Bank of Russia

Q4 2019 – Q1 2020

FINANCIAL STABILITY REVIEW

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CONTENTS

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OPENING REMARKS

Due to the spread of COVID-19, the picture of risks to financial stability in H1 2020 has changed significantly. While at the end of 2019, the Bank of Russia was concerned about emerging vulnerabilities and was tightening macroprudential measures, due to the coronavirus pandemic, risks have begun to materialise, and the Bank of Russia's policy has shifted toward risk mitigation and ensuring continuity of the financial system's core functions. The measures taken give financial institutions more space for borrower debt restructuring, continuing lending, payment execution and transition to remote work.

The COVID-19 pandemic is affecting the financial system in the wake of its impact on the real sector of the economy. This makes the current situation radically different from the global crisis of 2007–2009 when the opposite effect prevailed – that is, the situation in the financial system affected the economy. The introduction of restrictive measures by a wide range of countries in March 2020 created risks of a deep economic downturn throughout the effective period of these measures. Global financial markets, which are increasingly dominated by asset managers, have responded to this threat with outflows from funds and sharp drops in prices on debt and equity markets. This has caused massive problems with foreign currency (primarily dollar) liquidity in global markets. Companies with high debt burden and countries with current account deficit and significant levels of public debt, especially denominated in foreign currency, as the most vulnerable actors in the global economy, have been affected the most.

This wave of volatility was quickly contained due to unprecedented asset purchases and liquidity provisions by leading central banks. Central banks of advanced economies were forced to act as lenders of last resort for the economy as a whole. Major global banks have endured this period of volatility fairly easily. However, over time, banks will accumulate losses related to loan restructuring and overall decline of credit quality. The capital buffers accumulated as a result of the financial regulatory reforms provide banks with a significant capacity to absorb losses. Government support for businesses will also contribute to financial stability and the normal functioning of the financial system.

In Russia, the pandemic started later than in other countries, so initially its economic consequences were associated with the materialisation of external risks through financial asset prices and the balance of payments due to the drop in oil prices and the withdrawal of funds from the Russian market by non-residents. Regarding global problems with foreign currency liquidity, we note that successful support of macroeconomic stability in Russia in recent years and measures aimed at preventing accumulation of vulnerabilities have helped contain the risks of a global surge in volatility for the Russian market. In contrast to 2008–2009 and 2014–2015, there have been no significant risks of the flight of Russian economic agents to foreign currency and no increase in demand for foreign currency liquidity to service external debt. To date, the situation on the market has stabilised to large extent, although it is still far from normal. To stabilise the situation, the Bank of Russia has taken additional measures to provide the banking system with both ruble and foreign currency liquidity.

Amid the accelerated spread of the pandemic in Russia and the introduction of restrictive measures, at the end of March internal risks have begun to materialise through income and credit channels. In particular, in the context of a sharp drop in borrower income, banks have faced an unprecedented demand for loan restructuring. The Bank of Russia has implemented extensive regulatory easing of reserve requirements to support lending to the economy and ensure a smooth process of recognition of the deterioration in the quality of loan portfolios.

The Bank of Russia estimates that the capital reserves of the banking system are sufficient to cover risks. To remove some of the risks, government borrower support measures are also necessary. Despite the liquidity surplus in the banking sector as a whole, the Bank of Russia aims to create comfortable conditions for its operation by holding regular long-term repo auctions.

The Russian financial sector and banking system are healthy enough to cope with the shocks emerged and support lending to the economy when it enters the recovery phase. Temporary regulatory easing and reduction of macroprudential add-ons will let banks gradually adapt to the situation and maintain financial stability. It is critical that banks and other financial institutions use the easing to stabilise their financial situation and support lending to the economy and not to pay dividends to owners and bonuses to management.

Ksenia Yudaeva
First Deputy Governor of the Bank of Russia

SUMMARY

External risks

The global spread of COVID-19 resulted in a sharp downward revision of the global economic outlook. The International Monetary Fund (IMF) estimates that the global GDP will drop by 3% in 2020, the most significant fall since the Great Depression. According to the baseline, April forecast of the Bank of Russia[1], economic output in Russia will decrease by 4–6% in 2020.

To date, a wide range of industries have already been affected by the pandemic in many advanced and emerging economies due to disrupted supply chains, shrinking demand as a result of quarantine restrictions and cross-sectoral effects. In March, Russia and other countries faced a sharp increase in volatility in financial markets. High risk aversion has led to the record outflows of portfolio investments from emerging market economies (EMEs). Export-oriented countries, including Russia, have experienced pressure on the exchange rates of national currencies due to the record drop in commodity prices amid a sharp decline in aviation and the motor transport industry (which account for about 60% of oil consumption).

Starting from the end of March, the urgent introduction of extensive monetary and fiscal incentives as support measures by the governments and central banks of the world's largest economies helped stabilise the situation on the global financial markets. However, uncertainty about when the pandemic will end poses the threat of a deeper economic downturn than currently expected. Furthermore, materialisation of risks associated with financial vulnerabilities may exacerbate the situation. For example, credit rating downgrades could lead to mass bankruptcies due to the already accumulated high debt burden in the corporate sector of a number of countries (China, the United States, the euro area).

The financial regulatory reforms following the crisis of 2007–2009 resulted in a much more stable global financial system, which, assisted by regulatory easing measures, will be able to cope with the upcoming credit losses. However, if several waves of the pandemic follow, and economic recovery is delayed, global banks may not have sufficient capital for lending to the economy, and the governments of the leading countries will have to provide assistance to the financial sector. This may cause a negative correlation between sovereign and banking risks, just as during the European crisis of 2010–2012. Thus, governments and regulators are now called upon to develop medium-term action plans that include short-term support for the economy and regulatory easing measures as well as a medium-term vision for fiscal consolidation and phasing out of regulatory easing.

The impact of the COVID-19 pandemic on the Russian economy is extensive and is manifesting both through the deterioration of external economic conditions, primarily the fall in demand and prices for oil, and as a result of restrictive measures and reduced economic activity in Russia. The Review examines **four channels for the materialisation of risk to macroeconomic and financial stability:** balance of payments, financial asset prices, income and credit.

First, the global pandemic negatively affected the transport industry and led to a sharp drop in demand for oil, which is reflected in the reduction of the current account balance. At the same time, the spread of COVID-19 influenced the financial account of the balance of payments (a mass exodus of non-residents from Russian assets) and through the financial asset prices channel as well (falling prices of shares and bonds and subsequent negative revaluation in the portfolios of banks and other financial institutions). Despite high market volatility in the first half of March, financial stability risks have not materialised. Market participants regularly paid margin calls on the Central Counterparty market.

[1] *Monetary Policy Report of the Bank of Russia Issue No. 2 (30), April 2020.*

Changes in global market conditions and necessary restrictive measures in Russia are eroding revenue in many sectors of the economy[2] as well as household income, budget revenue and revenue of financial institutions. In the most affected sectors, there operate many small- and medium-sized enterprises, so support programmes (concessional lending, grants for salary payments etc.) are primarily focused on them.

As the impact of the pandemic on economic activity expands, credit risks are beginning to materialise: April saw a sharp increase in the number of restructurings of both corporate and household loans. Some borrowers will not be able to recover their financial position, and banks will have to write off loans. A slowdown in lending may impair economic recovery, which in turn may lead to an additional increase in credit risks (credit channel). The Bank of Russia is taking measures to support credit restructuring and preserve the credit potential of the financial sector. The easing of the Bank of Russia's reserve requirements applies to 85% of outstanding debt granted to enterprises (including SMEs) and to restructured household loans.

Vulnerabilities in the financial sector highlighted by the Bank of Russia in previous issues of the Financial Stability Review may intensify the adverse effects of the pandemic. To limit these effects, the Bank of Russia has already implemented a number of anti-crisis measures and is prepared to take additional measures if necessary.

The growth of household debt burden slowed down in Q4 2019 – Q1 2020 after the Bank of Russia introduced a payment-to-income (PTI) ratio and increased macroprudential add-ons to unsecured loans effective 1 October 2019. However, a high percentage of loans with PTI ratio of more than 80% amid a decline in household income is a risk factor. So far, the quality of loan portfolios is fairly stable (the share of loans with debt overdue more than 90 days is 7.9% for unsecured consumer loans and 1.4% for mortgages as of 1 April 2020), but this is accompanied by a growing share of restructured loans (1.2% of existing contracts for 20 March–13 May). The Bank of Russia has provided banks with the opportunity for a six-month exemption from additional provisioning for loans restructured under both Federal Law No. 106-FZ[3] and for their own programmes. Due to macroprudential add-ons, credit institutions have accumulated significant capital buffers (₽126 billion for mortgage loans and ₽539 billion for unsecured consumer loans as of 1 April 2020). To compensate for bank losses related to restructuring as well as to support mortgage lending, the Bank of Russia has released the macroprudential buffer on such loans effective 1 April 2020.

Banking sector dollarization has been significantly reduced by the Bank of Russia's macroprudential policy[4] in recent years. At the same time, the share of foreign currency remains significant in the balance sheets of a number of banks, as a result a weaker ruble puts pressure on their capital adequacy requirements. For this reason, for the period of six months the Bank of Russia has allowed credit institutions, when calculating required ratios and own funds (capital), to reflect transactions in foreign currencies[5] at the official exchange rate set by the Bank of Russia as of 1 March 2020. At the same time, banks' credit risks associated with the weakening of the ruble are significantly lower than in 2014–2015. The reduction in foreign currency loans occurred primarily in industries that lack sufficient foreign currency revenue[6]. The Bank of Russia's macroprudential measures have allowed

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[2] The drop in export earnings affected the oil and gas, coal mining and metallurgy industries; and the implementation of quarantine measures in Russia affected non-food retailing, the tourism industry, food service, household services, leisure and entertainment businesses, commercial real estate, construction, shipping etc.

[3] 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'.

[4] Over the past four years, the share of foreign currency loans in the corporate loan portfolio has decreased from 40% to 28%, and in household loan portfolio, it is less than 1%. During this period, the share of foreign currency household deposits decreased by 5.3 pp to 22.1%, while the share of foreign currency deposits and funds on the accounts of non-financial organisations and non-credit financial institutions dropped by 12.5 pp to 35.7%.

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

[6] Over the past two years, the share of foreign currency loans in real estate was 26%; in construction, 77%.

banks to accumulate a capital buffer of ₽159 billion on foreign currency loans to legal entities. Furthermore, the present crisis is not accompanied by high concentration of payments on external debt (as opposed to 2014–2015). During the period of high volatility in March, banks' reserves of liquid foreign currency assets remained sufficient, even despite a shortage of dollar liquidity in global markets. The Bank of Russia has increased the limit on FX swap operations and can use currency repo auctions if necessary.

In recent years, on the one hand, *the financial market's dependence on foreign investors* has decreased in the context of repayment of external debt by banks and the corporate sector; on the other hand, it has slightly grown due to the increased participation of non-residents in the OFZ market. In March, according to the National Settlement Depository (NRD) the share of non-residents in the OFZ market declined from 34.1% to 31.1% (₽280 billion in absolute terms), while they purchased foreign currency in the amount of ₽389 billion. Extensive sales by foreign investors stimulated a sharp increase in bond yields, but overall, this negative impact was short-lived. The Russian OFZ market remains stable due to the low level of public debt (12.3% of GDP, the lowest among the G20 countries) and sufficient demand from domestic investors. The Bank of Russia has allowed banks and other financial institutions not to recognize negative revaluation of investments in debt and equity securities until the end of 2020.

Growth in the share of long-term assets amid predominantly short-term funding continued in the atmosphere of increased volatility: the maturity of funds attracted by banks decreased. Certain credit institutions may face additional liquidity needs, particularly, in the context of extensive credit restructuring. To address this, the Bank of Russia has taken a number of measures: it has launched one-month and one-year repo auctions, expanded the Lombard List (by including bond issues in the amount of about ₽450 billion adjusted for discounts) and increased the availability of irrevocable liquidity facilities used by systemically important banks to meet short-term liquidity requirements.

Stability of the banking sector

Further dynamics in the Russian banking sector, as in other countries, will depend on the development of the pandemic, but its resistance to the ongoing shock is now significantly higher than in 2014–2015. Banks have accumulated significant capital buffers (due to macroprudential add-ons, capital adequacy buffers and buffers for systemic importance) of over ₽5 trillion in total. These buffers can be used as needed to absorb losses and revive lending.

Stability of non-bank financial institutions

In 2019, the insurance market already faced an absence of growth for the first time in a long period. The decline in demand for insurance services due to the pandemic will affect all segments of the insurance market, but the significant financial safety margin of insurance companies along with regulatory support measures will help maintain the financial stability of the sector.

Both in general and in the current situation, the main risks for non-state pension funds, brokerage organisations and investment funds are market and liquidity risks. Amid increased volatility in the stock market, the transactions of brokerage organisations' customers (including non-residents) involved in net sales of government and corporate bonds had a procyclical effect on the financial asset prices. At the same time, brokerage organisations recorded an influx of customer funds. The Bank of Russia has implemented temporary regulatory measures to support participants in the collective investment market aimed at preserving their ability to manage assets efficiently amid increased volatility[7].

As a result of the COVID-19 pandemic and the drop in oil prices, the Russian economy has faced an unprecedented shock, but the financial sector remains stable overall. The Bank of Russia is

[7] *In particular, the Bank of Russia provided the possibility for the equity and debt securities purchased before 1 March 2020 to be recognised in accounting records at the fair value as of 1 March 2020.*

able to pursue countercyclical monetary and macroprudential policies to ensure financial stability and support aggregate demand. Consistent implementation of inflation targeting in recent years has reduced the dependence of inflation on exchange rate dynamics, and the application of the fiscal rule has reduced the dependence of the exchange rate on the dynamics of oil prices. A loose monetary policy supports lending and ensures the stable dynamics of interest expenses in the banking sector. Regulatory easing and reduction of macroprudential add-ons will allow banks to gradually absorb losses and ensure the continuity of their operations.

1. RISKS OF THE GLOBAL ECONOMY AND GLOBAL FINANCIAL MARKETS

The global spread of COVID-19 led to a global recession and destabilised global financial and commodity markets. The IMF estimates that the drop in global GDP in 2020 will be the most significant since the Great Depression. Even now, the crisis is accompanied by a sharp increase in unemployment in a number of countries, a significant impact on industries, decreasing investment activity and a deterioration in the credit quality of borrowers and bank portfolios. Despite showing some degree of recovery, the situation in global financial markets remains unstable. In these circumstances, regulators around the world are implementing extensive support measures (fiscal, monetary, financial) to limit the economic damage from the pandemic. The capital and liquidity buffers accumulated over the past decade in the financial system enable the implementation of countercyclical measures. However, these measures may not be sufficient for a swift recovery of global growth. Crisis trends may intensify if the peak of the epidemic is prolonged, or if there is a second wave as well as in the event of massive corporate defaults and asset sales on the market.

GDP GROWTH RATES (%), IMF FORECAST FOR APRIL 2020 *Table 1*

	2019	Forecast for April 2020		Deviation from January 2020 forecast (pp)	
		2020 r.	2021 r.	2019 r.	2020 r.
Global GDP growth rates	***2.9***	***-3.0***	***5.8***	***-6.3***	***2.4***
Advanced economies	***1.7***	***-6.1***	***4.5***	***-7.7***	***2.9***
USA	2.3	-5.9	4.7	-7.9	3.0
United Kingdom	1.4	-6.5	4.0	-7.9	2.5
Euro area	1.2	-7.5	4.7	-8.8	3.3
Germany	0.6	-7.0	5.2	-8.1	3.8
Italy	0.3	-9.1	4.8	-9.6	4.1
Spain	2.0	-8.0	4.3	-9.6	2.7
Japan	0.7	-5.2	3.0	-5.9	2.5
EMEs and developing countries	***3.7***	***-1.0***	***6.6***	***-5.4***	***2.0***
China	6.1	1.2	9.2	-4.8	3.4
India	4.2	1.9	7.4	-3.9	0.9
Russia	1.3	-5.5	3.5	-7.4	1.5
Brazil	1.1	-5.3	2.9	-7.5	0.6
South Africa	0.2	-5.8	4.0	-6.6	3.0
Mexico	-0.1	-6.6	3.0	-7.6	1.4
Growth rates of global trade in goods and services	***0.9***	***-11.0***	***8.4***	***-13.9***	***4.7***
Imports					
Advanced economies	1.5	-11.5	7.5	-13.8	4.3
EMEs and developing countries	-0.8	-8.2	9.1	-12.5	4.0
Exports					
Advanced economies	1.2	-12.8	7.4	-14.9	4.4
EMEs and developing countries	0.8	-9.6	11.0	-13.7	6.8

Source: IMF.

The World Health Organization officially declared the coronavirus outbreak a global pandemic on 11 March 2020. The epidemic spread rapidly outside of China, with the official numbers of infected people in many countries exceeding the numbers in China. In total, the epidemic has affected more than 200 countries (5,495 million registered cases and 346 thousand deaths as of 25 May). Due to the pandemic, the world economy has entered a recession. According to the IMF's baseline forecast, after growing by 2.9% in 2019, global GDP will fall by 3.0% by the end of 2020, which will be the greatest drop since the Great Depression. The GDP of advanced economies will fall by 6.1% (against 1.7% growth in 2019), while the GDP of emerging markets and developing economies will fall by 1.0% (against 3.7% growth in 2019) (Table 1). In the baseline scenario, the IMF expects a rapid recovery of 5.8% global economic growth in 2021 but does not rule out long-term negative effects.

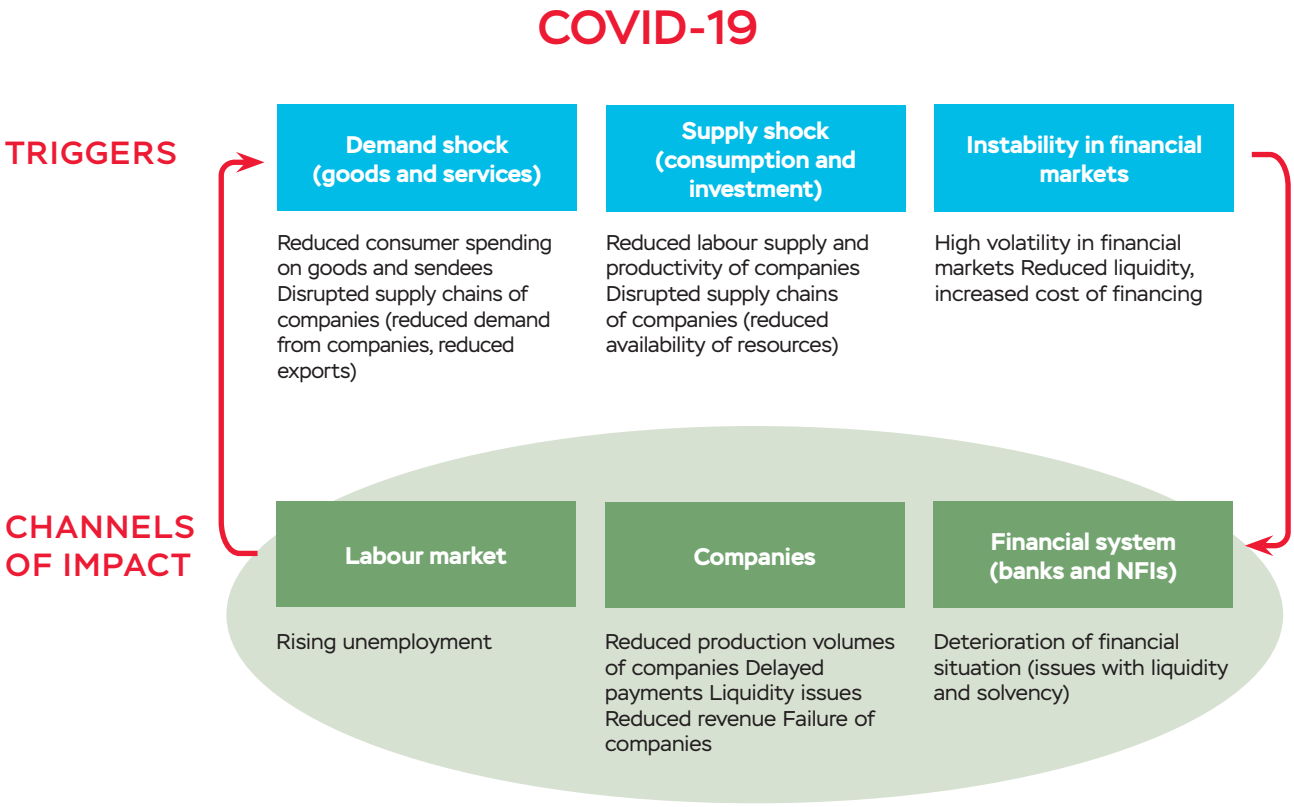
Both supply (production of goods and services) and demand (consumption and investment) factors triggered the current economic crisis. Originating in Asia, production disruptions spread to supply chains all over the world. Border closures and quarantine measures implemented around the world to contain the epidemic led to an even more substantial decrease in industrial production capacity utilisation and disruption of supply chains. That resulted in major job losses and a significant reduction in consumer demand. Businesses faced declining revenue and insolvency, especially in such industries as transportation and logistics, tourism, the restaurant and hotel business, retail. The situation is particularly challenging for small- and medium-sized enterprises (SMEs). In addition, the real sector was affected by reduced access to financing amid rising borrowing costs. As a result, in many cases, enterprises were unable to continue normal operations due to a sharp and sudden loss of demand, income and financing sources.

