to one month in 2014. By the summer of 2022, cash had fully returned to banks, and the banking sector liquidity was restored to its pre-crisis levels.

2. Measures to expand refinancing (collateral) capacity

In determining the composition of collateral for its operations, the Bank of Russia considers the banks' need for funds and the structure of their assets. The depth of the Russian securities market is insufficient to meet the banks' need for the required liquidity. Therefore, the Bank of Russia also accepts non-marketable assets as collateral for its operations, specifically commercial banks' receivables on issued loans. Refinancing against loan receivables became fully accessible to banks in early 2008.

The Bank of Russia employs a countercyclical approach to managing bank collateral for liquidity-providing operations: it expands the list of assets accepted as collateral when banks' demand for refinancing grows, and tightens the requirements for accepted assets when a stable structural liquidity surplus is established. In conditions of excess liquidity, the Bank of Russia is prepared to provide funds to banks only against the highest-quality assets. This countercyclical approach encourages banks to build up collateral reserves even under favourable conditions when the demand for liquidity is low.

As financial markets developed and approaches to managing collateral for refinancing operations evolved, banks increasingly managed to secure liquidity outflows with standard collateral, such as government and corporate bonds, and receivables on loans issued to the most financially stable borrowers. The scale of banks' refinancing needs relative to assets of the banking sector was comparable in 2008, 2014–2015, and 2022. While in 2008, the Bank of Russia had to provide unsecured loans, in 2022, loans were offered only against high-quality collateral despite eased requirements for accepted assets.

During the 2008 crisis, the Bank of Russia eased collateral requirements by increasing adjustment ratios, reducing discounts, lowering the required credit rating for issuers/securities to be included in the Lombard List, and broadened the range of activities making entities eligible for receivables on their loans to be accepted as collateral. Additionally, the Lombard List was expanded to include new types of securities (shares of non-financial companies and exchange-traded bonds). Previously, the Bank of Russia allowed banks to use guarantees from other financially stable credit institutions as loan collateral. However, these measures proved insufficient, and in 2008–2010, the Bank of Russia had to issue unsecured loans to banks (see Chart 2.24).

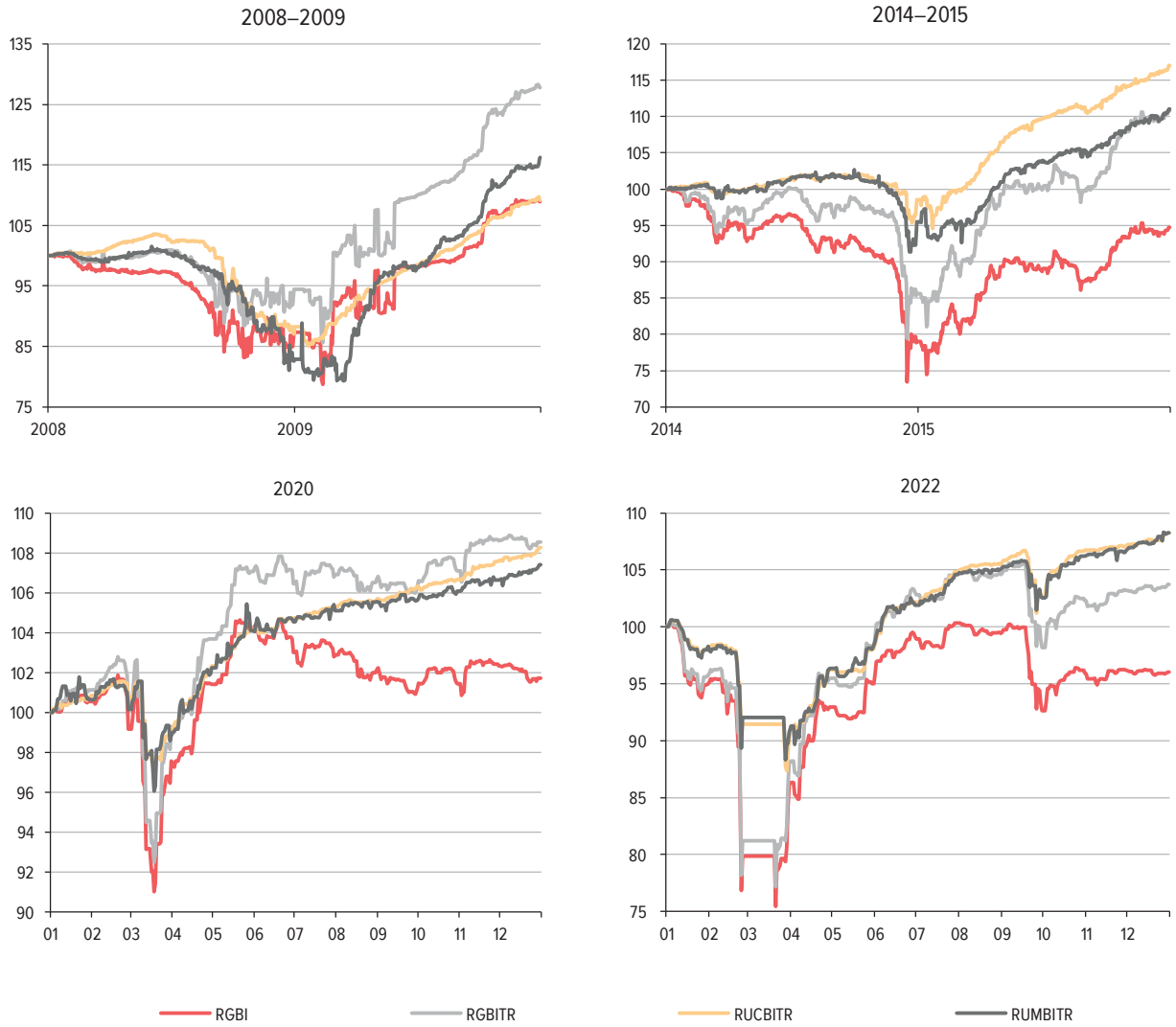
In 2010–2011, following a return to a structural liquidity surplus, the Bank of Russia rolled back some of its anti-crisis measures. However, as the structural deficit began to grow in 2013–2014, the Bank of Russia was compelled to ease its collateral requirements. By December 2014, over half of banks' market collateral was engaged in the Bank of Russia's ruble repo transactions. Additionally, the situation in 2014 was exacerbated by the diversion of some collateral to operations aimed at attracting foreign exchange liquidity, such as repos and loans. FX swaps providing foreign currency reduced the ruble liquidity level in the banking sector (see Section 1.2). Although the 2014 crisis did not necessitate unsecured liquidity provision, a collateral shortage at some banks led to significantly higher rates on unsecured transactions, including interbank loans and short-term corporate deposits (see Subsection 4 of Section 1.3).

After 2014, the Bank of Russia updated its collateral management approaches for refinancing operations. The Bank of Russia started focusing more on analysing overall collateral adequacy in the banking sector, its distribution among banks, and its alignment with banks' payment patterns. The decrease in structural liquidity deficit and the subsequent shift to a surplus enabled the

Bank of Russia to standardise the collateral requirements for its operations. Specifically, the Bank of Russia stopped including bank shares and bonds in the Lombard List and ceased providing loans secured by credit institution guarantees. The Bank of Russia also significantly rebuilt the process for including non-marketable assets in collateral, making it clearer, quicker, and more technologically advanced.

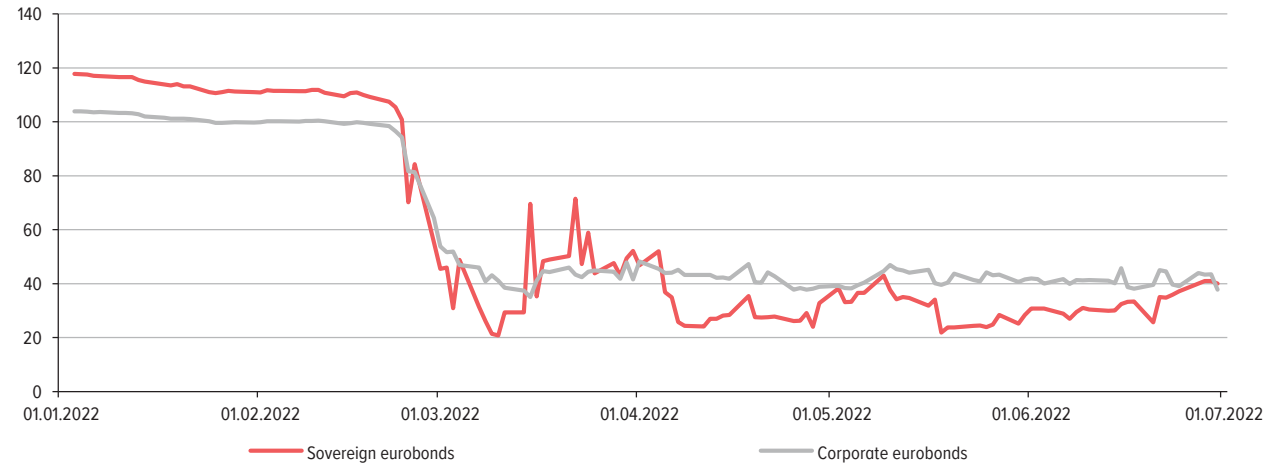
In 2022, the liquidity outflow was unprecedented in both magnitude and speed: the peak outstanding amount on refinancing operations surpassed 8% of the banking sector's assets. Nevertheless, there were no such collateral-related challenges as in previous years, primarily due to the expansion of the Russian debt market. Like in past crises, the Bank of Russia eased its collateral requirements. The Bank of Russia expanded its Lombard List and the range of activities making entities eligible for receivables on their loans to be accepted as collateral, and increased the adjustment ratios for qualifying non-marketable assets. Moreover, the Bank of Russia introduced a new measure, fixing the value of securities serving as collateral for refinancing operations.

COMPOSITE BOND INDICES ON THE MOSCOW EXCHANGE *Chart 2.22*
(% TO THE BEGINNING OF THE YEAR)



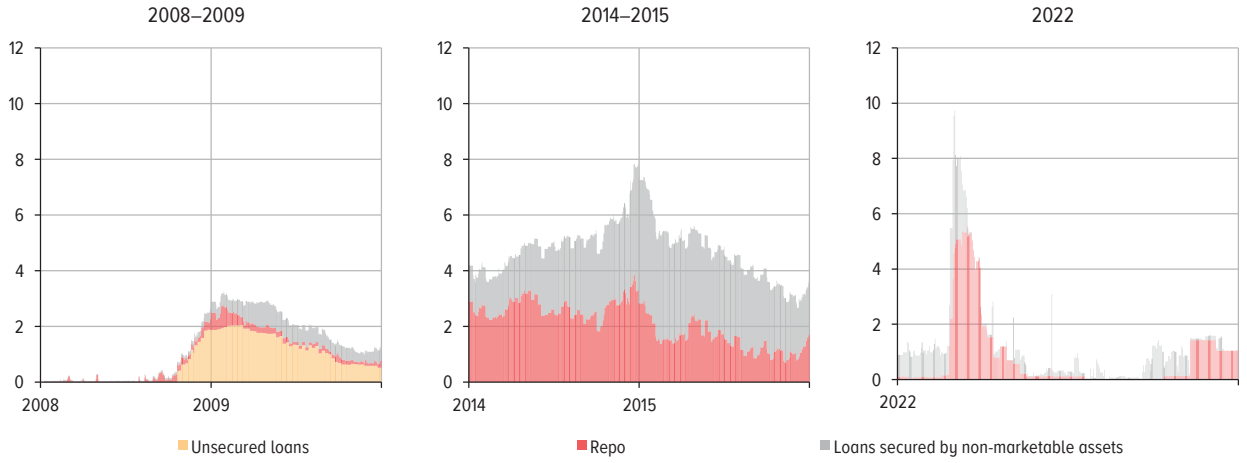
Source: Cbonds.

CBONDS ESTIMATION INDICATIVE QUOTES FOR EUROBONDS IN THE BANK OF RUSSIA LOMBARD LIST AS OF 24 FEBRUARY 2022, IN H1 2022 *Chart 2.23*
(% OF NOMINAL VALUE)



Source: Cbonds, Bank of Russia calculations.

COLLATERAL STRUCTURE FOR THE BANK OF RUSSIA'S LIQUIDITY-PROVIDING OPERATIONS *Chart 2.24*
(RUB TRILLION)



Source: Bank of Russia.

During all crisis periods under study, asset prices on stock exchanges declined, leading to a decrease in the liquidity banks could generate from these assets. Composite bond indices on the Moscow Exchange dropped by more than 20% during the 2014–2015 and 2022 crises (see Chart 2.22). This issue was particularly severe in spring 2022. During this time, eurobonds traded on international markets showed the most significant price downturn (over 50% of their nominal value) (see Chart 2.23). Thus, in 2022, the Bank of Russia temporarily provided liquidity based on the pre-crisis[34] asset prices.

A key lesson from the 2022 crisis was the need for a more adaptable approach to forming collateral for refinancing operations. Liquidity can drain very quickly, potentially preventing the Central Bank and credit institutions from expanding collateral in time.

With this experience in mind, in autumn 2023, the Bank of Russia restructured its liquidity-providing operations, dividing them into main and additional facilities and adjusting the

[34] Press release of the Bank of Russia, dated 28 February 2022.

parameters of existing operations.[35] In these new mechanisms, the Bank of Russia continues to apply a countercyclical approach to collateral, with differing requirements and interest rates used under the mechanisms. Under the main facility, the Bank of Russia accepts only the highest credit quality assets as collateral, while all other approved assets are used for the additional facility. The Bank of Russia can also swiftly revise the distinction between collateral for the main and additional liquidity facilities as needed. Even if the Bank of Russia reduces the collateral under the main facility as part of its countercyclical strategy, the overall liquidity available to banks remains unchanged. The overall collateral pool remains broad, only the borrowing costs for specific assets vary. This strategy will mitigate liquidity risks for credit institutions associated with lacking collateral for transactions with the Bank of Russia.

3. Monetary policy instruments of the Bank of Russia

Funds outflow from the banking sector leads to corresponding adjustments in the limits of Bank of Russia auctions (either increasing liquidity provision or reducing liquidity absorption). The magnitude of the structural deficit or surplus dictates the general direction and value of the Bank of Russia's operations. In times of crisis, the nature of banks' transactions with the Bank of Russia also shifts. Even participants with available funds might hesitate to invest them in the money market (see Subsection 4 of this section). In such cases, the Bank of Russia has to replace market intermediation with its own operations, simultaneously providing and absorbing liquidity across different credit institutions. During crises, banks find it harder to predict customer payments and assess their ability to secure funds on the money market. As a result, they are less inclined to participate in the Bank of Russia's auctions, even if they have to resort to less profitable standing facilities.[36] Therefore, standing facilities can act as indicators of crisis phenomena within the banking sector.[37]

AVERAGE DAILY VALUE OF BANK OF RUSSIA'S STANDING FACILITIES, RUB BILLION AND % OF BANKING SECTOR ASSETS *Table 2.5*

Crisis	2014–2015			2020			2022		
Period	**Before**	**Acute phase**	**After**	**Before**	**Acute phase**	**After**	**Before**	**Acute phase**	**After**
Start of period	01.11.2014	10.12.2014	02.01.2015	12.02.2020	11.03.2020	02.04.2020	09.02.2022	24.02.2022	02.04.2022
End of period	09.12.2014	01.01.2015	31.01.2015	10.03.2020	01.04.2020	12.05.2020	23.02.2022	01.04.2022	17.05.2022
Provision	668	1,530	1,874	5	83	17	1,035	1,735	310
	1.0%	2.2%	3.3%	< 0.1%	0.1%	< 0.1%	0.8%	1.3%	0.2%
Absorption	137	311	565	148	181	219	155	2,285	2,895
	0.2%	0.5%	1.0%	0.2%	0.2%	0.4%	0.1%	1.7%	2.3%
Balance ('+' – provision)	530	1,219	1,310	-143	-99	-203	880	-550	-2,585
	0.8%	1.8%	2.3%	-0.2%	-0.1%	-0.3%	0.7%	-0.4%	-2.1%
Amount	805	1,841	2,439	153	264	236	1,189	4,019	3,206
	1.2%	2.7%	4.3%	0.2%	0.3%	0.4%	0.9%	2.9%	2.6%

Note. The value of the Bank of Russia's liquidity-providing operations in 2014–2015 is estimated based on the assumption that banks prioritised repaying more expensive standing lending facilities. The value of banking sector assets was determined on the reporting date closest to the period under review.
Source: Bank of Russia.

During the periods under study, the liquidity situation and the structure of Bank of Russia operations varied. In 2014–2015, the banking sector faced a structural deficit: repo transactions

[35] Press release of the Bank of Russia, dated 11 May 2023.

[36] The Bank of Russia holds liquidity auctions at rates close to the key rate, whereas the rates for standing facilities for providing and absorbing liquidity are adjusted by 1 pp above or below the key rate.

[37] Exceptions are possible, for instance, banks may use standing facilities to enhance regulatory ratios, or the money market's ability to redistribute liquidity might be constrained by structural factors.

were predominant, and banks also secured substantial liquidity through loan auctions. Meanwhile, the value of standing deposit facilities remained low. The high value of standing facilities in December 2014 was driven by several factors. At that time, short-term liquidity management operations were conducted through repo auctions. Loan auctions against non-marketable collateral were held for one-month periods according to a pre-approved schedule (at the end of December 2014, the Bank of Russia also held a credit auction for a 21-day period). The operational characteristics of the instrument made short-term loan auctions challenging. Additionally, as previously mentioned, the availability of market collateral for banks was restricted. Standing lending facilities were the sole option available for banks to obtain liquidity backed by non-marketable collateral.

The increased demand for standing facilities in late 2014 was also driven by the Bank of Russia providing liquidity in a more limited capacity compared to demand under the managed floating ruble exchange rate system. This pertained to auction-based liquidity-providing operations. This measure aimed to manage market participants' expectations, amid concerns that the substantial liquidity provided could trigger a rise in devaluation expectations. The Bank of Russia also set a limit on transactions for providing rubles in exchange for US dollars, which was later expanded in December 2014 as market rates began to surpass the upper bound of the interest rate corridor.

Following the acute crisis phase, the debt from standing lending facilities persisted for a while. Banks gradually repaid their debts to the Bank of Russia or substituted standing lending facilities with loan auctions. The 2015 liquidity inflow helped to significantly reduce the debt under the Bank of Russia's operations and facilitated the release of collateral.

In spring 2020, the banking sector was in a state of stable structural surplus. One-week deposit auctions continued to serve as primary operations. Nevertheless, substantial interbank fund transfers led to increased liquidity demand of some financial institutions, which they could not offset through short-term market operations. To prevent an increase in money market rate volatility, the Bank of Russia held fine-tuning repo auctions in March and April. In May 2020, the Bank of Russia also initiated one-year and one-month long repo auctions. This instrument was not introduced as an immediate anti-crisis measure, and initially, the demand of banks for such operations remained low. However, in subsequent years, significant changes in the liquidity conditions of the banking sector or individual banks necessitated both raising and placing substantial funds at the Bank of Russia. Through one-month and one-year auctions, the Bank of Russia addressed a significant portion of the liquidity demand that the money market was unable to meet.

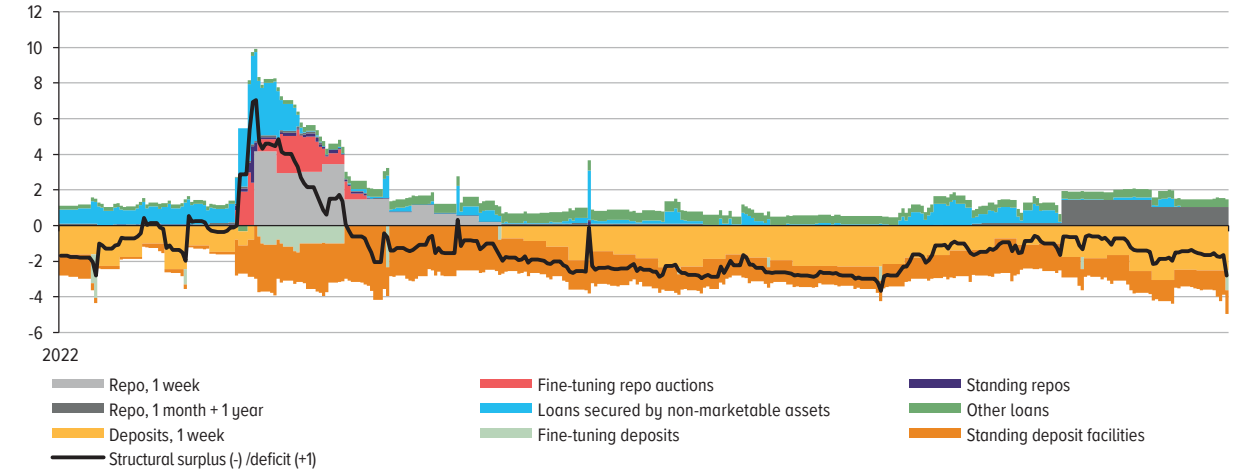
The situation in spring 2022 was marked by rapid and large-scale liquidity outflows from the banking sector, along with significant market structure realignment and reduced activity of a number of major players. At the onset of the crisis, there was an unprecedented surge in demand for both liquidity-providing and liquidity-absorbing operations (Chart 2.25).

The Bank of Russia started holding regular fine-tuning auctions for both absorbing and providing funds. At these auctions, the limits intentionally exceeded banks' needs for raising or placing funds, with two fine-tuning repo auctions on 28 February and 1 March 2022 held on an unlimited basis without a cap on the amount of funds raised. This enabled banks to raise and place funds at the key rate for short periods after the unsecured money market became significantly less efficient at redistributing liquidity.

In spring 2022, the Bank of Russia also adjusted the parameters of its instruments to lessen the operational burden on banks.[38] Interest rates on long-term loans secured by non-marketable

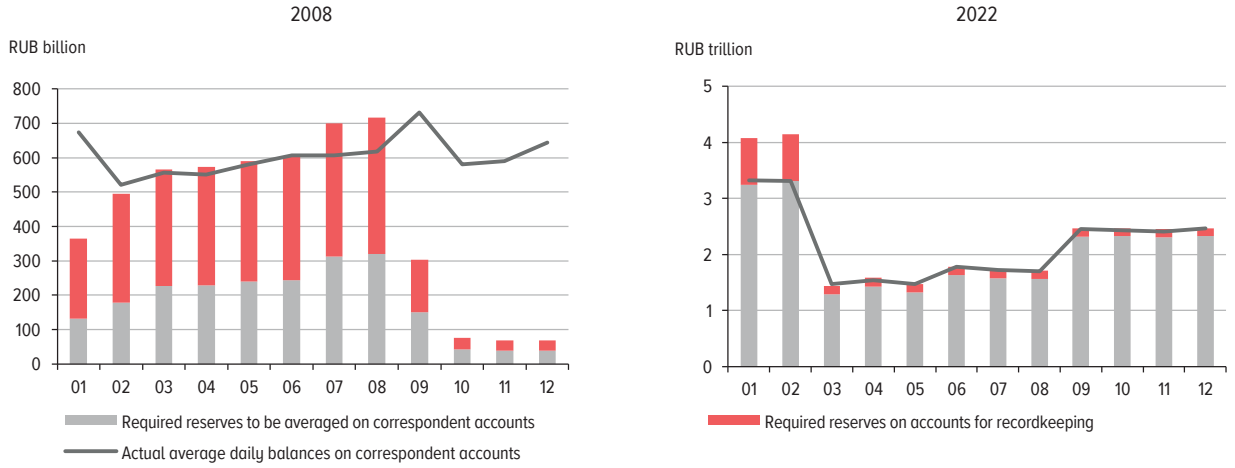
[38] Bank of Russia measures to stabilise the financial market amid sanction risks (in Russian only).

STRUCTURE OF BANK OF RUSSIA OPERATIONS IN 2022 *Chart 2.25*
(RUB TRILLION)



Note. Other loans include overnight, Lombard loans, and special refinancing mechanisms.
Source: Bank of Russia.

VALUE OF REQUIRED RESERVES BY AVERAGING PERIODS *Chart 2.26*



Note. The horizontal axes indicate the months when the respective averaging periods start.
Source: Bank of Russia.

assets were lowered to the levels of standing facilities rates, and the maturity of Lombard loans was extended to 90 days. This allowed banks to secure loans against non-marketable assets or securities without the need for daily renewals. Individual limits for secured loans and repo transactions were also raised.

Reduced required reserve ratios could also serve as a liquidity-providing instrument (utilised as an anti-crisis measure in spring 2022 and previously in 2008). In 2022, to quickly release liquidity with minimal operational costs, the Bank of Russia cancelled the penalty for failing to meet the averaging requirements for required reserves for the February period of required reserves averaging from 9 February to 8 March 2022,[39] resulting in a 20% reduction in required reserves on correspondent accounts the following day, thus instantly releasing liquidity.

[39] During the period of required reserves averaging from 9 February to 8 March 2022, no penalty was applied if the non-compliance with required reserves averaging did not exceed 20% of the amount to be maintained on the correspondent accounts (sub-accounts) in that period. Press release of the Bank of Russia, dated 2 March 2022.

Starting from the March averaging period, the Bank of Russia reduced the required reserve ratios for all types of regulated liabilities to 2% and increased the averaging ratio to 0.9.[40] As a result, the amount of required reserves to be averaged on correspondent accounts decreased by RUB 2 trillion. The banking sector also received RUB 0.7 trillion of required reserves released from their accounts.

However, the overall effectiveness of this measure is limited: reducing required reserves cannot provide banks with more funds than they hold in their Central Bank accounts. In practice, even less liquidity is released as banks require funds for payments and settlements. Thus, to a lesser extent in 2022 (and particularly in 2008), banks' correspondent accounts decreased less than the required reserves after the reduction of the required reserve ratios (Chart 2.26). For these reasons, in 2014, the Bank of Russia did not lower the required reserve ratios.

The Central Bank's communication plays a vital role in maintaining market confidence. In 2020 and 2022, the Bank of Russia supported all its monetary policy instrument actions with regular press releases and communications. This enhanced the predictability of the Bank of Russia's actions and ensured market confidence in its decisions, further aiding banks in managing liquidity. Market communication helped alleviate banks' concerns about restricted access to refinancing operations, resulting in no excessive demand for liquidity-providing operations even during the acute phase of the crisis.

4. Effectiveness of the monetary policy operational procedure and measures to support the money market

The Bank of Russia assesses the money market situation to analyse the effectiveness of the monetary policy operational procedure, a key feature of which is its resilience during a crisis. The interbank money market fulfills two crucial roles in the financial system: redistributing liquidity among banks and signalling the monetary policy stance to the economy. Key indicators of the effectiveness of the Central Bank's anti-crisis measures for liquidity support include sustained money market activity during and after the shock and continued control over the monetary policy's operational benchmark (RUONIA[41] for the Bank of Russia).

In 2008–2009, the Bank of Russia's liquidity-providing and refinancing capacity expansion measures contained the liquidity crisis and its economic impact. Nevertheless, the repo market experienced payment defaults, and the unsecured lending market significantly slowed down. Even the compensated transactions mechanism, where the Bank of Russia committed to covering some of the losses on interbank loans in case of borrower default, could not sustain market activity. Following the end of the acute phase of the 2008–2009 crisis, the Ministry of Finance started actively using the Reserve Fund's resources, leading the banking sector into a structural liquidity surplus. At that time, the Bank of Russia's operational procedure was essentially a system with a key lower bound. This operational procedure implies that the Central Bank does not actively manage liquidity, with money market rates hovering near the rates for standing deposit facilities or correspondent accounts, and banks showing no interest in money market transactions. Only after returning to a structural deficit in 2012, the Bank of Russia succeeded in tightening control over the rates within the interest rate corridor and fostered the development of the money market.

[40] Applicable to universal licence-holder and basic licence-holder banks. The new ratios were applied starting with the regulation of reserves for February 2022. Press release of the Bank of Russia, dated 2 March 2022.

[41] Ruble Overnight Index Average (RUONIA) is a weighted interest rate for overnight interbank loans (deposits) in rubles, reflecting the estimated cost of unsecured overnight borrowing.

A crucial lesson learned from the 2008 crisis was that without a robust and effective monetary policy operational procedure, anti-crisis measures alone are unable to adequately support market operations. During subsequent crisis periods, the money market continued to operate, except for a few days in 2014. The Bank of Russia maintained control over the rates.

During a crisis, demand for liquidity in the money market grows amid rising uncertainty about future payment needs. Consequently, market rates surge, and their volatility increases. In the 2014–2015 crisis, the volatility[42] of the spread between the rates of unsecured interbank lending and the Bank of Russia's key rate exceeded 300 bp. In spring 2020, there was no significant increase in rates, while the volatility during the spring 2022 crisis was just over 50 bp, partly due to timely actions of the Bank of Russia.