MARKIT PMI INDICATORS *Table 2*

	January 2020	April 2020	January 2020	April 2020
	Industry		Services	
World	50.3	39.8	52.6	24.0
USA	51.9	36.1	53.4	26.7
United Kingdom	50.0	32.6	53.9	13.4
Euro area	47.9	33.4	52.5	12.0
Germany	45.3	34.5	54.2	16.2
France	51.1	31.5	51.0	10.2
Italy	48.9	31.1	51.4	10.8
Spain	48.5	30.8	52.3	7.1
Japan	48.8	41.9	51.0	21.5
Australia	49.6	44.1	50.6	19.5
China	51.1	49.4	51.8	44.4
Russia	47.9	31.3	54.1	12.2
India	55.3	27.4	55.5	5.4
Brazil	51.0	36.0	52.7	27.4

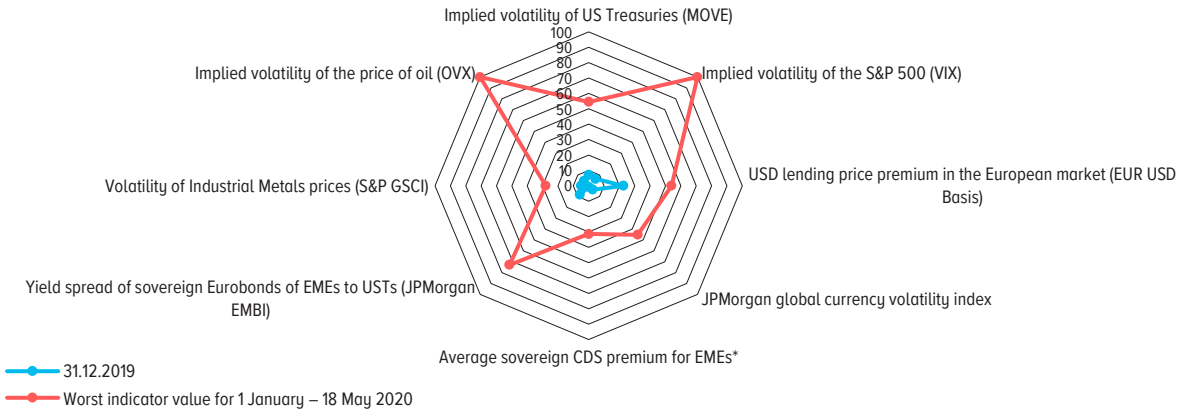
Note: green marks an increase in business activity (PMI > 50), red marks a decrease in business activity (PMI < 50).
Source: Bloomberg.

MAIN CHANNELS OF THE IMPACT OF COVID-19 ON THE GLOBAL ECONOMY *Chart 1*



Leading indicators point to a sharp decline in global economic activity, more significant in the service sector than in the manufacturing sector, reflecting the factor of social distancing (Table 2). In April, Markit's global PMI fell to 24.0 points for the service sector (from 52.6 points in January 2020) and to 39.8 points for the manufacturing sector (from 50.3 points in January 2020). Preliminary estimates for Q1 2020 indicate a significant decline in the GDP of leading countries (in the US by 4.8% QoQ, in the euro area by 3.8% QoQ), while in Q2 2020 the decline in GDP will most likely reach double-digit values. The IMF estimates that in 2020 world trade in goods and services will drop by 11%.

CHANGE IN KEY PERFORMANCE INDICATORS OF THE GLOBAL FINANCIAL MARKET *Chart 2*
(UNITS)



** China, India, Indonesia, Philippines, Malaysia, Thailand, Mexico, Brazil, Peru, Colombia, Chile, South Africa, Turkey, Poland, Hungary*
The scale from 0 to 100 units reflects the minimum and maximum values of the indicators during the period from 1 January 2008 to 18 May 2020. From the centre out: growth of volatility, growth of the yield spread and of sovereign CDS, expansion of the EUR/USD basis.
Source: Bloomberg, Thomson Reuters.

Adverse economic effects and their expectations were accompanied by a sharp fall in global stock markets and commodity prices, currency depreciation and rising credit spreads in emerging market economies (Chart 2). While the situation on the markets has recovered somewhat since late March, it remains unstable. The fall of the stock markets in March was comparable in scale to the fall during the 2008 crisis. For example, by 23 March 2020, the S&P 500 had dropped from the record high of 19 February 2020 by 34%. Other countries' stock markets showed similar dynamics.

The global oil market saw high volatility. Urals crude oil reached a record low on 21 April 2020 ($8.4 per barrel, 87% below the level of early 2020). Initially, the oil market was hit by reduced demand from China, the largest oil importer (according to the International Energy Agency, China accounts for about 13% of global oil consumption). In March, the collapse of the OPEC+ deal deepened negative market trends, and the spread of the pandemic outside of China resulted in increased concerns of a sharp decline in global demand for oil. The downward pressure on prices was further exacerbated by Saudi Arabia offering significant discounts to buyers in order to sell its excess oil reserves. The new OPEC++ agreement on oil production cuts from 12 April 2020[1] helped the market to reach some degree of stabilisation. However, the end of April saw another surge in volatility provoked by a sharp decline in the US WTI oil quotations due to the urgent need to close positions on supply futures as well as increased utilisation of storage facilities. In May, oil prices started to recover (Brent reached $35.5 per barrel on 25 May) backed by actions aimed at reduction of oil production and signs of oil demand recovery that emerged due to relaxation of coronavirus-related restrictions. The drop in global demand for oil is largely attributed to a sharp decline in aviation and the motor transport industry, accounting for 60% of oil consumption worldwide. The prices for industrial metals also sank: S&P GSCI Industrial Metals fell by 17% in January–March 2020, although April and May show some recovery.

Global investors' increased risk aversion has had a negative effect on the financial markets of EMEs, including Russia (Table 3). The outflow of portfolio investments from EMEs has exceeded $100 billion since the end of January 2020. EMEs' currencies weakened significantly against the US dollar. Export-oriented countries, including Brazil, South Africa, Colombia, Russia and Mexico, experienced the greatest pressure on the exchange rates of national currencies (about 20% in Q1 2020). Risk premium for EMEs has increased: the average value of sovereign 5-year CDS for 14 countries[2] grew to 236 bp as of 23 March, the highest since November 2011 (194 bp as of 13 May 2020, 600 bp in October 2008). The yield spread of EME sovereign Eurobonds to US treasury bonds exceeded 700 bp and reached a record high since March 2009. At the same time, amid general improvement in global market sentiment, the situation in EMEs has been stabilising since the end of March.

[1] *OPEC++ countries agreed to cut oil production by 9.7 million barrels per day in May–June 2020, by 7.7 million barrels per day from July to the end of 2020, then by 5.7 million barrels per day until May 2022. The US, Brazil and Canada are expected to contribute another 3.7 million barrels per day to the reduction amid declining production, and other G20 states will cut production by 1.3 million barrels per day.*

[2] *Brazil, Mexico, Colombia, South Africa, Turkey, Chile, China, India, Indonesia, Malaysia, Thailand, the Philippines, Hungary and Poland.*

CHANGE IN EMES' KEY FINANCIAL MARKET INDICATORS IN JANUARY–MARCH 2020 *Table 3*

Country	Exchange rate of the national currency against the US dollar	Stock index	10-year government bond yields	5-year sovereign CDS spread	Rank (1 being the worst, 16 the best)	
	%		bp			
Argentina	-7.0	-41.5	-489	6104		1
South Africa	-21.5	-22.1	271	244		2
Brazil	-22.7	-36.9	85	166		3
Colombia	-19.1	-32.4	92	151		4
Turkey	-10.0	-21.7	112	263		5
Indonesia	-15.0	-27.9	81	143		6
Russia	-21.2	-17.6	58	138		7
Mexico	-20.0	-20.6	27	157		8
Chile	-11.8	-25.3	47	85		9
Philippines	-0.1	-31.9	66	69		10
Hungary	-9.7	-28.1	52	4		11
Thailand	-9.3	-28.7	2	59		12
India	-5.6	-28.6	-42	139		13
Malaysia	-5.3	-15.0	5	80		14
Poland	-8.1	-28.0	-45	1		15
China	-1.7	-9.8	-51	20		16

Note:
The final rank is calculated based on the average of the linearly normalised values in the interval [0, 1] of the change in each EME's market financial indicators. When normalising, the minimum and maximum values are set taking into account the following changes in indicators:

Thresholds	Exchange rates of national currency against the US dollar	Stock index	10-year government bond yields	5-year sovereign CDS spread
	%		bp	
min.	-20	-30	-150	-200
	0	0	0	0
max.	20	30	150	200

Source: Bloomberg, Thomson Reuters

Starting from the end of March 2020, extensive anti-crisis programmes implemented in leading countries and EMEs helped stabilise the markets (see Appendix 1 for details). The list of measures includes support to financial markets: rate cuts by central banks; measures aimed at providing liquidity (expansion/implementation of asset purchase programmes, expansion of liquidity-providing operations); measures aimed at limiting excessive exchange rate volatility (Brazil, Indonesia, Mexico, Russia); easing of macroprudential regulation (countercyclical measures releasing capital buffers, easing of reserve requirements etc); support for lending (concessional lending to banks that increase lending to SMEs). Financial markets were significantly supported by governments announcing support measures (direct financing of certain industries, tax deferral/cancellation, provision of guarantees for loans to SMEs). This may lead to a significant increase in public debt and budget deficits in many countries, which, among other things, will limit the possible use of fiscal policy in future crisis situations. The IMF estimates that increased spending on healthcare and support for households and businesses may result in the growth of the global average budget deficit to 9.9% of GDP in 2020 (from 3.7% of GDP in 2019).

Despite the measures being implemented, if the epidemic is more protracted, or a second wave follows, the economic damage may exceed the IMF's forecasts. According to researchers at the Bank for International Settlements (BIS)[3], the scale of the negative consequences of the

[3] *Kohlscheen et al. The macroeconomic spillover effects of the pandemic on the global economy. BIS Bulletin, No. 4. 6 April 2020. URL: https://www.bis.org/publ/bisbull04.pdf*

epidemic depends on many factors: the probability of new waves of the epidemic, the stability of negative shocks and contagion effects on global markets. However, a number of vulnerabilities may exacerbate the situation amid a global recession.

- **Debt burden of corporate borrowers.** The current situation may worsen due to the materialisation of credit risks, including downgrades of credit ratings and mass defaults in the corporate sector (both in advanced economies and in EMEs). Currently, declining economic activity makes small- and medium-sized enterprises, which tend to have minimal reserve funds to meet short-term obligations, the most vulnerable. A more prolonged economic downturn and rising borrowing costs pose a risk of extensive negative consequences since non-financial companies have already accumulated a high debt burden in many countries (according to the BIS, 168% of GDP in Sweden, 153% in France, 149% in China, 137% in Norway, 114% in Canada, 108% in Chile, 104% in Japan, 80% in the UK, 69% in Malaysia, and 66% in Turkey as of 1 January 2020). In recent years, corporate debt has increased rapidly in the US (up to 75% of GDP), the debt of companies with high debt burden and low credit ratings growing the most. Some of these companies represent the tight oil industry, which may turn out to be unstable if oil prices remain low for an extended period. Banks and other financial institutions may face a serious deterioration in the quality of their loan portfolios. At the same time, as the situation in March showed, asset managers' forced asset sales under stress conditions can amplify a 'hot sales' effect on the market. Primarily EMEs will suffer from a sharp decline in risk appetite among global investors.
- **Interconnectedness between credit risk in the public and banking sectors** (sovereign-bank nexus/feedback loop). As the pandemic spreads, governments have to provide substantial financial assistance to support the economy. A further increase in budget expenditures and growing public debt could undermine the sustainability of public finance, which in turn could adversely affect the sustainability of the banking sector. A prime example of contagion effects between the banking and public sectors is the euro area debt crisis (which peaked in 2011–2012). The crisis that initially affected the euro area financial system led to a sovereign debt crisis, and then sovereign risks exacerbated the problems of the banking sector (resulting in significant growth of the risk premium and increased losses). At the moment, the risks of shock transmission between the public and banking sectors may become relevant for many countries, including those where banks have significant investments in government bonds. According to the latest available data from central banks, such investments amount to 18.8% of banking sector assets in Hungary, 15.9% in Poland, 14.2% in Turkey, 11.8% in South Africa and 5.9% in Mexico.
- **US dollar liquidity deficit.** The shortage of US dollar liquidity in global markets may also become a major challenge. February–March 2020 saw significant growth in the cost of US dollar financing (widening of the 3M LIBOR–OIS spread to 138 bp, the highest since December 2008, and spikes in cross-currency swap markets outside the US). Although the situation was improved by the US Fed's liquidity support measures (launching QE, expanding swap lines with central banks), risks of reduced availability of US dollar funds still exist. For EMEs, the risks are associated with rising borrowing costs and the need to service/refinance accumulated foreign currency corporate debt. Any increase in the cost of US dollar borrowing is usually accompanied by the strengthening of the US dollar, which entails potential weakening of EME currencies.

Russia is less exposed to these risks than many other EMEs. The total debt of non-financial Russian companies remains relatively low compared to other EMEs and amounts to 57% of GDP as of 1 January 2020. As of 1 April 2020, the share of investments in government bonds (including government bonds pledged in repo) in banking sector assets is small and amounts to 4.6%. In recent years, Russia has not seen any major spikes in volatility in the cross-currency swap market unlike in 2014–2015 and 2016–2017 (for details on the currency liquidity situation, see 'Currency liquidity risks of the banking sector' in Section 4.4).

As of 1 April 2020, Russia's international reserves ($563.5 billion) exceeded Russia's estimated external debt ($450 billion) by 25%. In this respect, Russia is also outperforming most EME countries, demonstrating macroeconomic stability in terms of external financing.

It should be noted that the main source of external debt repayment is FX proceeds and assets of financial and non-financial companies, which account for about 84% of the total external debt. Compared to the 2014–2015 crisis, when the non-financial sector had to repay a significant amount of external debt, the current upcoming repayments are moderate. In addition, the repayment of external debt by companies is spread out considerably over time, with only 20% of external debt maturing before the end of 2021. In Q2 and Q3 2020, external debt payments of non-financial companies, excluding intra-group payments, will peak at $12.6 billion and $9.4 billion, respectively. According to a survey by the Bank of Russia, external debt repayments by major oil and gas companies will amount to $7.2 billion in Q2 and Q3 2020 and to $9.8 billion in 2021.

To assess the adequacy of foreign currency liquidity, the Bank of Russia receives monthly updates on FX assets and liabilities from major non-financial companies. The Bank of Russia estimates that the major non-financial companies have sufficient foreign currency liquidity to meet their external debt liabilities. Accordingly, the situation with foreign currency liquidity in the Russian market remains stable. The Bank of Russia also has the necessary tools to support the market as needed (banks can use FX swap operations with the Bank of Russia, and the Bank of Russia can use medium-term FX repo operations where appropriate).

2. CHANNELS OF THE IMPACT OF COVID-19 ON THE RUSSIAN ECONOMY AND FINANCIAL SECTOR

The global spread of coronavirus has had a significant impact on the Russian economy and financial sector, both through the deterioration of external economic conditions and as a result of restrictive measures, including restrictions on production. There are four channels for the transmission of impact: balance of payments, financial asset prices, income and lending.

- ***Falling prices for oil and other commodity exports affected the foreign exchange market through the balance of payments. Under the fiscal rule, the Bank of Russia has started proactive FX sales, largely dampening the consequences of the reduced current account of the balance of payments. The decline in oil export quantities due to the new OPEC++ agreement will continue to limit the supply of foreign currency on the market.***
- ***The deteriorating outlook for the global economy led to a surge in financial market volatility, causing a negative revaluation of positions and requiring market participants to pay margin calls. The Bank of Russia has tempered this shock for financial institutions by providing additional liquidity and regulatory easing (allowing the fixing of the fair value of financial instruments and exchange rates in the calculation of required ratios).***
- ***The adverse impact of the coronavirus pandemic manifested in the need to implement restrictive measures, as a result of which the revenue of most economic entities along the chain declined (the income channel).***
- ***Materialising credit risks may result in the deterioration of the financial position of banks, forcing them to restrain lending and causing a further negative impact on the economy through the lending channel. Accordingly, the Bank of Russia is implementing measures aimed at supporting the restructuring of loans to affected borrowers and preserving the lending potential of the financial sector.***

2.1. BALANCE OF PAYMENTS CHANNEL

The slowdown in global economic growth has led to a sharp deterioration in the foreign trade conditions of the Russian economy. In the balance of payments channel, the Russian economy faced an unprecedented deterioration in commodity markets and a dramatic drop in oil prices. At the same time, the exodus of non-residents from the Russian stock market increased the outflow in the financial account of the balance of payments.

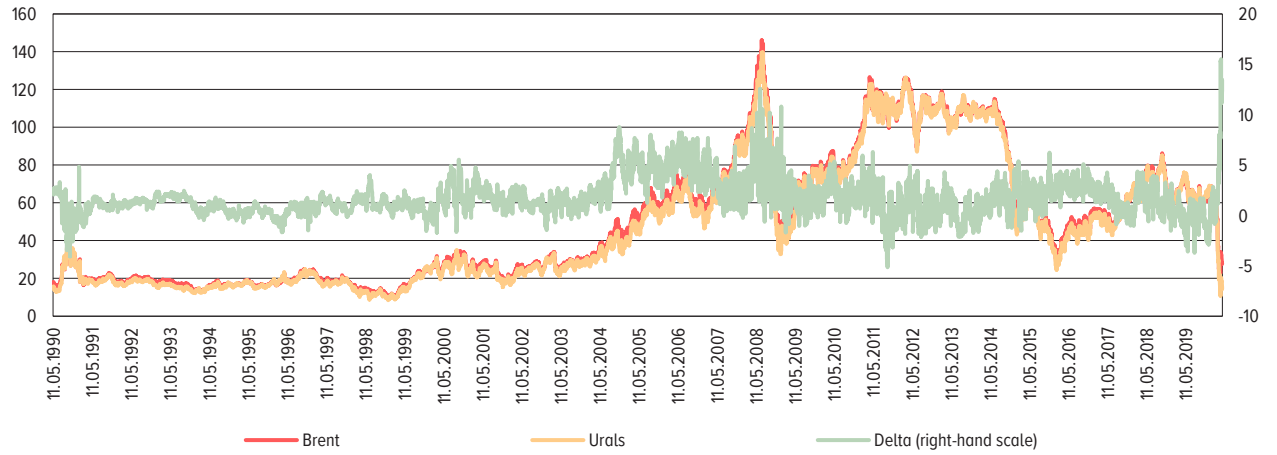
In addition to the downturn in the price of the main oil market benchmark, Brent crude 1-month forward, there was an even more significant drop in the spot prices of Russia's main export, Urals crude oil. That resulted in a 30-year record spread between Brent and Urals oil prices (Chart 3). Under normal conditions, it averaged in the range of $2–3, but in early April 2020 it exceeded $15.

The April agreement with oil-producing countries provides for a cut of about 2 million barrels per day in Russian oil production (about 20%). Although in the medium term the new agreement will create conditions for balancing the oil market and, consequently, restoring the price level, in the short term it will mean an additional reduction in revenues from oil exports as a result of decreased production quantities.

According to preliminary data from the Bank of Russia, the current account surplus of the balance of payments in Q1 2020 decreased by more than a third YoY, from $33.6 billion to $21.7 billion, due to lower oil prices as a result of falling demand in China in January–February. The decline in global demand for other export goods led to a decrease in revenues for the corresponding export items. In Q1 2020, the decline in exports and current account were mainly due to the downturn in prices and quantities of gas exports in the context of a record high level of reserves in Europe after a

DYNAMICS OF BRENT AND URALS OIL PRICES AND PRICE DIFFERENCES
(IN USD)

Chart 3



Source: Bloomberg.

warm winter and an increase in LNG supply. The weakening ruble and the sharp decline in economic activity are likely to lead to a downturn in imports in Q2 2020, providing some support to the current account balance.

In addition to reduced export revenues, the impact of the coronavirus pandemic on the Russian economy through the balance of payments channel manifested in increased capital outflows. The positive financial account balance for Q1 2020 amounted to $15.7 billion, while for the same period last year it was $12.3 billion.

The acceleration of capital outflow mainly resulted from a $12.1 billion reduction of the liabilities of non-financial sector companies through direct and portfolio foreign investments, partly due to the sale of shares and corporate bonds by non-residents. In addition, Q1 2020 saw a $6 billion decrease in federal government liabilities to non-residents, mostly due to sales of OFZs by foreign investors.

In April, sales of financial assets by non-residents largely stopped, and non-residents began to buy certain instruments (see Section 3.2 for details). We expect a further decrease in capital outflows and a new equilibrium in the balance of payments. An additional factor in achieving a balance of supply and demand in the foreign exchange market is the sales of foreign currency by the Bank of Russia, largely dampening the consequences of the reduced current account of the balance of payments (see Section 3.1 'Foreign exchange market' for details).

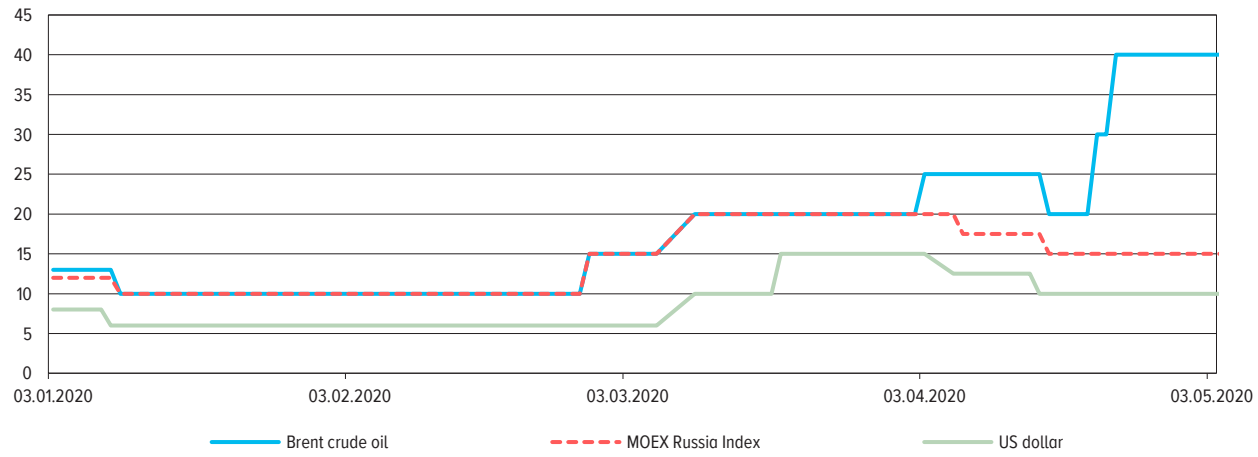
2.2. FINANCIAL ASSET PRICE CHANNEL

The coronavirus pandemic and deteriorating economic outlook led to reassessment of risks and the pricing of financial instruments. Amid the accelerated spread of coronavirus in leading countries and the fall in oil prices in March, the prices of Russian financial assets were under downward pressure from sales by non-residents as well as changes in the risk appetite of local participants. The reaction of financial asset prices to the shock has a number of characteristic features:

1. As in previous episodes of stress, the current adaptation of financial asset prices to new economic conditions was subject to an 'overshooting' effect. For example, the yield of 10-year OFZs in the initial growth phase increased from 5.9% (as of 20 February 2020) to 8.4% (as of 18 March 2020), subsequently falling back to 6.2%, almost negating the previous rise (as of 20 April 2020).
2. Amid increased volatility in financial markets, participants faced higher requirements for collateral deposits as the probability of credit risk materialisation and, consequently, the load on the Central Counterparty (the 'CCP') increased. To prevent the materialisation of risks, the CCP raised collateral deposit rates for serviced instruments on the markets of the Moscow Exchange (Chart 4).

DYNAMICS OF COLLATERAL DEPOSIT RATES FOR THE MOST LIQUID ASSETS ON THE MOSCOW EXCHANGE'S FUTURES AND CURRENCY MARKETS *Chart 4*

(%)



Source: NCI NCC (JSC).

The increase in rates, including as a response to the high volatility of instruments within the day, led to higher margin requirements for clearing members of the CCP as part of the standard risk management procedures. March 2020 saw significant growth in the volume of margin calls to participants, while in April 2020 the value of this indicator returned to average levels.

In general, during the period of high volatility, the CCP functioned smoothly in accordance with the current risk management procedures. The measures implemented by the CCP are proportionate to the current adverse market conditions caused by the COVID-19 pandemic. Timely execution of margin calls by clearing members and the absence of defaults on the financial market confirm the limited pro-cyclical impact of the CCP's risk management procedures on the financial stability of clearing members.

3. Transition to the inflation targeting policy has made it possible to keep inflation persistently low over recent years. Stabilisation of market participants' inflation expectations near the inflation target enabled the Bank of Russia to pursue a loose monetary policy in the current conditions, given the short-term nature of the inflation shock. This helped contain the potential impact of the coronavirus pandemic on the economy through increased interest rates. Thus, as the tightening of financial conditions amid the current instability is moderate and short-term, the impact of the coronavirus pandemic on the Russian economy through financial asset prices can be considered limited.

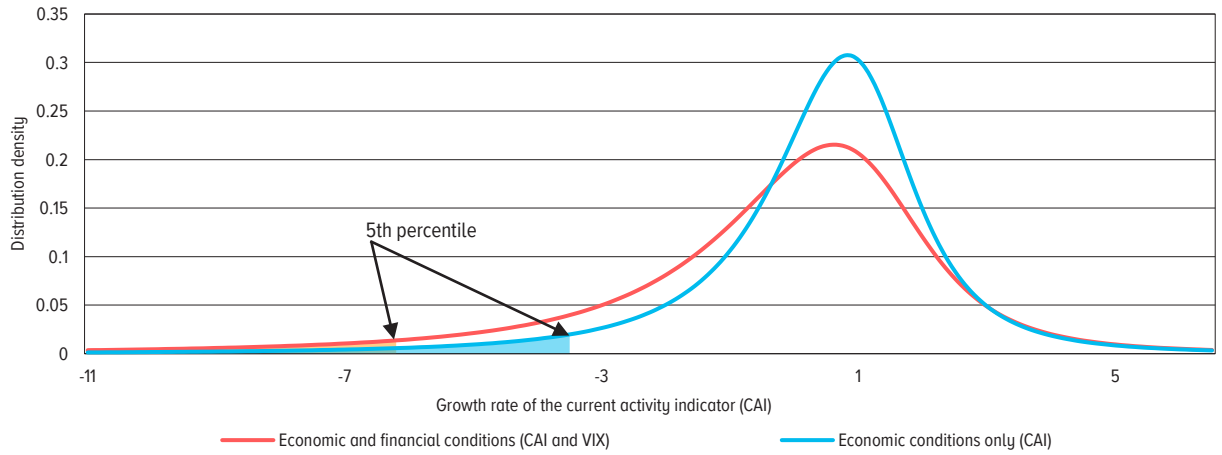
The impact of tighter financial conditions on the dynamics of the Russian economy can be estimated using the GDP-at-risk (GaR) model. Within this model, the scenario distribution of growth rates of economic activity was estimated taking the dynamics of financial market indicators into account[1]. The analysis showed that tightening financial conditions does not significantly affect the average estimate of economic activity growth but increases its fluctuations. With a 5% probability, economic activity in Russia may show a drop of more than 6.2% YoY[2] compared to a 3.6% YoY decline in an environment of stable financial markets (Chart 5).

Chart 5. Distribution density of the annual growth rate of the Russian current activity indicator plotted against economic and external financial conditions (VIX) as of the end of March 2020 over a one-month horizon

[1] *See the detailed description of the application of the GDP-at-risk calculation methodology based on Russian data on economic activity and financial conditions in the Financial Stability Review (Q2–Q3 2019).*

[2] *This assessment involves the degree of impact of financial market volatility, rather than that of the set of economic factors related to COVID-19, on the distribution of growth rates of economic activity.*

DISTRIBUTION DENSITY OF THE ANNUAL GROWTH RATE OF THE RUSSIAN CURRENT ACTIVITY INDICATOR PLOTTED AGAINST ECONOMIC AND EXTERNAL FINANCIAL CONDITIONS (VIX) AS OF THE END OF MARCH 2020 OVER A ONE-MONTH HORIZON *Chart 5*



Source: Bloomberg, Bank of Russia calculations.

Therefore, the Bank of Russia's measures (along with measures taken by other central banks) aimed at stabilising the situation in the financial markets significantly reduced the risks to the economy, thus avoiding potential losses in the event of materialisation of financial stability risks.

2.3. INCOME CHANNEL

The development of the pandemic adversely affects revenues in all sectors of the economy (non-financial companies, households the public and financial sectors). The most significant domestic factor of the impact of the pandemic on the Russian economy was the forced interruption of production in order to reduce the burden on the public health system, provide uninterrupted access to healthcare and ensure the epidemiological safety of the population. Due to forced downtime, companies failed to receive the income that they would have had under normal conditions of economic activity. A number of organisations that continued to operate noted a decrease in customer activity and revenue. Through the income channel, the adverse impact of the coronavirus pandemic and related restrictions adversely affect the entire supply chain and the entire range of entities involved in production activities. This means that revenue losses affect not only a particular company but also its employees, suppliers, contractors and service organisations, publicly funded agencies and extra-budgetary funds as well as financial institutions providing services to the company and its employees.

- A number of industries providing transportation, tourism and other services experienced a drop in income in early March and already needed support in the initial stages of the pandemic. Subsequently, the range of affected industries was gradually expanded (see Section 4.1 'Impact of the coronavirus pandemic on the industry risks of corporate borrowers' for details).
- Falling prices for petroleum products and metals have a negative impact on the income of commodity exporters as well as related industries (oil refining, transportation etc).
- The SME sector is most vulnerable due to limited opportunities to attract financing, the complexity of organising remote work and focus on services for the population. For this reason, the Government and the Bank of Russia have developed a number of programmes aimed at supporting small- and medium-sized enterprises in the context of the coronavirus pandemic (see Section 4.2 'Credit risk of the corporate portfolio' for details).
- The public sector is expected to face a significant fall in revenue due to both the shrinking tax base and the provision of tax deferrals and other accommodative measures, which together will result in a federal budget deficit. The Russian Ministry of Finance estimates that the federal budget deficit may amount to about 4% of GDP in 2020. At the same time, Russia's public debt

is one of the lowest in the world, which creates a large potential for financing the deficit through additional borrowing, primarily on the OFZ market (see Section 3.2 'OFZ market' for details).

- The household sector will be affected by the decrease in the earned income of households. The situation is particularly difficult for individuals with bank loans employed in the most affected industries and facing a significant reduction in income. Legislative changes providing for possible loan repayment holidays have been adopted to support this category of individuals (see Section 4.3 'Credit risk of the retail portfolio' for details).
- The falling incomes of economic entities will result in increased credit risk, declining demand for financial services and decreased financial sector revenues. Moreover, the mechanism of loan repayment holidays and various forms of debt restructuring will shift the horizon of interest income by six or more months, which could adversely affect the current profitability of banks as well as limiting the inflow of liquidity. With this in mind, the Bank of Russia has implemented measures aimed at supporting the liquidity of credit institutions (see Section 4.4 'Liquidity and interest rate risks of the banking sector' for details).

2.4. LENDING CHANNEL

An additional channel for the negative impact of the coronavirus pandemic may be a decrease in potential activity of the financial sector, primarily in lending. Decreased income of economic entities reduces their creditworthiness, which in turn may limit the willingness of banks to lend to the economy. The impact of the coronavirus pandemic can be transmitted through the lending channel due to materialisation of the following risks:

- declining income of potential borrowers limits their own credit appetites due to limited loan servicing ability amid significant uncertainty about the future recovery of the income of households and companies;
- the deterioration in the credit quality of borrowers and the increase in credit risk leads to growing interest rates on loans, which in turn limits the demand for new loans;
- tightening lending standards of banks, including lower limits on credit products;
- the restricted mobility of the population is an obstacle to obtaining loans which can be critical for those customers who do not use remote banking;
- in the context of the deteriorating financial position, some banks may face a lack of funds to increase lending.
- The combination of abovementioned factors create conditions for limited credit activity, which in turn may become a factor in the deterioration of the economic situation since restricted access to financing prevents economic entities from maintaining the same level of production. This may create a feedback loop: a decrease in economic activity triggers credit contraction which further suppresses economic activity.

To assess the significance of the feedback loop effect, the Bank of Russia conducted a study of the relationship between GDP dynamics and credit activity in the Russian banking sector. The results confirm that credit contraction increases the economy's losses, and the quantitative decline in the economy is about 40% deeper compared to the decline without the impact of the feedback loop effect (see Box 1 'Assessment of the potential impact of the economic slowdown on lending with consideration for feedback loop effects' for details).

Taking into account the described mechanism of the lending channel as well as the feedback loop effect of the dynamics of credit and economic activity, the Bank of Russia focused its support measures on maintaining the lending potential of the banking sector (see Section 4.2 'Credit risk of the corporate portfolio' and Section 4.3 'Credit risk of the retail portfolio' for details). Temporary regulatory relief helps restructure loans and prevents a significant reduction in lending amid increased uncertainty. Releasing buffers helps banks absorb losses and encourages lending while lowering the key rate supports lending.

Box 1. Assessment of the potential impact of the economic slowdown on lending with consideration for feedback loop effects

In the context of a slowing economy, credit activity is declining. Credit resources are used for replenishing working capital and increasing investment, so credit contraction may lead to a subsequent decrease in aggregate output and increase the economic downturn. In the economic literature, such effects are called second-round effects (SRE), or macroeconomic feedback loop effects. The assessment of SRE is presented in the materials on macroprudential stress testing of the banking sector of the world's leading central banks (ECB, Bank of Japan).

Under the impact of the initial negative macroeconomic shock, aggregate output decreases, and the probability of default of various borrowers and the costs of providing loans increase, afflicting the profitability and capital adequacy of banks[1]. As a result, financial institutions have to raise lending rates and reduce the credit supply. This leads to a reduction in aggregate lending in the economy and the GDP[2]. Thus, the initial negative effect of a decline in GDP is amplified by feedback loop effects and reduced lending.

Several econometric models have been built to evaluate the effects of SREs on Russian data.

1. Sign-restricted VAR

This approach a priori sets the direction of change of a part of the model's endogenous variables in response to certain shocks[3]. This methodology is used by the ECB[4] to assess feedback loop effects in the context of a decrease in the credit supply of banks. For this purpose, it is assumed that the nominal base interest rate and credit rates in the economy change in different directions in response to the deterioration of the macroeconomic environment (lower output and inflation): to support economic activity, the regulator may lower the base cost of borrowings, while banks' lending rates will grow as a result of lower credit supply[5].

The study in Russia uses the following statistics (quarterly frequency, Q2 2005–Q3 2019): YoY growth rate of real GDP (%), YoY CPI growth rate (%), interest rate on corporate loans (%), YoY growth rates of corporate lending in national and foreign currencies (net of exchange rate effect) (%), logarithm of the nominal exchange rate of the US dollar against the ruble or the actual MIACR rate on ruble loans for a period of 1 week (%). The scheme of imposed restrictions is shown in Table 4[6].

SIGN-RESTRICTED IMPULSE RESPONSE FUNCTIONS FOR MODEL VARIABLES *Table 4*

	GDP (gdp)	CPI (cpi)	Lending rate (lrate)	Lending (credit)	FX rate (usdrub)	Interest rate (cbrate)
Model 1	-1	0	1	-1	0	X
Model 2	-1	0	1	-1	X	-1

Note: X means that the variable is excluded from the model specification; 0 means no restrictions; +1/-1 means a restriction on the growth/decline of the variable in response to a shock.
Source: Bank of Russia calculations.

The results of calculation of impulse response functions (Charts 1, 2 in Appendix 2) show that change in the supply of loans and GDP dynamics have a two-way relationship resulting in the deterioration of the macroeconomic environment accompanied by a decline in lending, which subsequently leads to a further decline in economic activity.

2. Recursive Bayesian vector autoregression BVAR

The recursive BVAR uses the following statistics (quarterly frequency, Q2 2005–Q3 2019): logarithm of VIX, logarithm of the prices for Brent crude oil, YoY growth rate of real GDP (%), YoY CPI growth rate (%), interest rate on corporate loans (%), YoY growth rates of corporate lending (%), logarithm of the nominal exchange rate of the US dollar against the ruble.