MARKET ACTIVITY INDICATORS IN OVERNIGHT RUBLE IBL SEGMENT *Table 2.6*

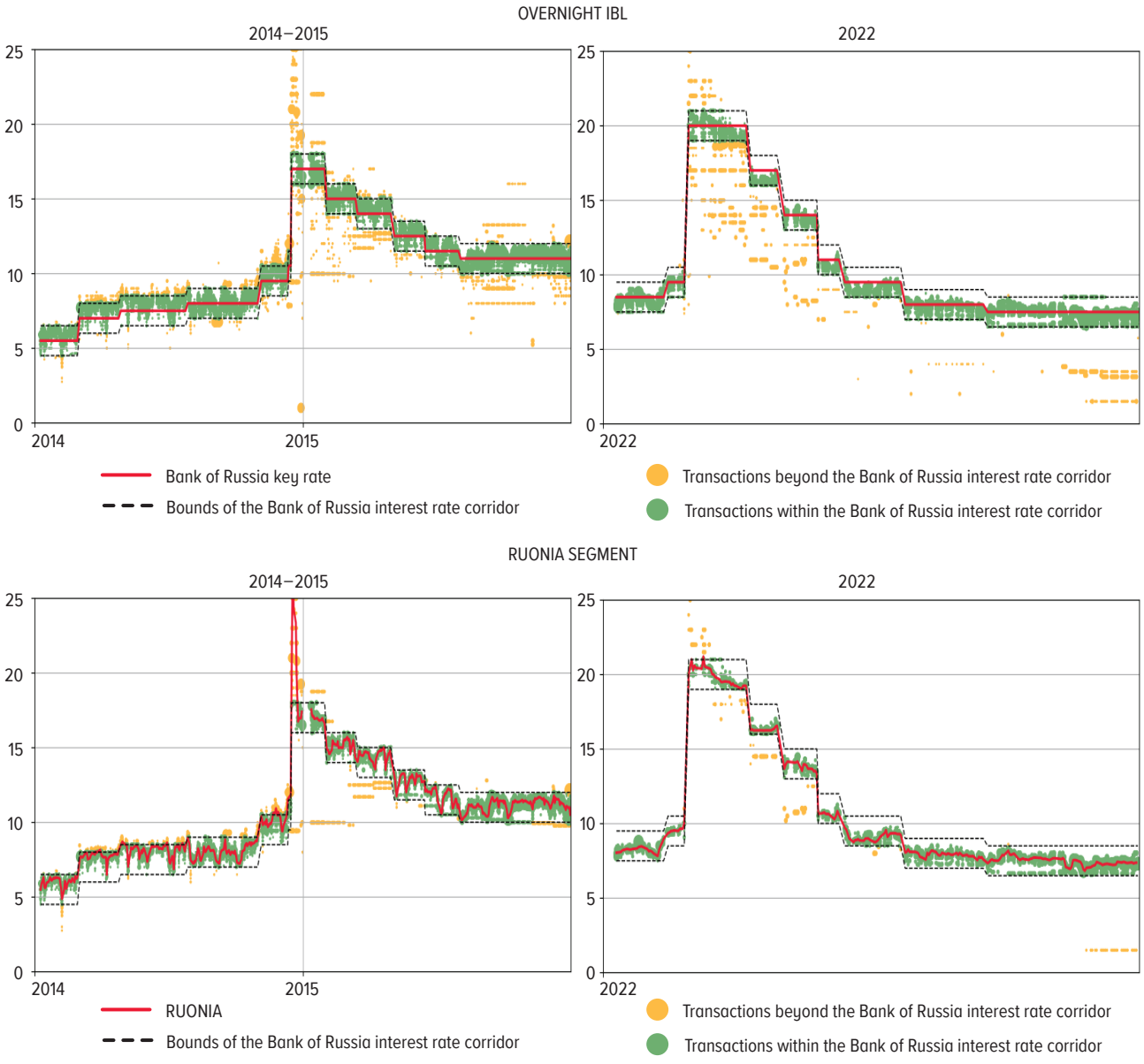
Crisis	2014–2015			2020			2022		
Period	**Before**	**Acute phase**	**After**	**Before**	**Acute phase**	**After**	**Before**	**Acute phase**	**After**
Start of period	**01.11.2014**	**10.12.2014**	**02.01.2015**	**12.02.2020**	**11.03.2020**	**02.04.2020**	**09.02.2022**	**24.02.2022**	**02.04.2022**
End of period	**09.12.2014**	**01.01.2015**	**31.01.2015**	**10.03.2020**	**01.04.2020**	**12.05.2020**	**23.02.2022**	**01.04.2022**	**17.05.2022**
Volatility of the RUONIA spread to the key rate, bp	39	340	21	12	28	18	17	55	35
Volatility of the IBL rate spread to the key rate, bp	39	320	39	10	26	18	15	57	35
Value of RUONIA transactions above the interest rate corridor, in RUB billion and in % of turnover	26	175	2	0	0	0	0	7	0
	12%	61%	1%	0%	0%	0%	0%	5%	0%
Value of IBL transactions above the interest rate corridor bound, in RUB billion and in % of turnover	54	266	8	0	0	0	0	12	0
	12%	52%	1%	0%	0%	0%	0%	4%	0%
Number of banks conducting transactions in the IBL market above the interest rate corridor bound, units and % of active participants	25	40	5	0	0	0	0	1	0
	27%	58%	7%	6%	0%	0%	0%	6%	0%
Average daily turnover of RUONIA, RUB billion	227	287	211	124	198	168	203	127	142
Average daily turnover of the IBL market, RUB billion	460	513	587	288	341	304	361	321	305
Number of active participants in the RUONIA segment, both lenders and borrowers, units	18	16	15	14	13	15	15	5	9
	15	12	9	14	12	12	15	4	8
Number of active participants in the IBL market, both lenders and borrowers, units	267	202	231	116	99	101	94	42	49
	93	69	65	37	32	31	35	23	20

Source: Bank of Russia.

Standing refinancing facilities restrict the volatility of market rates within the interest rate corridor. However, during crises, market rates may surpass the upper bound of the corridor, potentially due to banks lacking collateral for obtaining liquidity from the Bank of Russia. In 2014, a sharp spike in

[42] Standard deviation for the indicated period.

RATES FOR OVERNIGHT RUBLE IBL TRANSACTIONS BETWEEN RESIDENT BANKS IN 2014–2015 AND 2022 *Chart 2.27*
(% P. A.)



Source: Bank of Russia.

rates was triggered by a collateral shortage, while in 2022, IBL rates rarely exceeded the corridor bounds.

During the 2014–2015 crisis, the value of unsecured overnight IBL operations at rates above the interest rate corridor upper bound exceeded RUB 250 billion, accounting for more than half of the average daily turnover. High-rate transactions also occurred in the RUONIA segment, averaging RUB 175 billion per day, or 61% of turnover. This reflects the fact that even the largest banks lacked collateral to obtain liquidity from the Bank of Russia. During this time, brokers faced an even more severe liquidity shortage and growing rates for raising funds (see Box 2).

During the spring 2022 crisis, the value of high-rate transactions did not exceed RUB 15 billion and accounted for less than 5% of turnover. During the acute phase of the 2020 crisis, there were no transactions at rates exceeding the upper bound of the interest rate corridor. The number of

Box 2. Interdealer repo in December 2014

In 2014, with borrower limits closed, the money market experienced issues involving brokerage companies amid a general decline in ruble liquidity and rising interest rates. To attract funds, brokers utilised the interdealer repo market, where transactions were conducted without a central counterparty and involved borrower limits. For brokers, rates in the interdealer repo market at times exceeded 29% per annum, while the key rate stood at 17%.

Amid rising market risk rates and heightened market volatility, margin calls for participants to provide additional collateral increased. Brokers subsequently passed these additional calls onto their customers, many of which could not promptly provide extra ruble collateral. Consequently, several major banks suspended limits for a substantial number of brokers to mitigate risks. Thus, the broker money market was on the verge of shutting down.

There was a risk that brokers, needing to replenish ruble liquidity, would begin selling off their securities portfolios, potentially causing a systemic impact on the stock market and triggering fire sales by other market participants. According to the Bank of Russia, during that period, the liquidity shortage of brokers amounted to approximately RUB 60–100 billion.

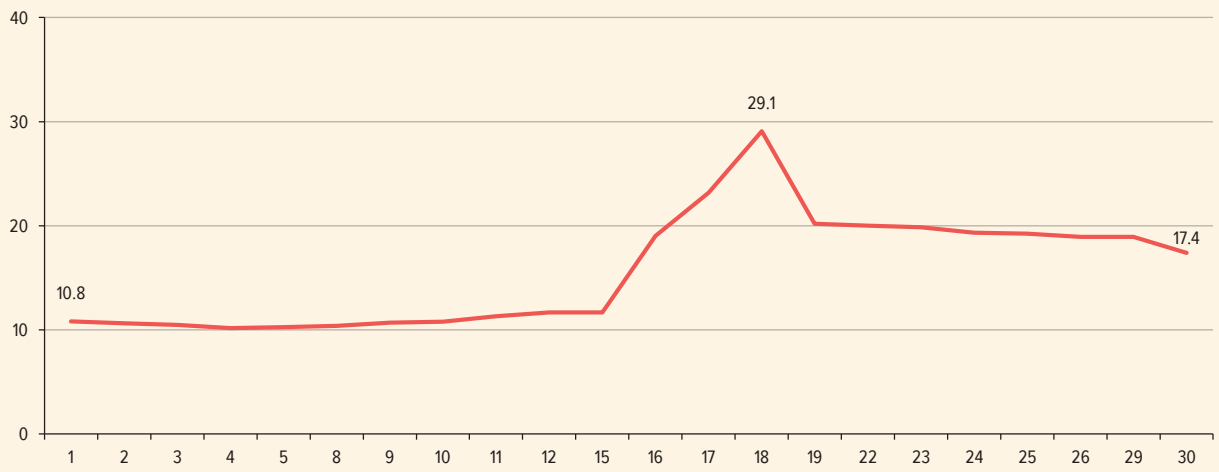
To ensure stable operation of the Russian exchange market and maintain participant confidence in the reliability of centralised clearing and its continuous functioning, the Bank of Russia issued a press release,[1] stating that it would support the central counterparty on the Moscow Exchange as needed.

To address the situation, a mechanism of transactions through the NCC was introduced to enable the largest banks to conduct unsecured transactions, and the NCC to provide liquidity to brokers. The NCC guaranteed that all participants would perform their obligations.

To tackle potential financial market distrust, regulatory amendments[2] were introduced regarding the Bank of Russia's ability to partially compensate credit institutions and central counterparties for losses incurred from transactions with other credit institutions/clearing members that had their licences for the relevant activities revoked. Thus, the Bank of Russia, acting as a lender of last resort, was prepared to ensure that the NCC continued to function should any issues arise. Implementing this approach helped to maintain confidence in the money market and prevented its shut down.

However, the crises have demonstrated that market infrastructure alone may be insufficient to ensure necessary liquidity transmission to brokers. Despite the repo market functioning with the CCP, in 2022, brokers still struggled to access liquidity at favourable rates. Consequently, the Bank of Russia will evaluate the feasibility of providing liquidity (including through repo operations) with NBFIs during crises.

INTERDEALER REPO RATE (BORROWINGS FROM BROKERS AND BANKS) IN DECEMBER 2014 *Chart 2.28*
(%)

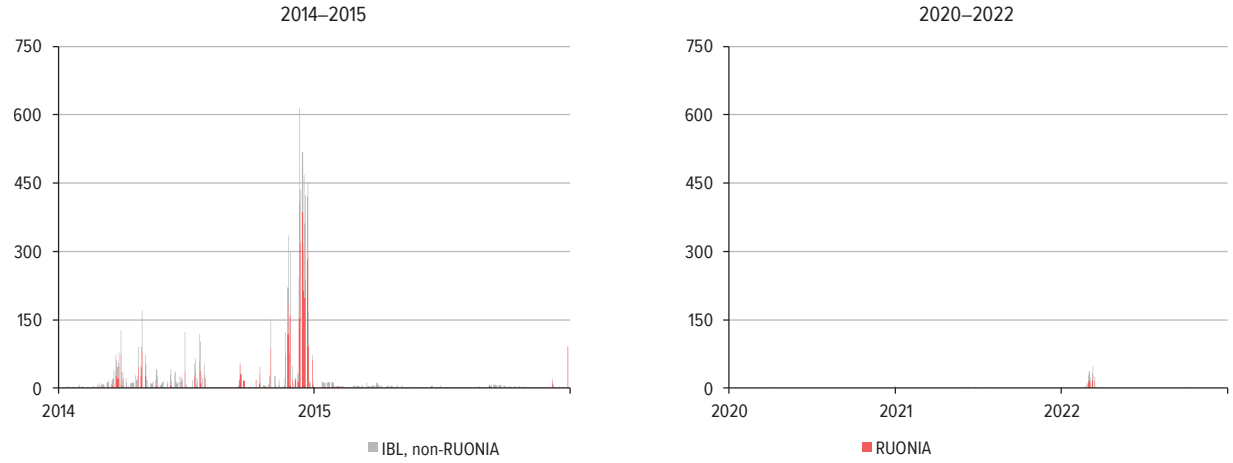


Source: Bank of Russia.

[1] Bank of Russia press release, dated 17 December 2014 (in Russian only).

[2] Federal Law No. 167-FZ, dated 29 June 2015 (in Russian only), 'On Amending Certain Laws of the Russian Federation', including Federal Law No. 86-FZ, dated 10 July 2002 (in Russian only), 'On the Central Bank of the Russian Federation (Bank of Russia)'.

VALUE OF TRANSACTIONS AT RATES EXCEEDING THE UPPER BOUND OF THE BANK OF RUSSIA INTEREST RATE CORRIDOR IN THE OVERNIGHT RUBLE IBL SEGMENT *Chart 2.29*
(RUB BILLION)



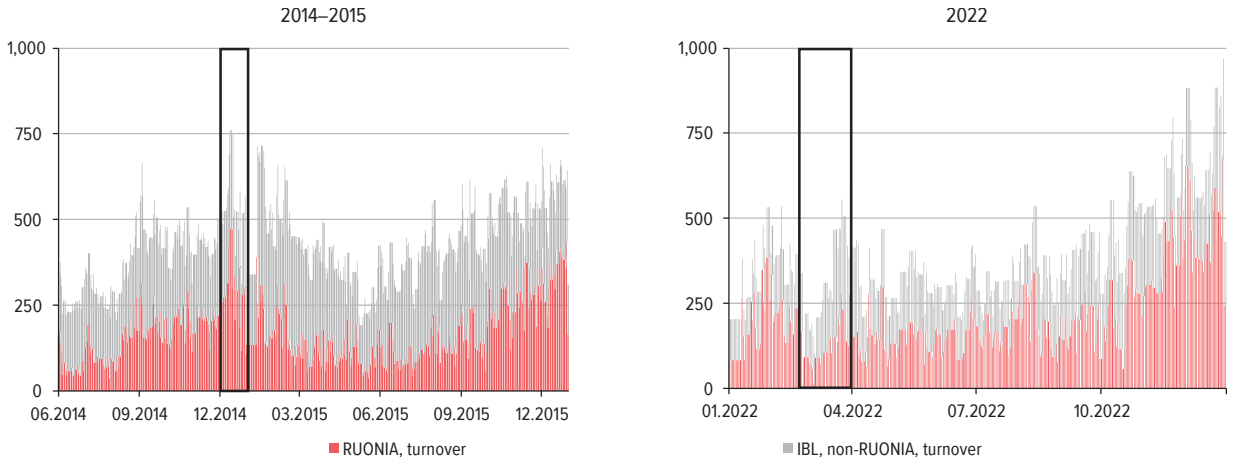
Source: Bank of Russia.

participants obtaining funds at such rates was remarkable. The issue was more prevalent during the 2014–2015 crisis when on average 40 banks (over half of the active participants) had to secure funding in the IBL market at rates exceeding the upper bound of the interest rate corridor. During the spring 2022 crisis, the average number of such banks was 1, with a maximum of 5.

Besides the increase in interest rate volatility, crises also lead to a decline in the activity of banks participating in the money market. They close limits on market operations (primarily in the unsecured segment), reduce the value of funds placed and the maturity of operations. Lender banks are the first to exit the market, yet the demand for funds among most borrower banks either persists or increases. As a result, the effect on the value of operations was mixed: during 2014–2015, the value of operations in the IBL market increased, whereas in spring 2022, it dropped.

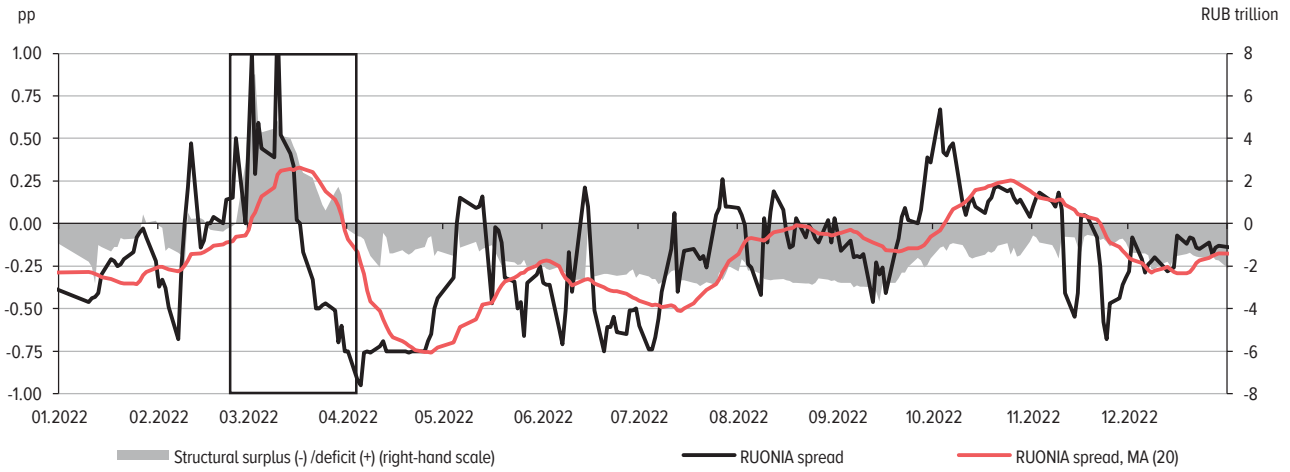
Another crucial aspect of the use of monetary policy instruments is an exit strategy: operations of the Central Bank should not replace market intermediation for an extended period. As the Bank of Russia's monetary policy instruments were refined, such exit became increasingly

VALUE OF TRANSACTIONS IN THE OVERNIGHT RUBLE IBL SEGMENT *Chart 2.30*
(RUB BILLION)



Source: Bank of Russia.

STRUCTURAL LIQUIDITY DEFICIT (+)/SURPLUS (-) AND RUONIA RATE SPREAD TO THE KEY RATE IN 2022 *Chart 2.31*



Note. MA (20) means a 20-day moving average.
Source: Bank of Russia.

swift. In spring 2022, the regulator assisted banks in managing payment shocks through short-term operations of up to one week. Following the adjustment of temporary imbalances, credit institutions' demand for fine-tuning transactions and standing facilities of the Bank of Russia began to decline. Shortly after the acute phase of the crisis, banks were prepared to place funds in the money market again, including in the unsecured segment (Chart 2.30).

After the unprecedented stress in spring 2022, the banking sector returned to a surplus state in just over a month (Chart 2.31). From mid-March, the RUONIA rate spread to the key rate shifted to negative values, indicating a structural liquidity surplus.

1.4. Stock market

During crisis episodes, the primary challenge for the stock market was a sharp rise in market volatility, necessitating increasingly comprehensive anti-crisis measures due to the significance of the stock market and the number of investors growing with each crisis. Non-residents, traditionally the most shock-sensitive category of participants in the Russian financial market, exhibited acute response to changes throughout all crisis episodes. However, the scale and structure of their net sales of Russian assets varied across different crises (Table 2.7).

During the 2008 Great Recession, foreign participants fled from risky assets of emerging markets: the outflow of foreign capital from Russian stocks from 1 July 2008 to 5 February 2009 totalled RUB 317 billion. Due to this outflow and sales by local participants, IMOEX plummeted by 64.5%. During the crisis, as in other periods, the Russian financial market saw an increase in OFZ yields across the entire curve, with 10-year OFZ yields rising by 644 bp.

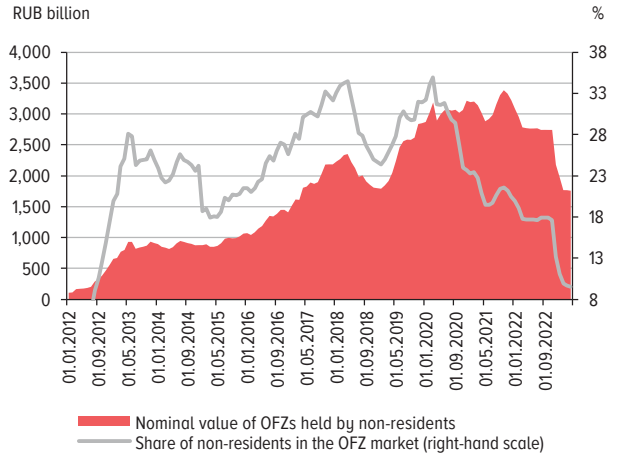
DYNAMICS OF THE RUSSIAN FINANCIAL MARKET DURING EPISODES OF INCREASED VOLATILITY *Table 2.7*

Period		Stock market		OFZ market	
		Index growth (+)/ decline (-), %	Net purchases (+)/sales (-) by non-residents and banking subsidiaries in exchange trading, RUB billion	Increase in 10-year OFZ yields, bp	Net purchases (+)/sales (-) by non-residents and banking subsidiaries in exchange trading, RUB billion
2008	1 July 2008 – 5 February 2009 (financial and oil shocks)	-64.5	-316.7	644	
2014	1 August – 16 December (oil and geopolitical shocks)	4.7	1.7	637	-136.5
2020	20–28 February (COVID-19)	-10.6	-29.6	48	-27.5
	2–19 March (COVID-19 and oil shock)	-18.3	-100.1	170	-132.1
2022	13–25 January (global security negotiations)	-14.9	-107.5	108	-78.4
	21–25 February (start of SMO)	-27.2	-139.9	277	-78.2
	21 March – 22 April (anti-crisis measures)	-11.5	-6.5	-261	9.1
	20–30 September (increase in geopolitical risks and partial mobilisation)	-19.5	-0.3	136	7.0

Source: PJSC Moscow Exchange.

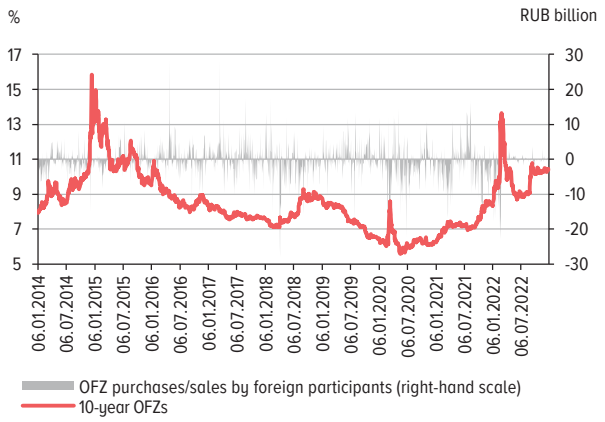
The peculiarity of the 2014–2015 crisis was that non-residents sold OFZs and eurobonds, while there were no net sales by non-residents in the stock market. From 1 August to 16 December 2014, non-residents sold OFZs worth RUB 137 billion, representing 15% of their investments as of the start of 2014. Consequently, the share of non-resident investments in 2014 declined by 8 pp (from 26% to 18%) of the total market volume (Chart 2.32). In 2014, non-residents' net sales accounted for 96% of the total net sales in the OFZ market, becoming the primary driver of yield growth. In 2014, OFZ yields rose by 524 bp (from 10% to 15%), peaking at 637 bp from August to mid-December 2014 (Chart 2.33). The subsequent normalisation of OFZ yields to pre-crisis levels was protracted and was finished only by late 2015.

DYNAMICS OF THE NOMINAL VALUE OF NON-RESIDENT INVESTMENTS IN THE OFZ MARKET *Chart 2.32*



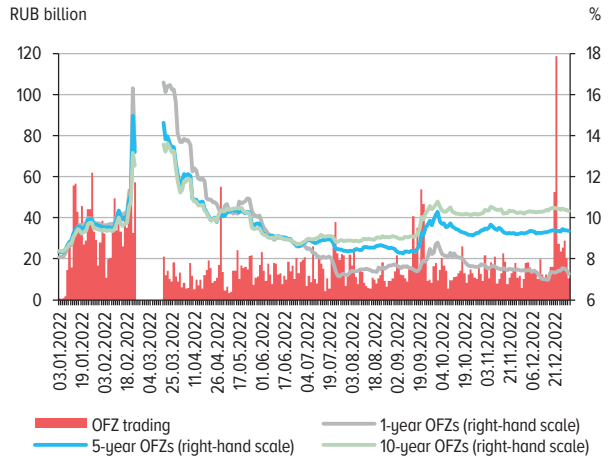
Source: Reporting forms 049711, 0420415.

NET PURCHASES (+)/SALES (-) BY NON-RESIDENTS AND FOREIGN SUBSIDIARIES IN SECONDARY EXCHANGE TRADING OF OFZS AND DYNAMICS OF 10-YEAR OFZ YIELDS *Chart 2.33*



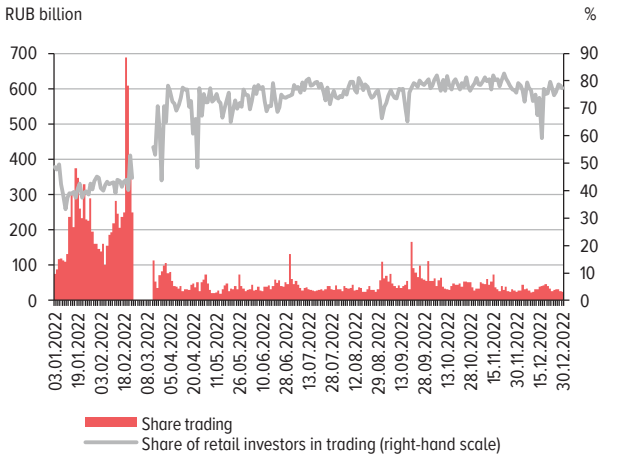
Source: PJSC Moscow Exchange.

TRADING IN THE SECONDARY OFZ EXCHANGE MARKET (RUB BILLION) AND YIELD DYNAMICS *Chart 2.34*



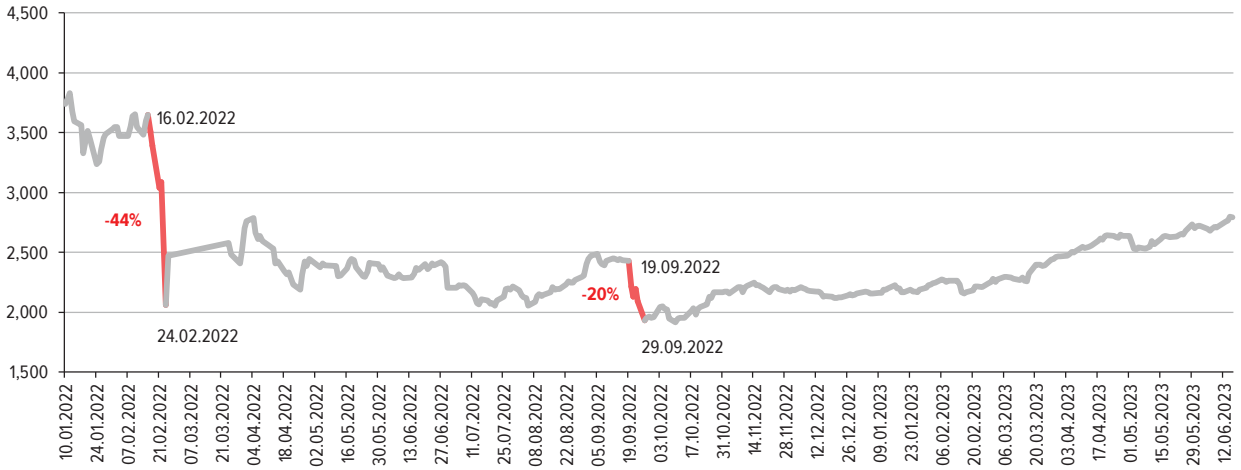
Source: PJSC Moscow Exchange.

TRADING IN THE SECONDARY EXCHANGE STOCK MARKET AND SHARE OF RETAIL INVESTORS *Chart 2.35*



Source: PJSC Moscow Exchange.

IMOEX DYNAMICS *Chart 2.36*
(P)



Source: PJSC Moscow Exchange.

Despite the increase in OFZ yields, the response of the stock market remained relatively subdued. At the crisis peak, the Russian stock market increased by 4.7%, as despite the decline in oil prices, foreign exchange earnings of exporters in ruble equivalent grew.

Unlike in 2014–2015, during the volatility period of 2020, non-residents sold both bonds and stocks. The growing stock market volatility was accompanied by a closing of carry trade strategy operations and FX purchases on the domestic market. In the OFZ market, from 21 February to 31 March 2020, non-residents' net sales totalled RUB 269 billion, or 80% of the total net sales during that period. Non-residents sold 10% of their total investments, reducing their share in OFZs by 3 pp (from 34% to 31%). During this period, the OFZ market was supported by SIBs making net purchases in the exchange segment for a comparable amount; OFZ yields increased by 230 bp (from 7% to 9.3%), but returned to pre-crisis levels by late April 2020.