[1] *Kitamura et al (2014). Macro stress testing at the Bank of Japan.*

[2] *Dees et al (2017). STAMP€: Stress-test analytics for macroprudential purposes in the euro area. URL:*

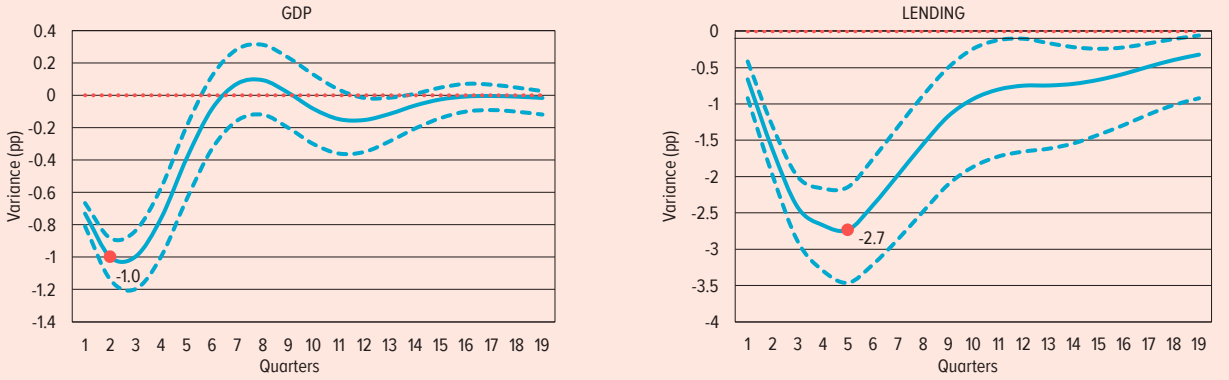
[3] *Uhlig H (2005). What are the effects of monetary policy on output? Results from an agnostic identification procedure. Journal of Monetary Economics, volume 52, issue 2, pp. 381–419.*

[4] *Budanik et al (2019). Macroprudential stress test of the euro area banking system.*

[5] *Hristov et al (2012). Loan supply shocks during the financial crisis: Evidence for the Euro area. Journal of International Money and Finance, vol. 31, issue 3, pp. 569–592. URL:*

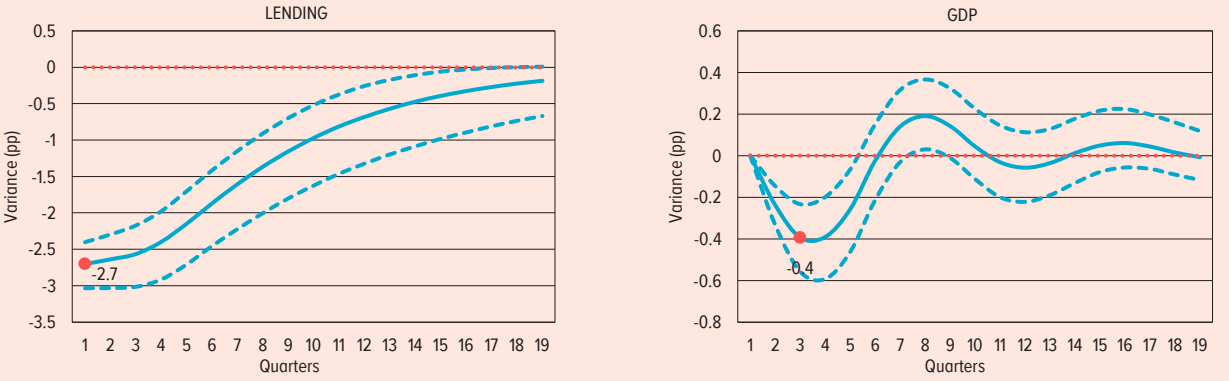
[6] *The SRVAR Add-on for Eviews is used for calculations.*

REDUCED LENDING GROWTH RATES RESULTING FROM A LOWER GDP GROWTH RATE *Chart 6*



Source: Rosstat, Bank of Russia, Bloomberg.

REDUCED GDP GROWTH RATE RESULTING FROM LOWER LENDING GROWTH RATES *Chart 7*



Source: Rosstat, Bank of Russia, Bloomberg.

The following results were obtained. A negative GDP shock of 1 pp leads to a 2.7 pp decrease in annual lending growth rates (Chart 6). A decrease in the annual lending growth rates leads to an additional reduction in the GDP growth rate by 0.4 pp (Chart 7), which again leads to a 1.1 pp decrease in lending growth rates.[7]

The result is a 1.4 pp overall decrease in economic growth (instead of 1 pp) and a 3.8 pp decrease in lending growth (instead of 2.7 pp). Thus, the second-round effects exacerbate the economic losses from the initial macroeconomic shock.

The study shows that the two-way relationship between various macroeconomic and financial variables (in particular, feedback loop effects between lending dynamics and economic activity) can exacerbate the macroeconomic consequences of a negative global macroeconomic shock, such as the coronavirus pandemic. Therefore, measures to support the lending capacity of the banking sector are critical.

[7] *The assessment of changes in credit growth rates is based on the assumption of a downturn in economic activity and its impact on lending dynamics and does not take into account the effect of the Bank of Russia's measures aimed at supporting lending.*

3. IMPACT OF THE CORONAVIRUS PANDEMIC ON THE RUSSIAN FINANCIAL MARKET

The decline in risk appetite of global investors led to a reduction in their investments in Russian assets and capital outflow in late February–March 2020, accompanied by curtailing of their operations under the carry-trade strategy and purchases of foreign currency on the domestic market. The exodus of foreign investors from Russian assets resulted in growing bond yields, declining industry indices and weakening of the ruble. Due to high market volatility, the Ministry of Finance of Russia suspended OFZ auctions.

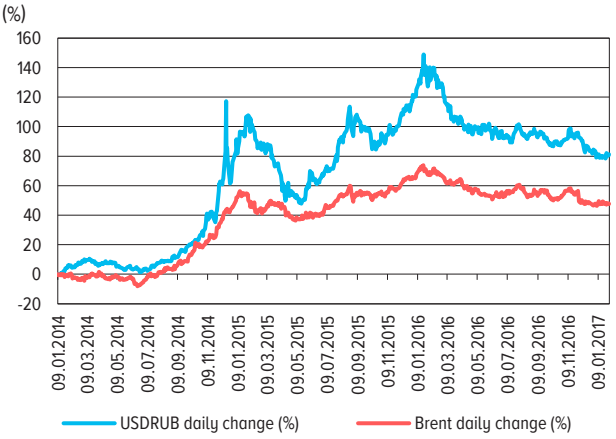
Since late March–early April, the measures taken by world regulators and the Bank of Russia to support the economy have helped stabilise the situation. Foreign investors are gradually returning to the Russian markets, OFZ yields have returned to levels seen before the period of increased volatility and non-residents have resumed foreign exchange sales and participation in auctions for the initial placement of OFZs.

Foreign exchange market

The exit of foreign investors from the Russian market, their acquisition of significant amounts of foreign currency and the curtailment of operations under the carry-trade strategy in the domestic currency market resulted in significant weakening of the ruble (by 17.6% in March), but it was noticeably less significant than during previous shock episodes. The oil price elasticity of the ruble exchange rate decreased after the introduction of the fiscal rule, providing the ruble with a greater margin of stability against sharp fluctuations in the oil market. In the period from January 2014 to January 2017 a price and exchange rate correlation coefficient was -0.98, but after the introduction of the fiscal rule mechanism in February 2017 the correlation coefficient dropped to -0.11. The peak realised volatility of the US dollar/ruble pair due to sharp fluctuations in the commodity market also fell noticeably, decreasing from 149% (Chart 8) to 35% (Chart 9) over the years.

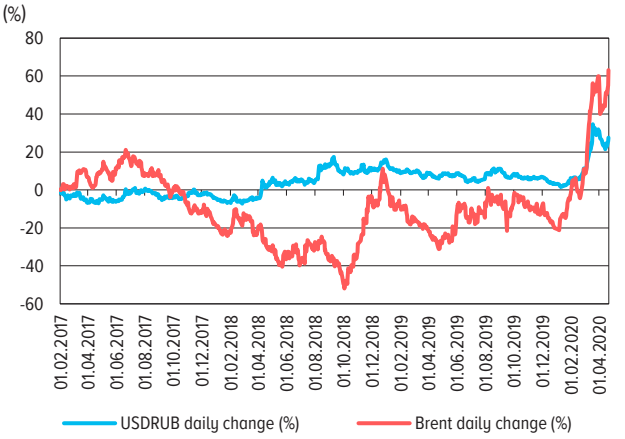
To support the market amid the significant downturn in oil prices, the Bank of Russia started proactive FX sales under the fiscal rule and sales of foreign currency related to funds conversion in the context of the purchase of Sberbank shares by the Ministry of Finance of Russia using NWF funds. As a result, the Bank of Russia compensated for the shortfall of receipts on the current

WEAKENING OF THE RUBLE AGAINST THE US DOLLAR AND DOWNTURN IN THE PRICE OF BRENT OIL BEFORE THE INTRODUCTION OF THE NEW FISCAL RULE MECHANISM *Chart 8*



Source: Bloomberg.

WEAKENING OF THE RUBLE AGAINST THE US DOLLAR AND DOWNTURN IN THE PRICE OF BRENT OIL AFTER THE INTRODUCTION OF THE NEW FISCAL RULE MECHANISM *Chart 9*



Source: Bloomberg.

account of the balance of payments and contributed to a balance of supply and demand in the FX market.

OFZ market

Dependence on foreign financing is a traditional vulnerability for emerging markets. During a period of high volatility in global markets, the outflow of non-residents' funds may negatively affect the financial stability of such countries. This applies to both the government and corporate debt markets. It is the difficulties of refinancing public debt and financing the budget deficit that limit the ability of many emerging market economies to pursue loose fiscal and monetary policies. In the current environment, increased financial stability risks can offset the positive effect of budget measures. In Russia, the situation remained stable due to the low public debt and successful macrostabilisation policy of recent years. Therefore, after the initial burst of interest rate volatility in March, the rates have stabilised and decreased with the recovery of demand for government bonds from both Russian and foreign investors.

Box 2. Financial market's dependence on foreign investors

In previous issues of the Financial Stability Review, the Bank of Russia highlighted the dependence of the Russian market on foreign financing as one of its key vulnerabilities. This vulnerability is common for emerging market economies. Reduced risk appetite in global markets amid the global economic downturn due to the coronavirus pandemic led to the exit of foreign investors from Russian assets in Q1 2020. Reducing their positions in assets, non-residents also curtailed operations under the carry-trade strategy in the currency swap market and purchased foreign currency in the domestic market (in March, they purchased currencies in the amount of ₽389 billion). Active sales by foreign investors stimulated the growth of bond yields and the weakening of the ruble. Despite high market volatility in the first half of March, financial stability risks have not materialised. Market participants regularly paid margin calls on the Central Counterparty market.

The stability of the Russian OFZ market is primarily due to the low level of public debt (12.3% of GDP, the lowest among the G20 countries). Russia's external debt has continued to decline over the past year (from 1 April 2019 to 1 April 2020, the external debt fell by 4.1% to $450.0 billion); gold and foreign exchange reserves exceeded the external debt by 25%. During the period of instability, the OFZ market was supported mainly by systemically important banks.

The Bank of Russia has implemented a number of proactive support measures for the financial market: it allowed banks and NBFIs to ignore negative revaluation of investments in debt and equity securities, stopped buying currency on the domestic market under the fiscal rule and subsequently switched to proactive FX sales, including sales of foreign currency received in connection with the purchase of Sberbank shares with NWF funds. The daily limit on FX swap operations for the sale of US dollars for rubles was also increased from $3 billion to $5 billion.

Thus, the vulnerability associated with the dependence of the Russian financial market on foreign investors was reflected in the extensive but short-lived exit of non-residents from Russian assets. The financial market continued to operate steadily.

The general forecast of the budget for 2020 published by the Ministry of Finance of Russia in 2019[1] predicted that the volume of oil and gas revenue would account for 37% of total revenue. If the average price of Urals crude oil falls to $30 per barrel in 2020, oil and gas budget revenue in the first year may decrease by 1.6% of GDP. If the price of Urals crude oil falls to $25–30 per barrel for 3 to 5 years, oil and gas revenues lost over the corresponding period may amount to 5–14% of GDP. At the same time, Russia's very low level of public debt (12.3% of GDP at the end of 2019 compared to a 52% average in emerging market economies) helps limit sovereign risks.

In Q1 2020, despite the suspension of auctions in March, the Russian Ministry of Finance placed OFZs for ₽501.3 billion (83.6%) out of the planned volume of ₽600 billion. When the auctions

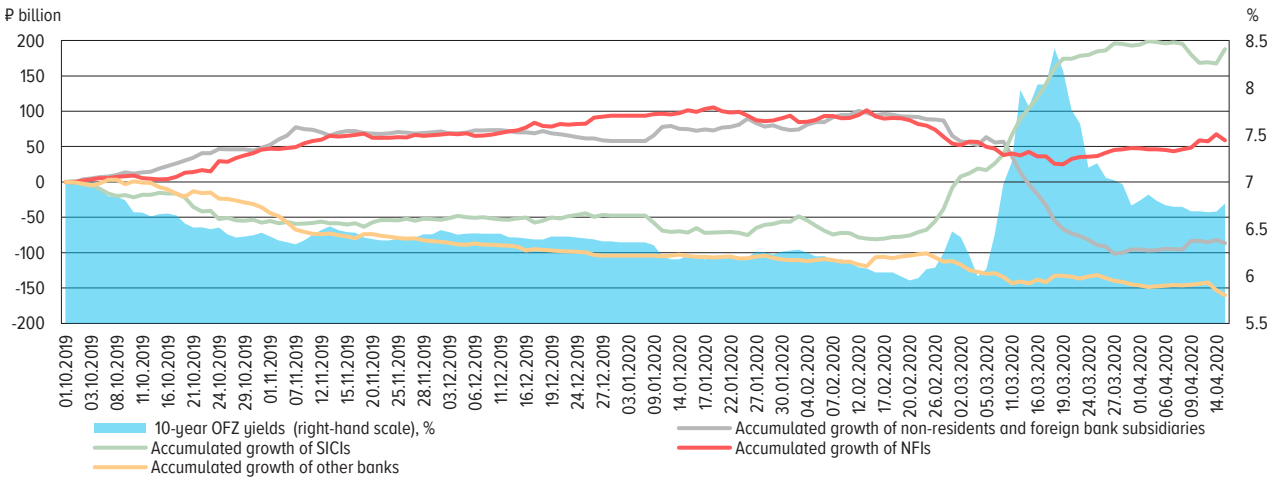
[1] *The Budget Forecast of the Russian Federation for the period up to 2036 published by the Ministry of Finance of Russia in 2019.*

resumed in April, placement amounted to ₽338.7 billion (56.4%) out of ₽600 billion planned for Q2 2020. There was sufficient demand both from domestic investors and from non-residents. Thus, despite the decreased appetite of international investors for EME assets, the Ministry of Finance of Russia is able to maintain the pace of raising funds in the primary market in accordance with the plan.

The share of non-resident investments in OFZs on the accounts of foreign depositories in NSD in the total volume of the OFZ market in the period from 21 February to 31 March decreased by 3.0 pp – that is, by ₽269.2 billion in volume at par, and amounted to 31.1%. Despite the exit of some non-residents from the Russian OFZ market, total non-resident investments increased by ₽288.3 billion in Q4 2019–Q1 2020. (Chart 12).

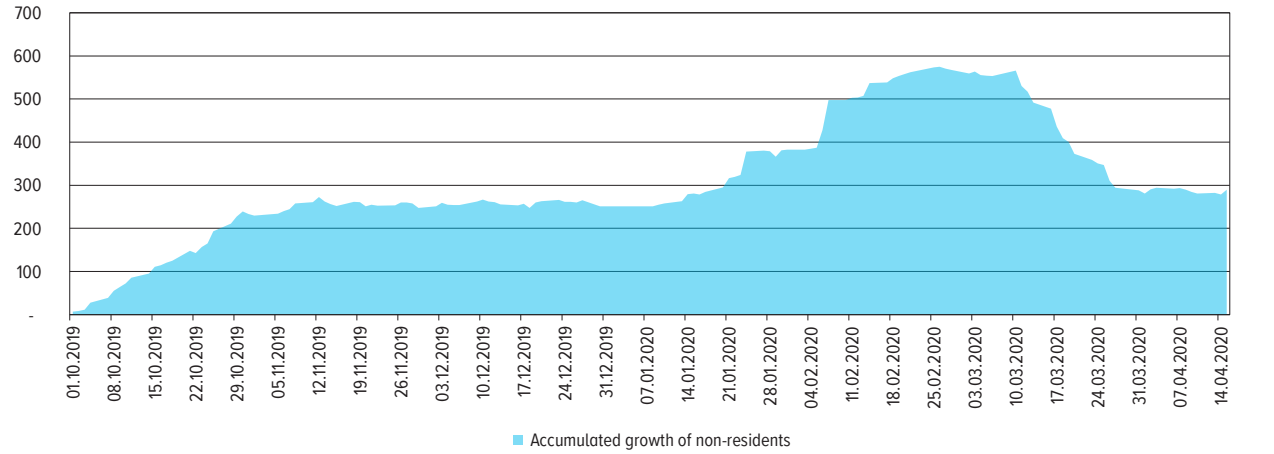
Thus, the impact of the shock associated with the coronavirus pandemic on non-resident investments in OFZs was short-lived and moderate. During the period of instability, the OFZ market was supported by systemically important banks, which made net purchases in the exchange segment in the amount of ₽268.3 billion from 21 February 2020 to 31 March 2020. In April, non-residents resumed purchases of OFZs (purchased OFZs for ₽59.4 billion), and as of 30 April 2020 the share of their investments according to foreign depositories in NSD amounted to 30.6%. The exit of a large

ACCUMULATED SALES/PURCHASES OF PARTICIPANTS IN THE SECONDARY OFZ MARKET AND THE DYNAMICS OF 10-YEAR OFZ YIELDS *Chart 10*



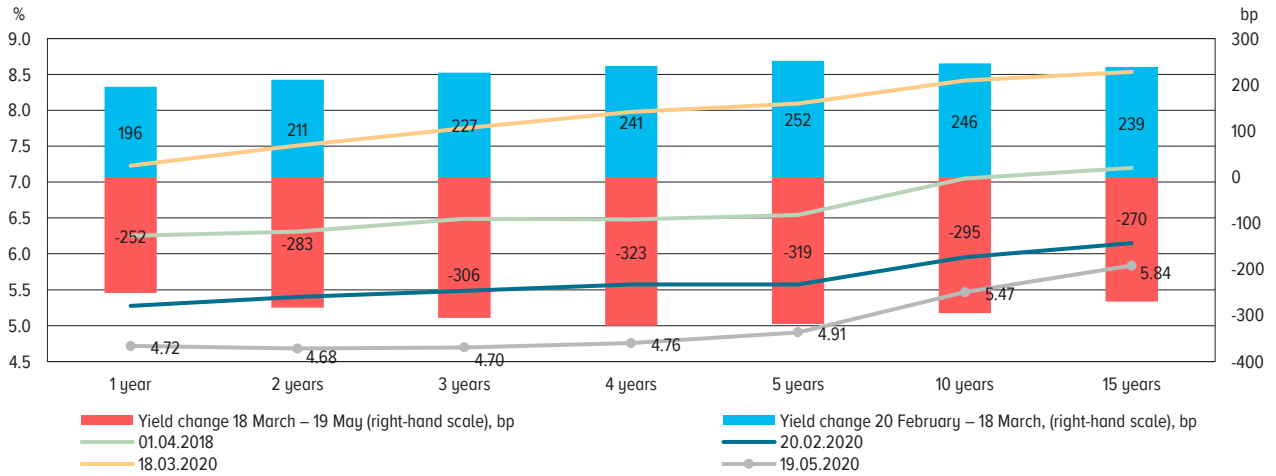
Source: PJSC Moscow Exchange, NCI JSC NSD.

ACCUMULATED NET PURCHASES/SALES OF NON-RESIDENT INVESTMENTS ACCORDING TO NSD (₽ BILLION) *Chart 11*



Source: NCI JSC NSD.

OFZ YIELD CURVES AND THEIR DYNAMICS OVER THE PERIOD *Chart 12*



Source: Bloomberg.

number of foreign investors led to a significant increase in bond yields by mid-March (by a maximum of 230 bp). From the second half of March and in April, the OFZ yield curve gradually returned to its pre-pandemic state (Chart 12).

To support financial institutions in acquiring assets in the financial market, the Bank of Russia has allowed banks and other financial institutions that maintain accounting records under Bank of Russia regulations to recognise equity and debt securities purchased before 1 March 2020 at fair value as of 1 March 2020 and debt securities purchased between 1 March and 30 September 2020 at fair value as of the acquisition date[2].

Corporate bond market

The period of increased volatility in the corporate bond market lasted from 20 February to late March 2020, with the peak on 18 March. The market recovered after 23 April 2020 when the corporate bond index (RUCBITR) exceeded the value of 20 February (430.5 versus 430.2). Depending on the industry, the growth of corporate bond yields during the period of volatility reached 74–262 bp. In March–April 2020, the spread between corporate and government bond yields on average doubled from 50 to 100 bp. The most volatile sectors were ferrous metallurgy, mining, construction and development. The increase in corporate bond yields was mainly due to non-residents selling over ₽11.2 billion worth of securities on the exchange. SIBs were the main buyers.

By the end of 2020, the corporate bond market is expected to redeem securities in various currencies in an amount equivalent to ₽1.94 trillion, of which 62% is ruble-denominated bonds (₽1.2 trillion). The largest shares of 33% and 32% in the redemption volume are held by the banking sector and oil and gas industry, respectively (Chart 14).