On the stock market, non-residents and foreign banking subsidiaries also made net sales; from 21 January to late February 2020, their sales totalled RUB 181 billion, accounting for 94% of the total net sales by all participants. IMOEX dropped to the level of April 2018. The indexes

of the transportation, oil and gas, banking and electric utilities industries showed the most significant decline. The sold shares were primarily purchased by SIBs (RUB 114 billion) and NBFIs (RUB 51 billion).

In 2020, a sharp downturn in global oil prices impacted the pricing of commodity derivatives, particularly oil futures traded on the Moscow Exchange. In April 2020, oil prices saw an unprecedented crash, with the value of global oil futures plunging into negative values. The strike price for the April futures on the Moscow Exchange (CL-4.20) was set at USD 37.6 per barrel based on trades in similar futures published on the CME Group's website.

The exchange trading mechanism did not accommodate trading at negative prices. Once the price of transactions for the April futures hit the lower bound of the futures contracts price corridor, trading in the Moscow Exchange's futures market was halted. This led to some market participants being unable to close their previously opened long futures positions and incurring losses.

The situation in the futures market led to swift action (introducing a flexible mechanism for adjusting the price corridor bounds for derivatives market instruments priced on foreign exchanges, and adapting the Exchange infrastructure to handle negative prices).

During the 2022 crisis, unlike in 2020, the withdrawal of non-residents from the Russian market was long-term rather than short-lived. In the initial days of the crisis (21–25 February), non-residents and foreign banking subsidiaries sold OFZs totalling RUB 78 billion, causing 10-year OFZ yields to grow by 3 pp. On the final trading day (25 February 2022), the yields climbed to 12.5%. From 21 to 25 February, non-residents sold shares worth RUB 139.9 billion on the stock market, resulting in a 27.2% drop in IMOEX (Chart 2.36). Overall, from 16 to 24 February 2022, IMOEX plummeted by 48%.

To mitigate systemic risks, the Bank of Russia implemented the following measures:

1. Measures to stabilise the stock market:
- restricting transactions by certain categories of participants;
- suspending market trading;
- signalling readiness to purchase OFZs at market opening;
- reducing leverage in margin trading.

2. Regulatory easing:
- regulatory easing on revaluation of securities;
- regulatory easing on listing requirements for securities.

3. Measures to limit the risks associated with using foreign financial infrastructure:
- measures to ensure performance of external obligations through the Russian infrastructure;
- measures to repatriate securities of Russian issuers from foreign jurisdictions to the Russian infrastructure;
- measures to limit the risks associated with the use of foreign infrastructure by private investors.

4. Counter-sanction measures to block Russian assets of non-residents:
- opening and servicing C-type accounts.

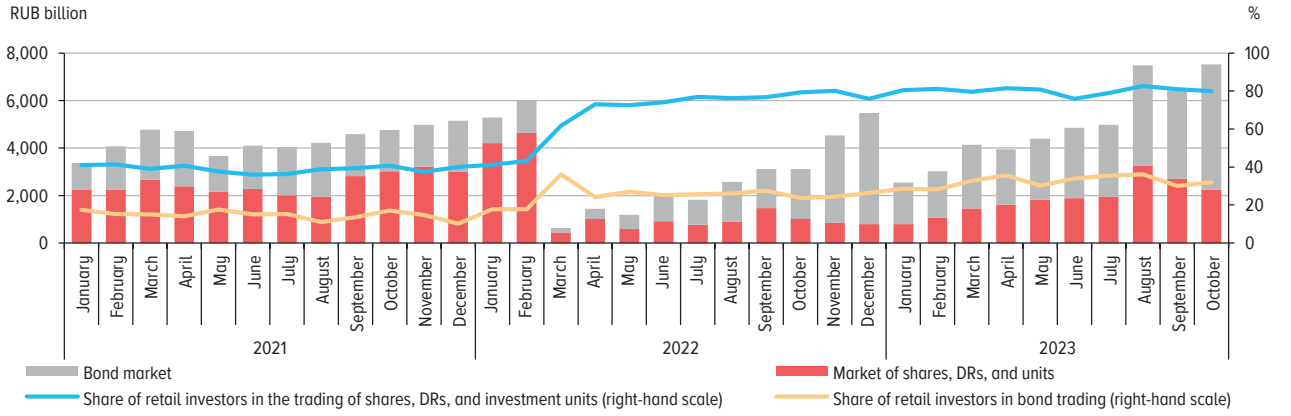
1. Measures to stabilise the stock market

One of the initial stock market stabilisation measures was banning brokers from executing sales of securities on behalf of non-residents (Bank of Russia press release, dated 28 February 2022). This measure was also a response to the asset freeze imposed by unfriendly jurisdictions. Additionally, a ban on short sales was imposed for all participants on both exchange and over-the-counter markets, a measure proven effective during the 2008 crisis by almost halving fire stock sales.

Suspending trading in the stock market

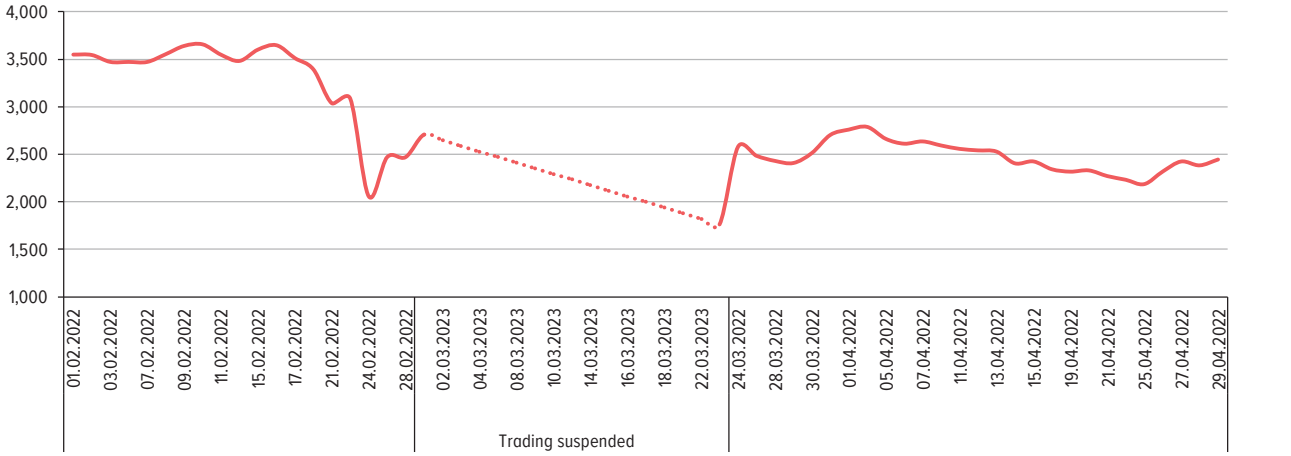
Restrictions on non-resident sales and other measures failed to completely halt the price collapse, as the deteriorating situation and heightened uncertainty also prompted extensive sales of Russian securities by Russian investors. Forced closing of margin positions also significantly contributed to the decline in stock prices. Specifically, on 24 February, trading turnover for stocks included in IMOEX amounted to about RUB 250 billion, with forced closing of margin positions accounting for approximately RUB 39 billion. The Bank of Russia decided to suspend trading in securities and derivatives on the Moscow Exchange from 28 February 2022.[43]

TRADING IN THE STOCK MARKET OF PJSC MOSCOW EXCHANGE *Chart 2.37*



Source: PJSC Moscow Exchange.

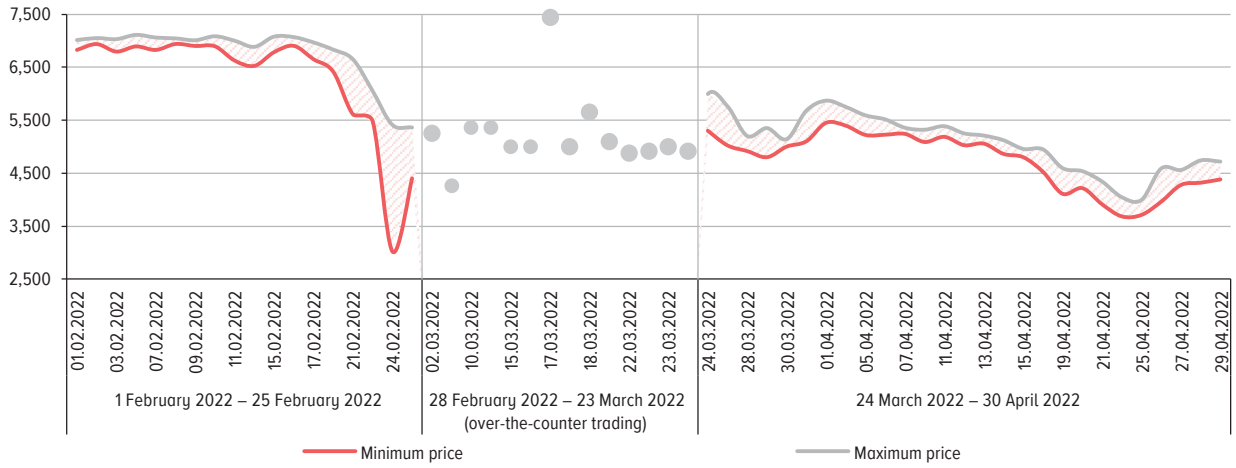
IMOEX DYNAMICS *Chart 2.38*



Source: PJSC Moscow Exchange.

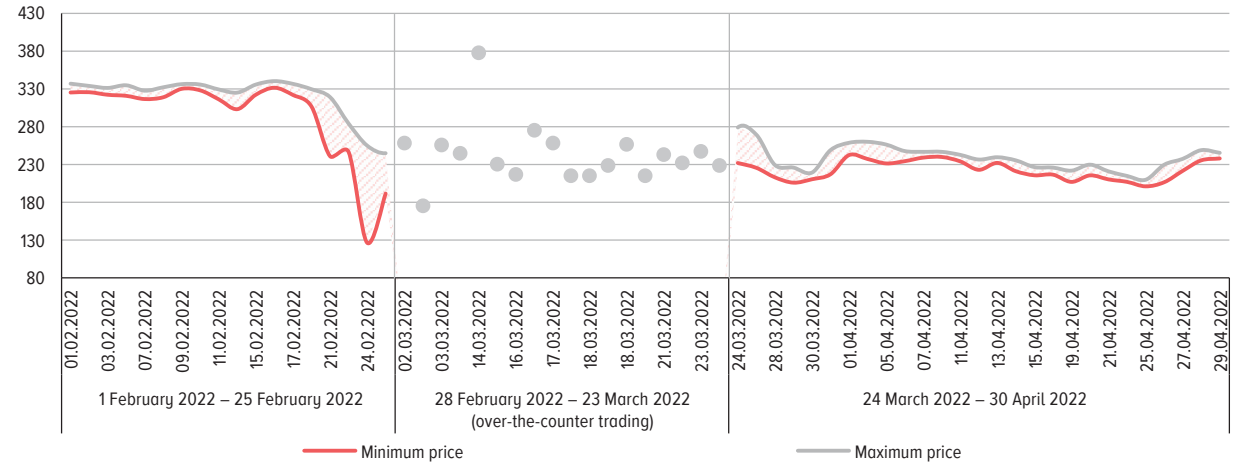
[43] Bank of Russia press releases, dated 28 February 2022.

FLUCTUATIONS IN THE PRICE OF LUKOIL SHARES IN DIFFERENT PERIODS *Chart 2.39*
(RUB)



Source: PJSC Moscow Exchange.

FLUCTUATIONS IN THE PRICE OF GAZPROM SHARES IN DIFFERENT PERIODS *Chart 2.40*
(RUB)



Source: PJSC Moscow Exchange.

It should be noted that the quotes for depository receipts with Russian underlying shares on foreign exchanges dropped tenfold more than those on the Moscow Exchange. For instance, on the London Stock Exchange (LSE), on 2 March 2022, depository receipts for Sberbank shares plummeted to USD 0.01, LUKOIL shares — to USD 0.9, Gazprom shares — to USD 0.08, Norilsk Nickel shares — to USD 2.02. American exchanges suspended trading in Russian depository receipts on 1 March 2022, while the London Stock Exchange (LSE) temporarily halted trading of Russian depository receipts only from 3 March 2022. Investors holding depository receipts in foreign accounting systems encountered access issues.

VOLATILITY OF SECURITIES IN DIFFERENT PERIODS *Table 2.8*
(%)

Securities	Volatility from 1 January 2022 to 25 February 2022	Volatility from 28 February 2022 to 23 March 2022 (OTC transactions)	Volatility from 24 March 2022 to 30 April 2022
Gazprom shares	6	29	5
Norilsk Nickel shares	4	16	2
Lukoil shares	5	21	5
OFZ-PD SU26212RMFS9	3	7	2
OFZ-PD SU26235RMFS0	3	9	2

Source: PJSC Moscow Exchange.

While trading on the Moscow Exchange was suspended, a number of securities were traded on the OTC market. This period saw increased volatility: Gazprom shares exhibited a 29% volatility (Chart 2.40), Norilsk Nickel shares — 16%, and Lukoil shares — 21% (Chart 2.39). From early 2022 to 25 February 2022, the volatility for these securities did not exceed 8% (Table 2.8); from 24 March to 30 April 2022, after trading resumed on the Moscow Exchange, volatility remained below 5%. During the trading suspension, certain OFZs[44] also exhibited increased volatility. Volatility levels in the OTC market reached 9% during the suspension. From early 2022 to 25 February 2022, volatility for the relevant securities ranged from 0 to 3%; from 24 March to 30 April 2022, after trading resumed, it did not exceed 2%.

In addition to increased volatility, stock prices also declined. During the trading suspension, the average price of shares of IMOEX in the OTC market dropped by 8%. The suspension of market trading shielded the market from overshoot effects, potentially preventing disproportionately high losses.

The Bank of Russia suspended trading two trading days after the start of the stress-related changes and the onset of the volatility period. On the one hand, an earlier suspension could have mitigated panic in the market. On the other hand, maintaining exchange trading allowed the market to reassess instruments in light of the fundamental changes occurring, and to timely close positions and limit losses for many participants.

The trading suspension, while having favourable effects, also led to adverse consequences. At the time the trading was suspended, the open position value of brokers' customers in the stock section was approximately RUB 1 trillion, and in the derivatives market, it was RUB 224 billion for futures and RUB 130 billion for options. The inability of customers to close their positions due to the trading suspension resulted in increased investor losses due to position carry-over costs and variation margin revaluation. Thus, the trading suspension is a measure that carries significant risks, which can accumulate rapidly, and should only be used in emergencies, such as when sanctions were imposed in 2022.

Starting from late March 2022, trading on stock exchanges was gradually resumed. Before trading resumed, the Bank of Russia communicated its readiness to purchase OFZs on the secondary market to prevent excessive price volatility and ensure balanced liquidity of these assets.[45] In reality, this measure primarily provided informational support to prices, as the volume of the Bank of Russia's transactions with OFZs was negligible.

[44] The analysis included the most liquid OFZs (top 30), which saw the highest trading values in 2021–2022.

[45] Statement by the Bank of Russia Governor Elvira Nabiullina following the meeting of the Bank of Russia Board of Directors on 18 March 2022.

Subsequently (on 24 March 2022), the trading started for the 33 most liquid securities from IMOEX, which saw a 4.4% increase on the first trading day compared to its value at the market's close. On average, the price of all stocks included in IMOEX rose by 12% in the first few days following the resumption of trading for these securities.

Following the Bank of Russia's decision[46] to exclude friendly non-residents and foreign companies controlled by Russian residents from the C-type securities account mechanism, the Moscow Exchange allowed these entities to conduct transactions on its trades.[47] From 8 August 2022, on the forward market (including trading contracts for securities), from 15 August 2022, on the bond market, and from 12 September 2022, on the stock market, except for transactions of foreign companies controlled by Russian residents with shares of strategic companies and a number of other companies, for which a special permit from the authorised body is required.[48] To access trading, preliminary identification was required.[49] Additionally, starting from 12 September 2022, the Moscow Exchange extended trading hours on the foreign exchange and stock markets by reinstating morning and evening sessions, and on the derivatives market, the morning session was also reinstated.

To protect investors and limit their risks in margin trading, the Bank of Russia temporarily reduced the leverage (borrowed funds) that brokers could offer customers for unsecured financial instrument transactions (decision of the Bank of Russia Board of Directors, dated 20 May 2022). This measure was implemented following a significant increase in stock market volatility and was revoked in late 2022 as the market stabilised.

The measures taken helped to cool down the market and prepare market participants for making investment decisions in the new environment. The ban on short (uncovered) sales for trading participants, the suspension of trading, the subsequent reduced mode of exchange trading, and transactions aimed at reducing non-residents' liabilities to residents collectively reduced the value of unsettled claims by 95%.

[46] Decision of the Bank of Russia Board of Directors, dated 24 June 2022 (revoked on 21 November 2022), and decision of the Bank of Russia Board of Directors, dated 22 July 2022 (revoked on 21 November 2022).

[47] Bank of Russia Information Letter No. IN-018-34/102, dated 8 August 2022 (in Russian only).

[48] Decree of the President of the Russian Federation No. 520, dated 5 August 2022, 'On Special Economic Measures in the Financial and Fuel and Energy Sectors in Connection with the Unfriendly Actions of Certain Foreign States and International Organisations' (in Russian only).

[49] Bank of Russia Information Letter No. IN-018-34/102, dated 8 August 2022 (in Russian only).

Meanwhile, the microstructure of the organised market underwent significant changes: both the value and the share of transactions by resident retail investors and dealer transactions increased, while the share of institutional investors and non-residents declined. This reduced the Russian stock market's dependence on foreign capital, while making it more vulnerable to potential similar strategies of private investors.

2. Regulatory easing

Regulatory easing on revaluation of securities

A significant support measure for the stock market introduced during three of the crisis episodes reviewed was a temporary moratorium on recognising negative revaluation of securities portfolios. Since 2014, this measure has been applied to both banks and NBFIs. In 2014 and 2020, the measure lasted about six months (until 30 June 2015 and 30 September 2020, respectively), and in 2022, it lasted 10 months (from 28 February to 31 December).

The moratorium allowed credit institutions and NBFIs to report equity and debt securities as of the date prior to increased volatility, and securities acquired after the onset of the crisis, at their fair value on the acquisition date. This measure reduced market participants' sensitivity to market risk, preventing excessive securities sales and encouraging purchases. Thus, the measure served as a stabilising mechanism for the stock market.

Because the measure was introduced for a limited time, it helped to neutralise the impact of extreme volatility on bank performance and maintain financial stability while preserving market discipline.

- *Market dynamics before and after the introduction of the revaluation moratorium.*

The revaluation moratorium was most effective in 2022: banks that utilised the moratorium significantly increased their OFZ purchases during the 2022 crisis and continued buying shares, unlike banks that did not use this measure. The moratorium was also effective in 2020, when banks that used this measure began purchasing shares during the crisis, unlike in the pre-moratorium period.

- *Impact of the revaluation moratorium on the trading structure.*

In 2022, most banks[50] utilised the revaluation moratorium, with the share of such banks' assets in the total assets of banks trading on the Moscow Exchange amounting to 94.9% (Chart 2.44). During the crises of 2020 and 2014–2015, the impact of the moratorium on the stock market was less apparent. During the 2020 crisis, asset prices quickly recovered, so most banks did not use market risk measures or used them only briefly. During the 2014–2015 crisis, given the currency shock, foreign currency revaluation exemption was utilised the most, and even fewer banks took advantage of the securities revaluation moratorium than in 2020.

[50] To assess the effectiveness of the measure, foreign banking subsidiaries were excluded from the 2022 analysis. Moreover, foreign banking subsidiaries historically had high capital adequacy ratios and largely did not utilise the regulatory easing.

SHARE IN TRADING AND NET PURCHASES BY BANKS *Table 2.9*

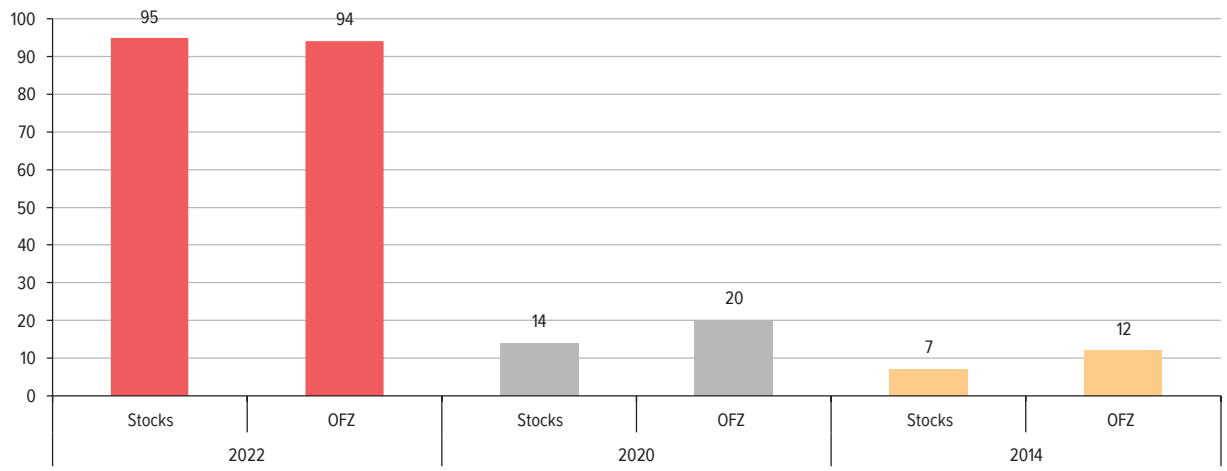
	Pre-/post-crisis	OFZ			
		Banks with moratorium		Banks without moratorium	
		Share in trading, %	Net purchases, RUB billion	Share in trading, %	Net purchases, RUB billion
2014–2015 crisis	01.01.2014 – 16.12.2014	5.9	9	94.1	138
	17.12.2014 – 31.12.2015	11.4	26	88.6	449
2020 crisis	01.04.2019 – 23.02.2020	17.9	-19	82.1	810
	24.02.2020 – 01.01.2021	19.8	813	80.2	3,426
2022 crisis	01.01.2021 – 28.02.2022	88.1	882	11.9	138
	01.03.2022 – 01.01.2023	90.5	2,665	9.5	-148
	Pre-/post-crisis	Stocks			
		Banks with moratorium		Banks without moratorium	
		Share in trading, %	Net purchases, RUB billion	Share in trading, %	Net purchases, RUB billion
2014–2015 crisis	01.01.2014 – 16.12.2014	9.4	-0.2	90.6	-43
	17.12.2014 – 31.12.2015	16.6	-34	83.4	-54
2020 crisis	01.04.2019 – 23.02.2020	56.1	-192	43.9	19
	24.02.2020 – 01.01.2021	43.9	12	56.1	-13
2022 crisis	01.01.2021 – 28.02.2022	88.9	61	11.1	-0.7
	01.03.2022 – 01.01.2023	88.8	37	11.2	-1.2

Source: PJSC Moscow Exchange.

In recent years, the role of the stock market has significantly expanded: since 2014, over 20 million people have gained market access, and about 3.5 million have become active investors.

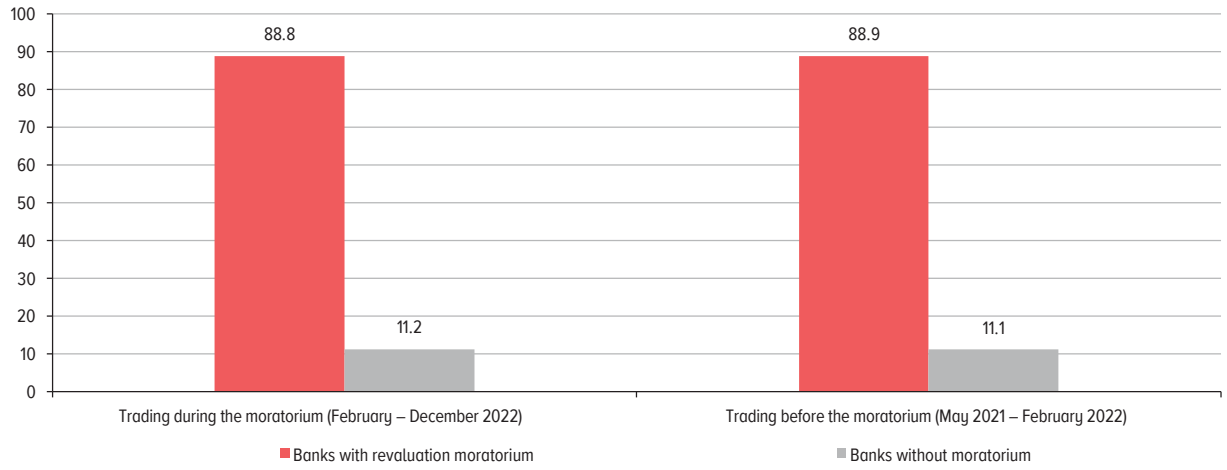
The revaluation moratorium supported the stock market by sustaining interest in purchases, though in smaller volumes than before February 2022. Most banks trading in the stock market utilised the revaluation moratorium, and their trading share increased by 2.4 pp to 90.5% after the moratorium was introduced. Overall, the revaluation moratorium was a key factor in supporting the stock market.

SHARE OF ASSETS OF BANKS USING MORATORIUM IN TOTAL BANKS' ASSETS *Chart 2.41*
(%)



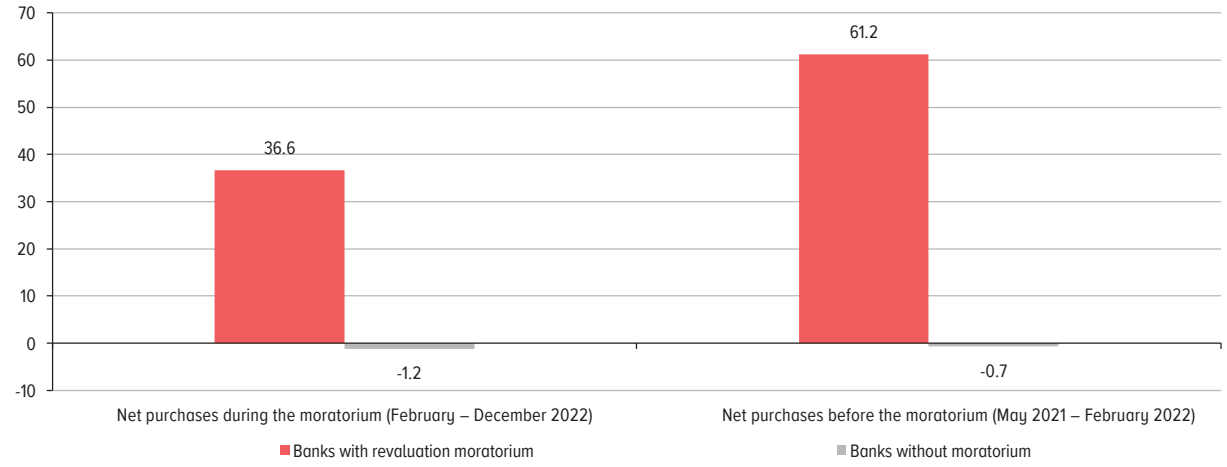
Note. Shares are calculated only for banks that traded in the respective markets.
Source: PJSC Moscow Exchange.

TRADING IN BANK SHARES DEPENDING ON THE USE OF REVALUATION MORATORIUM *Chart 2.42*
(%)



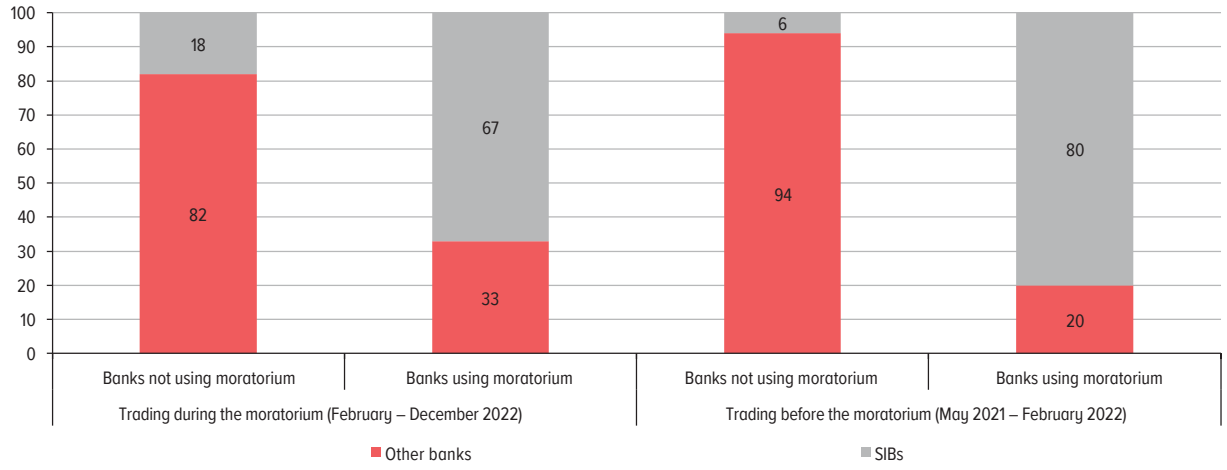
Source: PJSC Moscow Exchange.