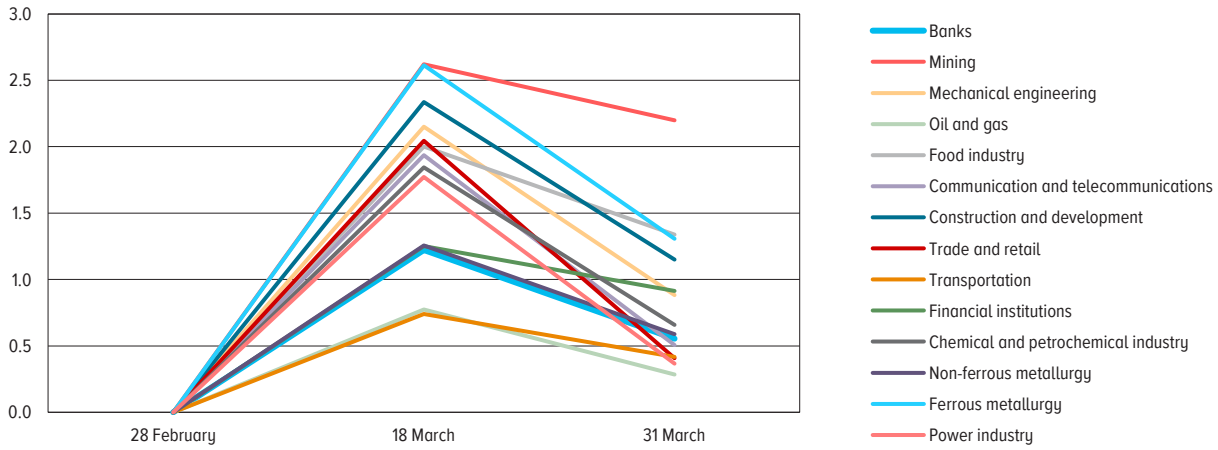
All credit institutions in total own[3] 20% of all corporate bonds that are to be redeemed in 2020. In April–December 2020, the largest share of redemptions, 39%, is accounted for by the portfolios of state-owned SIBs.

Given the reduction in interest rates and the favourable liquidity situation as well as the extensive use of securities in repo transactions with NCC, many issuers can be expected to be able to refinance their debts in the form of corporate bonds.

[2] *This measure will remain in force until 1 January 2021.*

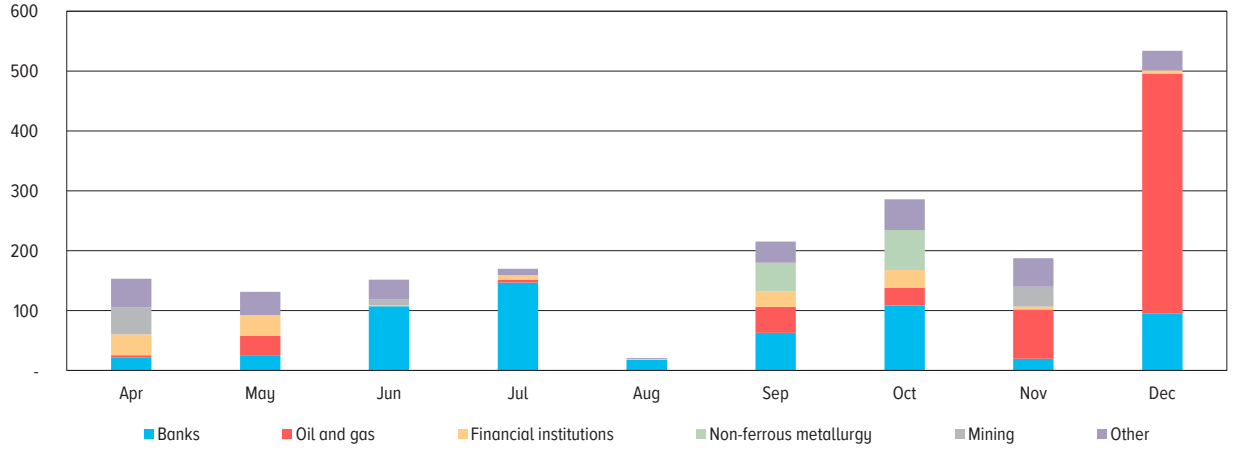
[3] *According to the official bank reporting form 0409711, the share is calculated in rubles for bonds in all currencies.*

DYNAMICS OF CORPORATE BOND YIELDS BY INDUSTRY IN MARCH 2020 *Chart 13*
(PP)



Source: Cbonds.ru, Bloomberg.

DYNAMICS OF REPAYMENTS ON RUSSIAN CORPORATE BONDS BY TYPE OF BANK, CURRENCIES CONVERTED INTO RUBLES* *Chart 14*
(₽ BILLION)



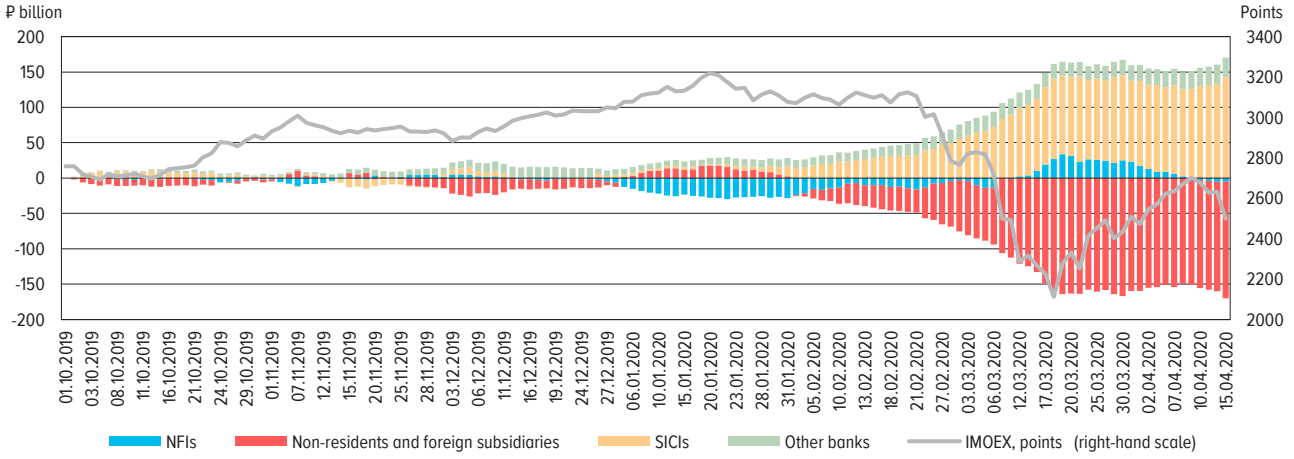
** Hereinafter, currencies are converted using the official FX rates from the Central Bank website as of 1 April 2020.*
Source: Form 0409711.

Stock market

In the context of the pandemic, from 21 January 2020, non-residents and subsidiaries of foreign-owned banks started exiting from Russian stocks. Together, they sold shares worth ₽177.5 billion as of the end of March. The MOEX index fell to the level of April 2018 (closing at 2112.6 on 18 March 2020) (Chart 15). The indexes of the transportation, oil and gas, banking and electric utilities industries showed the most significant decline (Chart 16). SIBs (₽114.2 billion) and NBFIs (₽50.6 billion) were the main net buyers during this period. In April, net sales of shares by foreign participants decreased significantly and totalled ₽12.0 billion for the month.

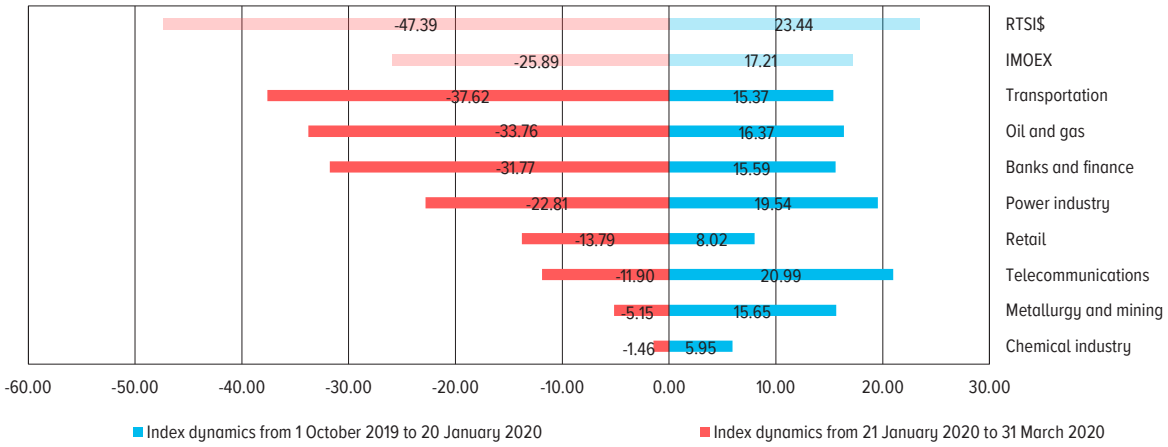
Since the volume of stock investments of credit institutions is relatively small (about 10% of the securities portfolio) and considering the measures proposed by the Bank of Russia for fixing the revaluation of financial instruments, the decline in stock market quotations is not expected to entail significant losses for credit institutions. As shares can act as collateral for loans, the Bank of Russia has allowed banks to use collateral values as of 1 January 2020 for calculating loan loss provisions until 30 September 2020, if the collateral belongs to quality categories I and II.

NET PURCHASES/NET SALES BY CATEGORIES OF PARTICIPANTS (ACCUMULATED TOTAL) ON THE SECONDARY STOCK MARKET AND DYNAMICS OF THE MOEX RUSSIA INDEX *Chart 15*



Source: PJSC Moscow Exchange, NCI JSC NSD.

DYNAMICS OF MOEX RUSSIA SECTOR INDICES* *Chart 16*
(%)



** The dynamics of sector indices are presented in the form of basic growth rates calculated relative to the beginning of the period under review (1 October 2019).*
Source: PJSC Moscow Exchange.

4. IMPACT OF THE CORONAVIRUS PANDEMIC ON THE BANKING SECTOR

Compared to the crises of 2008–2009 and 2014–2015, the Russian banking sector is more stable. Unlike during the previous episodes of declining economic activity, it is the real sector of the economy that is now more vulnerable and needs lending.

Despite the adverse impact of the coronavirus pandemic on the financial stability of companies from a wide range of industries, corporate lending continues to grow. Since the beginning of the year, debt grew by 3% adjusted for currency revaluation and by 1.2%[1] in April. This is facilitated, inter alia, by lending support measures implemented by the Bank of Russia and the Government. The Bank of Russia's regulatory easing on loan provisions requirements applies to 85% of companies' debt, including SMEs. It is in force until 30 September 2020 and can be extended if necessary. These measures make it possible to postpone the formation of reserves until some companies recover their financial position.

In the context of restrictive measures, the debt on the household loan portfolio began to decrease. This is happening amid both decreased demand for loans and banks tightening requirements for the creditworthiness of borrowers. The quality of the retail loan portfolio remained stable in March, but it is expected to deteriorate in the future. Banks are extensively restructuring household loans. For this purpose, the Bank of Russia has adopted regulatory easing that allows banks not to form additional provisions for restructured loans.

Accumulated macroprudential capital buffers will contribute to the stability of banks. The on mortgage loans was released by the Bank of Russia in April this year. This will help banks cover losses on loan portfolios and maintain lending. In addition to macroprudential buffers, banks also have a significant capital reserve of ₽5 trillion (taking into account the systemic importance buffer and the capital conservation buffer), sufficient to cover possible losses on loans in the event of a negative stress scenario of economic development.

Against the background of a structural liquidity surplus and a sufficient supply of funds in the money market, banking sector liquidity risks remain balanced. However, in the medium term, certain credit institutions may face additional liquidity needs. To address this, the Bank of Russia has taken a number of measures to increase the availability of medium-term and long-term funding: it has launched one-month and one-year repo auctions, expanded the Lombard List and eased short-term liquidity requirements for SIBs.

At the same time, the lowering interest rates in the Russian market form conditions for the reduction of interest margin in the banking sector. Banks need to adapt to functioning in the low interest rates environment. In order to limit vulnerability to interest rate risk, Russian banks should take measures to increase the share of long-term funding sources in the future.

4.1. IMPACT OF THE CORONAVIRUS PANDEMIC ON THE SECTORAL RISKS OF CORPORATE BORROWERS

Sectors with declining revenues due to foreign economic conditions

The slowdown in the global economy and the downturn in commodity prices adversely affect the income of Russian exporters. But due to the fact that as of the end of 2019 the average debt burden of large export-oriented companies was at an acceptable level, the financial position in this segment is expected to deteriorate primarily for companies with the most excessive debt burden.

[1] *According to reporting form 0409101.*

Oil and gas. Despite an agreement to cut oil production under the OPEC++ deal by 9.7 million barrels per day in May–June 2020[2] (the original planned cut was 10 million barrels per day), the lack of clear commitments from other countries (not included in the OPEC++ deal but expressing their intention to reduce production) and huge reserves and excess supply of crude oil may put downward pressure on oil prices in the short term. The forced production cuts amid low prices and falling demand will negatively affect the financial position of Russian oil companies by the end of 2020. Independent producers of petroleum products focused on the domestic market may suffer the greatest losses from the crude oil price downturn due to the almost complete erosion of oil refining margin related to the reduction of compensation payments in the form of the negative excise tax and reverse damping mechanism. For example, in February 2020, oil refining companies received only ₽2.3 billion through the damping mechanism against ₽20.7 billion in January, and in March companies were forced to pay ₽10.5 billion to the state budget. Therefore, low energy resource prices and reduced production quantities may lead to a significant increase in the debt burden of oil and gas companies. The debt burden of the largest vertically integrated companies in the industry as of the end of 2019 is moderate: the median 'Net debt/EBITDA' of such companies is 0.35x as of 31 December 2019, 0.42x as of 30 June 2019, and the interest coverage ratio is 17.51x and 21.14x, respectively. At the same time, the financial position of independent producers of petroleum products is less stable: the average operating profit margin of such companies decreased to 2% as of the end of Q1 2020 (3% as of the end of 2018).

Coal mining. Coal prices have been declining since 2018 owing to significant reserves of end consumers (due to warm weather), lower natural gas prices and reduced demand from European buyers. This trend worsened in 2020 amid a slowdown in business activity in the main consumer countries due to the spread of COVID-19. In April 2020, the energy coal price index (FOB Australia and FOB China) fell by 24% YoY, and the price of coking coal (FOB Australia) dropped by 33% YoY[3]; energy coal export quantities decreased by about 10%, and coal supplies to the domestic market by 6%[4]. According to Rosstat, coal production in March 2020 fell by 11% (YoY), and in Q1 2020 by 9.9% (YoY). Along with the price downturn, the industry's revenue is decreasing, and its debt burden is growing, and certain companies are having more difficulties in servicing their debt in full amid declining profitability and rising capital expenditures. Additional pressure on the industry may be exerted by a drop in global demand for coal due to low prices for oil and gas and stricter environmental regulations. The decreased revenues of mining companies will also lead to reduced tax revenues from the industry.

Metallurgy. According to the World Bank, Q1 2020 saw a 4.7% QoQ decrease in the price index for metals and minerals[5] due to a slowdown in global manufacturing amid the coronavirus pandemic. The deteriorating economy and the introduction of restrictive measures may lead to a drop in metal prices by 13.2% (YoY) by the end of 2020.[6] In the context of declining global prices and demand both in export destinations and in the domestic market (slowdown in business activity and restrictions for construction companies), Russian metallurgical companies may face a reduction in sales and a deterioration in financial indicators. At the same time, the debt burden of most of the largest companies in the industry (the median 'Net debt/EBITDA' for the largest representatives of the industry[7] is 1.36x as of 31 December 2019, 1.70x as of 30 June 2019) is low and not expected to reach a critical level.

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[2] Under the OPEC++ agreement, Russia will have to reduce production by 2.5 million barrels per day in May–June 2020.

[3] According to Bloomberg.

[4] According to the statements of the Minister of Energy of the Russian Federation A. Novak.

[5] Metals and Minerals Price Index.

[6] According to the World Bank's forecasts.

[7] According to a sample of 13 major ferrous and non-ferrous metallurgy companies that publish consolidated financial statements with a total revenue of about ₽5 trillion as of 31 December 2019.

Industries with declining revenues due to the introduction of restrictive measures in Russia

Due to high rates of the spread of coronavirus in Russia, additional antivirus restrictions have been introduced in the country's regions, and many companies have arranged for employees to work from home. The necessary restrictive measures result in reduced population mobility and a drop in consumer activity.

Transportation. The restrictive measures aimed at preventing the spread of coronavirus lead to reduced population mobility. In particular, due to restrictions on international passenger flights and a significant drop in demand for domestic flights, a number of Russian airlines affiliated with tour operators have almost completely suspended their flights. According to the Federal Air Transport Agency (Rosaviation), the volume of passenger air traffic in April 2020 decreased by 92% (YoY). Amid the sharp drop in demand, airlines are forced to raise prices for domestic flights to cover the costs of their flights. As of 1 April 2002, the volume of debt of air and space transportation companies amounted to 0.5% of corporate loan portfolio. This being said, around 40-45% of large transactions in the aviation leasing market are performed by leasing companies, which are affiliated with large state-owned banks. Therefore, the credit institutions' susceptibility to aviation sector risks is rather high. Companies providing support services related to air transport are also experiencing difficulties due to travel restrictions. According to the International Association of Airports, the passenger traffic of the 33 largest Russian airports as of 27 April 2020 had decreased by 96% YoY, and by the end of 2020 the total decline in passenger traffic may amount to 70%. The debt burden of the largest airports is fairly high: as of the last reporting date, the median value of 'Debt/Earnings from sales' ratio of the 16 largest airports was 4.48, and the interest coverage ratio was 1.78.

The decline in global economic growth due to the spread of coronavirus and the measures taken to combat it as well as the reduction in foreign trade turnover is adversely affecting transportation companies. Cargo carriers also face a number of logistical challenges due to the fact that many countries and regions of Russia are imposing additional restrictions for accepting cargo. Companies are forced to restructure their logistics and change the delivery terms of goods. According to Rosstat, in March 2020, cargo turnover in Russia decreased by 7.1% YoY.

As of 1 April 2020, overland and pipeline transportation companies accounted for 2.6% of the corporate loan portfolio[8].

Non-food retail. The decline in consumer demand in the context of the lockdown and the drop in the purchasing power of the population due to the weakening ruble will have negative consequences for retail companies. Since demand is falling mainly for non-essential goods, the impact of restrictive measures will have the greatest impact on the income of non-food retail companies. Due to the closure of shopping centres, mass bankruptcies of small and non-chain companies may occur, inevitably leading to major job losses. In March 2020, shopping centre traffic in Russia dropped by 12% compared to February.[9] Moreover, a sharp drop in revenue is forcing tenants to request lease payment holidays or deferral of payments from property owners. Lease termination means a significant loss for most tenants due to extremely high costs of termination. As of 1 April 2020, retail businesses (excluding sales of motor vehicles and motorcycles) accounted for 3% of the corporate loan portfolio.

Tourism and hospitality. The complete restriction on tourist flow as well as mass cancellation of planned business trips, international exhibitions and other business events significantly exacerbates the situation in the tourism and hospitality segments. According to Cushman & Wakefield, hotels in the capital and regional cities of Russia are at 310% of capacity, and in resort regions, 0%[10]. The cancellation of international events will also affect the position of companies in this industry.

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[8] *Hereinafter, according to the aggregated banking reporting form 0409303.*

[9] *According to Watcom.*

[10] *As of 27 April 2020.*

Moreover, if the restrictive measures are further extended and tightened, tour operators and hotels may face a significant drop in the domestic tourism market. The inability to provide certain types of services remotely along with a drop in real disposable household income will inevitably result in declining income for leisure and entertainment businesses as well as catering and private educational organisations. As of 1 April 2020, businesses in the tourism and hospitality industries accounted for 1.1% of the corporate loan portfolio.