NET PURCHASES OF SHARES DEPENDING ON THE USE OF REVALUATION MORATORIUM *Chart 2.43*
(RUB BILLION)



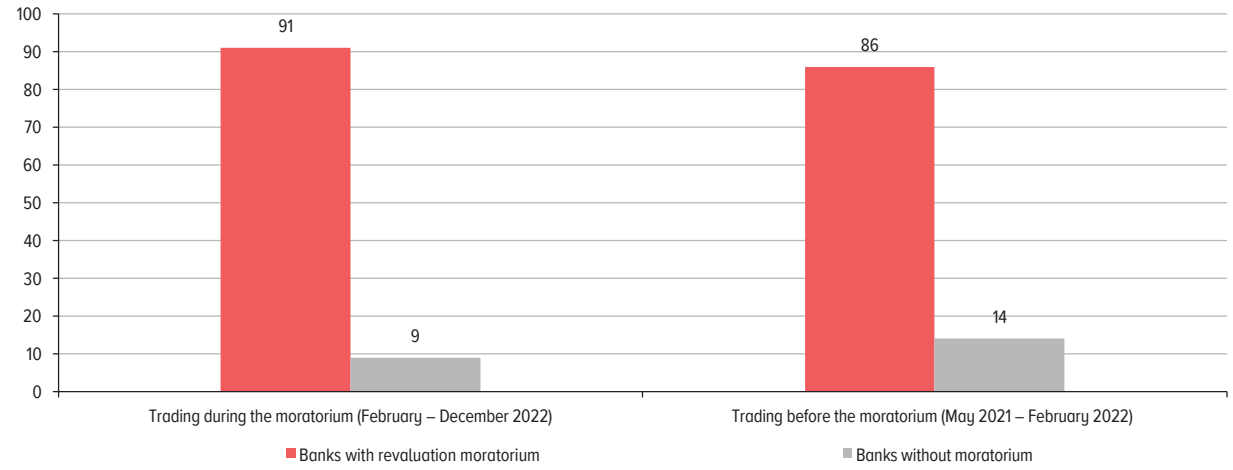
Source: PJSC Moscow Exchange.

SHARE OF SHARES TRADING BY BANK TYPE DEPENDING ON THE USE OF REVALUATION MORATORIUM *Chart 2.44*
(%)



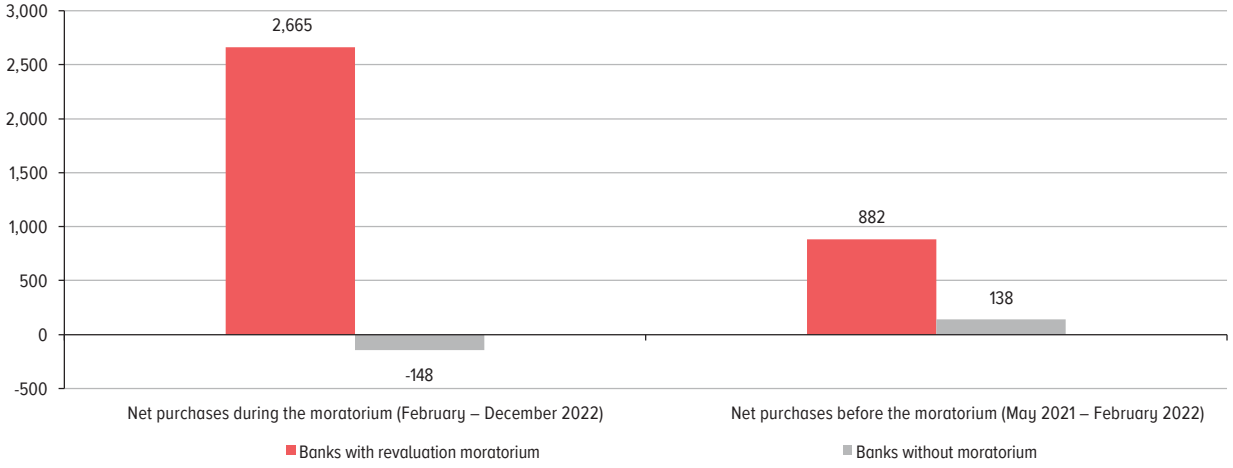
Source: PJSC Moscow Exchange.

OFZ TRADING DEPENDING ON THE USE OF REVALUATION MORATORIUM *Chart 2.45*
(%)



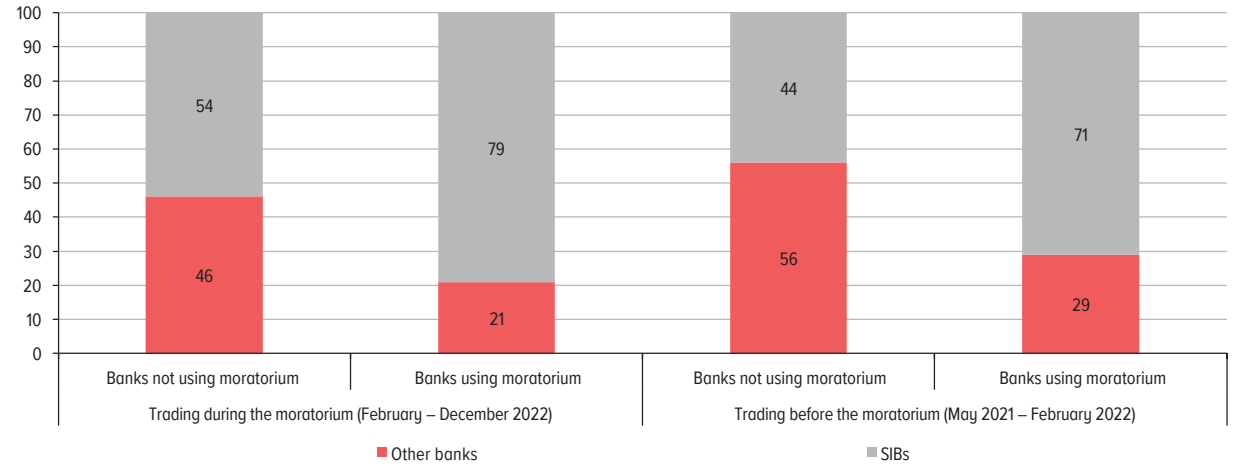
Source: PJSC Moscow Exchange.

NET OFZ PURCHASES (SECONDARY MARKET) DEPENDING ON THE USE OF REVALUATION MORATORIUM *Chart 2.46*
(RUB BILLION)



Source: PJSC Moscow Exchange.

SHARE OF OFZ TRADING BY BANK TYPE DEPENDING ON THE USE OF REVALUATION MORATORIUM *Chart 2.47*
(%)



Source: PJSC Moscow Exchange.

Similarly to exchange transactions with shares, the introduction of the moratorium did not alter the OFZ market structure, and the share of banks that utilised the moratorium in trading remained unchanged before and after its implementation. During the moratorium, banks that did not use this measure became net sellers of OFZs (for RUB 148 billion).

Thus, the moratorium enabled Russian financial institutions to transition to purchasing financial assets without the risk of subsequent negative revaluation, aiding in the market stabilisation. In 2022, private investors emerged as the dominant force in the stock market, accounting for up to 80% of stock exchange transactions; their transactions, rather than the actions of non-residents, will shape the future market environment.

Regulatory easing on listing requirements for securities

To maintain the stability and liquidity of trading on Russian stock exchanges, particularly to preserve the listing level of Russian (and quasi-Russian[51]) issuers' securities, in 2022, the Bank of Russia implemented a number of regulatory easing measures concerning the application of statutory listing requirements and listing rules by trading organisers when listing securities for exchange trading including securities in quotation lists. Specifically, the Bank of Russia established a moratorium on the application of certain requirements by trade organisers, including those related to the issuer's credit rating, the number of independent directors, the number of shares in free circulation, and the minimum NAV value of UIFs.

These measures were driven by the risks of downgrades (withdrawals) of credit ratings for Russian issuers, including those under the sanctions, by international rating agencies, the removal of a significant number of independent directors (foreign nationals) from boards of directors (supervisory boards), the delisting of quasi-Russian issuers' securities by foreign exchanges, and a significant reduction in the net asset value of unit investment funds including securities of foreign issuers.

The measures taken preserved the listing for 29 Russian issuers, representing 32% of the total capitalisation of the Russian stock market.[52] The measures also preserved the listing for 16 bond issues of Russian issuers (0.3% of all debt securities issued in the domestic market[53]), 3 mutual funds (0.03% of the NAV of all UIFs available for trading in the Moscow Exchange stock market[54]), and 4 issues of depository receipts of quasi-Russian issuers (5% of the total capitalisation of all securities[55]). As of 30 June 2023, these securities accounted for 11% of total securities held in custody in Russian depositories and 11% of securities owned by retail investors. The timely action during the period of high volatility on the stock market allowed to maintain the required listing levels of securities of Russian and quasi-Russian issuers and ensure continued exchange trading of such securities.

In December 2022, most of the above-listed regulatory easing measures of the Bank of Russia were extended. The exemption regarding the required credit rating level was cancelled, as starting from 25 January 2023, international rating agencies were excluded from the list used for listing and maintaining bonds in the first (highest) and second category of bonds by PJSC Moscow Exchange.

[51] Securities of foreign issuers with primary business in Russia.

[52] According to the Moscow Exchange as of 30 June 2023.

[53] According to the Bank of Russia as of 30 June 2023.

[54] According to supervisory reporting as of 30 June 2023.

[55] According to Cbonds.

3. Measures to limit the risks associated with using foreign financial infrastructure

Measures to ensure performance of external obligations through the Russian infrastructure

To protect the interests of Russian investors with rights to securities (eurobonds, shares, bonds, etc.) registered by foreign depositories, the Bank of Russia developed mechanisms[56] allowing to meet obligations under such securities, enabling direct payments to securities holders based on information provided by a foreign depository or at the holder's request.

- *I-type accounts and D-type accounts.*

The deteriorating geopolitical situation, particularly the US ban on transactions with the Ministry of Finance, led to delays and eventually the refusal of foreign payment agents to process payments related to the servicing of Russian sovereign eurobonds (hereinafter, Russian eurobonds). To avert a default, financial authorities implemented a mechanism for meeting obligations under Russian eurobonds using I-type accounts[57]. Specifically, payments due to holders serviced by foreign depositories, including non-residents, are credited to I-type accounts opened with the Russian central depository NCI JSC NSD. Payments to depositors of Russian depositories are made to other accounts opened with such depositories. These payments are made in Russian rubles. The mechanism was launched on 22 June 2022.

This mechanism enabled the performance of all obligations under Russian eurobonds within the timelines set by the issuance documentation, circumventing foreign infrastructure.

Additionally, Russian legal entities have an opportunity to meet obligations under eurobonds registered in foreign accounting infrastructure (the so-called D-type account mechanism)[58]. Russian legal entities may settle obligations using D-type accounts, provided they have authorisation from either the Bank of Russia or the Government Commission on Monitoring Foreign Investment in the Russian Federation.

- *Replacement bonds.*

In July 2022, a mechanism for replacement bonds was established to offer Russian companies with eurobond obligations an alternative method of settlement[59] in rubles through accounts with Russian banks, while also enabling eurobond holders with rights registered in Russian depositories to receive payments free from sanctions risks.

Eurobond holders may opt out of acquiring replacement bonds. In such cases, the payments under these eurobonds must be processed according to the procedure established by the Bank of Russia.[60]

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[56] Decisions of the Bank of Russia Board of Directors, dated 20 May 2022 (in Russian only), 29 April 2022 (in Russian only), 10 June 2022 (in Russian only), 23 December 2022 (in Russian only), 29 December 2022 (in Russian only), 24 November 2023 (in Russian only).

[57] Regulated by Decree of the President of the Russian Federation No. 665, dated 9 September 2023 (in Russian only) (previously by Decree of the President of the Russian Federation No. 394 dated 22 June 2022 (in Russian only) and by the decision of the Bank of Russia Board of Directors, dated 15 September 2023).

[58] Regulated by Decree of the President of the Russian Federation No. 529, dated 8 August 2022 (in Russian only), and by the decision of the Bank of Russia Board of Directors dated 11 August 2022 (in Russian only).

[59] Decree of the President of the Russian Federation No. 430, dated 5 July 2022 (in Russian only), Federal Law No. 292-FZ, dated 14 July 2022 (in Russian only).

[60] Decision of the Bank of Russia Board of Directors, dated 22 December 2023 (in Russian only).

Initially introduced as one of the potential methods for meeting obligations to eurobond holders, the replacement bond mechanism became mandatory for Russian companies[61] in May 2023 and must be implemented (through a simplified issuance procedure[62]) by 1 July 2024, except for issuers granted exemption from issuing such bonds by the Government Commission on Monitoring Foreign Investment.[63]

Measures to repatriate securities of Russian issuers from foreign jurisdictions to the Russian infrastructure

- *Mandatory repatriation of securities of Russian issuers.*

The mandatory repatriation mechanism for transferring the registration of rights to securities of Russian issuers from foreign to Russian accounting infrastructure[64] enabled access and execution of rights to such securities for certain investors.

This measure successfully excluded foreign entities from the ownership chain of these securities (foreign infrastructure). Furthermore, the subsequent trading of securities transferred from the foreign infrastructure is subject to restrictions aimed at deterring purchases from residents of unfriendly countries.

A special dividend payment procedure for shares of Russian issuers to shareholders with rights registered in the foreign infrastructure and to depository receipt holders[65] ensures that such securities holders can receive dividends without involving foreign accounting entities and irrespective of transaction restrictions.

- *Conversion of depository receipts.*

1) Depository receipts of companies registered in Russia.

Following a decline in the value of depository receipts of major Russian companies and suspension of their listing, restrictions were imposed on the issuance and trading of receipts of companies registered in Russia[66] on foreign exchanges. Russian issuers had to either take the necessary actions to terminate their agreements with foreign banks issuing depository receipts or to apply for permission from the Russian Government to maintain their depository receipt programmes[67] before 5 May 2022.

To limit opportunities for accelerated sale of such shares, the Bank of Russia ordered professional market participants-depositories to maintain separate records for shares of Russian issuers obtained through the conversion of foreign depository receipts and to set a daily sales limit

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[61] Paragraph 4 of Decree of the President of the Russian Federation No. 364, dated 22 May 2023 (in Russian only).

[62] Bank of Russia Information Letter No. IN-018-34/154, dated 30 December 2022 (in Russian only).

[63] Eurobonds must comply with the criteria published in the extract from Decision of the Government Commission on Monitoring Foreign Investment in the Russian Federation No. 176/3, dated 24 July 2023 (in Russian only).

[64] Articles 5–5.5 of Federal Law No. 319-FZ, dated 14 July 2022 (as amended by Federal Law No. 519-FZ, dated 19 December 2022) (in Russian only), Decree of the President of the Russian Federation No. 138, dated 3 March 2023 (in Russian only).

[65] Decisions of the Bank of Russia Board of Directors, dated 10 June 2022 (as amended by the decision of the Bank of Russia Board of Directors, dated 6 September 2022) (in Russian only), decision of the Bank of Russia Board of Directors, dated 29 December 2022 (as amended by the decision of the Bank of Russia Board of Directors, dated 17 March 2023) (in Russian only), decision of the Bank of Russia Board of Directors, dated 22 December 2023 (in Russian only).

[66] Federal Law No. 114-FZ, dated 16 April 2022 (in Russian only).

[67] Bank of Russia information, dated 19 April 2022.

of 0.2% (later adjusted to 5% for shares acquired from friendly non-residents or Russian residents) on both exchange and over-the-counter markets.[68]

The following statutory measures[69] were implemented to mitigate infrastructure risks:
– from 15 August 2022, an **automatic conversion** mechanism for converting depository receipts registered in Russian depositories into Russian shares;[70]
– until November 10, 2022, a **mandatory conversion** mechanism for converting depository receipts into Russian shares, applicable when rights to receipts were registered by foreign entities and holders were unable to obtain shares of Russian issuers due to restrictions.[71]

Russian issuers' depository programmes were managed by five depositories: Raiffeisenbank, Citibank, J. P. Morgan Bank, Bank GPB, and Sberbank.

All 36 issuers participated in the automatic conversion process.

2) Depository receipts of companies registered abroad.

With respect of holders of depository receipts for shares of quasi-Russian companies (if they obtain a status of international companies registered in Russian jurisdiction), the Bank of Russia established procedures for automatic[72] (if rights are registered in the Russian infrastructure) and mandatory (if rights are registered in the foreign infrastructure and receipt holders cannot obtain shares due to restrictions) conversion into shares of such international companies. Shares of international companies resulting from the conversion of depository receipts are to be freely tradable on the Russian stock market, except where restricted by law. In October 2023, a procedure was approved to maintain depository programmes[73] for companies considering redomiciliation.

Collectively, these measures (mandatory transfer and conversion) enabled the repatriation of over 20% of frozen Russian investors' assets back into the Russian accounting infrastructure.

Additionally, Federal Law No. 470-FZ[74] introduces a mechanism allowing retail investors that indirectly own shares (stakes in the authorised capital) of domestic economically significant entities (ESEs, to be listed by the Russian Government) through a foreign holding company to assume direct ownership of these shares (stakes) under a court decision.

Federal Law No. 452-FZ[75] permits foreign companies registered abroad to establish new business entities as international companies in Russian special administrative regions (SAR), i.e. to use the incorporation mechanism to create a new legal entity, provided they transfer to such international company at least RUB 800 million in assets within a year.

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[68] Bank of Russia press release, dated 27 April 2022 (the measure was in force until 9 March 2023.

[69] Federal Law No. 319-FZ, dated 14 July 2022 (in Russian only).

[70] Decision of the Bank of Russia Board of Directors, dated 22 July 2022 (in Russian only), and Bank of Russia communication dated 15 August 2022.

[71] Federal Law No. 381-FZ, dated 7 October 2022 (in Russian only), Bank of Russia communication, dated 7 October 2022 (in Russian only).

[72] Decision of the Bank of Russia Board of Directors, dated 15 September 2023 (in Russian only).

[73] Decree of the Russian Government No. 1817, dated 31 October 2023 (in Russian only).

[74] Federal Law No. 470-FZ, dated 4 August 2023 (in Russian only).

[75] Federal Law No. 452-FZ, dated 4 August 2023 (in Russian only).

Measures to limit the risks associated with the use of foreign infrastructure by retail investors

- *Limiting access to trading in foreign securities.*

To facilitate the sale of foreign securities by residents to foreign infrastructure in the context of a special procedure for securities transactions with unfriendly non-residents,[76] in Q1 2022, the Bank of Russia and the Ministry of Finance issued to SPB Group a permit for transactions with non-residents, enabling PJSC SPB Exchange to continue trading foreign securities while maintaining links with foreign exchanges. The Bank of Russia ensured daily monitoring of the net sales of such securities by Russian investors. This enabled residents to reduce their investments in foreign assets by over 50% (approximately USD 4 billion) by the time the US Treasury imposed sanctions on the SPB Exchange in November 2023.

As a result of the freeze of residents' assets by unfriendly jurisdictions in 2022, foreign securities purchased by retail investors on the SPB Exchange were partially blocked: key actions such as transfers and dividend receipts became difficult or impossible. To prevent investors from purchasing securities that were blocked by unfriendly accounting institutions, the Bank of Russia restricted their trading by moving such securities to non-trading accounts. This measure also enabled support for the central counterparty involved in transactions with such securities.

To mitigate infrastructure risks for retail (non-qualified) investors associated with potential restrictions imposed by foreign states, the Bank of Russia introduced a ban on brokers purchasing foreign securities from unfriendly issuers on behalf of such customers. At the same time, brokers were advised to inform non-qualified investors about the risks of investing in any foreign securities (with certain exceptions). These measures have limited effectiveness, as investors can still make such purchases through foreign brokers, bypassing the Russian financial infrastructure. Due to this, until 2022, the Bank of Russia did not impose any restrictions, while consistently warning about the heightened risks of foreign investments for retail investors. Since the onset of the 2022 crisis, the situation has deteriorated: under the sanctions policy of unfriendly countries, foreign financial institutions often segregate Russian assets and restrict their management.

Subsequently, the Bank of Russia imposed restrictions on the listing on Russian exchanges for new foreign securities serviced through the infrastructure of unfriendly countries. This served as an incentive to enable listing of foreign assets with a diversified accounting chain. Furthermore, brokers could only conduct transactions with such foreign securities on behalf of customers after informing them about the inherent risks. These measures enabled a reduction in investments in foreign assets potentially risky for Russian retail investors (the share of foreign securities held by non-qualified investors dropped from 36.8% as of 1 September 2022 to 18.7% as of 1 November 2023). Due to the effectiveness of these measures, the restrictions were later permanently integrated into the market regulation.

The continuation of public trading of foreign securities of friendly non-residents on Russian exchanges aimed to meet Russian investors' demand for portfolio diversification and prevent them from shifting to quasi-financial instruments not priced according to market factors. However, despite the successful diversification of accounting chains for foreign assets listed in Russia, this did not prevent investors from facing risks associated with the sanctions imposed on the SPB Exchange in November 2023.

[76] Decree of the President of the Russian Federation No. 81, dated 1 March 2022 (in Russian only).

- *Separation of blocked assets in unit investment funds.*

Due to the sanctions imposed by European depository clearing entities in spring 2022, as well as restrictions against NCI JSC NSD, management companies were compelled to suspend operations for a number of funds. The asset freeze affected all funds that had foreign securities in their asset structure. Several management companies decided to liquidate exchange-traded unit investment funds (EUIFs), particularly those with assets invested in ETFs. Additionally, operations with ETFs became unavailable, and some ETFs were terminated.

Later, a number of funds managed to resume operations with investment units (specifically, UIFs with underlying assets traded on the SPB Exchange and stored in its depository, which allowed these funds to mitigate infrastructure risks). Moreover, several management companies were able to resume trading in investment units because their foreign securities were stored directly in the depositories of unfriendly countries.

The Bank of Russia continues its efforts regarding blocked assets in UIFs. The Bank of Russia implemented a strategy for resuming operations with investment units of UIFs, under which management companies separated blocked assets from active funds (if the share of blocked assets exceeded 10%) into special closed-end unit investment funds (CUIFs) or changed the type of their fund to CUIFs.[77] Going forward, management companies are required to distribute to shareholders at least 90% of the revenue from any sale of blocked assets during a calculation period, if the payment exceeds 10% of the NAV of the separated CUIF.

4. Counter-sanction measures to block Russian assets of non-residents

Special C-type accounts were opened for all non-residents serviced by Russian depositories to restrict their ability to manage their assets and implement counter-sanction measures under the foreign exchange policy.

- *C-type accounts.*

C-type accounts were introduced as part of the initial response to unfriendly actions of certain foreign countries.[78] The mechanism and characteristics of C-type accounts are defined by Decree No. 95,[79] and the C-type account policy is established by a decision of the Bank of Russia Board of Directors.[80] The use of C-type accounts allows funds from Russian debtors, including the Russian Federation, its constituent entities, and municipalities, intended to meet the obligations to foreign creditors under loans and financial instruments to remain within Russia with limited usage options.

Securities accounts opened for foreign creditors or foreign nominees are also included in the C-type account mechanism. The Bank of Russia imposed specific restrictions on transactions involving securities accounts[81] opened for foreign entities, including foreign accounting institutions in Russian depositories. These measures prevented a massive outflow of foreign investments from the Russian financial market and ensured the preservation of frozen foreign assets.

As a result of the efforts by the Bank of Russia and the Russian accounting infrastructure, the assets of unfriendly non-residents were blocked within the Russian infrastructure.

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[77] As of 1 November 2023, 25 management companies of 123 unit investment funds utilised the opportunity provided by Federal Law No. 319-FZ to either separate the assets of the blocked fund into an additional CUIF or change the type of the blocked fund to a CUIF.

[78] The list was established by Decree of the Russian Government No. 430-r, dated 5 March 2022 (in Russian only).

[79] Decree of the President of the Russian Federation No. 95, dated 5 March 2022 (in Russian only).

[80] Decision of the Bank of Russia Board of Directors, dated 21 November 2022 (in Russian only).

[81] Bank of Russia Directives No. 018-34-2/3733, dated 28 April 2022; No. 02-34-2/6100, dated 1 July 2022; No. 018-34-2/7457, dated 4 August 2022; No. 018-34/12822, dated 28 December 2022.

Paragraph 1 of Decree of the President of the Russian Federation No. 520, dated 5 August 2022,[82] also imposed a restriction on transactions by management companies of unit investment funds with assets including strategic assets[83] and investment unit holders including unfriendly entities. This measure was aimed at protecting national interests. That said, the share of unfriendly entities among the owners of investment units in such UIFs rarely exceeds 0.2%. These restrictions led to non-compliance in the composition and structure of UIFs, deviations in the dynamics of the investment unit's estimated value from stock indices, and a risk of non-payment to holders upon redemption. By the end of 2023, the Bank of Russia introduced exemptions from supervisory response measures for UIF management companies regarding the aforementioned violations. By the Decree of the President of the Russian Federation, dated 19 March 2024,[84] the ban on transactions conducted by unit investment fund management companies was lifted for the funds with 'strategic' assets not exceeding 1% of the strategic company's authorised capital as specified in Decree No. 520.

[82] Decree of the President of the Russian Federation No. 520, dated 5 August 2022 (hereinafter, Decree No. 520) (in Russian only).

[83] As specified in paragraphs 1 and 2 of Decree No. 520, shares (contributions) in authorised (share) capitals of the relevant Russian legal entities, and stakes, rights, and obligations of parties to production sharing agreements, joint venture agreements, or other agreements covering investment projects in the Russian Federation.

[84] Decree of the President of the Russian Federation, dated 19 March 2024, 'On Amending Decree of the President of the Russian Federation No. 520, dated 5 August 2022, 'On Special Economic Measures in the Financial and Fuel and Energy Sectors in Connection with the Unfriendly Actions of Certain Foreign States and International Organisations.'

2. SUPPORTING LENDING DURING CRISES

Throughout all examined crisis episodes, the Bank of Russia and the Russian Government supported lending to prevent a credit crunch. The credit crunch process exacerbates the crisis by reducing economic demand (household spending and corporate investments) and further slowing down the economy. This diminishes borrowers' solvency and increases banks' credit risks. This results in a vicious cycle. Banks' responses to the shocks and the capabilities of the Bank of Russia anti-crisis policy varied across the crisis episodes. Gradually, the Bank of Russia broadened its range of macroprudential and microprudential measures.

Macroprudential measures utilise capital reserves that banks have previously formed to meet risk ratio buffers for specific loan categories (including unsecured consumer loans, mortgage loans, and FX loans). A release of the accumulated macroprudential buffer results in an increase in capital adequacy due to reduced capital coverage requirements for loans with previously established macroprudential buffers. Releasing the accumulated buffer during a crisis to bolster banks' capital adequacy is a key objective of macroprudential regulation.

Microprudential measures fix risk assessment indicators for certain asset categories at pre-crisis levels, allowing banks to disregard excessive financial market volatility. Thus, microprudential measures temporarily exclude financial asset volatility (including specific loan categories) from the capital adequacy assessment during the crisis. The aim of microprudential measures is to temporarily smooth out the impact of crisis-induced shocks on the financial assessment of banks, giving them time to adjust to new conditions.

The distinction between macroprudential and microprudential measures lies in their impact: macroprudential measures are countercyclical and enhance the actual capital adequacy of banks at the same time, and their impact is constant; buffers may later be increased again during the credit cycle growth phase. Microprudential measures allow banks to temporarily forego revising the actual capital adequacy assessment by pausing the revaluation of certain financial assets' parameters (such as exchange rates, securities values, and individual borrowers' financial status).

2008–2009 crisis

H2 2008 to early 2009 saw a significant slowdown in the growth rate of debt from loans to the real economy. In 2009, debt from loans to non-financial institutions increased by 0.3% (34.3% in 2008). In 2009, the debt on retail loans dropped by 11% (after an increase by 35.2% in 2008). Consequently, the total debt on retail loans and loans to non-financial entities decreased by 2.5% in 2009.

Alongside high borrowing costs in the domestic market and reduced loan demand, the dynamics of credit aggregates were significantly impacted by a slowdown in the growth of funds raised by banks from non-financial entities and households, and a reduction in funds raised on international financial markets. The increase in overdue debt also constrained the banking sector's loan supply.

2014–2015 crisis

The 2014–2015 crisis also led to a credit crunch. Due to increased lending costs, the growth rates of corporate and mortgage lending significantly declined, and the portfolio of unsecured consumer loans began to shrink. Simultaneously, the quality of the loan portfolio deteriorated. The sharp devaluation of the ruble led to increase in restructuring and rapid dedollarisation.

BANKING SECTOR LOAN PORTFOLIO IN 2014–2015 *Table 2.10*

	Corporate loans	Mortgage loans	Unsecured consumer loans
Debt growth rate, %	15.7 → 4.5 (2014) (2015)	30.8 → 12.0 (2014) (2015)	9.1 → -11.9 (2014) (2015)
Share of non-performing loans, %	7.0 → 8.9 (2014) (2015)	2.1 → 2.9 (2014) (2015)	11.9 → 16.9 (2014) (2015)

Sources: Reporting forms 0409101, 0409115.

During this period, the Bank of Russia lacked macroprudential policy instruments and could not implement countercyclical mechanisms to support lending. Support measures were confined to the use of microprudential regulatory easing. Banks could temporarily avoid increasing provisions for overdue loans if the borrower's financial status deteriorated or the loan was restructured[85] (if these events were linked to the sanctions). Since some borrowers were able to adapt to the sanctions shocks, this measure allowed banks to avoid creating excessive reserves at the onset of the crisis, which would have otherwise reduced bank capital and further limited their lending capabilities. Instead, banks formed provisions over time for the borrowers that failed to resume operations.

In 2014, the Russian Government did not support lending by subsidising corporate loan interest rates. Recapitalised[86] banks were required to increase mortgage lending or lending to small and medium-sized enterprises (SMEs), constituent entities of the Russian Federation, or companies in certain sectors (such as agriculture, manufacturing, chemical production, mechanical engineering, construction, transportation, communications, and production and distribution of electricity, gas, and water) by 1% per month. They could also purchase bonds from issuers in the above-mentioned sectors. Additionally, a support programme for SMEs has been in place since 2015.[87]

In 2014–2015, amid rising rates, mortgage demand was supported by a temporary Russian Government's programme that subsidised interest rates (programme budget: RUB 20 billion). The programme was extended in 2016, allowing for loans at rates not exceeding 12% per annum. There was also a programme to subsidise interest rates on car loans (with a budget of RUB 1.5 billion). Despite the measures implemented, a significant slowdown in lending was unavoidable (Table 2.10).

[85] The exemption was in force from 21 October to 31 December 2015 (Bank of Russia Letters No. 210-T, dated 18 December 2014; No. 01-41-1/5328, dated 23 June 2015; No. 01-41-1/8460, dated 28 September 2015).

[86] Under the bank recapitalisation programme through OFZs (funded by the State Corporation "Deposit Insurance Agency").

[87] Programme to stimulate lending to SMEs.

2020 crisis

In the 2020 crisis, companies faced disruptions in production chains and a decline in demand for their products and services. This led to cash flow gaps and an increased need for financing to pay employee salaries and replenish working capital. Previously issued loans required restructuring, as not all borrowers could service them during the significant economic slowdown. The commercial real estate sector (with restructuring reaching 40% of debt), the aviation industry (also reaching 40% in restructuring, though a significant portion of the debt remained with leasing companies, many within banking groups), and SMEs (exceeding 15%), particularly those in the tourism, hospitality, and restaurant sectors, were affected the most. Households also faced issues in managing their loan payments. Some borrowers lost their jobs, while others needed time to recuperate from COVID-19.

BANKING SECTOR LOAN PORTFOLIO IN 2019–2020 *Table 2.11*

	Corporate loans	Mortgage loans	Unsecured consumer loans
Debt growth rate, %	4.8 → 9.6 (2019) (2020)	22.6 → 25.2 (2019) (2020)	20.9 → 8.8 (2019) (2020)
Share of non-performing loans, %	10.9 → 9.8 (2019) (2020)	1.3 → 1.2 (2019) (2020)	7.5 → 8.8 (2019) (2020)

Sources: Reporting forms 0409101, 0409115.

The Bank of Russia implemented the following measures to bolster lending:

1. Amid a lowered inflation forecast, the Bank of Russia transitioned to a softer monetary policy, reducing the key rate from 6% to 4.25% per annum. This led to lower rates on long-term corporate loans (from 9% to 6.8% per annum from April to September 2020) and on variable-rate loans. The average effective interest rate fell from 15% to 13.7% per annum. The measure positively impacted lending; model estimates indicate that a 1 pp cut in the key rate boosts loan growth by 2.4 pp.

2. As in 2014, to encourage banks to restructure borrower loans and avoid creating excessive reserves during the crisis, the Bank of Russia introduced regulatory easing.[88] The measure was also necessary due to the enactment of a law that allowed SMEs and households to take loan repayment holidays.[89] Due to restructuring, most borrowers managed to regain their financial footing, while banks' provisioning was spread out over time: until 1 April for loans to large companies and until mid-2021 for retail and SME loans.

3. Unlike in 2014, by 2020, banks had built up a macroprudential capital buffer. To cover cyclical bank losses associated with both loan restructuring and non-performing loan write-offs, the buffer was partially released: RUB 290 billion for consumer loans and RUB 90 billion for mortgage loans. From the start of the pandemic to the end of regulatory easing, non-performing mortgage and consumer loans increased by RUB 180 billion, while loans amounting to about RUB 600 billion were written off and sold to collectors (thus, about half of the losses were covered by the macroprudential buffer, and half by loan provisions).

[88] Bank of Russia Information Letters No. IN-01-41/39, dated 30 March 2020; No. IN-03-41/57, dated 10 April 2020; No. IN-03-41/65, dated 14 April 2020; No. IN-03-41/76, dated 20 April 2020; No. IN-03-41/137, dated 24 September 2020; No. IN-08-41/179, dated 24 December 2020.

[89] Federal Law No. 106-FZ, dated 3 April 2020, 'On Amending the Federal Law 'On the Central Bank of the Russian Federation (Bank of Russia)' and Certain Laws of the Russian Federation with Regard to the Specifics of Changing the Terms of Credit or Loan Agreements' (in Russian only).

4. Amid heightened credit risks, macroprudential capital requirements for new mortgage and unsecured consumer loans were lowered in 2020 to enhance lending profitability. The measure was temporary, and in 2021, as the retail market recovered, the Bank of Russia began tightening its macroprudential policy.

5. To support SME lending, the Bank of Russia launched a concessional refinancing programme for banks, offering loans to SMEs at a 4% rate.[90] Under this programme, banks received loans totalling RUB 475 billion by 1 October 2020. The Russian Government also initiated several programmes to support SME lending, provide working capital loans for systemically important entities, and, similar to 2014, subsidised the mortgage rate for under-construction housing.

Due to these measures, the 2020 crisis did not lead to a credit crunch. Regulatory easing and macroprudential policy measures ensured that the financial sector continued to operate smoothly and support the economy.

Box 3. Assessment of the impact of the 2020 key rate reduction on lending dynamics

The calculations use a Bayesian structural vector autoregression model (BVAR), based on the specification given in Blake, Mumtaz (2017).[1] The time series spans from Q2 2005 to Q4 2022. The lag depth is 5 quarters.

The following data were used for the study:
- logarithm of S&P 500 VIX CBOE implied volatility;
- logarithm of Brent crude oil prices;
- Russian real GDP growth rate, YoY (%);
- consumer price index growth rate, YoY (%);
- growth rate of retail and corporate lending in rubles and overall lending, YoY (%);
- logarithm of nominal USD/RUB exchange rate;
- short-term interbank lending rate (2–7 days) reflecting the dynamics of the Bank of Russia key rate.

Interpretation of results:
- The maximum impact of the rate reduction manifests over a horizon of 5–6 quarters. At the point of maximum elasticity, a 1 pp reduction in the interest rate increases the annual growth rate of total ruble lending by 2.4 pp. For retail and corporate lending, the indicators are 3.2 pp and 2.1 pp, respectively.
- In the short term, the impact is less pronounced: six months after a 1 pp decrease, the growth rate of total lending and its components increases by 1.1–1.3 pp.
- Retail lending is slightly more sensitive to interest rate changes than corporate lending.

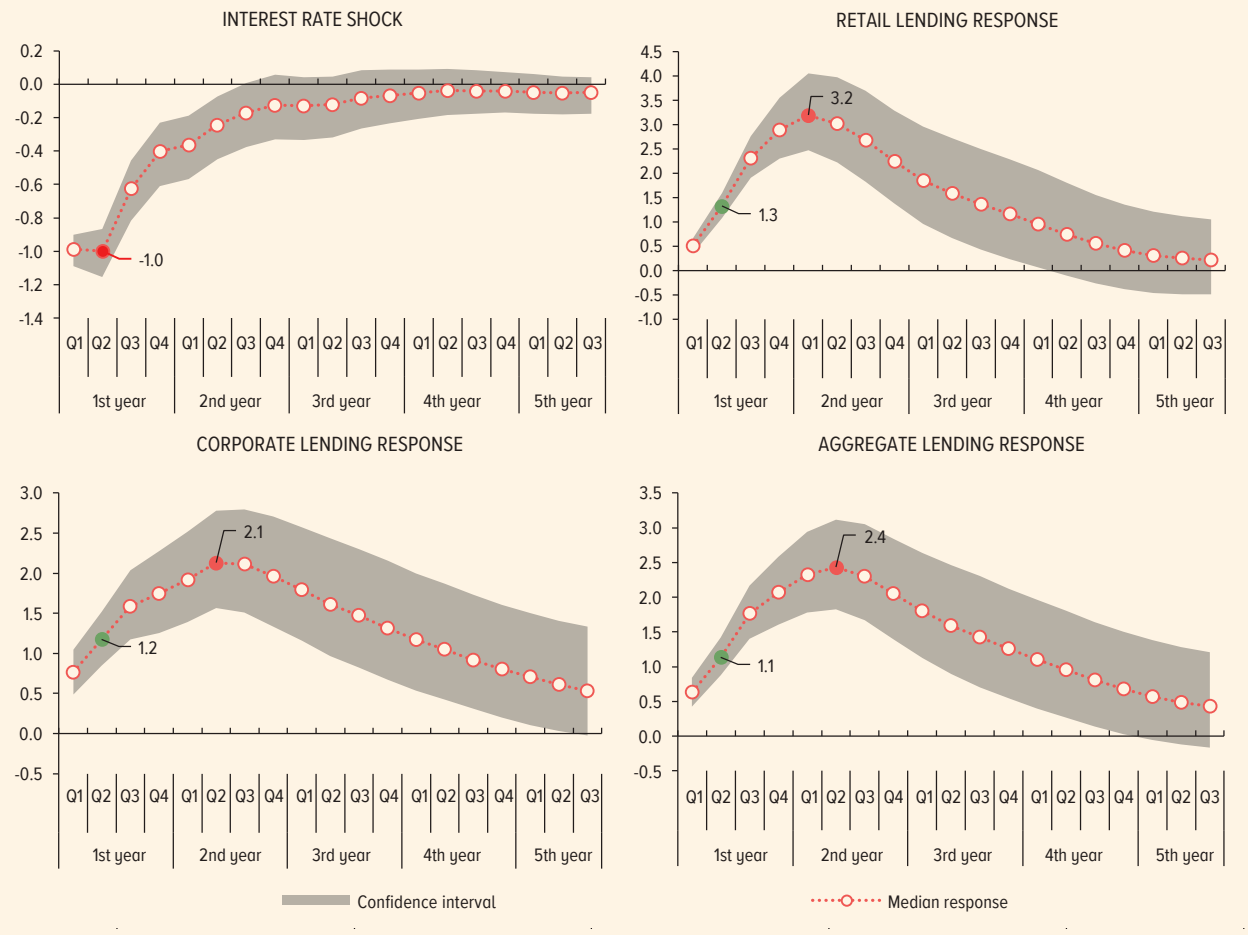
This may be due to the fact that retail customers are more likely to alter their borrowing decisions based on expectations about interest rate trends, especially in the secondary mortgage market where rates are not subsidised. Legal entities less frequently delay borrowing decisions based on interest rate trends, as securing certain types of loans is crucial for business continuity. Therefore, corporate lending dynamics are affected by a broader range of factors than household lending. Moreover, companies have more options than households as the former can pass on the expenses associated with higher financing costs to their customers.

Easing monetary policy during the 2020 crisis effectively mitigated the adverse effects on lending caused by the shock. However, it is important to note that this effect was partly due to the Russian Government's concessional programmes.

[1] Blake A., Mumtaz H. (2017). Applied Bayesian Econometrics for central bankers. Centre for Central Banking Studies.

[90] On 27 April 2020, the interest rate on Bank of Russia loans aimed at supporting SME lending was reduced from 4% to 3.5%, on 22 June 2020, to 2.5%, and on 27 July 2020, to 2.25%.

IMPULSE RESPONSE TO THE INTEREST RATE SHOCK BASED ON THE BVAR MODEL



Source: Cbonds, Bank of Russia.

2022 crisis

In 2022, the Russian economy faced unprecedented sanctions. Due to the lack of access to external resources and a forced increase in the key rate, the Bank of Russia implemented extensive regulatory measures to enable banks to continue lending:

1. Similar to 2014 and 2020, exemptions were made for provisioning on loans (including restructured ones) to borrowers affected by sanctions. Like in 2020, this measure allowed households and SMEs to request loan repayment holidays from banks. Additionally, large companies had an option to request a transitional period for variable rate loans, allowing for a gradual increase in interest payments (raising the variable rate to market level over three months). The most intensive restructuring occurred over two-three quarters of 2022: 23% of the loan portfolio was restructured, with over 60% of restructured loans being variable rate loans, mainly restructured under the above-described mechanism.

2. As banks faced the freeze of foreign assets, they were allowed to disregard the asset freeze when forming provisions. Going forward, credit institutions will gradually recognise losses from asset freezes until the end of 2032, with at least 20% recognised by the end of 2024.

3. Unlike in 2020, in March 2022, the macroprudential buffer accumulated by banks (approximately RUB 900 billion) was released fully, and not just partially. To bolster retail lending, macroprudential capital requirements for new mortgage loans and unsecured consumer loans were significantly reduced.

4. Capital adequacy buffers were released for five years, with a schedule for subsequent gradual reinstatement.

5. To enable banks to lend to sanctioned companies that lost access to foreign financial markets, preferential risk weights were introduced for calculating concentration norms, particularly for the N6 ratio (credit risk of the borrower[91] for N6 calculation). This enabled a significant increase in lending to major borrowers and the replacement of their external debt.

6. Banks had an option to forego capital deductions, increased risk weights, and provisions for loans issued until the end of 2023 for buying shares (stakes) from non-residents, with special permissions from the Government Commission.

7. The Bank of Russia, in collaboration with the Russian Government, launched a RUB 500 billion anti-crisis programmes to support SMEs, offering up to one-year loans for working capital and up to three-year investment loans (at rates of 13.5% for medium-sized and 15% for small companies).

8. When applying the Bank of Russia regulations, banks can use credit ratings assigned by Standard & Poor's, Fitch Ratings, and Moody's Investors Service as of 1 February 2022.

In 2022, the Russian Government launched multiple lending support programmes to offset rising market rates. The programmes were greater in scope than those in 2020. The programmes targeted systemically important companies, SMEs, and residential mortgage lending.

The measures implemented by the Bank of Russia and the Russian Government expanded lending access for Russian companies directly or indirectly affected by the sanctions. As in 2020, the efforts of the Bank of Russia and the Russian Government prevented a credit crunch and allowed borrowers to adjust to the new economic environment.

BANKING SECTOR LOAN PORTFOLIO IN 2021–2022 *Table 2.12*

	Corporate loans	Mortgage loans	Unsecured consumer loans
Debt growth rate, %	10.8 → 14.3 (2021) (2022)	30.7 → 20.4 (2021) (2022)	20.1 → 2.7 (2021) (2022)
Share of non-performing loans, %	7.5 → 6.4 (2021) (2022)	0.7 → 0.6 (2021) (2022)	7.7 → 8.7 (2021) (2022)

Sources: Reporting forms 0409101, 0409115.

The 2022 crisis was the most challenging of the three periods yet the most successful in terms of supporting lending. Unlike in 2014, a credit crunch was avoided despite significant rate increases in the economy. Supporting lending solely from the supply side (e.g. through regulatory easing or systemic bank recapitalisation) does not achieve desired outcomes in the context of high rates. While having capital is essential for banks to issue loans, it is not the sole prerequisite.

[91] Total receivables of the bank from a borrower with obligations under loans or a group of related borrowers minus loss provisions.

Supporting loan demand, which in 2022 was facilitated by temporary interest rate subsidies from the Russian Government and swift monetary policy normalisation, is also crucial. Interest rate subsidy measures can be applied only to a limited extent, such as for specific segments or time periods. Otherwise, such subsidies can cause excessive budget deficits and diminish the effectiveness of monetary policy.

2.1. Impact of regulatory easing on capital adequacy and lending

2.1.1. Impact of regulatory easing on the capital adequacy ratio

To assess the effectiveness of the regulatory easing, the Bank of Russia used data from regular supervisory surveys conducted during the crises. Data on the impact of specific regulatory easing measures on the capital adequacy ratio for 2015 is provided for 9 SIBs, and for 2020–2021 and 2022–2023, for both SIBs and other banks. Indicators for 2015 are calculated for 9 SIBs, and for 2020–2021 and 2022–2023, for all banks. The impact of each regulatory measure is presented in terms of capital adequacy and calculated on average over the measure duration for the banks that used it.[92]

The demand for the Bank of Russia's regulatory easing measures varied during the reviewed crisis periods, depending on the nature of the occurring shocks. In the 2014–2015 crisis, given the currency shock, the suspension of foreign currency revaluation was widely utilised.[93] During the 2020 crisis asset prices quickly rebounded, and most banks hardly used market risk measures. In that period, the deteriorating quality of loans was prevalent, which made measures aimed at stabilising borrowers' financial status highly popular. In 2022, banks preferred to use measures primarily focused on limiting credit risk and protecting against market risk.

Overall, the regulatory easing significantly impacted the capital adequacy ratio of the banking sector. During their effective period in 2014–2015, these measures added 0.9 pp[94] on average to the actual capital adequacy ratio for SIBs, in 2020, 0.5 pp for all banks (0.6 pp for SIBs), and in 2022, 3.5 pp for all banks (3.9 pp for SIBs) (Chart 2.49). The relatively minor impact on capital adequacy in 2014–2015 compared to 2022 was due to a limited range of granted exemptions and their low utilisation by banks.

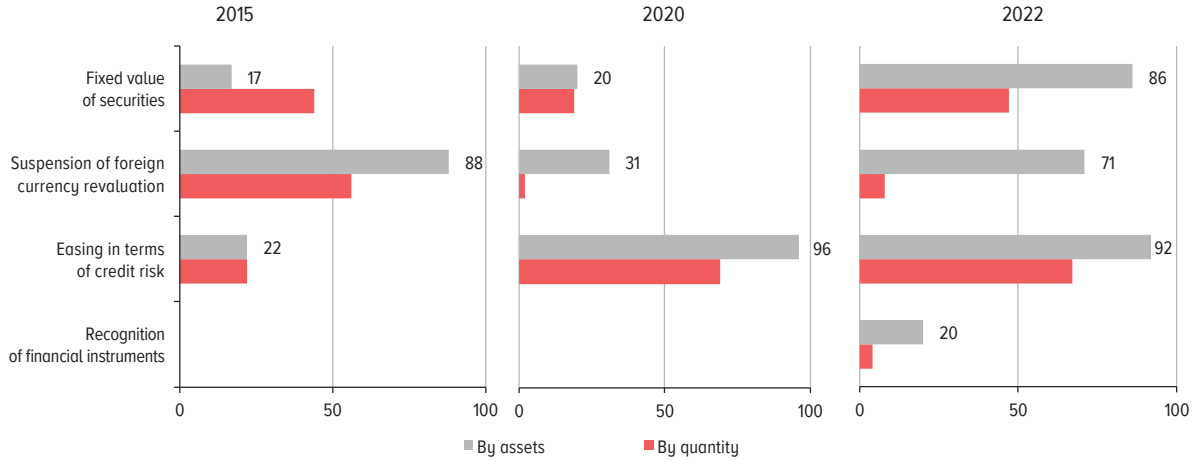
[92] Impact of a measure on the capital adequacy ratio is the sum of weighted average impacts of the measure on capital adequacy across a sample of banks that used this measure. The average impact of a measure on a bank's capital adequacy (for the duration of its application) is weighted according to the bank's share in the average assets of the sample of banks that used this measure during the relevant period.

[93] The assessed measures included the following regulatory easings (in Russian only).

[94] Impact of measures on the capital adequacy ratio is the sum of weighted average impacts of individual measures on capital adequacy across a sample of banks. The average impact of each measure on a bank's capital adequacy (for the duration of its application) is weighted according to the bank's share in the average assets of the sample during the relevant period.

SHARE OF BANKS USING REGULATORY EASING*
(%)

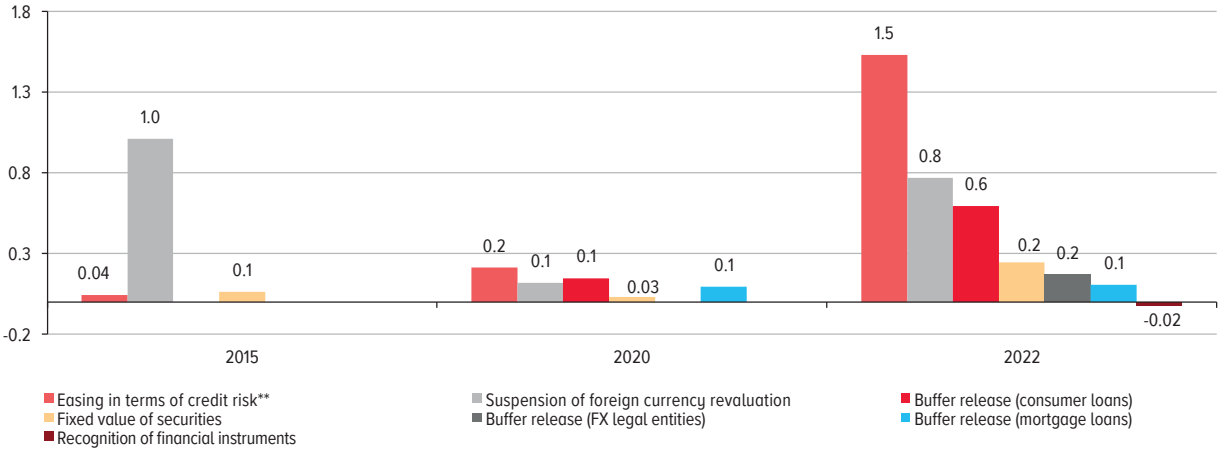
Chart 2.48



** For nine SIBs in 2015, and for all banks in 2020–2021 and 2022–2023.*
Source: Bank of Russia.

IMPACT OF INDIVIDUAL MEASURES ON N1.0 CAPITAL ADEQUACY RATIO*
(PP)

Chart 2.49



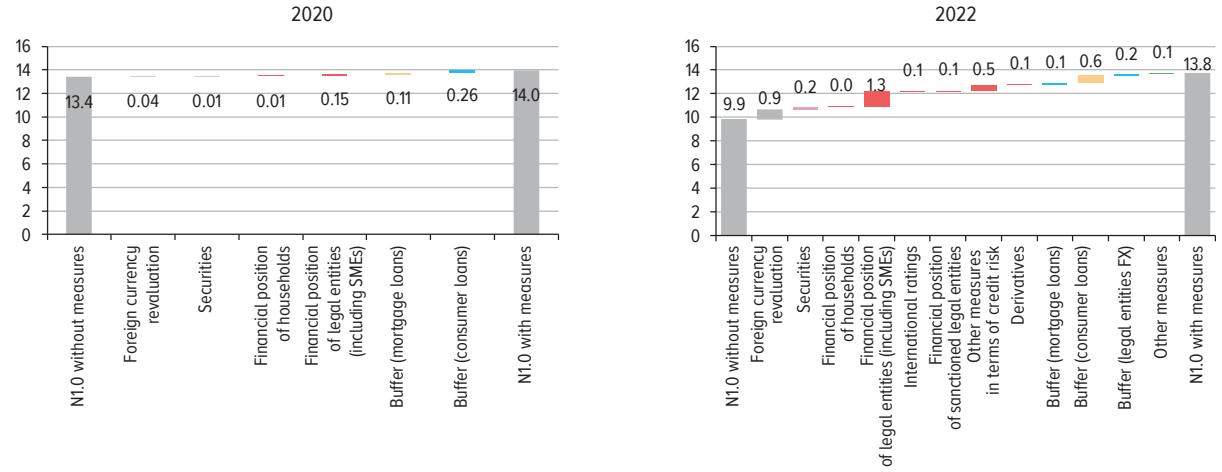
** For nine SIBs in 2015, and for all banks that implemented this measure in 2020–2021 and 2022–2023.*
*** In 2022, the easing in terms of credit risk includes exemptions from additional forming of provisions for blocked assets. In terms of credit risk, a conservative upper estimate is shown, as it includes the impact of certain measures that do not directly impact prudential buffers but could influence banks' risk appetite.*
Source: Bank of Russia.

The only measure that significantly impacted the recovery of the capital adequacy ratio during that period was the suspension of foreign currency revaluation (1 pp).

In 2020, the impact of the regulatory easing on the capital adequacy ratio was the lowest among the crisis periods reviewed due to the shallowest crisis depth and the quickest financial sector recovery. For the entire banking sector, the most effective measure in 2020 was the exemption from recognising changes in borrowers' financial positions (0.2 out of 0.5 pp of the total impact), while for SIBs, the largest contribution to capital adequacy ratios resulted from macroprudential policy measures, i.e. releasing buffers for consumer and mortgage loans (0.4 out of 0.6 pp of the total impact) (Chart 2.50).

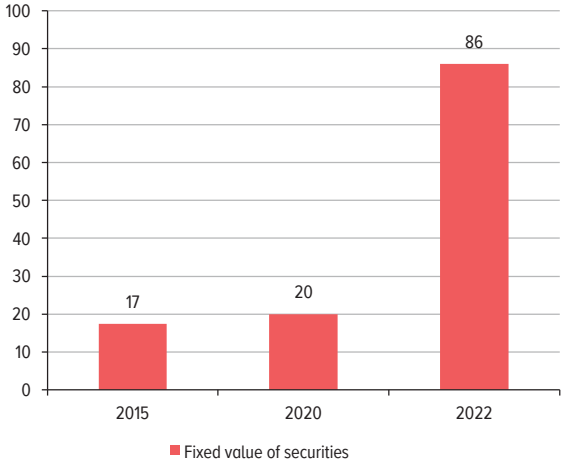
During the 2022 crisis, the impact of the regulatory easing on banks' capital adequacy ratio was the most significant. This can be attributed to both the unprecedented scale of the crisis and the extensive package of regulatory easing measures.

IMPACT OF MEASURES ON N1.0 *Chart 2.50*
(PP)



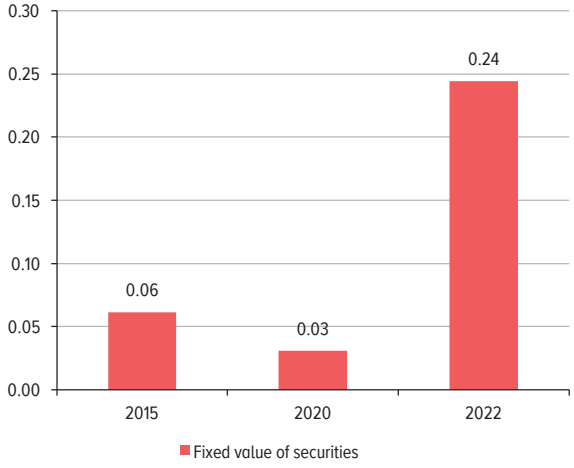
Source: Bank of Russia.

SHARE OF BANKS USING THE MEASURE (BY ASSETS) *Chart 2.51*
(%)



Source: Bank of Russia.

IMPACT OF MEASURES ON N1.0 *Chart 2.52*
(PP)



Source: Bank of Russia.

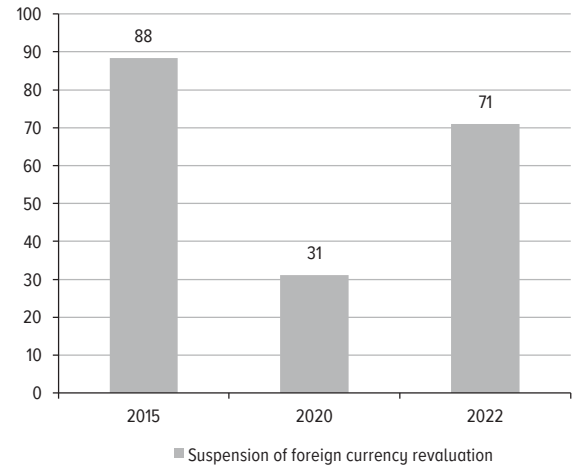
For the entire banking sector, the regulatory easing in terms of credit risk proved to be the most effective measure[95] (1.5 out of 3.5 pp of the total impact); the suspension of foreign currency revaluation also significantly contributed to capital adequacy ratios (0.8 pp). The impact of the regulatory easing decreased as the situation stabilised at varying rates (more rapidly for market risk, while the effect on credit risk persisted for a year or more).

Fixing the value of securities and derivatives. The share of banks that used the measure to fix the value of securities in 2015 and 2020–2021 amounted to about 17–20% of total bank assets (44% and 19% by number of banks). In 2022, given the increased volatility in the financial market, approximately 50% of banks (about 86% of banking sector assets) used this measure (Chart 2.51).

[95] Taking into account the easing for blocked assets. In terms of credit risk, a conservative upper estimate is shown, as it includes the impact of certain measures that do not directly impact prudential buffers but could influence banks' risk appetite.