Leasing of commercial real estate. The decline in the solvency of the non-food retail industry as well as strict restrictive measures and the closing of shopping centres could potentially lead to the bankruptcy of a critical mass of their tenants, inevitably resulting in a sharp drop in property owners' revenues. According to the Russian Council of Shopping Centres, commercial activity has been suspended by 80% in more than 2,000 shopping centres in Russia. As of 1 April 2020, real estate companies accounted for 8.5% of the corporate loan portfolio.

Construction. In the context of restrictive measures, developers face a drop in demand for new housing and a rise in costs due to restrictions imposed on the construction industry. Anti-crisis measures for the construction industry (a preferential mortgage programme, additional capitalisation of the Fund for the Protection of the Rights of Equity Construction Participants and guarantees from Dom.RF state corporation for the purchase of new apartments from developers) are designed to support the falling demand in the housing market. Moreover, until 1 January 2021, developers will not be fined for defaulting on obligations under contracts for equity construction. At the same time, the ban on construction works in the end of April-beginning of May led to an increase in the costs of developers due to the need to maintain staff salaries[11], downtime of equipment, conservation and de-conservation of facilities and providing enhanced security. This circumstance will have the greatest impact on the financial position of small contractors, which may not be able to cope with the increased costs, while large developers have a sufficient safety margin to restart temporarily suspended facilities after the restrictions are lifted. As of 1 April 2020, construction companies accounted for 2.5% of the corporate loan portfolio.

Communication and telecommunications. On the one hand, the growth of demand due to massive transitions to remote work and self-isolation restrictions positively affect these industries. On the other hand, the depreciation of the ruble and, as a consequence, the increase in costs for the purchase of new imported equipment, reduction of revenue from international roaming and falling demand from corporate customers among small and medium enterprises adversely impact the communication and telecommunications industry. As of 1 April 2020, communication and telecommunications companies accounted for 2.7% of the corporate loan portfolio.

Information technology sector. Companies that service industries whose revenues are reduced the most due to the restrictive measures (transportation, non-food retail, tourism and hospitality, leisure and entertainment and private education companies) may suffer the most as well as those IT companies that manufacture equipment for which most of the components are imported from abroad. As of 1 April 2020, IT companies accounted for 0.1% of the corporate loan portfolio.

4.2. CREDIT RISKS OF BANKS' CORPORATE PORTFOLIO

As of 1 April 2020, no deterioration in the quality of the loan portfolio was recognised in the accounting statements. Loans of quality categories IV and V amounted to 12.4% of ruble loans and 9.4% of foreign currency loans, lower than on 1 October 2019 by 0.6 and 0.4 pp, respectively[12]. However, a future deterioration in loan portfolio quality may be likely. A significant increase in default

[11] *A preferential rate on loans (in accordance with the new programme of subsidising rates on bank loans for construction and development companies issued before 1 May 2020) will be available to developers keeping their staff and undertaking obligations to complete the construction of housing planned for commissioning in 2020–2021. The Russian Government has allocated ₽12 billion for this programme.*

[12] *According to reporting form 0409303.*

frequency is probable in such industries as the hotel and restaurant business (at least threefold, to 11–13%), trade and production of non-essential goods (at least twofold to threefold, to 9–10%). Real estate companies are expected to face a substantial deterioration in their financial position and at least a 2.5-fold increase in default frequency to 6–7% per year. These companies account for a significant amount of foreign currency loan debt ($10.9 billion in debt as of 1 April 2020), at the same time having virtually no foreign currency revenue to service the debts.

The Russian banking sector approached the pandemic with a better corporate loan portfolio structure than in the economic activity slowdown of 2015. One of the key vulnerabilities for this segment, the dollarization of the loan portfolio, was largely eliminated both by the actions of the banks themselves reducing lending and by the Bank of Russia's macroprudential measures (see the box "Dollarization of the banking sector balance of payments" for details).

Box 3. Dollarization of the banking sector balance of payments

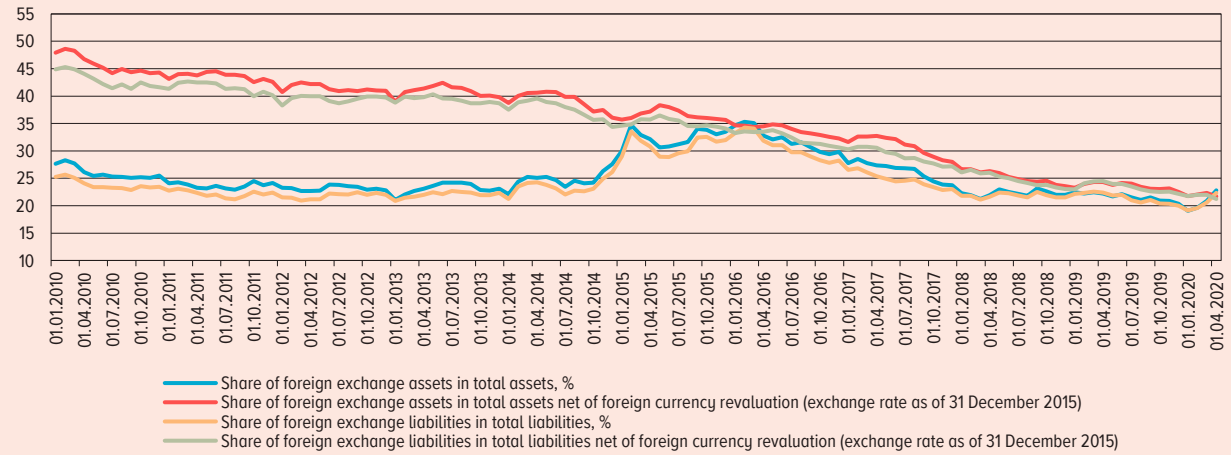
Dollarization of assets and liabilities has remained a traditional vulnerability of the Russian banking sector for a long time. Since 2016, the Bank of Russia has pursued a policy of reducing the share of foreign currency in the banking sector, aimed at limiting this vulnerability. Measures for reducing the share of foreign currency were aimed at both curbing the growth of foreign currency lending and increasing foreign currency liabilities[1]. This made it possible to increase the stability of Russian banks against the risks of exchange rate volatility.

As a result of the entire period of reducing dollarization, banks' foreign currency assets and liabilities have noticeably decreased, including liabilities to non-residents as well as their share in the total assets and liabilities of the banking sector (Charts 17 and 18). While in early 2016 the shares of foreign currency assets and liabilities in the balance sheet of Russian banks amounted to 35% and 33%, respectively, as of 1 April 2020 they were at 23% and 22%.

Over the past four years, the share of foreign currency loans in the corporate loan portfolio has decreased from 40% to 28%, primarily in industries lacking sufficient foreign currency revenue (in real estate by 26%, in construction by 77%), and the share of foreign currency deposits and funds on the accounts of non-financial organisations and NFIs dropped by 12.5 pp to 35.7%.

At the same time, the foreign currency component remains significant in the balance sheets of a number of banks; as a result, the weakening of the ruble leads to a significant increase in the value of risk-weighted assets and reduces the values of capital adequacy requirements. Due to this, the Bank of Russia has allowed credit institutions to use the foreign exchange rates set as of 1 March 2020 for the next six months when calculating required ratios and capital.

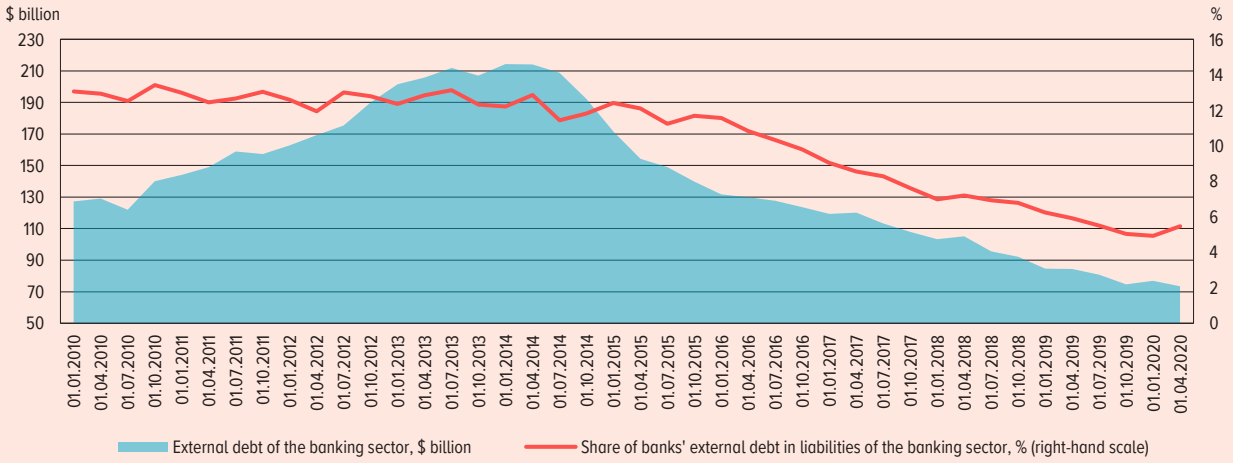
DYNAMICS OF DOLLARIZATION IN THE BANKING SECTOR *Chart. 17*
(%)



Source: Bank of Russia's Banking Sector Review.

[1] *See Financial Stability Review No. 2 (15) for 2019 Q2–Q3, p. 28 for details*

DYNAMICS OF EXTERNAL DEBT OF THE BANKING SECTOR *Chart 18*



Source: Statistics on the official website of the Bank of Russia

Unlike in 2014–2015 when the high concentration of payments on external debt of both the corporate and banking sectors required the launch of special tools for providing long-term foreign currency liquidity, in the reporting period, banks had a sufficient reserve of liquid foreign currency assets despite the shortage of US dollar liquidity in global markets. As compared to 1 January 2015, corporate loan debt in foreign currency had decreased by 25% to $131.5 billion as of 1 April 2020. Export-oriented companies that are less exposed to exchange rate volatility risks possess a significant portion of foreign currency debt (43%). In addition, this group of companies has been reducing its external debt since 2015 (by 18.7% to $305.7 billion as of 1 April 2020).

To cover possible risks associated with the volatility of the ruble exchange rate, the Bank of Russia introduced macroprudential add-ons for the foreign currency corporate loan portfolio. As of 1 April 2020, the total capital buffer accumulated with these add-ons amounted to ₽159 billion. The macroprudential capital buffer may be released in the event of a significant increase in losses on the foreign currency loan portfolio, or if banks are forced to start extensive restructurings of foreign currency loans to borrowers experiencing difficulties with debt servicing. If the add-on requirements fall to zero, banks will be able to absorb losses by this amount without changes in the current capital adequacy ratio.

The Bank of Russia has provided banks with a temporary exemption from forming additional provisions[13] for loans restructured due to the coronavirus pandemic, recognising the financial position of borrowers and/or the debt quality as of 1 March 2020 (1 February 2020 for certain industries). Some borrowers will be able to restore their financial position through loan restructurings, and the banks' need to form reserves will be spread out over time. This will allow banks to better prepare to handle non-performing debts.

From 20 March to 6 May, banks have already restructured loans to major corporate borrowers in the amount of ₽1.2 trillion (3.7% of the loan portfolio of the surveyed banks). As for loans to SMEs, the volume of restructurings from 20 March to 6 May amounted to ₽342.3 billion, or 6.9% of the SME loan portfolio, with 1.2% of the portfolio provided with loan repayment holidays in accordance with Article 7 of Federal Law No. 106-FZ (5.8% of SME loan agreements) and 5.7% of the portfolio restructured under banks' own programmes (3.6% of SME loan agreements). 77% of the applications for restructuring of SME loans were approved. However, after the end of the regulatory exemption period and loan repayment holidays, not all corporate borrowers will be able to continue operations and keep servicing debts, and banks will be forced to write off part of the loans using the existing capital buffer. The capital surplus of the banking sector with capital conservation and systemic importance buffers amounts to ₽5 trillion. This capital reserve is sufficient to absorb possible loan losses even in a stress scenario.

[13] *The measure applies to the entire portfolio of loans to SMEs and to 83% of the corporate loan portfolio (excluding SMEs).*

Box 4. Bank of Russia support measures for corporate lending

For loans to entities in vulnerable industries[1] restructured due to the pandemic, the Bank of Russia allows credit institutions to make a decision before 30 September 2020 not to recognise the borrower's deteriorating financial position and/or debt quality for the purpose of forming loan provisions, if the deterioration of the borrower's financial position occurred after 1 February 2020 and resulted from the pandemic.

On 10 April 2020, the Bank of Russia decided to extend the effect of the above support measures to an additional list of industries, fixing the assessment of the borrower's financial position and/or debt quality as of 1 March 2020: housing construction (provided that as of 1 March 2020 loans granted to organisations engaged in housing construction were classified by the credit institution in quality categories I or II), bus station services, auxiliary services related to air transport, manufacture and wholesale and retail sale of motor vehicles and motorcycles, repair and technical inspection of motor vehicles and motorcycles, services to the population (repair of computers, personal and household items, laundry and dry cleaning of textile and fur products, services of hairdressing and beauty salons).

If as of 1 March 2020 loans were classified as quality category II or better, the Bank of Russia extends the regulatory exemption with regard to loan provisions to all activities not specified above.

The Bank of Russia also allows credit institutions not to recognise the borrower's deteriorating financial position and/or debt quality for loans to leasing companies classified as quality categories I and II as of 1 March and restructured due to these companies' inability to make timely payments owing to the restructuring of payments from customers whose financial position deteriorated because of the pandemic.

Until 30 September 2020, the Bank of Russia is allowing credit institutions to recognise the assessment of the borrower's financial position and/or debt quality as of 1 March 2020 for restructured loans providing for a change of credit (loan) currency from a foreign currency to the currency of the Russian Federation, if the credit institution satisfies the borrower's appeal for such debt restructuring in accordance with the recommendations of the Central Bank.

Until 30 September 2020, the Bank of Russia is allowing credit institutions to recognise property on the balance sheet at the value determined as of 1 January 2020 and use such value for calculating loan loss provisions, if the collateral belongs to quality categories I and II.

[1] *Railway transport (intercity and international passenger and cargo transportation), other overland passenger transport, motor cargo transport and transportation services, water transport, passenger and cargo air transport, temporary accommodation services, travel agencies and other organisations providing tourism services, rental and management of owned and leased non-residential property, art, sports and recreation, organisation of conferences, exhibitions and entertainment events, dental services, catering and non-food retail, educational services.*

In the context of the expected increase in credit risk for the corporate portfolio and the tightening of banks' requirements for potential borrowers, it is necessary to prevent a significant slowdown in lending to high-quality borrowers from the real sector, which could lead to credit contraction and exacerbate the economic downturn. Currently, there is no observed slowdown in lending. On the contrary, in March, debt grew by a record 2.4% over the month for the loan portfolio as a whole[14]. Borrowers took out loans in anticipation of tightening lending standards and lower limits on credit lines. In April, the increase in debt (by 1.2%) was also slightly higher than a year earlier. However, the growth may slow down in the future. To support lending to the real sector, the Bank of Russia has implemented a programme for refinancing banks on loans to SMEs. This programme has already enabled the refinancing of loans in the amount of ₽196 billion (as of 14 May). Lending will be supported by the Bank of Russia's loose monetary policy.

4.3. CREDIT RISK OF THE RETAIL PORTFOLIO

Since the beginning of the coronavirus pandemic, the Bank of Russia has been implementing measures to support households. A decline in new lending and an expected increase in overdue loans have caused the objectives of ensuring loan restructuring, providing loan repayment holidays to borrowers in challenging situations and mitigating the consequences for banks caused by increased credit risks to come to the fore.

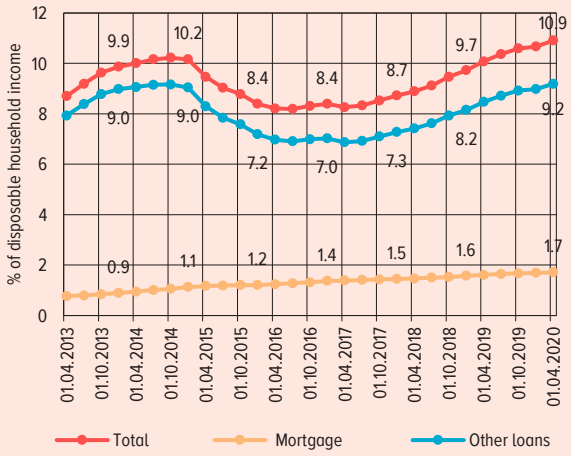
[14] *According to reporting form 0409101.*

One of the vulnerabilities of the banking sector in 2018–2019 was the growth of the household loan debt burden due to debt growth rates exceeding growth rates of nominal income (see Box "High debt burden of households").

Box 5. High debt burden of households

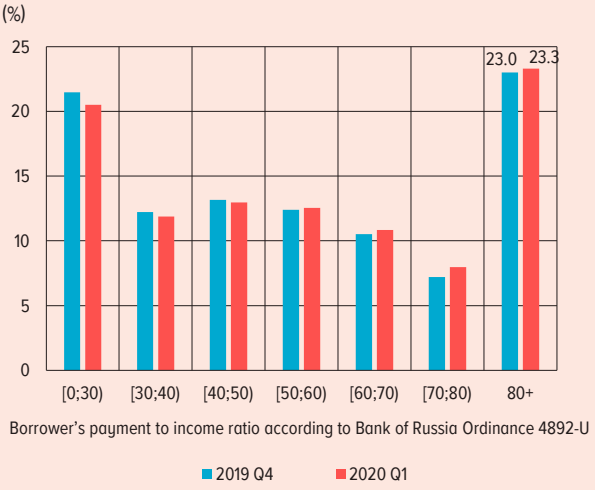
In previous issues of the Financial Stability Review, the high household debt burden was highlighted as one of the main vulnerabilities of the Russian financial sector. As of 1 April 2020, the household loan payment to income ratio (defined as the amount of mandatory payments on loans as a % of disposable income) reached 10.9%, a record high for the entire period of observation. For unsecured consumer loans, it reached the level of 2014. The increase in the debt burden was primarily due to unsecured lending and created potential risks of deterioration in the quality of the household loan portfolio. The share of loans with a PTI of more than 80% is 23%. Such loans are more risky, and such borrowers are more likely to need restructuring.

HOUSEHOLDS' PAYMENT TO INCOME RATIO *Chart 19*



Source: Bank reporting forms 0409101, 0409128, 0409316 and Rosstat data.

DISTRIBUTION OF UNSECURED CONSUMER LOANS BY PAYMENT TO INCOME RATIO *Chart 20*



Source: Bank reporting form 0409135.

In recent years, the Bank of Russia has consistently pursued a macroprudential policy aimed at increasing capital requirements for loans with a high PTI. These measures not only had a restraining effect on lending growth rates but also helped raise the standards of lending to borrowers. By the beginning of 2020, the share of unsecured loans 90+ days overdue in the banking system had fallen to 7.5%, the lowest since 2012, and to 1.3% for mortgages. In 2017–2019, leading risk indicators also showed a steady decline in the expected share of non-performing loans for new generations of loans. The cost of credit risk for unsecured loans was less than 2.5% in 2019, compared to 8.2% in 2013, and 0.8% for mortgages.