SHARE OF BANKS USING THE MEASURE (BY ASSETS) *Chart 2.53*

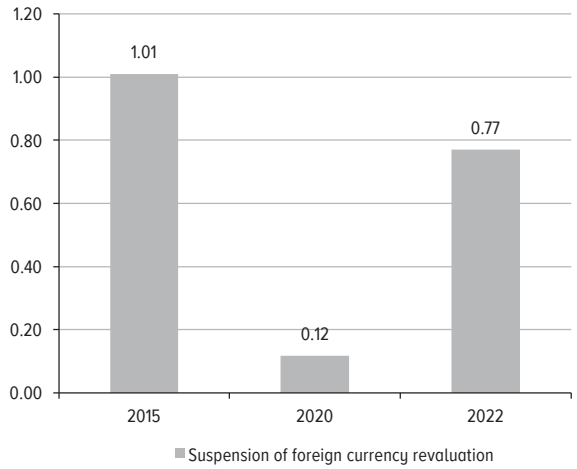
(%)



Source: Bank of Russia.

IMPACT OF MEASURES ON N1.0 *Chart 2.54*

(PP)



Source: Bank of Russia.

The ability to temporarily fix the value of securities when calculating required ratios enabled an increase in the banks' capital adequacy ratio by 0.03–0.06 pp in 2015 and 2020, and by 0.2 pp in 2022 (Chart 2.52).

In 2022, an additional measure was introduced allowing to fix the value of derivatives. This was used by about 4% of banks (approximately 20% of bank assets). However, considering the negligible (less than 0.01 pp) positive effect for most banks and the negative effect for some banks in certain months, the overall impact of this measure was about -0.02 pp.

Suspension of foreign currency revaluation. The most significant impact from the suspension of foreign currency revaluation for calculating ratios was observed in 2015 and 2022 (approximately 1.0 and 0.8 pp of the capital adequacy ratio, respectively) (Chart 2.54). In 2020, only 2% of banks (31% of banking sector assets) used this measure, in 2022, about 8% of banks (71% of assets) (Chart 2.53). The relevant impact in 2020 amounted to approximately 0.1 pp of N1.0.

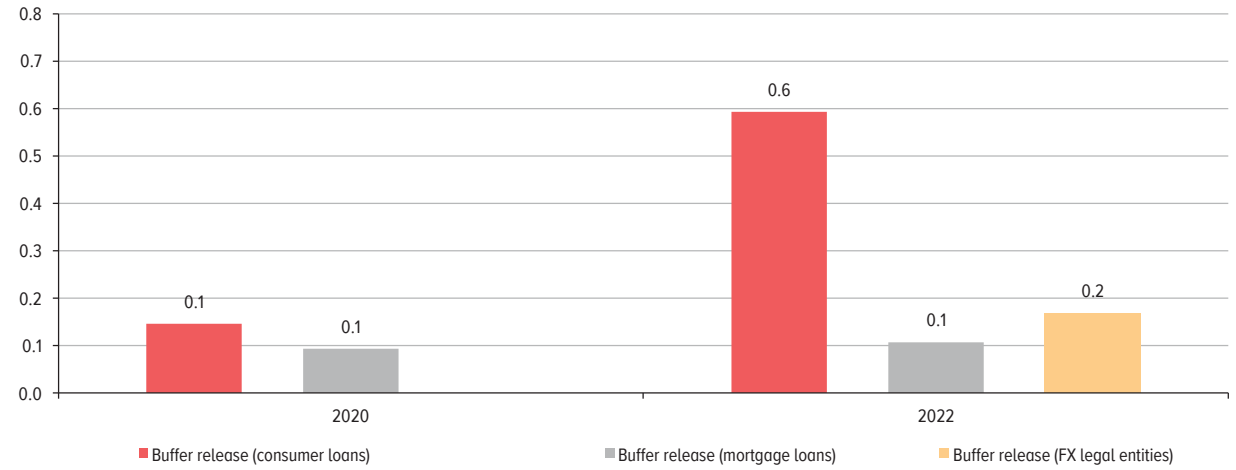
Release of macroprudential buffers. The partial and full release of the macroprudential buffer in 2020 and in 2022 allowed for an increase in the capital adequacy ratio of banks by 0.2 pp and 0.9 pp, respectively[96] (Chart 2.55).

Easing in terms of credit risk.[97] The ability to temporarily avoid recognising deteriorating financial positions of borrowers when forming provisions contributed significantly to maintaining the capital adequacy of the banking sector during the pandemic and the sanctions crisis of 2022–2023. In 2020 and 2022, about 70% of banks (over 90% of banking sector assets) utilised the regulatory easing measures in credit risk assessment (Chart 2.56). In 2022–2023, the impact amounted to approximately 1.5 pp of the ratio, and in 2020–2021, to approximately 0.2 pp (Chart 2.57).

[96] Excluding the impact of releasing the macroprudential buffer in 2021.

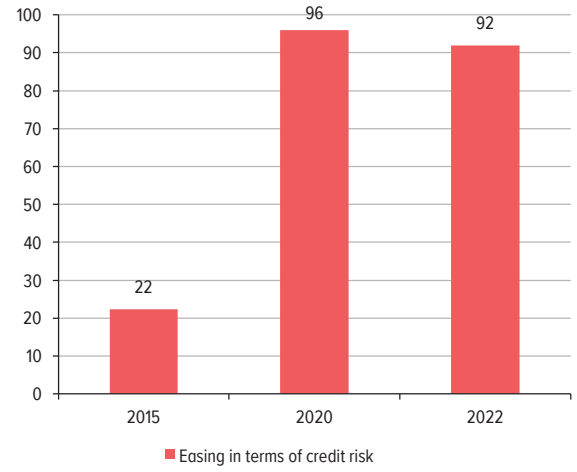
[97] In 2022, the easing in terms of credit risk includes exemptions from additional forming of provisions for blocked assets. In terms of credit risk, a conservative upper estimate is shown, as it includes the impact of certain measures that do not directly impact prudential buffers but could influence banks' risk appetite.

IMPACT OF MEASURES ON N1.0 *Chart 2.55*
(PP)



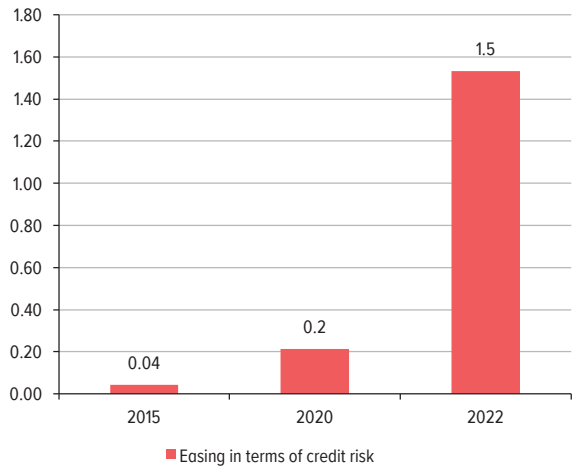
Source: Bank of Russia.

SHARE OF BANKS USING THE MEASURE (BY ASSETS) *Chart 2.56*
(%)



Source: Bank of Russia.

IMPACT OF MEASURES ON N1.0 *Chart 2.57*
(PP)



Source: Bank of Russia.

The list of regulatory easing measures included measures targeting both retail and corporate segments.[98] The impact of additional forming of provisions for retail loans overall for SIBs was negligible (less than 0.02 pp in 2020 and 2022). Other regulatory easing measures in terms of credit risk had a significant impact: 0.2 pp in 2020 and 1.9 pp in 2022.

It is important to note that the effectiveness of regulatory easing largely depends on the date of fixing the value of the indicator used. If the date is set well before the immediate onset of the shock, the measure's effectiveness will be higher, but the regulatory ratios of banks will be more detached from their existing risk profile. Conversely, if the date is set within the crisis period, the measure's effectiveness is lower, but risk underestimation is less pronounced. When deciding on regulatory easing, the regulator has to find a reasonable balance between the anticipated effectiveness of these measures and their potential to distort regulatory risk indicators.

[98] The assessment of the effect of regulatory easing measures on credit risk, broken down by retail and corporate segments, is given for SIBs.

It is also important to remember that regulatory easing is only effective when it is temporary and does not undermine the trust of businesses and the public in the financial system. Permanent underestimation of risks leads to distortion of prudential reporting and ratios, breaches of market discipline, and ultimately, to creditors' and depositors' distrust. This discourages market participants from implementing effective internal control mechanisms and enhancing operational efficiency, and negatively impacts banks' ability to independently maintain financial resilience, distorting competition. This is one of the reasons why the Bank of Russia decided to resume the disclosure of bank statements and timely cease applying the regulatory easing.[99]

2.1.2 Impact of regulatory easing on corporate lending dynamics[100]

The primary goal of introducing regulatory easing during a crisis is to support financial market resilience and preserve lending capabilities, in other words, to mitigate the impact on lending caused by a temporary capital decline due to a short-term drop in asset values or exchange rates significantly below equilibrium levels. In the event of structural shifts (2014–2015), this instrument allows banks to gradually adapt to the changing situation. In 2020 and 2022, banks that used regulatory easing measures actively expanded their corporate loan portfolios compared to other banks and relative to their own pre-crisis loan portfolio dynamics.

In 2015, the growth rate of the corporate loan portfolio in rubles for SIBs that did not use support measures was higher than for those that did. Nevertheless, the use of regulatory easing measures is inherently endogenous. During that period, the recapitalisation programme provided significant support to banks' capital adequacy. Recapitalised banks contributed the most to lending, both among those with a high impact from support measures and those not using any measures.

To analyse lending dynamics before and after the crisis in 2020 and 2022, we selected the 30 largest banks by the size of their ruble corporate portfolio, excluding banks under rehabilitation and foreign banking subsidiaries. They were divided into three groups based on the significance[101] of the impact of the measures on the bank's capital adequacy ratio (Table 2.13). Different thresholds were set for the effects in 2020 and 2022, as the impact of the easing on the ratio was much higher in 2022.

PARAMETERS OF GROUPING BANKS BY RELATIVE EFFECTIVENESS OF MEASURES IMPACTING CAPITAL ADEQUACY RATIO *Table 2.13*

Crisis	Indicator	Impact of measures		
		High	Medium	Low
2020	$\frac{\Delta N1.0}{H1.0}$	> 2.4%	(1%; 2.4%]	(0%; 1%]
	Number, cases	8	12	10
	Share in ruble corporate loan portfolio,%	28	50	6
2022	$\frac{\Delta N1.0}{H1.0}$	> 16.5%	(10%; 16.5%]	(0%; 10%]
	Number, cases	10	9	11
	Share, %	21	42	7

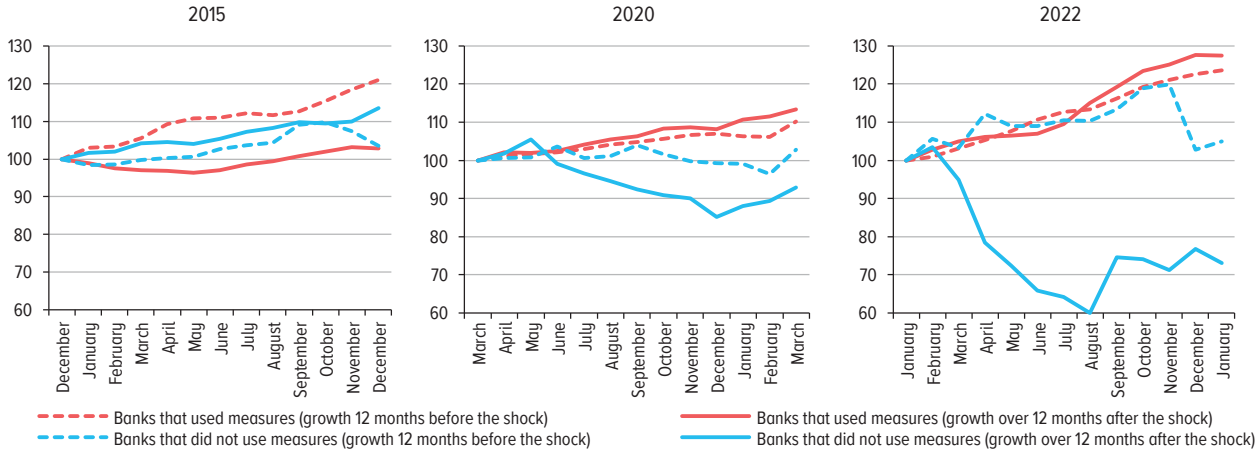
Source: Bank of Russia.

[99] Press releases, dated 30 November 2022, 24 May 2023 (in Russian only), and 15 November 2023.

[100] In Subsections 2.1.2 and 2.1.3, the impact on lending includes the effects of measures taken by both the Bank of Russia and the Russian Government.

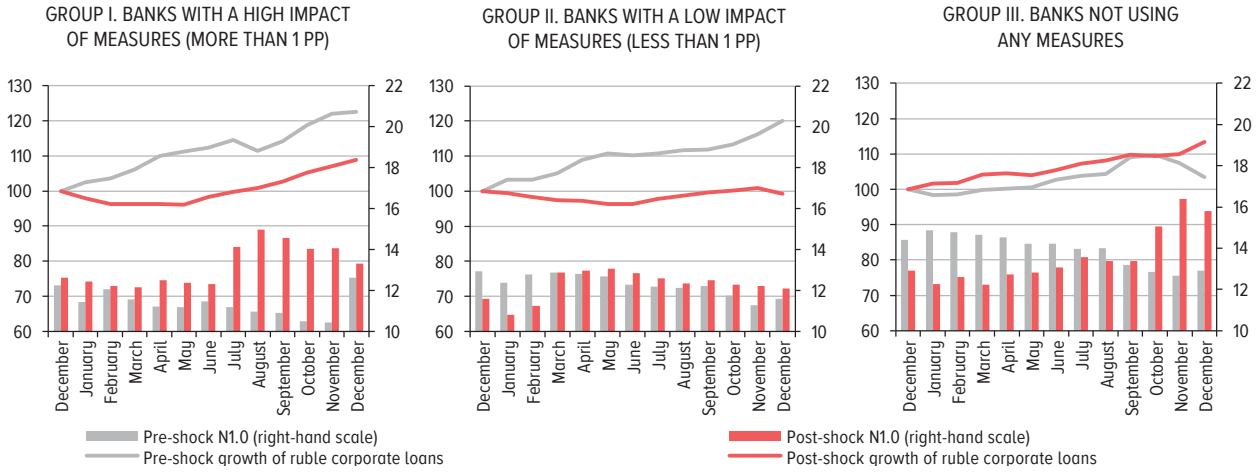
[101] Ratio of the impact of support measures to the capital adequacy ratio.

LENDING INDEX OF BANKS THAT USED/DID NOT USE MEASURES *Chart 2.58*



Source: Bank of Russia.

LENDING INDEX OF BANKS WITH DIFFERENT IMPACTS OF MEASURES IN THE 2014–2015 CRISIS (PRE-SHOCK: 1 JANUARY 2014 – 1 JANUARY 2015; POST-SHOCK: 1 JANUARY 2015 – 1 JANUARY 2016) *Chart 2.59*

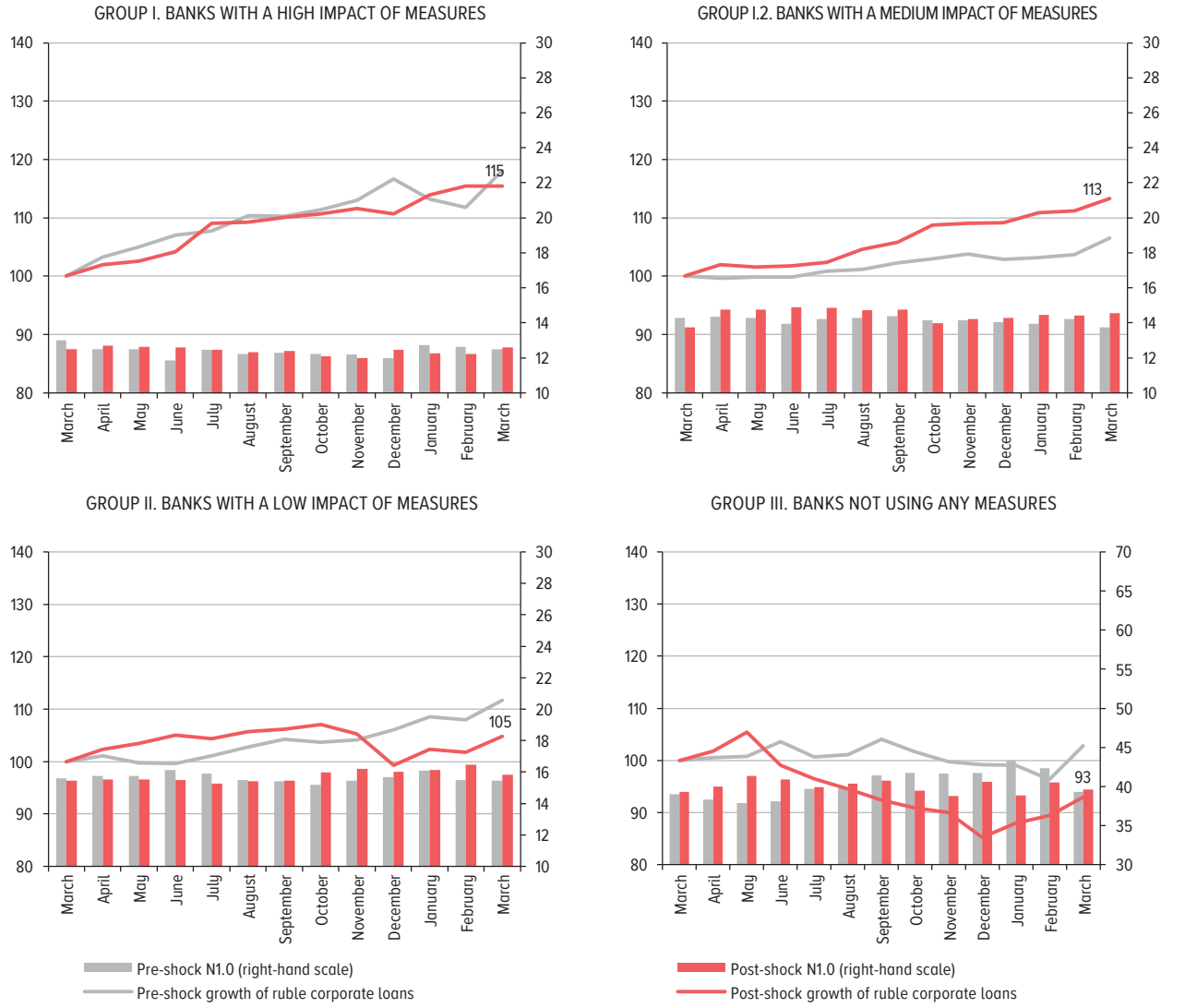


Source: Bank of Russia.

In 2020, the highest growth rates of the ruble corporate portfolio were observed in the group of banks with a high impact of support measures on the capital adequacy ratio (Chart 2.60). Additionally, this group of banks had shown relatively high growth rates in their loan portfolios even before the crisis, and the support measures enabled them to maintain high levels of lending. Banks with a medium impact exhibited a slightly lower growth rate in their portfolios during the crisis, yet these rates surpassed pre-crisis levels. Banks with a low impact of support measures not only experienced relatively low growth rates in their loan portfolios but also saw a decline in dynamics compared to pre-crisis levels. Overall, in 2020, the regulatory easing positively affected lending.

A similar trend was observed in 2022. The highest growth rates of the ruble corporate portfolio were observed in the group of banks with a high impact of support measures on the capital adequacy ratio (Chart 2.61). Unlike in 2020, this group of banks experienced accelerated growth in their loan portfolios six months after the onset of the crisis, surpassing pre-crisis levels.

LENDING INDEX OF BANKS WITH DIFFERENT IMPACTS OF MEASURES IN THE 2020 CRISIS (PRE-SHOCK: 1 APRIL 2019 – 1 APRIL 2020 (1 APRIL 2019 = 100%), POST-SHOCK: 1 APRIL 2020 – 1 APRIL 2021 (1 APRIL 2020 = 100%) *Chart 2.60*



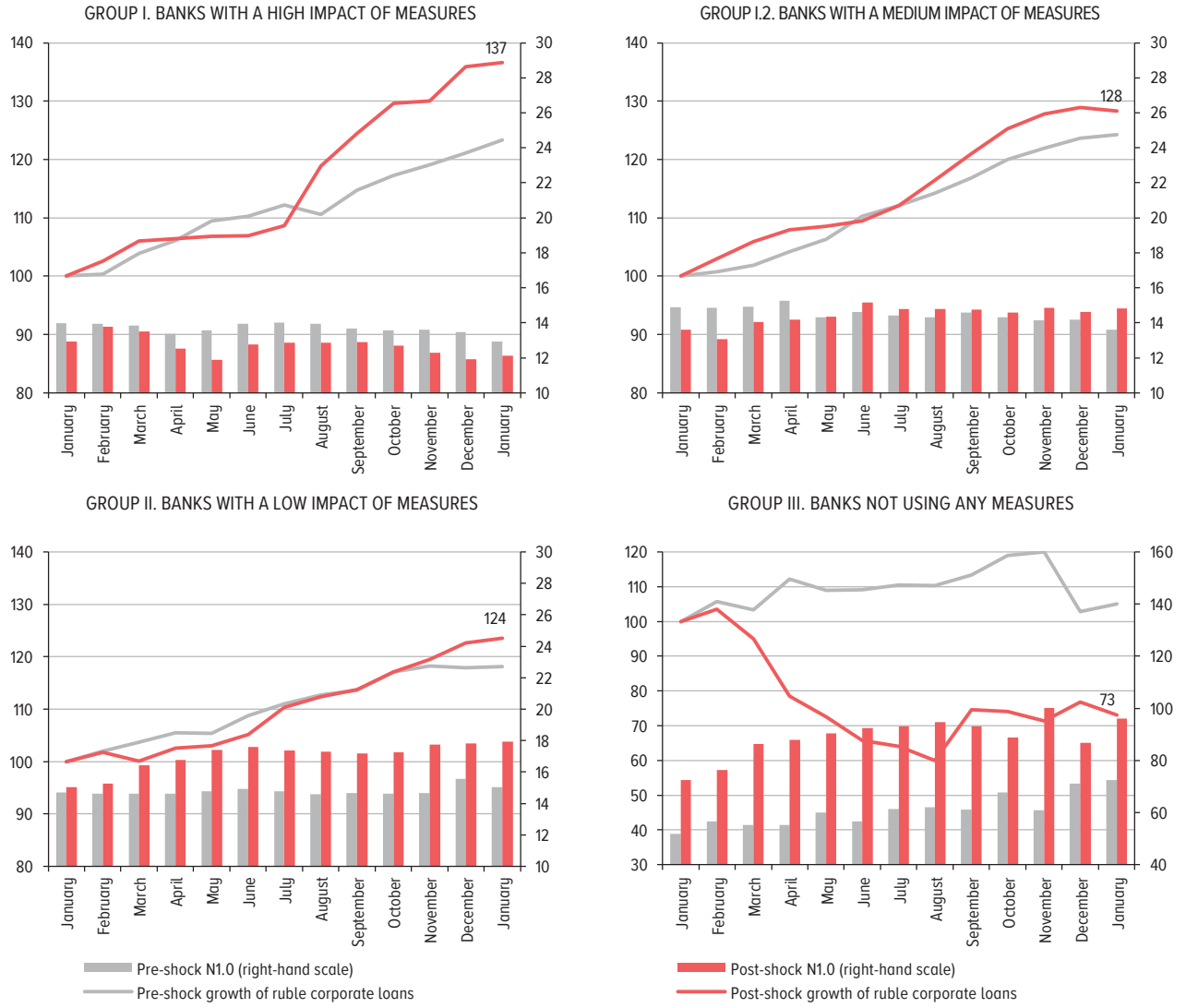
Source: Bank of Russia.

Banks with a medium impact showed a slightly slower portfolio growth rate during the crisis, but, as in 2020, the lending growth rate accelerated compared to pre-crisis levels. Banks with a low impact of support measures showed less significant loan portfolio growth, but, unlike in 2020, in 6 months from the onset of the crisis, they were able to exceed the pre-crisis growth rates. Thus, in 2022, the positive impact of regulatory easing on lending was also evident.

It should be noted that some banks, even with a high impact of the regulatory easing, did not increase lending, as their capital adequacy was significantly affected by the shock. For these banks, the impact of the measures primarily served as an instrument for maintaining financial resilience, as without the impact, they could have approached the minimum level of the ratio. In these conditions, such banks could not significantly expand their loan portfolios, as they would be extremely vulnerable to the Bank of Russia rolling back the regulatory easing.

Thus, comparing the dynamics of lending before and after the crisis, we can see that most banks (especially those with high and medium impact of the regulatory easing on capital adequacy)

LENDING INDEX OF BANKS WITH DIFFERENT IMPACTS OF MEASURES IN THE 2022 CRISIS (PRE-SHOCK: 1 FEBRUARY 2021 – 1 FEBRUARY 2022 (1 FEBRUARY 2021 = 100%), POST-SHOCK: 1 FEBRUARY 2022 – 1 FEBRUARY 2023 (1 FEBRUARY 2022 = 100%) *Chart 2.61*



Source: Bank of Russia.

maintained or even exceeded pre-crisis lending growth rates within a year after the onset of the crisis, further confirming the effectiveness of regulatory easing in the support of lending. However, it should be noted that the use of regulatory easing does not automatically lead to increased lending. Additionally, the growth in lending was supported by the Russian Government's concessional lending programmes.

2.1.3. Impact of regulatory easing on retail lending dynamics

Risk-weight add-ons that help to form and accumulate a macroprudential capital buffer serve as the primary countercyclical instrument in retail lending. During crisis periods, the Bank of Russia can reduce these buffers on previously issued loans, thereby releasing the capital buffer and allowing banks to use it to cover losses and continue lending. Unlike temporary regulatory easing, the release of the buffer for retail loans as an anti-crisis measure has no expiry date, enabling banks to use the released capital as a long-term lending source.

This section examines the impact of releasing macroprudential buffers on lending by the major banks. To assess the relationship between the impact of macroprudential policy measures and lending dynamics, the 30 largest banks were identified by the size of their mortgage (retail) portfolio (excluding banks under resolution, foreign banking subsidiaries, and banks linked to Russian non-financial entities) and divided into three groups based on the effect of the buffer release on the capital adequacy ratio. Due to significant differences in the share of mortgage (retail) loans in assets across banks, the impact of the buffer release on capital adequacy was adjusted for each bank accordingly.

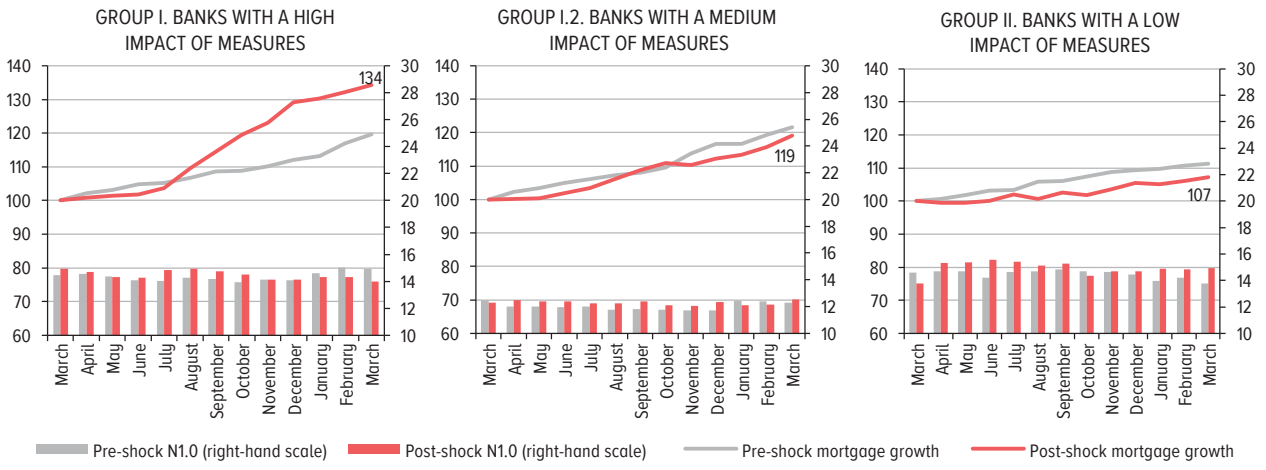
Mortgage loans. In 2020, the group of banks that experienced the most significant impact on capital adequacy from the partial release of the macroprudential buffer on mortgage loans saw the greatest growth in their mortgage portfolios. This group not only achieved the highest median growth in their loan portfolio compared to others but also significantly accelerated their portfolio growth rate beyond the pre-crisis dynamics. The other two bank groups experienced slower mortgage portfolio growth rates compared to both the first group and their own pre-crisis dynamics (Chart 2.62).

PARAMETERS OF GROUPING BANKS BY RELATIVE EFFECTIVENESS OF MEASURES[1] *Table 2.14*

Crisis	Indicator	Impact of releasing the buffer for mortgage loans		
		High	Medium	Low
2020	$\frac{\Delta H1.0}{H1.0}$ /a[2]	> 6.7%	(2.7%; 6.7%]	(0%; 2.7%]
	Number, cases	7	7	7
	Share in mortgage portfolio of the banking sector, %	7	24	55
2022	$\frac{\Delta H1.0}{H1.0}$ /a	> 10%	(5.0%; 10%]	(0%; 5.0%]
	Number, cases	10	9	6
	Share in mortgage portfolio of the banking sector, %	25	65	2

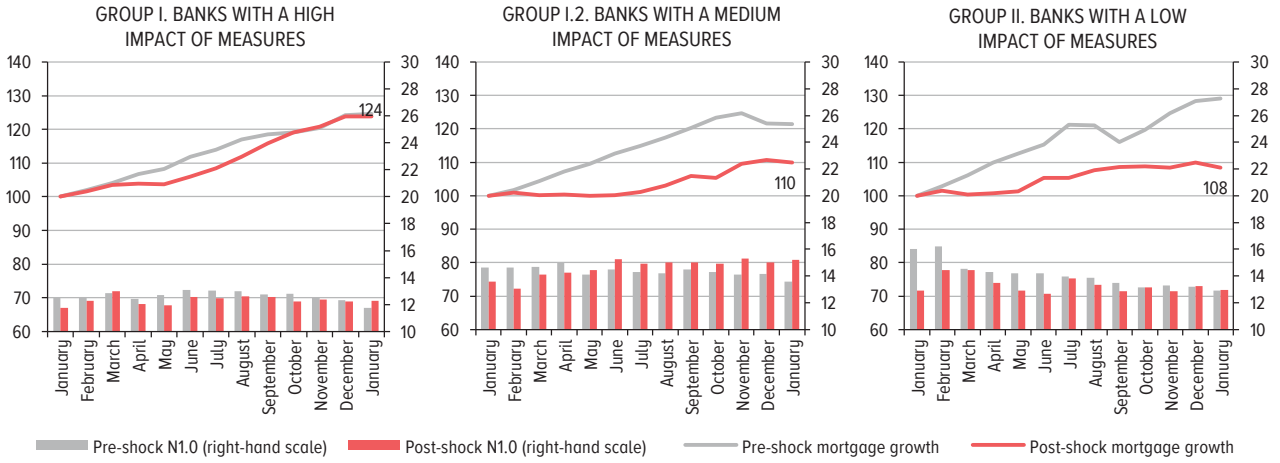
[1] *Excluding banks affiliated with Russian non-financial entities.*
[2] *"a" represents the share of mortgage loans in the bank's assets.*
Source: Bank of Russia.

MORTGAGE INDEX OF BANKS WITH DIFFERENT IMPACTS OF MEASURES IN THE 2020 CRISIS (PRE-SHOCK: 1 APRIL 2019 – 1 APRIL 2020 (1 APRIL 2019 = 100%), POST-SHOCK: 1 APRIL 2020 – 1 APRIL 2021 (1 APRIL 2020 = 100%) *Chart 2.62*



Source: Bank of Russia.

MORTGAGE INDEX OF BANKS WITH DIFFERENT IMPACTS OF MEASURES IN THE 2022 CRISIS (PRE-SHOCK: 1 FEBRUARY 2021 – 1 FEBRUARY 2022 (1 FEBRUARY 2021 = 100%), POST-SHOCK: 1 FEBRUARY 2022 – 1 FEBRUARY 2023 (1 FEBRUARY 2022 = 100%) *Chart 2.63*



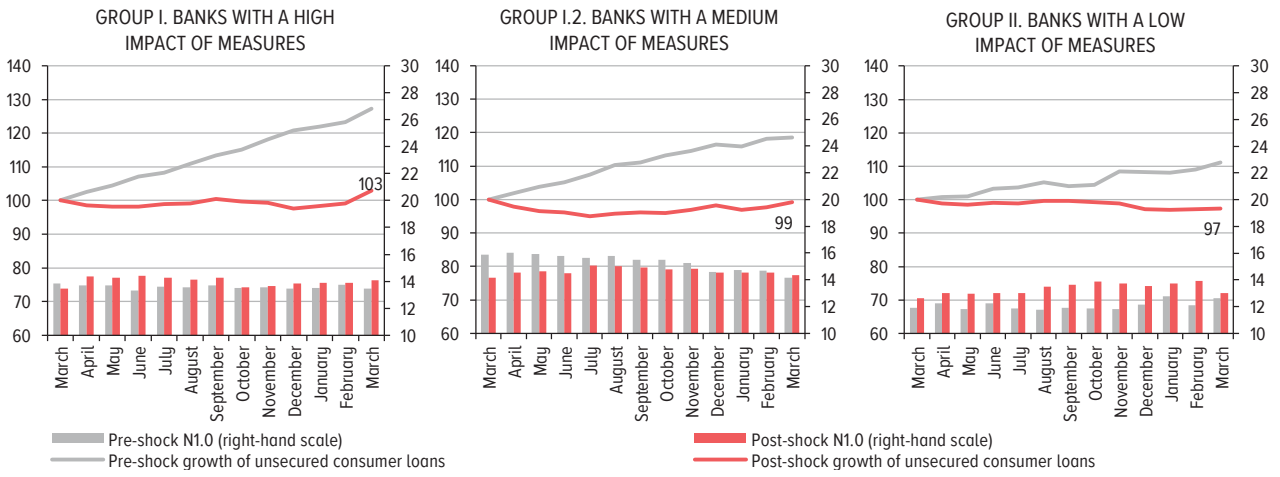
Source: Bank of Russia.

In 2022, the situation was similar. The inflow of capital following the release of the macroprudential buffer led to the most active growth in the mortgage portfolio, primarily among banks that were impacted the most by these measures. However, unlike in 2020, banks in this group did not surpass the pre-crisis dynamics of their portfolios, and the growth of mortgage portfolios for the other two groups in 2022 was significantly below their pre-crisis levels.

Overall, we can conclude that the release of macroprudential buffers for mortgage loans had a positive impact on mortgage lending, with the median mortgage growth rate accelerating as the relative amount of the released capital grew.

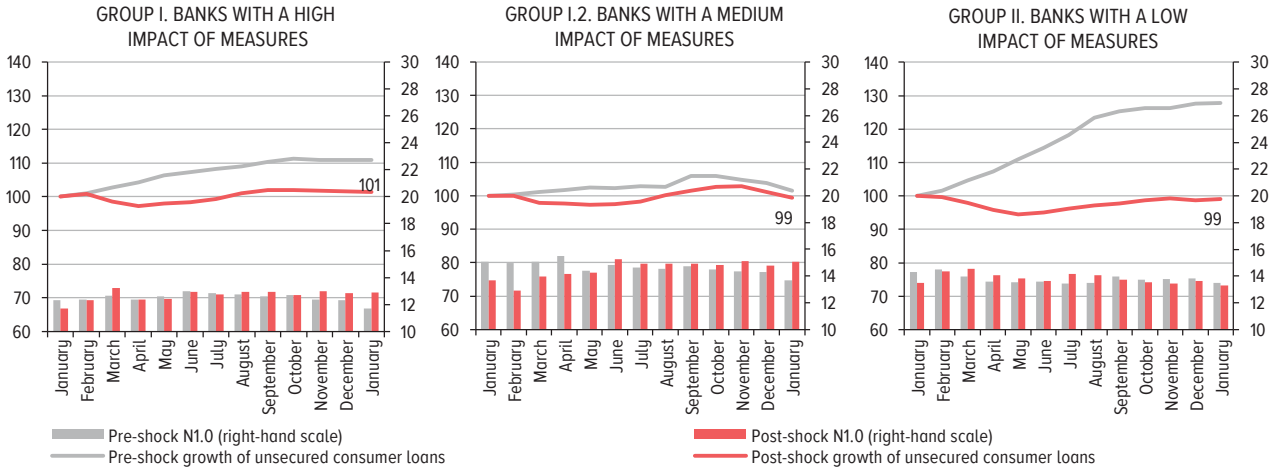
Unsecured consumer lending (UCL). Unlike mortgage lending, the growth rate of unsecured retail lending significantly dropped during the 2020 and 2022 crises compared to pre-crisis levels due to reduced demand, stricter loan requirements, and the lack of concessional state programmes.

UCL INDEX OF BANKS WITH DIFFERENT IMPACTS OF MEASURES IN THE 2020 CRISIS (PRE-SHOCK: 1 APRIL 2019 – 1 APRIL 2020 (1 APRIL 2019 = 100%), POST-SHOCK: 1 APRIL 2020 – 1 APRIL 2021 (1 APRIL 2020 = 100%) *Chart 2.64*



Source: Bank of Russia.

UCL INDEX OF BANKS WITH DIFFERENT IMPACTS OF MEASURES IN THE 2022 CRISIS (PRE-SHOCK: 1 FEBRUARY 2021 – 1 FEBRUARY 2022 (1 FEBRUARY 2021 = 100%), POST-SHOCK: 1 FEBRUARY 2022 – 1 FEBRUARY 2023 (1 FEBRUARY 2022 = 100%) *Chart 2.65*



Source: Bank of Russia.

PARAMETERS OF GROUPING BANKS BY RELATIVE EFFECTIVENESS OF MEASURES[1] *Table 2.15*

Crisis	Indicator	Impact of releasing the buffer for UCL		
		High	Medium	Low
2020	$\frac{\Delta H1.0}{H1.0}/a$[2]	>3.5%	(1.9%; 3.5%]	(0%; 1.9%]
	Number, cases	11	9	8
	Share in UCL portfolio of the banking sector, %	65	7	4
2022	$\frac{\Delta H1.0}{H1.0}/a$	>40%	(30%; 40%]	(0%; 30%]
	Number, cases	11	7	7
	Share in UCL portfolio of the banking sector, %	31	7	7

[1] *Excluding banks affiliated with Russian non-financial entities.*
[2] *"a" represents the share of UCL in the bank's assets.*
Source: Bank of Russia.

Nevertheless, the dynamics of unsecured retail lending varied among groups of banks with different degrees of buffer release impact on capital adequacy, although the discrepancies were not as significant as for other types of lending.

2.2. Assessment of the impact of regulatory easing on lending dynamics based on panel regression[102]

The findings of the previous sections support the effectiveness of the Bank of Russia regulatory measures, but do not provide its quantitative assessment. Comparing lending dynamics before and after the crisis can answer the question of whether support objectives were achieved, but does not address how the Bank of Russia measures contributed to achieving these objectives (as both the monetary policy and the Russian Government's interest rate subsidy measures affected the lending dynamics). To address this question and obtain quantitative estimates of the impact

[102] This subsection was prepared by the Research and Forecasting Department of the Bank of Russia and published on the Bank of Russia website.

of Bank of Russia regulatory measures on lending, a panel regression model was used as specified in the paper of the Bank for International Settlements (Gambacorta and Murcia, 2020).[103] The model is as follows:

$$\Delta Y_{b,t} = \alpha_0 + \sum_{m=1}^{M}\sum_{j=0}^{k}\beta_{m,j}\times MaP_{b,m,t\text{-}j} + \sum_{q=1}^{Q}\theta_q \times X_{q,b,t\text{-}1} +$$

$$+\sum_{q=1}^{Q}\sum_{m=1}^{M}\sum_{j=0}^{k}\delta_{qmj}^{[jk]}\times MaP_{b,m,t\text{-}j}^{[k]}\times X_{q,b,t\text{-}1} + \sum_{p=1}^{P}\vartheta_p \times macro_{p,t\text{-}1} + \sum_{b=1}^{B}u_b + \varepsilon_{b,t}$$

where $\Delta Y_{b,t}$ represents an increment per unit of time (month) t in the retail and/or corporate loan portfolio (in terms of mortgage and consumer lending), as well as the total loan portfolio of bank b;

$MaP_{b,m,t-j}$ represents a variable characterising the intensity of the impact of measure m for bank b at time t. The measure impact on the capital adequacy ratio relative to the capital reserve was used as an indicator for the measure;

$X_{q,b,t-1}$ represents a control variable q for bank b at time t-1: financial performance indicators and characteristics of the bank (SIB, internal ratings-based approach to calculating credit risk (IRB), state and foreign ownership share, etc.);

$macro_{p,t\text{-}1}$ represents a control macroeconomic variable p at time t-1 (global market oil price; key rate of the Bank of Russia);

$\varepsilon_{b,t}$ represents a random component in the assessment for bank b at time t;

and u_b represents a fixed effect (dummy variable) on bank b.

To study the impact of the Bank of Russia anti-crisis measures on lending, we considered 9 anti-crisis measures for all banks and 17 measures for SIBs that were discussed above. Additionally, the model included parameters of 17 concessional lending programmes launched by the Russian Government. In addition, along with the Bank of Russia regulatory easing, variables accounting for the tightening of the Bank's prudential policy before the 2020 and 2022 crises, and after the acute phase of the 2022 crisis (during 2016–2019, 2021–2022, and from H2 2022) were added to the model.

The created panel regression model confirmed the previously drawn conclusions on the statistically significant and economically substantial impact of the Bank of Russia regulatory easing on lending dynamics. In 2014, the regulatory easing overall enabled an additional increase in the loan portfolio by RUB 0.3 trillion, which helped to boost the portfolio growth rate by 0.8%. In 2020, the loan portfolio grew by RUB 0.2 trillion, or by 0.4% of the portfolio, and in 2022, by RUB 6.0 trillion (RUB 1.7 trillion of which represent the synergistic effect of the Bank of Russia's regulatory easing and the Russian Government's measures), or by 7.6% of the portfolio (Table 2.16).

[103] Gambacorta L., Murcia A. (2020). The impact of macroprudential policies in Latin America: An empirical analysis using credit registry data. Journal of Financial Intermediation, vol. 42, issue C.

SUMMARY OF THE IMPACT OF REGULATORY EASING ON LENDING[1] *Table 2.16*

	Indicator	Units of measurement	2014	2020	2022
1	Growth of the corporate loan portfolio	RUB trillion	0.4	0.8	4.1
2	Growth of the retail loan portfolio	RUB trillion	-0.1	-0.5	1.8
3	Growth of the total loan portfolio	RUB trillion	0.3	0.2	6.0[2]
4	Corporate loan portfolio	RUB trillion	32.5	41.2	52.8
5	Retail loan portfolio	RUB trillion	11.3	18.0	25.8
6	Total loan portfolio	RUB trillion	43.8	59.2	78.6
7	Impact on corporate portfolio	% of the portfolio	1.4	1.8	7.9
8	Impact on retail portfolio	% of the portfolio	-0.9	-2.8	7.0
9	Impact on total portfolio	% of the portfolio	0.8	0.4	7.6
10	Impact of measures in capital units	RUB trillion	0.2	0.2	1.2
11	Ratio of portfolio growth to capital growth		1.7	1.2	5.0

[1] Taking into account detailed information on loans under state programmes across individual banks.
[2] Including the synergistic effect of the Bank of Russia's regulatory easing and the Russian Government's measures amounting to RUB 1.7 trillion.
Source: Bank of Russia.

The model results also indicated a low impact of the 2014 easing: lending was primarily increased by banks participating in the recapitalisation programme. Despite the regulatory easing, the capital adequacy ratio of other banks continued to decline during the crisis, preventing them from expanding their loan portfolios. In 2020, the impact of regulatory easing on lending was relatively minor due to the limited effect of the measures on capital adequacy. In 2022, the impact of regulatory easing on lending was the most significant across all crisis episodes.

To assess the effectiveness of the regulatory easing during the crises, we calculated a multiplier effect representing the ratio of loan portfolio growth to capital growth influenced by the regulatory easing. In 2014, the multiplier effect was 1.7, meaning that the easing impacting capital by RUB 0.2 trillion led to a RUB 0.3 trillion increase in the loan portfolio, in 2020, the multiplier effect was about 1.2, and in 2022, it amounted to 5.0 (taking into account the synergistic effect) (Table 2.16). Thus, the effectiveness of support measures has significantly increased over the last decade.

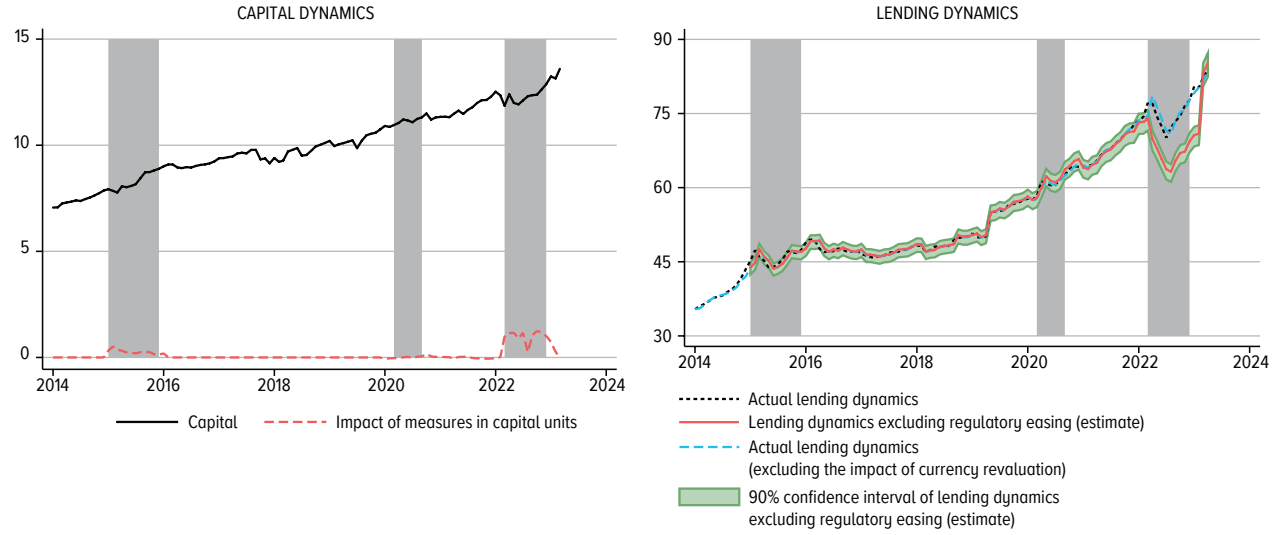
Across lending segments, the impact of the Bank of Russia regulatory easing was varied. The results of the model indicate that the regulatory easing allowed an additional increase of RUB 0.4 trillion in the corporate loan portfolio in 2014, boosting the portfolio's growth rate by 1.4%. In 2020, the portfolio expanded by RUB 0.8 trillion (1.8% of the portfolio), and in 2022, by RUB 4.1 trillion (7.9% of the portfolio). That said, the impact on the retail loan portfolio was negative in 2014 and 2020, indicating a shift of some banks' released capital from retail to corporate business. In 2022, however, the measures positively affected the retail business, leading to a portfolio increase of RUB 1.8 trillion, or 7.0% (Table 2.16).

Capital adequacy and lending potential were most significantly impacted in 2014 by the suspension of foreign currency revaluation for required ratios calculations, accounting for over 90% of the measures' total impact, in 2020, by the fixation of corporate borrowers' financial positions (up to 60% of the total impact), and in 2022, by the fixation of corporate borrowers' financial positions, including those under sanctions (up to 40% of the total impact).

In the retail segment, significant impacts on lending during the 2022 crisis were linked to exemptions from recognition of changes in the financial positions of retail borrowers when calculating reserves (up to 45% of the total impact) and the release of macroprudential buffers for mortgage loans (more than 10% of the total impact). Thus, both countercyclical macroprudential policy measures and temporary regulatory easing played a significant role in the support of lending.

DYNAMICS OF BANKING SECTOR CAPITAL AND LOAN PORTFOLIO WITH AND WITHOUT BANK OF RUSSIA REGULATORY MEASURES
(RUB TRILLION)

Chart 2.66

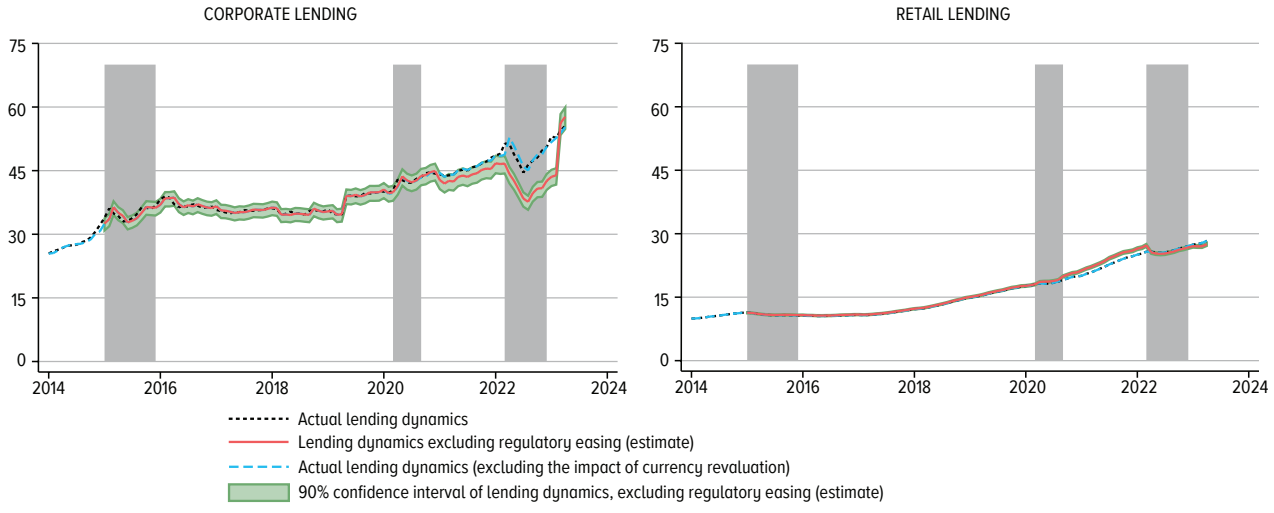


Note. On the left, the dynamics of capital in the banking system: the black solid line represents actual value; the red dotted line represents the effect of measures in terms of banks' capital. On the right, total loan dynamics: the black dotted line represents actual value (achieved through the support measures of the Bank of Russia; the blue dotted line represents actual value excluding foreign currency revaluation); the solid red line represents lending dynamics excluding measures. The green area around it represents the confidence interval of the estimate. The grey shaded areas correspond to the periods when the Bank of Russia's anti-crisis measures were applied in 2014, 2020, and 2022.
Source: Bank of Russia.

In addition to the Bank of Russia regulatory easing, concessional lending programmes launched by the Russian Government were crucial for lending during the 2020 and 2022 crises. In 2022, the impact of the Russian Government's concessional programmes (taking into account detailed data analysis on bank lending under the programmes) was estimated at about RUB 2 trillion. Thus, the cumulative effect of support measures in 2022 totalled about RUB 8 trillion, comprising RUB 4.3 trillion from the Bank of Russia's measures, RUB 2 trillion from the Russian Government's measures, and RUB 1.7 trillion from their synergistic effect.[104]

LOAN PORTFOLIO DYNAMICS WITH AND WITHOUT BANK OF RUSSIA REGULATORY MEASURES BY SEGMENTS
(RUB TRILLION)

Chart 2.67



Note. The black dotted line represents actual lending value (the blue dotted line represents actual value excluding foreign currency revaluation). These were achieved due to the timely implementation of the Bank of Russia's anti-crisis measures. The solid red line represents the hypothetical lending dynamics without the support measures of the Bank of Russia. The green area around it represents the confidence interval of the estimate. The grey shaded areas correspond to the periods when the Bank of Russia's anti-crisis measures were applied in 2014, 2020, and 2022.
Source: Bank of Russia.

[104] Detailed results of the assessment of measures' impact are available in the report of the Bank of Russia.

3. ENSURING RESILIENCE OF FINANCIAL INSTITUTIONS DURING CRISES

3.1. Resilience of credit institutions

During all crisis episodes reviewed, banks experienced profit reductions due to materialisation of risks. However, the list of primary risks causing the most significant losses for banks changed from one crisis to another. The 2008–2009 and 2014–2015 crises were marked by significant bank bankruptcies, whereas in later episodes, the banking sector remained stable and did not require systemic state recapitalisation.

The decline in credit institutions' profits in 2008 compared to 2007 was primarily due to materialisation of market and credit risks: negative revaluation of securities and increased loan loss provisions from September to December 2008. Simultaneously, a sharp increase in income from foreign currency revaluation partially offset the decline in banking sector profits. Consequently, the return on assets of credit institutions dropped to 1.8% in 2008, and the return on equity – to 13.3% (compared to 3.0% and 22.7% in 2007, respectively). In 2008–2009, 76 credit institutions had their licences revoked.

The 2008–2009 crisis was characterised by active government support measures provided to major banks. Subordinated loans were the primary source of capitalisation for the banking sector in 2008. Their increase amounted to RUB 856.6 billion, representing 59.0% of the total capital growth. With the measures taken into account, as of 1 January 2009, the capital adequacy ratio of the Russian banking sector amounted to 16.8%.

In 2014–2015, the primary losses were caused by the materialisation of credit and interest rate risks. Banks raised deposit rates following the key rate, leading to withdrawal of existing deposits and opening of new ones at higher rates. However, the rate on the loan portfolio could not increase as quickly, as the proportion of loans with floating rates was minimal. This resulted in banks incurring losses from materialisation of the interest rate risk in the banking book. Following this crisis, banks began extensively using corporate loans with floating rates to mitigate their interest rate risk.

Before the 2014–2015 crisis, banks' capital reserves were minimal, posing a threat to both banks' resilience and lending accessibility. Therefore, in 2014–2015, a massive recapitalisation of the banking sector was conducted through the DIA totalling RUB 802 billion (25 banks), with an additional RUB 138 billion provided to major banks from the NWF and RUB 200 billion from the Bank of Russia as subordinated deposits. The recapitalisation helped banks to cover part of their materialised losses and alleviated the problem of limited loan supply due to capital shortages. Capital shortages still manifested in small banks, leading to an increase in the number of revoked licences. In 2015, 73 licences were revoked due to capital inadequacy (48 in 2014), and this number grew to 81 in 2016. Bank closures were linked not only to the crisis but also to the Bank of Russia efforts to purge the banking sector of institutions involved in illegal operations.

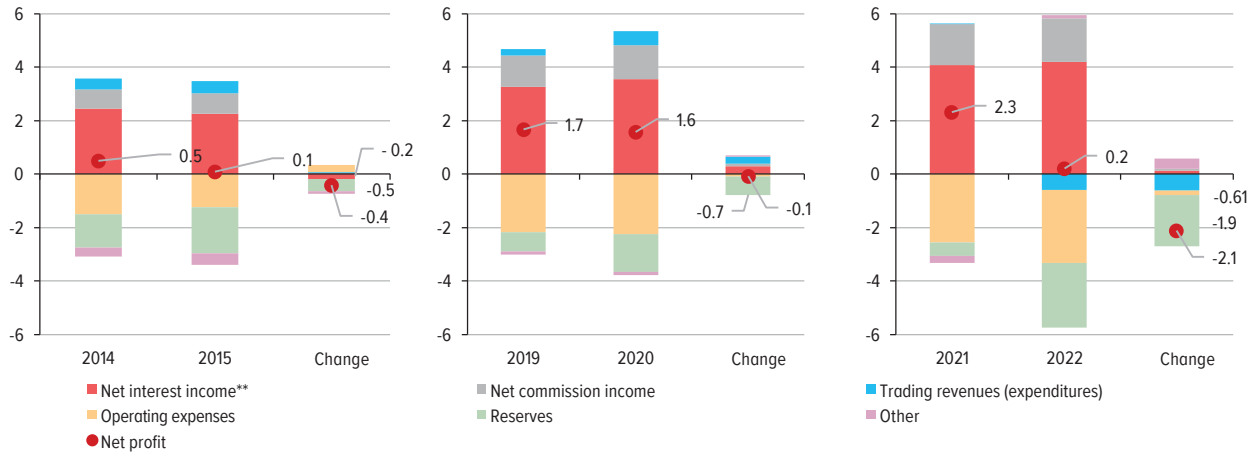
CHANGES IN THE CAPITAL RESERVES AND FINANCIAL PERFORMANCE OF THE BANKING SECTOR IN 2015, 2020, AND 2022 *Table 2.17*

	2015	2020	2022
Capital reserves and macroprudential buffer, RUB trillion (% of assets)	1.6 (2.0%) → 2.1 (2.6%) (01.01.2015) (01.01.2016)	4.7 (4.8%) → 6.4 (6.0%) (01.01.2020) (01.01.2021)	7.0 (5.7%) → 6.1 (4.4%) (01.01.2022) (01.04.2023)
Financial performance[1], RUB trillion	0.5 → 0.1 (2014) (2015)	1.7 → 1.6 (2019) (2020)	2.3 → 0.2 (2021) (2022)
Return on equity, %	7.4 → 1.4 (2014) (2015)	19.5 → 15.7 (2019) (2020)	21.1 → 1.8 (2021) (2022)

[1] Excluding the Non-core Asset Bank from 2019 to 2022.
Source: Reporting forms 0409123, 0409135, 0409102, and 0409101.

BANKING SECTOR PROFIT STRUCTURE
(RUB TRILLION)

Chart 2.68



** Excluding the Non-core Asset Bank from 2019 to 2022.*
*** In 2014 and 2015, net interest income included net interest income from retail and corporate transactions, as well as net income from securities investments.*
Source: Reporting form 0409102.