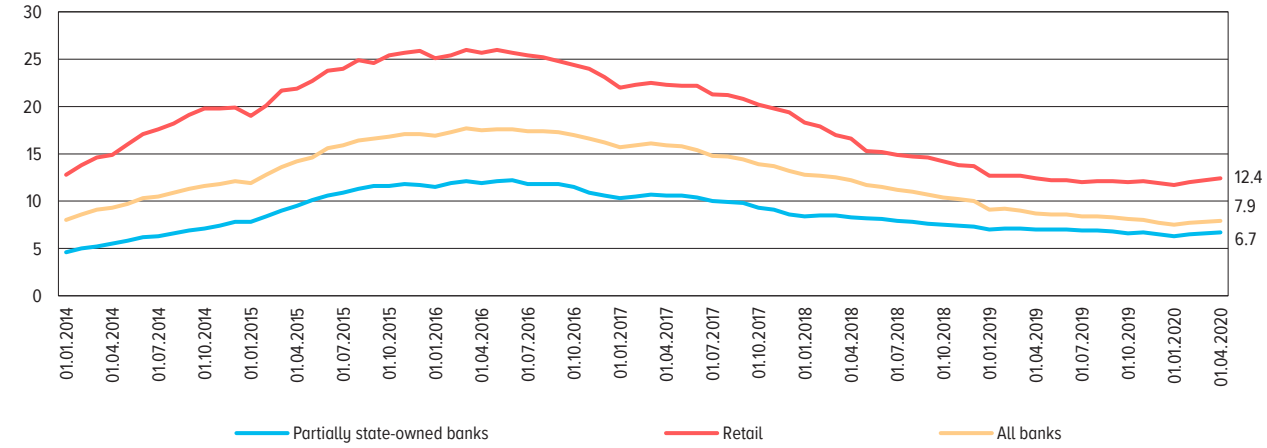
Thus, the current situation differs significantly from that of the beginning of 2015 when a sharp deterioration in the macroeconomic environment was preceded by a prolonged overheating of the consumer lending market accompanied by competition for market share and poor lending standards.

The current situation stands out due to the rapid development and depth of the macroeconomic shock caused by the measures necessary to contain the spread of coronavirus. While in March 2020 the growth of debt on household loans accelerated significantly as many borrowers sought to make deferred purchases, in April 2020 the flow of applications for new loans decreased by half. This, in turn, led to a 0.6% reduction in loan portfolio debt in April. In 2014–2015, the transition to negative growth of debt on household loans took several months.

Some borrowers in April–May failed to fulfil their loan obligations on time due to reduced income and inability to visit the bank's office under restrictive measures. For example, during the first half of April, the ratio of first overdue payments for unsecured loans for most market participants was

SHARE OF LOANS 90+ DAYS OVERDUE
(%)

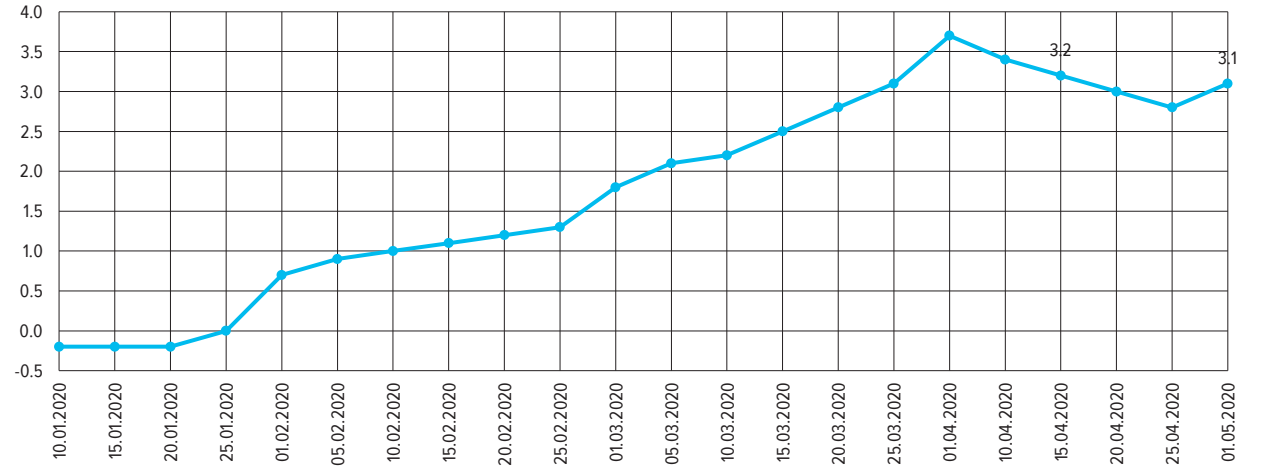
Chart. 21



Source: Bank reporting form 0409115.

INDEX OF THE VOLUME OF RUBLE CLAIMS ON HOUSEHOLDS (BY 1 JANUARY 2020)
(%)

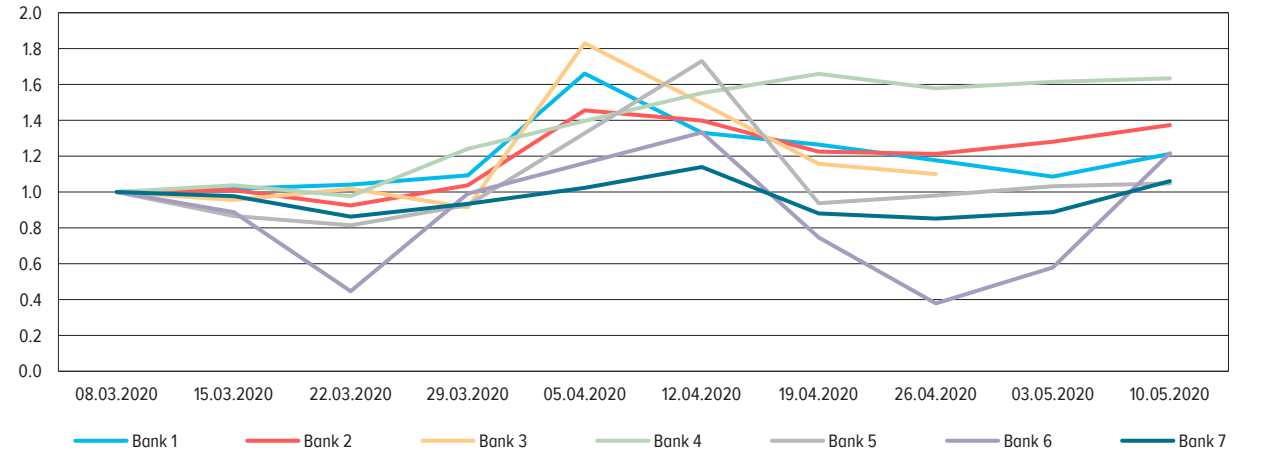
Рис. 22



Source: Bank reporting form 0409301.

DYNAMICS OF THE INDEX FIRST OVERDUE PAYMENTS* FOR CASH LOANS

Chart 23



** The value of the index for the first week of March is taken as 1. The index reflects the share of loans without previous overdue debt that had a missed payment during the period under review.*
Source: Survey of major retail banks.

1.3–1.5 times greater than in March 2020. The coordinated dynamics of credit risk indicators for the portfolio of major banks reflects a common effect of the deteriorating macroeconomic environment.

For borrowers facing a significant decline in income, banks offer restructuring programmes that make it possible to reduce or postpone the next loan payment. Borrowers with significantly reduced income may also take advantage of the loan repayment holidays under Federal Law No. 106-FZ, providing for the right to postpone loan payments by up to 6 months. The total debt on loans that qualify for loan repayment holidays amounts to about ₽7 trillion. Not all borrowers will need such repayment holidays; it is mainly for individuals employed in the most affected industries. They may account for up to a third of existing loans. From 20 March to 6 May, about 1.4 million requests for restructuring (210,000 under the law on loan repayment holidays) were submitted to credit institutions, more than half of which were satisfied.

The expected scale of restructuring may have a negative impact on the liquidity of certain banks in the short term. However, the banking sector as a whole is in a state of structural liquidity surplus, and credit institutions have a significant reserve of liquid collateral (₽7.8 trillion[15]) which may be used as security on the interbank market or in repo operations of the Bank of Russia. In addition, the observed reduction in household lending also compensates for the shortfall in payments on restructured loans. However, the Bank of Russia is prepared to expand the provision of liquidity to support restructurings, if necessary.

A more significant negative factor than the decrease in liquidity is the economic losses resulting from the deferral of payments. However, restructuring of loan debt is one of the preferable ways for banks to deal with non-performing debts since it provides the borrower with time needed to restore its financial position. To prevent banks from forming additional provisions for restructured loans, the Bank of Russia issued an information letter that allows banks to keep loan quality assessments unchanged until 30 September 2020 (until 30 March 2021 under Federal Law No. 106-FZ). This will prevent a sharp increase in reserve requirements and give banks time to prepare for the deterioration in the quality of their loan portfolios.

To mitigate the consequences of increased credit risk, the Bank of Russia may release its accumulated macroprudential capital buffers. The buffer on mortgage loans in the amount of ₽126 billion was dissolved in April 2020. This measure was aimed both at compensating banks for losses incurred due to the restructuring of loans and at supporting mortgage lending. Additional support for the banking sector will be provided by a planned transition to Basel 3.5 standards for mortgage loans in mid-2020. The new standard for credit risk assessment involves applying significantly lower risk weights to mortgage loans, both newly granted and previously issued, but imposes an obligation on banks to assess borrowers' debt burden. The borrower's PTI will be used for such assessment. The transition to the new standard will be similar in effect to the release of a ₽200 billion capital buffer and will also increase the sensitivity of the borrower's credit risk assessment depending on debt burden.

As part of a countercyclical macroprudential policy, in the course of phasing-out of regulatory easing the Bank of Russia may also consider gradually releasing the buffer for unsecured consumer loans. The buffer for such loans amounts to ₽539 billion as of 1 April 2020, corresponding to 5.5% of the portfolio, and can cover realised losses on loans.

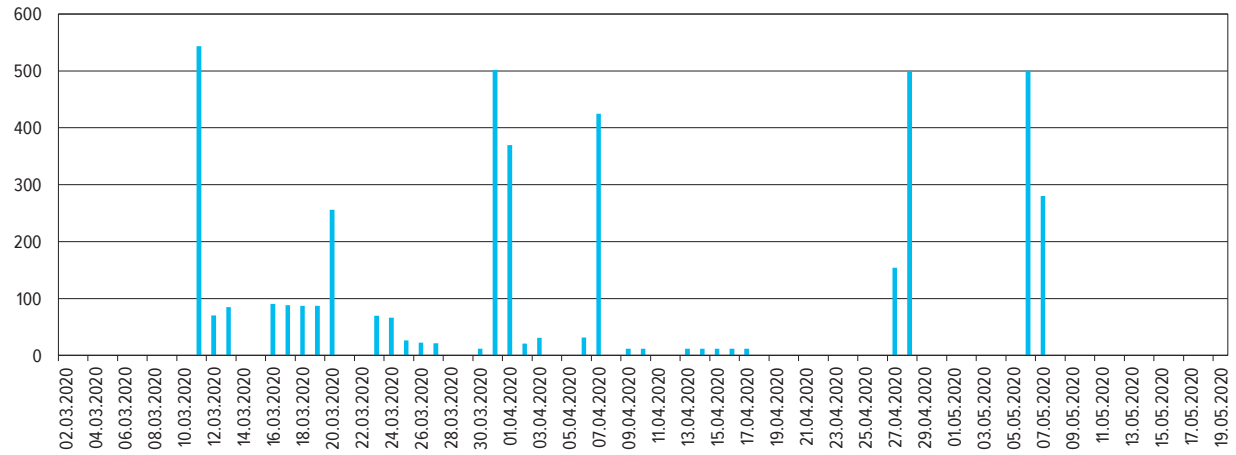
4.4. LIQUIDITY AND INTEREST RATE RISKS OF THE BANKING SECTOR

Short-term risks of ruble banking sector liquidity

In early March, increased volatility in the Russian financial market led to a slight deterioration in ruble liquidity. From the beginning of the year to May, the structural surplus of banking sector

[15] *This value is calculated for securities (adjusted for discount) included in the Bank of Russia's Lombard List and accepted by the Bank of Russia for repo operations (we excluded coupon bonds of the Bank of Russia that were previously accounted for as part of the structural surplus), including securities received under reverse repo operations.*

CLAIMS OF THE BANK OF RUSSIA ON CREDIT INSTITUTIONS FOR RUBLE REPO OPERATIONS BY DAY *Chart 24*
(₽ BILLION)



Source: Bank of Russia website.

liquidity decreased by ₽1.4 trillion. The outflow of liquidity from the banking sector was influenced by the growth in demand for cash, short-term absorption of liquidity through the budget channel in March and the absorption of ruble liquidity as part of the Bank of Russia's proactive FX sales[16].

Despite the maintenance of liquidity structural surplus, some banks faced significant liquidity outflow. The main driver of liquidity demand growth was the announcement of non-working days and the need for banks to accumulate liquidity buffers. Moreover, a number of banks faced the need to pay margin calls for centrally cleared transactions. The increase in margin calls 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 calls occurred as a result of an increase in the ruble value of positions on operations on the FX market due to the weakening of the ruble.

One of the important support measures for the market was the increased ability of credit institutions to manage liquidity. In addition to standing repo facilities (with a fixed rate), the Bank of Russia conducted fine-tuning repo auctions in March and April. Three of the auctions provided overnight liquidity, but at the end of the month due to the declared non-working week credit institutions required liquidity for a longer period, and on 30 and 31 March auctions were held for 7-day and 6-day liquidity (Chart 24).

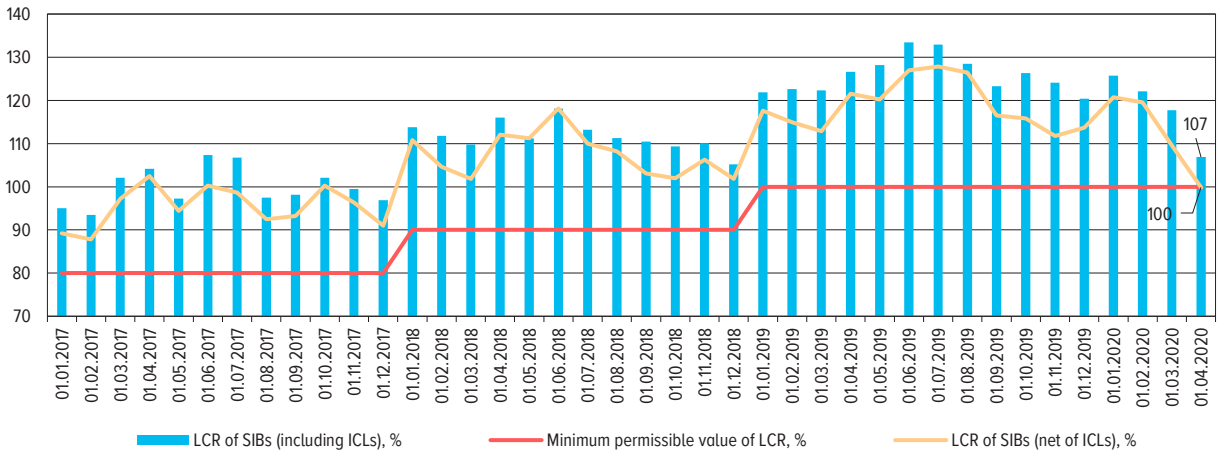
The funds attracted from the Bank of Russia were used by credit institutions primarily as an additional liquidity buffer. Some institutions continued to use fixed-rate repo operations, but the amount of funds raised was insignificant. In addition to repo operations, participants were able to attract ruble liquidity from the Bank of Russia with currency as collateral in FX swap transactions for the purchase of US dollars and euros for rubles, but this instrument was not actively sought after by market participants. As the situation in the financial markets stabilised at the end of March, the need for additional liquidity instruments disappeared.

Medium-term risks of banking sector liquidity

Currently, due to the overall structural liquidity surplus and a sufficient supply of funds in the money market, liquidity risks remain balanced. The majority of credit institutions still comply with N2 and N3 liquidity ratios with a significant margin. However, as of 1 April 2020, amid the contraction of the banking sector liquidity surplus and a decline in expected net cash inflow, the value of the liquidity coverage ratio for SIBs decreased (Chart 25).

[16] *See 'Banking Sector Liquidity and Financial Markets, 2020 No. 3 (49), March' for details.*

DYNAMICS OF THE ACTUAL AVERAGE VALUE OF LCR FOR SIBS *Chart 25*
(%)



Source: Bank reporting forms 0409805 and 0409135.

The liquidity coverage ratio N26 (N27) provided for by Basel III and implemented by clauses 1.5 and 4.1 of Bank of Russia Regulation No. 510-P, dated 3 December 2015, 'On the Procedure for Calculation of the Liquidity Coverage Ratio (Basel III) by Systemically Important Credit Institutions' provides for the possibility of using high-quality liquid assets to cover cash outflow, which can lead to the actual value of the ratio dropping below the minimum acceptable value without this decrease being recognised as an actual violation of the ratio. Taking into account the difficulties faced by financial market participants due to the coronavirus pandemic, the Bank of Russia issued information letter No. IN-03-41/38, dated 27 March 2020, expanding the list of situations in which it is possible to reduce the actual value of N26 (N27) ratio below the minimum acceptable value without this being recognised as a violation of the ratio.

In addition, the fee for the right of using an irrevocable credit line[17] was reduced by the Bank of Russia from 0.5% to 0.15%, the maximum aggregate limit for providing irrevocable credit lines was increased from ₽1.5 trillion to ₽5 trillion[18] and restrictions on the maximum possible individual limit for attracting an irrevocable credit line were removed[19]. These measures are countercyclical in nature and are designed to reduce the negative impact of the current situation on the economy. Since early April, certain SIBs have increased the amount of open irrevocable credit lines. As of 30 April 2020, the Bank of Russia has set non-zero maximum possible limits of the Bank of Russia's irrevocable credit line for five SIBs. The total maximum possible limit of an irrevocable credit line as of that date amounted to ₽1.46 trillion.

In the medium term, a liquidity surplus is still expected to remain; however, given the uneven distribution of liquidity in the banking sector, some banks (for example, banks specialising in retail lending amid active restructuring of loans due to the pandemic) may face liquidity needs. Therefore, the Bank of Russia has taken measures to expand the Lombard List. This will allow credit institutions to attract additional funds for repo operations with the Bank of Russia, if necessary. In particular, thanks to this, credit institutions were able to attract additional liquidity in the amount of about ₽450 billion[20]. At the same time, private non systemically important banks accounted for 37% of this additional liquidity, respectively (according to the results of the analysis of securities portfolios of credit institutions as of 1 March 2020).

[17] *The limit of an open irrevocable credit line may be included in the numerator of N26 (N27) ratio in accordance with Bank of Russia Regulation No. 510-P, dated 3 December 2015, 'On the Procedure for Calculation of the Liquidity Coverage Ratio (Basel III) by Systemically Important Credit Institutions'.*

[18] *According to the decision of the Board of Directors of the Bank of Russia, dated March 27, 2020.*

[19] *According to Bank of Russia Order No. OD-563, dated 1 April 2020.*

[20] *Adjusted for Lombard List haircuts.*

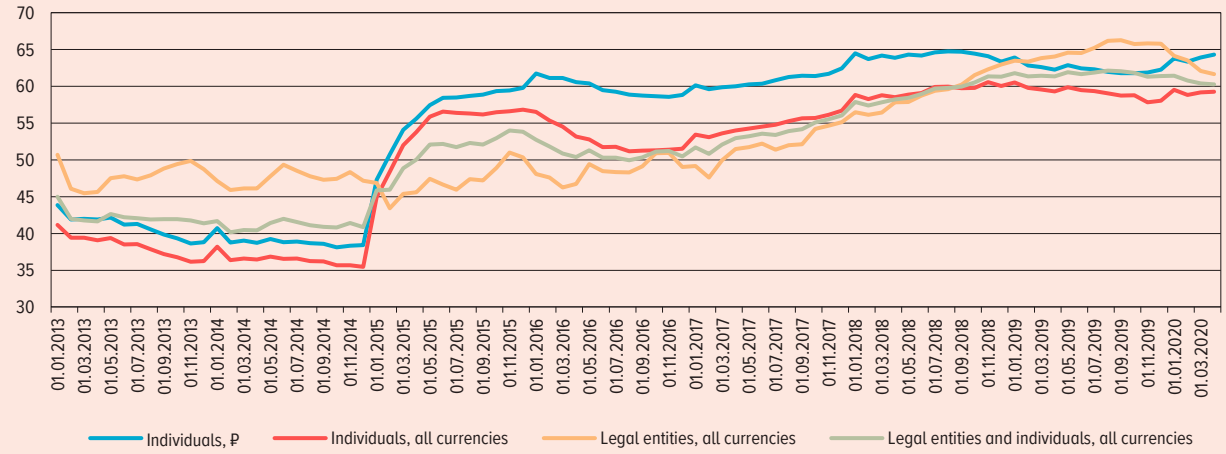
Interest rate risk of the banking sector

In the context of the continuing growth of long-term assets on the background of short-term funding, the potential exposure of credit institutions to interest rate risk in the reporting period tended to increase against the background of an increasing maturity mismatches (Chart 28).