Unlike in 2015, in 2020, banks did not face any significant reduction in income. Allocations to reserves increased by 50% compared to 2019, yet banks maintained high profits by the end of the year. Due to high profitability and substantial capital reserves, banks did not require systemic recapitalisation. The number of banks with revoked licences due to capital inadequacy decreased: 9 in 2020 (20 in 2019) and 12 in 2021.

In 2022, banks encountered significant losses from foreign exchange and credit risks. Despite a balanced FX position before the crisis, hedging foreign exchange risks with derivatives proved ineffective: under sanctions, many foreign counterparties terminated transactions ahead of schedule. Additionally, the outflow of FX customer funds, mainly from sanctioned banks, and the need to purchase foreign currency on the market using rubles made banks maintain a long open FX position. This increased the sensitivity of banks' financial performance to fluctuations in the ruble exchange rate. In H1 2022, losses from foreign currency revaluation due to the ruble's strengthening reached RUB 1 trillion, but declined towards the end of the year. Consequently, the primary losses were traditionally associated with credit risk.

Despite significant balance sheet losses, the banks did not require systemic recapitalisation. Unlike in 2015, by 2022, banks had accumulated a substantial capital reserve of RUB 6.1 trillion and a macroprudential buffer of RUB 0.9 trillion. In 2022, only one banking licence was revoked due to capital inadequacy. However, in 2022, banks distributed the lowest dividend amount, constituting 1% of the sector capital (Table 2.18).

The comparison between the 2014–2015 and 2022 crises is particularly revealing. During these periods, banks incurred significant losses, but in 2022, unlike in 2014–2015, they had substantial capital reserves. This enabled the government to avoid systemic bank recapitalisation, implement temporary regulatory easing, and redirect budget funds to support the real sector (through subsidising loan interest rates and aiding the most affected industries). Taking into account this experience, the Bank of Russia deems it crucial to timely resume capital accumulation following the 2022 crisis. As early as 2023, the Bank of Russia increased the buffers for mortgage loans and unsecured consumer loans to accelerate the accumulation of the macroprudential buffer. Despite the continuation of the eased capital adequacy buffer requirements until 2028, the Bank of Russia advises banks to restore these buffers sooner.

DIVIDENDS PAID TO SHAREHOLDERS *Table 2.18*

	2015	2020	2022
Dividends, RUB billion	276 → 151 (2014) (2015)	542 → 622 (2019) (2020)	643 → 139 (2021) (2022)
% of sector capital	3.5 → 1.7 (2014) (2015)	4.9 → 5.5 (2019) (2020)	5.1 → 1.0 (2021) (2022)

Source: Reporting forms 0409101, 0409123.

3.2. Resilience of the insurance market

Traditional channels for the financial crisis shock transmission to the insurance sector include negative revaluation of insurers' investment assets and increased losses in car insurance (due to rising costs of car parts linked to foreign exchange rates). In 2022, sanctions significantly restricted Russian insurance companies' ability to engage foreign reinsurers for major risk reinsurance and loss compensation, and also led to a downturn in the investment life insurance segment due to blocked access to foreign assets.

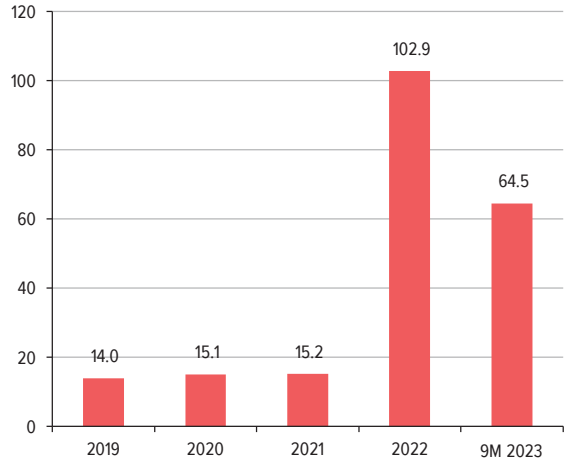
As a response to the 2014–2015,[105] 2020,[106] and 2022[107] crises, the Bank of Russia introduced a moratorium on recognising negative revaluation of securities portfolios. The 2020 crisis barely impacted the car insurance market (in fact, losses dropped during the anti-pandemic restrictions), while in 2014–2015 and 2022, the car insurance sector required an expansion of the OSAGO rate range. This measure allowed to maintain fair pricing amid increasing losses in the OSAGO segment.

In 2022, to prevent issues with OSAGO loss settlements due to the absence of original car parts in the market, the Bank of Russia authorised the inclusion of cost data for quality generic components in price directories.

DYNAMICS OF OUTWARD REINSURANCE SHARE *Chart 2.69*
(%)

Source: Bank of Russia.

JSC RNRC, INWARD REINSURANCE *Chart 2.70*
(RUB THOUSAND)



Source: Bank of Russia.

[105] Bank of Russia press release, dated 17 December 2014, 'On Bank of Russia measures to maintain resilience of Russian financial sector'.

[106] Bank of Russia press release, dated 20 March 2020, 'Bank of Russia approves measures to support people, economy and financial sector during coronavirus'.

[107] Bank of Russia Information Letter No. IN-018-53/16, dated 25 February 2022.

In the life insurance sector, to prevent future sanctions risks being passed onto customers, the Bank of Russia enacted a regulatory measure protecting consumer interests in earning additional investment income.[108]

Amid the 2014 sanctions, the Russian National Reinsurance Company (JSC RNRC) was established to **reinsure sanctions risks**. However, by early 2022, certain insurance types (aviation, some types of liability insurance, cargo) still heavily depended on foreign reinsurers. In 2021, the share of premiums ceded for reinsurance abroad amounted to 6% of direct insurance premiums, with a significant portion transferred to companies from unfriendly countries.

The 2022 sanctions resulted in the termination of some agreements with reinsurers from unfriendly countries that had been entered into contract before February 2022. In response, Russian insurance companies shifted towards domestic reinsurance of risks, primarily with JSC RNRC.

In 2022, the Bank of Russia guaranteed an increase in JSC RNRC's declared capital to RUB 750 billion, facilitating the development of additional reinsurance capacities. Additionally, JSC RNRC fully took over portfolios previously reinsured with companies from unfriendly countries, maintaining existing reinsurance terms and conditions for Russian insurers. Furthermore, the minimum rating threshold for foreign reinsurers was reduced. This allowed Russian insurers to enhance their reinsurance risk transfer capabilities.

Starting from July 2021, the Bank of Russia began to gradually introduce new risk-sensitive regulatory requirements aimed at enhancing the financial resilience and solvency of insurers. Due to the measures adopted by market participants to meet the new standards, the market entered the sanctions period with superior asset and capital quality. However, the new standards required broader support measures for the insurance sector. Specifically, the following measures were adopted in 2022:[109]

- moratorium on the revaluation of exchange rates, fair value of securities, and fixed zero-coupon yield curve values for government bonds;
- reduction in the values of market and credit risks when calculating the regulatory ratio of equity (capital) and assumed liabilities (hereinafter, the regulatory ratio);[110]
- option to fix the value of blocked assets when assessing financial resilience (in calculating equity ratios, the overdue debts of Euroclear, Clearstream, and reinsurers from unfriendly countries[111] were not deemed zero as per paragraph 3.1.13 of Regulation No. 781-P[112]).

However, only insurers that decided not to distribute dividends could apply some of these support measures.

More than half of the insurers used at least one of the specified support measures, with 46% of market participants implementing all the measures. The most sought-after measures were those aimed at reducing risk values and accounting for overdue counterparty debts, which were used by 67% of insurers.

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[108] Bank of Russia Ordinance No. 6671-U, dated 15 January 2024, 'On Amending Bank of Russia Ordinance No. 5968-U, Dated 5 October 2021' (in Russian only).

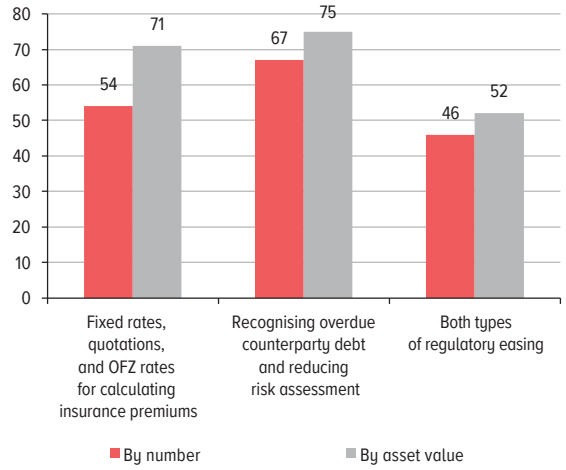
[109] Decision of the Bank of Russia Board of Directors, dated 14 April 2022, 'On Temporary Requirements for the Activities of Insurance Companies, Mutual Insurance Companies, and Non-governmental Pension Funds'.

[110] The regulatory ratio indicates the insurer's financial resilience level, calculated as the ratio of capital to total risks assumed on assets and liabilities. For a financially resilient company, the regulatory ratio should exceed 1.

[111] In terms of the overdue debt for the reinsurer's share in the insurer-paid losses.

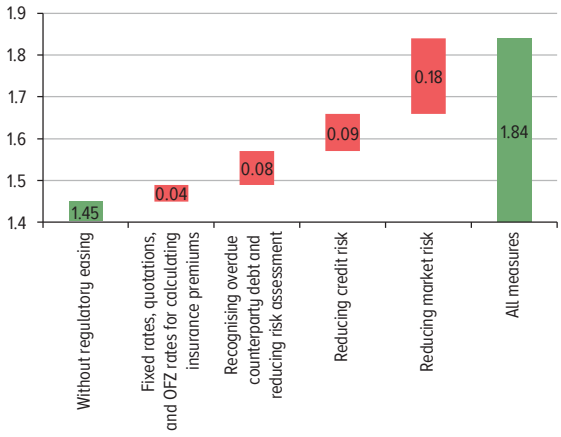
[112] Bank of Russia Regulation No. 781-P, dated 16 November 2021, 'On Requirements for the Financial Resilience and Solvency of Insurers'.

SHARE OF INSURERS USING REGULATORY EASING *Chart 2.71*
(%)



Source: Bank of Russia.

CONTRIBUTION OF MEASURES TO THE GROWTH OF REGULATORY RATIO OF INSURERS USING REGULATORY EASING *Chart 2.72*



Source: Bank of Russia.

The regulatory easing introduced in 2022 had a significant impact on the regulatory ratio of equity to assumed liabilities across the market. The Bank of Russia analysed the contribution of each measure to the change in the average regulatory ratio across the insurance market. The impact was calculated using supervisory reporting data, and market indicators and asset prices as of 31 July 2022.

Reducing market risk ratios had the most significant impact on the regulatory ratio growth.[113] On average across the market, the impact amounted to 0.18 (a reduction of the total required capital in the insurance market by RUB 35 billion), with certain insurers[114] seeing regulatory ratio growths of 0.5–1.73. The second most significant measure for the market was reducing the assessment of credit risk: the impact amounted to 0.09 (a reduction of the total required capital by RUB 22 billion). The impact of support measures related to accounting for overdue counterparty debts and fixed asset values and market indicators amounted to 0.08 and 0.04 (an increase in total equity by RUB 31 billion and RUB 22 billion), respectively.[115]

Support measures enabled insurers to better navigate periods of high financial market volatility, adapt to long-term structural changes, and maintain their financial resilience and solvency. With the stabilisation of the insurance market, the Bank of Russia decided not to extend certain regulatory easing measures. For instance, the measure of reducing market risk ratios expired in 2023. The easing of capital reserve requirements for covering credit risk expired in 2024. Some of the requirements to insurers introduced by the Bank of Russia to support the insurance market have been modified and adopted on a permanent basis. Specifically, insurance companies that do not distribute dividends have been granted the right to write off the value of blocked assets over a 10-year period starting from 1 January 2023.[116]

[113] Reduced ratios for risks of changes in credit spread, interest rates, exchange rates, real estate prices, and other asset prices.

[114] The effect is demonstrated for the top 5 insurers by the impact of the support measure on regulatory ratio growth.

[115] However, different support measures proved to be the most important for different insurers. For instance, the regulatory ratio growth from reducing credit risk for some insurers amounted to 0.47–0.59, from accounting for overdue counterparty debts and fixed asset values and market indicators, to 0.39–1.20, and 0.55–1.81 respectively.

[116] Bank of Russia Ordinance No. 6513-U, dated 21 August 2023, 'On Amending Bank of Russia Regulation No. 781-P, Dated 16 November 2021, 'On Requirements for the Financial Resilience and Solvency of Insurers'.

3.3. Resilience of the MFO market

The events of 2020 and 2022 affected the microfinance market the most. The anti-pandemic restrictions impacted various industries and consumer activity, leading to a significant reduction in loan disbursements in Q2 2020 across all segments of the microfinance market, while in 2022, the reduction was not as substantial due to the lesser impact of sanctions on the credit activity of the households.

The reduction in disbursements affected the dynamics of the loan portfolios of microfinance market participants, with a temporary decrease in portfolio value observed in nearly all market segments. All market shocks led to an increase in NPL90+ due to the deterioration of borrowers' solvency.

The support measures for microfinance market participants introduced by the Bank of Russia between 2020 and 2022 can be grouped into three blocks:

1. Guidelines for interacting with borrowers:

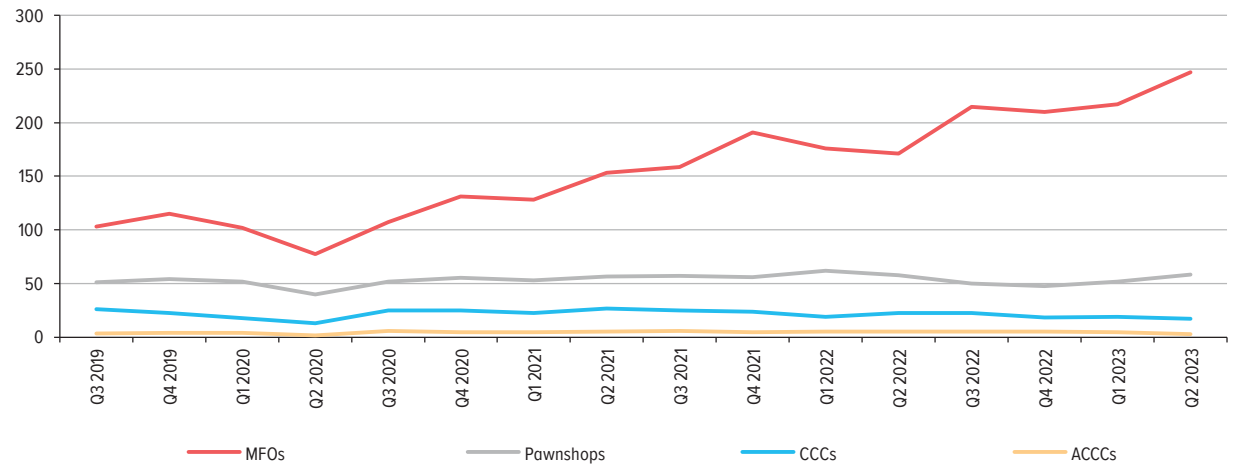
   1) guidelines for restructuring the debt of borrowers facing financial difficulties due to external shocks, and for not accruing fines and penalties on such debts;
   2) guidelines against foreclosing on mortgage properties, and measures to suspend the forced eviction process of debtors from residential properties;
   3) guidelines for extending pawnshops' sale deadlines for pledged items, etc.

2. Regulatory easing in terms of compliance with certain statutory requirements:

   1) cancellation of EIR restrictions;
   2) option to form partial loan loss provisions;
   3) option not to meet the requirements for calculation and values of certain economic ratios;
   4) fixed exchange rate for determining asset and liability values of MFOs for calculating economic ratios and equity;
   5) extension of the reporting period;
   6) option to omit certain mandatory disclosures;
   7) option to make payments to members of CCCs and ACCCs using the Reserve Fund resources, etc.

3. Suspension of inspections by the Bank of Russia, extension of deadlines for fulfilling requests and directives, and limitation on the application of administrative penalties, etc.

LOANS GRANTED PER QUARTER *Chart 2.73*
(RUB BILLION)



Source: Bank of Russia.

Impact of the introduced support measures on MFOs[117]

Microfinance market participants were most significantly affected by measures for interacting with borrowers (guidelines for restructuring the debt of households and SMEs and providing loan repayment holidays as per Federal Law No. 106-FZ[118] and Federal Law No. 377-FZ[119]) and regulatory easing in terms of compliance with certain statutory requirements.

During both crisis periods, approximately 53% of MFOs restructured borrowers' debts under their own programmes, and 82% provided loan repayment holidays in accordance with Federal Law No. 106-FZ (each MFO could combine loan repayment holidays with restructuring loans under its own programmes). The highest number of applications for loan repayment holidays and restructuring was received during the COVID-19 pandemic. Implementing these guidelines helped to reduce the default rate of MFO borrowers: on average, for 62% of restructured agreements, borrowers resumed scheduled payments and fully repaid their debts.

Easing on loss provisions[120]

Only a small number of companies used the loan loss provisions exemption (the option not to recognise restructured loans as restructured when forming loan loss provisions):

– during the COVID-19 pandemic, 16% of MFOs used this exemption, resulting in a 17% savings on loan loss provisions from the total restructured debt of MFOs that applied the exemption;

– during the sanctions period, 5% of MFOs used this exemption, resulting in a 19% savings on loan loss provisions from the total restructured debt of MFOs that applied the exemption;

– in fall 2022, 8% of MFOs used this exemption, resulting in a 17% savings on loan loss provisions from the total restructured debt of MFOs that applied the exemption.

MFOs used the option to form partial loan loss provisions for approximately 80% of the debt restructured under the exemption.

MFOs that did not use the Bank of Russia regulatory easing provide the following reasons:

– conservative approach to credit risk assessment;

– complexity of maintaining separate accounts for restructured debts with and without exemptions, and the accounting of loan loss provisions (lack of an automated solution);

– costs of technical implementation exceeding the economic benefits derived from the exemptions;

– negligible number of requests for contract restructuring;

– availability of a buffer in capital and regulatory ratios;

– reluctance to artificially inflate taxable income.

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[117] The assessment was made for a sample of 38 MFOs (12 large, 17 medium, and 9 small) with a portfolio of microloans and other loans totalling RUB 203.2 billion (48% of the market).

[118] Federal Law No. 106-FZ, dated 3 April 2020 (in Russian only).

[119] Federal Law No. 377-FZ, dated 7 October 2022 (in Russian only).

[120] The assessment was made for a sample of 38 MFOs (12 large, 17 medium, and 9 small) with a portfolio of microloans and other loans totalling RUB 203.2 billion (48% of the market).

Despite only 21% of MFOs in the sample using this support measure across all periods, and even fewer (8% in the sample across all periods) avoiding violations of the Bank of Russia requirements, these exemptions are deemed effective as they facilitated easier debt restructuring for financially distressed borrowers.

Regulatory easing in terms of economic ratios and capital

The option not to meet the requirements for calculation and values of certain economic ratios included several exemptions:

– option to exclude the A3 ratio (loans with DSTI value over 50%) from the equity adequacy ratio calculation during the COVID-19 pandemic;

– option of non-inclusion of A3 (loans with DSTI value over 50% and less or equal to 80%) and A4 (loans with DSTI value over 80%) ratios in the equity adequacy ratio calculation (during the sanction restrictions period);

– option to disregard the minimum liquidity ratio during the sanction restrictions period.

Only 2 MFOs across all periods (5% of the sample) used the option to exclude the A3 and A4 ratios from the equity adequacy ratio calculation. However, only one MFO using the exemptions would have otherwise been non-compliant with this ratio. Therefore, these support measures had no significant impact on the overall MFO market.

Additionally, the exemption allowing the suspension of foreign currency revaluation for asset and liability valuation for the purpose of calculating economic ratios and equity did not significantly affect market participants (none of the surveyed MFOs used the exemption).

Thus, retrospective analysis shows that MFOs did not use all exemptions, but they aided some companies in restructuring, reducing defaults, swiftly overcoming the adverse impact of economic shocks, and adapting to the new conditions.

Box 4. Support measures for other NBFIs

Negative revaluation of assets is the primary channel for the financial crisis shock transmission to NPFs and UIFs. Sudden changes in NBFIs' asset values and credit ratings can have a procyclical effect, triggering forced sales due to non-compliance with asset structure requirements. Negative revaluation diminishes customer returns and can weaken the financial resilience of NPFs or lead to a customer withdrawal from UIFs.

In response, the Bank of Russia implemented a moratorium on recognising negative revaluation of assets and introduced exemptions from asset structure (2020[1] and 2022[2]) and composition (2022[3]) requirements. In 2022, some exemptions were linked to NBFIs' decisions on dividend payments.

From 2018 to 2022, NBFI regulation evolved to gradually introduce stress testing for NPFs in mandatory and non-governmental pension schemes, and capital adequacy and liquidity coverage ratios for professional participants of the securities market (PPSMs). During the 2020 and 2022 crises, NPFs maintained stress testing requirements, though the scenarios were eased. In 2022, The Bank of Russia

[1] Bank of Russia Letter No. 06-52/2339, dated 30 March 2020.

[2] Bank of Russia Information Letter No. IN-018-38/28, dated 6 March 2022.

[3] Decision of the Bank of Russia Board of Directors, dated 28 October 2022, on temporary requirements for non-governmental pension funds and management companies of investment funds, unit investment funds and non-governmental pension funds regarding the issuance of bonds for holders of foreign bonds issued by foreign entities or holders of rights to such bonds.

opted not to enforce penalties on PPSMs for failing to meet the minimum capital adequacy and liquidity coverage ratios.[4]

Simultaneously, to ensure financial resilience of supervised entities, the Bank of Russia Board of Directors allowed exemptions for recognising blocked assets in prudential ratio calculations. Specifically, in 2023, PPSMs and management companies gradually discounted the value of blocked assets in their equity and CAR calculations. Starting from 1 January 2024, blocked assets were completely excluded from prudential ratio calculations.

The Bank of Russia also extended NBFIs' right not to disclose information that poses a significant sanctions risk. For instance, personalised and risk-related data in financial statements that could trigger restrictions, information on clearing houses and trading organisers where the professional participant is a clearing member, actuarial opinions and reports on actuarial findings that could trigger materialisation of sanctions risks, and other sensitive data listed in the relevant decisions of the Bank of Russia Board of Directors.

[4] Violation of Bank of Russia Ordinances No. 5873-U, 5809-U, 5899-U.

APPENDICES

Appendix 1. International experience in deploying unconventional measures to ensure liquidity adequacy and market support

During crises, central banks traditionally strive to support[121] adequacy of market participants' liquidity. The vast majority of studies focus on analysing the COVID-19 crisis. According to the IMF,[122] during the pandemic, most interventions in the financial markets of advanced economies (AEs) and emerging markets economies (EMEs) occurred in short-term funding markets, including the FX swap market.

In advanced economies, authorities infrequently used foreign exchange interventions in the spot market, whereas in emerging markets, this tool was employed due to high levels of dollarisation and exposure to capital flight risks. EMEs authorities rarely intervened in the securities market, as their financial systems are more bank-centric. Central banks in low-income countries were the least active in deploying support instruments for financial market participants.

According to Vallence and Wallis (2021),[123] central banks in AEs employed a broad spectrum of instruments to ensure financial market operation, such as liquidity injections and securities purchases. The effective implementation of financial market support policies is seen as the initial stage of enacting anti-crisis regulation and impacting the real sector of economic activity. During the COVID-19 pandemic, a significant global liquidity shortage led to tighter financial conditions. To address this, central banks increased liquidity provision through repo transactions and extended the terms of liquidity-providing operations. Specifically, the US Fed held 3-month repo auctions on a weekly basis, while the central banks of Sweden and Canada extended the terms more significantly (to 6 and 24 months, respectively). AEs central banks broadened the range of assets accepted as collateral.

AEs financial authorities engaged in direct purchases of financial assets on the open market. The scale of asset repurchase programmes was often substantial, surpassing the purchases during the 2007–2009 Great Recession. In April 2020, the combined asset repurchases by the four major central banks[124] reached approximately USD 1.5 trillion, which was six times higher than at the peak of the Great Recession. The US Fed's announcement of a corporate bond repurchase programme significantly narrowed corporate spreads, even though these operations had low values and occurred no more than a couple of months post-announcement.

During the pandemic, AEs central banks (in particular, Indonesia) initiated direct government bond repurchase programmes, resulting in historically low yields on securities. The temporary nature of these operations was crucial in maintaining market participants' confidence.

[121] In this context, support for financial markets during a crisis implies a package of financial policy instruments, excluding monetary policy easing (key rate reduction).

[122] IMF. Central Bank Support to Financial Markets in the Coronavirus Pandemic.

[123] Vallence C., Wallis P. The Response by Central Banks in Advanced Economies to COVID-19.

[124] US Fed, ECB, Bank of Japan, and Bank of England.

Appendix 2. Findings from international studies on the effectiveness of support measures for corporate and retail lending

Most of the recent foreign studies focused on evaluating the effectiveness of macroprudential policies (MPP) in sustaining lending and, consequently, economic activity analyse data from the COVID-19 crisis. Global experience indicates that easing macroprudential regulations helped to sustain lending activity during the economy downturn.

During this period, the easing of MPP primarily involved reducing the overall capital reserve requirements for banks (mainly the reduction of the countercyclical capital buffer (CCyB)[125] and the systemic risk buffer (SRB)[126]), or easing of sector-specific requirements to certain instruments[127] (IMF, 2020[128]). Before the onset of the COVID-19 crisis, global banks had accumulated sufficient capital reserves (around USD 5 trillion according to the Bank for International Settlements (BIS),[129] this allowed for the release of capital buffers to enhance credit supply. The BIS estimates suggest that releasing global banks' macroprudential buffers could generate new loans amounting to 1.3–6% of the existing levels depending on the crisis's severity.

Impact on corporate lending

According to an ECB paper,[130] a 1 pp reduction in capital requirements[131] can increase corporate lending by 1.2–2.7%.

Wong et al. (2022)[132] demonstrated using the example of Hong Kong that reducing the CCyB supported corporate lending during the COVID-19 crisis. The most significant impact was seen in economic sectors least affected by the crisis.

This is due to the fact that, all other things being equal, banks are less inclined to lend to companies hit by the crisis; the change in the countercyclical buffer is broad-based, so banks tend to allocate released resources to less risky borrowers. In the sectors most severely impacted by the crisis, SME Financing Guarantee Schemes proved to be more effective in supporting lending. The authors conclude that in financial stress, the complementary use of broad-based and targeted MPP instruments proves to be the most effective strategy.

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[125] The measure was implemented in various European countries including France, Germany, the UK, Norway, etc., and in Hong Kong.

[126] The measure was implemented in Australia, the Netherlands, Finland, Poland, and South Africa.

[127] Reduction of the LTV (loan-to-value) limit in New Zealand and the sectoral CCyB for the housing market in Switzerland.

[128] Nier E., Olafsson T. (2020). Main Operational Aspects for Macroprudential Policy Relaxation. IMF Special Series on COVID-19.10 September 2020.

[129] Lewrick U., Schmieder C., Sobrun J., Takats E. (2020). Releasing Bank Buffers to Cushion the Crisis - a Quantitative Assessment. BIS Bulletin, no. 11. 5 May 2020.

[130] Couaillier C., Reghezza A., Rodriguez d'Acri C., Scopelliti A. (2020). How to Release Capital Requirements During a Pandemic? Evidence from Euro Area Banks. ECB Working Paper, no. 2022/2720.

[131] Reduction in CET1 (Common Equity Tier 1) capital requirements through adjustments in P2R (Pillar 2 Requirement) and CBR (Combined Buffer Requirement).

[132] Wong E., Ho K., Wong A., Lo V. (2022). The Effects of COVID-19 Support Measures on Bank Lending: Lessons from the Release of the Countercyclical Capital Buffer and Loan Guarantee Schemes in Hong Kong. Hong Kong Institute for Monetary and Financial Research (HKIMR) Working Paper, no. 21/2022.

Impact on retail lending

Özlem Dursun-de Neef et al. (2023)[133] demonstrate that capital buffer accumulation before the crisis and subsequent reduction of the CCyB helped to maintain lending growth rates in European banks. Specifically, a 1 pp reduction in the CCyB resulted in a 5.6 pp increase in lending relative to bank asset size (where buffer levels remained unchanged, lending also remained stable). A more pronounced effect was observed in banks with initially lower capital reserves: lending increased by 8.4 pp relative to asset size, compared to 4 pp in banks with adequate capital reserves. Retail lending was more responsive to requirement changes than corporate lending: lending growth amounted to 5.1 pp vs 2.3 pp for corporate loan portfolios.

Avezum et al. (2021)[134] noted that in March–August 2020, in European countries with reduced countercyclical buffers, household lending growth rates exceeded those in countries without such reductions by 0.99 pp.

[133] Ozlem Dursun-de Neef H., Schandlbauer A., Wittig C. (2023). Countercyclical Capital Buffers and Credit Supply: Evidence from the COVID-19 Crisis.

[134] Avezum L., Oliveira V., Serra P. (2021). Assessment of the effectiveness of the macroprudential measures implemented in the context of the COVID-19 pandemic. Banco de Portugal Working Papers, no. w202 107.