Box 6. Growth in the share of long-term assets against the background of short-term funding

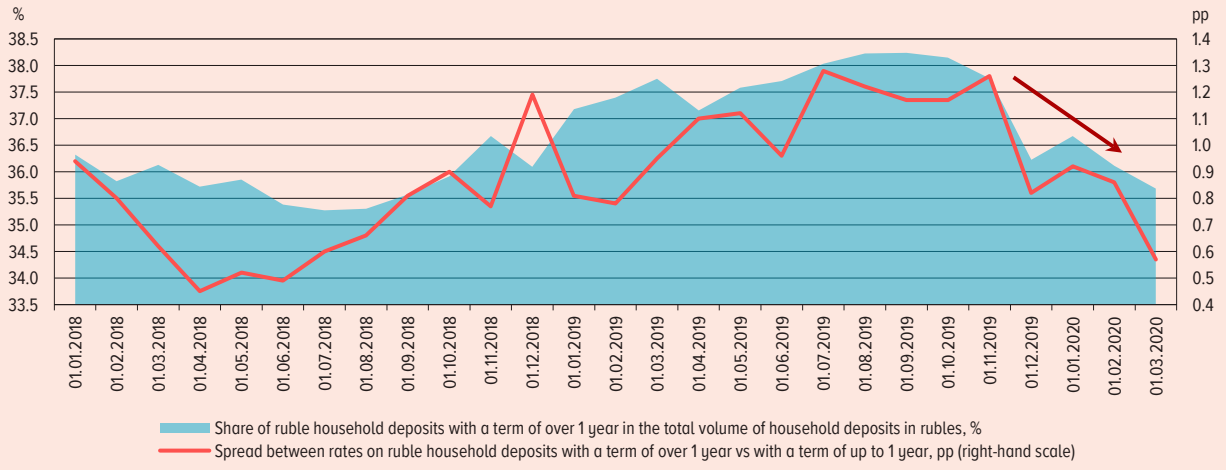
The deficit in long-term resources of credit institutions remains an important vulnerability of the banking sector[1]. A slight decrease in the share of short-term funding observed over the past six months (Chart 26) was mainly characteristic of corporate ruble deposits, while in the retail deposit segment, the share of funding for a period of up to 1 year remains high. Since October 2019, banks have been cutting rates on new long-term household deposits at a faster pace, resulting in decreased attractiveness of long-term savings (Chart 27).

SHARE OF DEPOSITS WITH A MATURITY OF UP TO ONE YEAR IN TOTAL DEPOSITS *Chart 26*
(%)



Source: Bank of Russia's Banking Sector Review.

DYNAMICS OF THE ATTRACTIVENESS OF RUBLE HOUSEHOLD DEPOSITS *Chart 27*



Source: Bank of Russia's Banking Sector Review, bank reporting form 0409129.

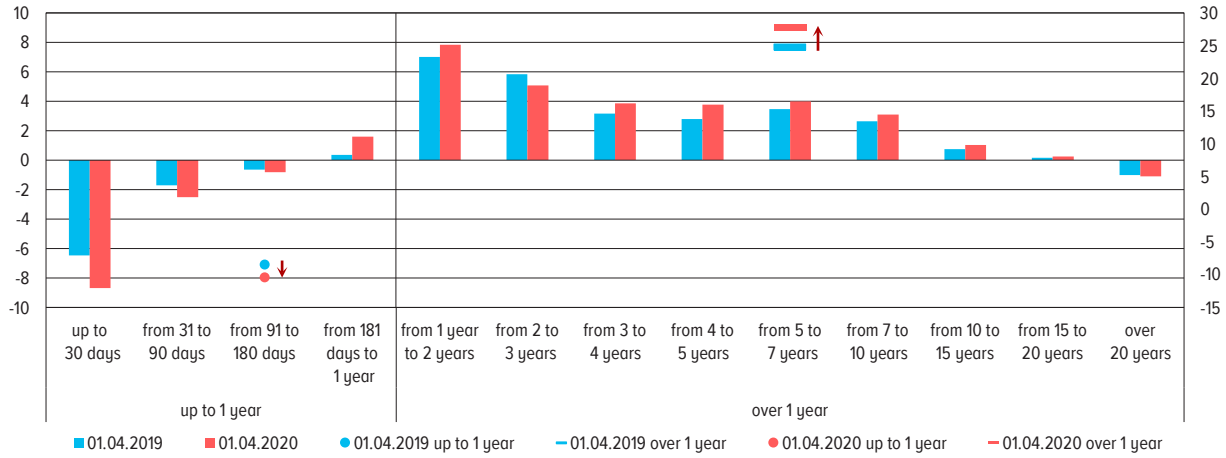
[1] *Growth in the share of long-term assets of banks against the background of predominantly short-term funding was previously highlighted by the Bank of Russia as a significant vulnerability of the Russian banking sector in Financial Stability Review No. 2 (15) for 2019 Q2–Q3, p. 36.*

Amid increased volatility, the maturity of funding raised by banks decreased, resulting in an increasing maturity mismatches of assets and liabilities. In addition, loan repayment holidays provided by banks as part of support measures for households and businesses can lead to deepening vulnerability. However, in the context of monetary policy easing, interest rate risks of banks are limited. At the same time, the lowering interest rates in the Russian market form conditions for the reduction of interest margin in the banking sector. Banks need to adapt to functioning in the low interest rates environment.

Over the past 12 months, the aggregate interest gap under ruble bank portfolio instruments in the interval up to 1 year contracted (15.2% of interest rate-sensitive assets as of 1 April 2020) and in the interval of more than 1 year increased (40.5% of interest rate-sensitive assets as of 1 April 2020) amid more rapid growth of long-term assets.

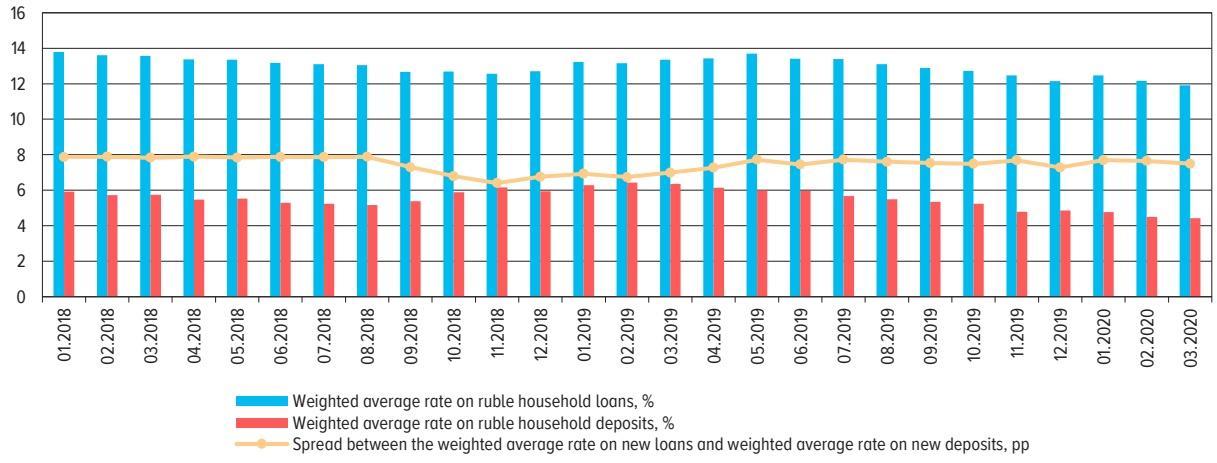
At the same time, unlike during the 2014–2015 episode, increased volatility in financial markets did not lead to the materialisation of interest rate risk. The spread on ruble operations remained stable (Chart 29). However, lowering of interest rates in the Russian market can lead to reduction of banking sector margin. In order to limit vulnerability to interest rate risk, Russian banks should take measures to increase the share of long-term funding sources in the future.

DYNAMICS OF THE INTEREST RATE GAP UNDER RUBLE BANK PORTFOLIO INSTRUMENTS *Chart 28*
(₽ TRILLION)



Source: Bank reporting form 0409127.

DYNAMICS OF THE DIFFERENCE BETWEEN THE RATES ON NEW RUBLE LOANS AND DEPOSITS *Chart 29*
(PP)



Source: Statistics at the official website of the Bank of Russia.

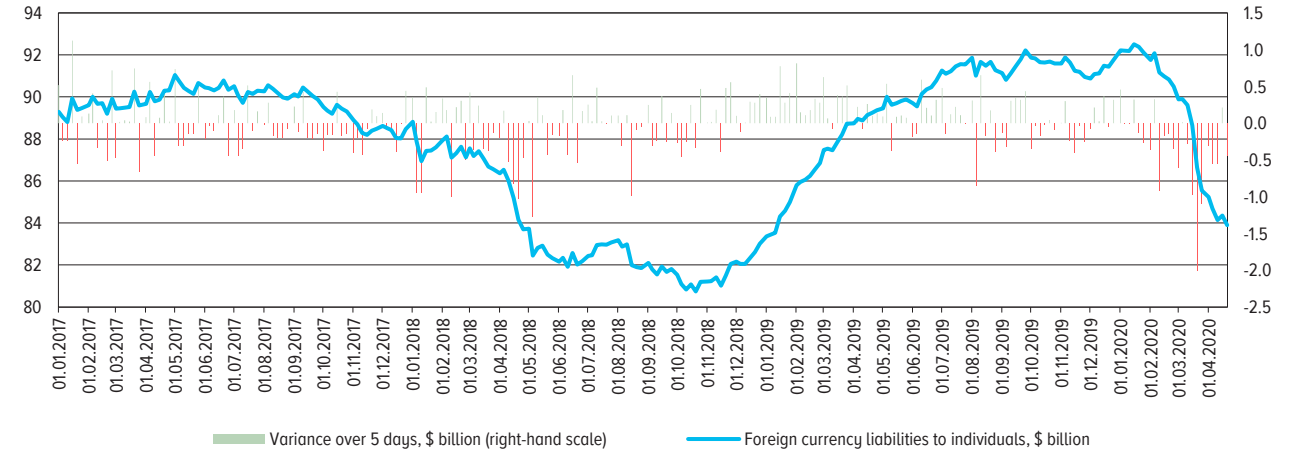
Currency liquidity risks of the banking sector

The current episode of increased volatility has shown the appropriateness and effectiveness of the Bank of Russia's policy for reducing the dollarization in the banking sector since 2016. Unlike in 2014–2015, the banking sector replenished the demand for foreign currency liquidity on market conditions only.

In general, the currency liquidity situation in the banking sector, including during the episode of increased volatility, remained favourable. Amid increasing volatility of exchange rates and prices of financial assets, the Bank of Russia nevertheless decided to increase the limit on FX swap operations with the Bank of Russia for the sale of US dollars for rubles from $3 billion to $5 billion in case of an urgent need for foreign currency liquidity on the part of banks. The introduction of this measure was primarily motivated by the tense situation on the US dollar markets in other countries (the US, the UK, euro area countries and Japan) and the possible spread of US dollar liquidity risks to the Russian market.

Foreign currency liquidity under the Bank of Russia's FX swap instrument was not in demand from Russian banks, even though the volume of foreign currency household deposits decreased slightly. The drop in demand for foreign currency accounts and deposits for individuals started in late January 2020 and increased after the leading central banks cut rates. At the same time, the volume of foreign

DYNAMICS OF FOREIGN CURRENCY BANK LIABILITIES TO HOUSEHOLDS *Chart 30*
($ BILLION)



Source: Bank reporting form 0409301.

CHART 31. NET FOREIGN EXCHANGE PURCHASE/SALE BY HOUSEHOLDS *Рис. 31*
($ MILLION)

Source: Survey of major banks, data of Moscow Exchange.

currency accounts and deposits of individuals remains higher than in H2 2018, and its gradual decline serves the interests of the Bank of Russia's policy for reducing the predominance of foreign currency. The decline in foreign currency deposits was partly caused by their conversion to rubles. In general, since the beginning of the year, net purchases of foreign currency by individuals from major banks and brokers were moderate and did not exceed the average values of previous periods.

The banking sector's reserve of liquid foreign assets in foreign currency remained sufficient to withstand the risks associated with increased market volatility. Therefore, due to the Bank of Russia's policy of reducing dollarization, the vulnerability of Russian banks to currency liquidity risks has significantly decreased over recent years.

5. IMPACT OF THE CORONAVIRUS PANDEMIC ON NON-BANK FINANCIAL INSTITUTIONS

The significant downturn in oil prices, high volatility in the stock market and the continued spread of coronavirus have led to increasing risks for non-bank financial institutions: insurance companies, non-governmental pension funds and brokers. To maintain non-bank financial institutions' ability to finance the economy and provide financial services during the period of restrictive measures, the Bank of Russia has taken a number of regulatory and supervisory easing measures; in particular, it allowed the recognition of equity and debt securities purchased before 1 March 2020 at the fair value determined as of 1 March 2020 etc.

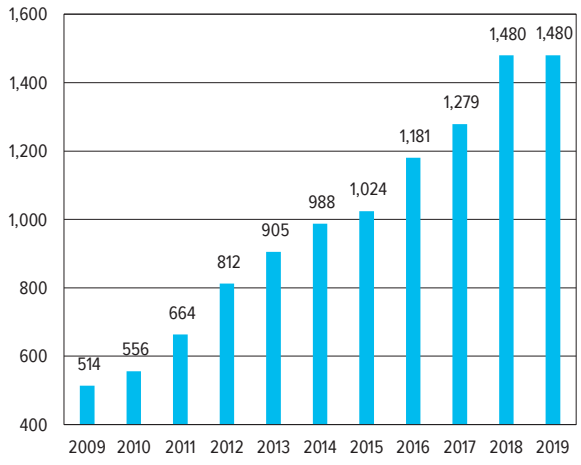
5.1 RISKS OF INSURANCE COMPANIES

For insurance companies, 2019 ended with almost unchanged volume of collected insurance premiums (₽1,480 billion, +0.05% to 2018). The lack of growth in insurance premiums was recorded for the first time since 2009. Life insurance collections decreased by 9.5%. In the context of low returns shown by investment products for life insurance relative to bank deposits, the market segment is narrowing. The development of endowment and credit life insurance allowed the market to partially compensate for the decline in sales in the segment of investment life insurance.

The restrictive measures caused by the coronavirus pandemic, accompanied by a decrease in the solvency of the population and restrictions on business activity, will have a negative impact on the further development of the insurance market. The market may be supported by the development of remote means for insurers, their agents and insurance brokers to communicate with customers. For example, Federal law No. 149-FZ, dated 24 April 2020, 'On Amending Certain Laws of the Russian Federation' ('Federal Law No. 149-FZ') provides for the possibility of exchanging information in electronic form, including through mobile applications, when executing insurance contracts and receiving insurance payments. This will help expand the customer base of insurers as well as reduce the cost of executing insurance contracts and settling losses.

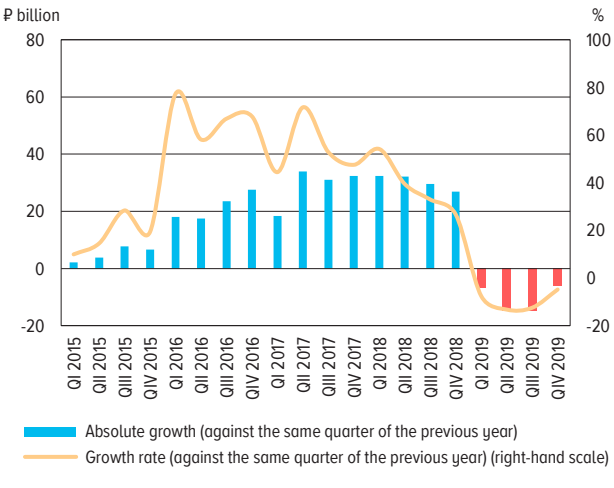
In 2020, the insurance market is likely to lose its main support in the form of active demand of individuals for credit resources, which drove growth in life insurance for borrowers and accident insurance. At the same time, sales through intermediary channels, the main sales channel for insurance products, will be supported by sales of voluntary insurance and compulsory motor third party liabilities

INSURANCE PREMIUMS BY YEAR *Chart 32*
(₽ BILLION)



Source: Insurers' statistical data (reporting form 0420162).

QUARTERLY DYNAMICS OF LIFE INSURANCE PREMIUMS IN 2015–2019 *Chart 33*

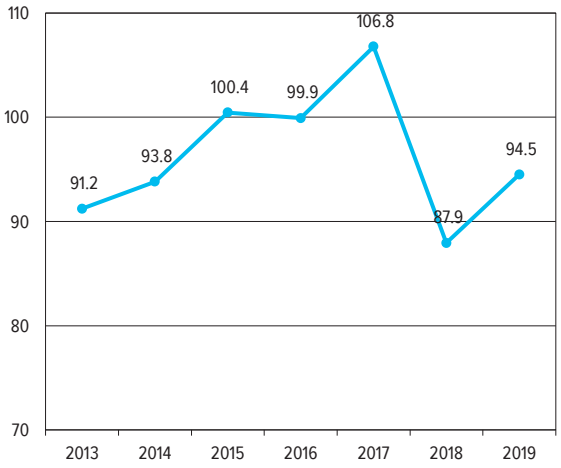


Source: Insurers' statistical data (reporting form 0420162).

(OSAGO) in electronic form as insurance agents and insurance brokers will be allowed to offer certain types of insurance on the internet.

The OSAGO market in 2019 operated in the first stage of the insurance tariff individualisation reform. As a result of increased competition, the average insurance premium decreased by 4.8% to ₽5,400, the average payout increased by 6.4% to ₽64,000, and the combined loss ratio grew by 6.6 pp to 94.5%. Insurance legal entities generally maintain a long currency position, enabling them to partially offset the increasing costs associated with the increase in the cost of repairs.

COMBINED LOSS RATIO (CLR), OSAGO *Chart 34*
(%)



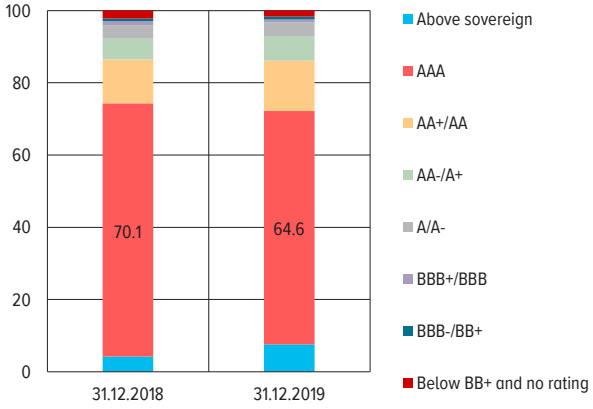
Source: Insurers' supervisory reporting data (reporting form 0420158).

In 2019, the transformation of the product range of life insurers as well as the growth of the bond market led to changes in their asset structure. For example, life insurers reduced investments in OFZs and bank deposits to 32.2% (-1.4 pp) and 17.9% (-1.5 pp) of assets in favour of more profitable corporate bonds. As a result, the share of investments with a sovereign rating fell by 5.5 pp to 64.6% (Chart 35). In relation to the sectoral structure of investments, in addition to investing in state and municipal securities, the banking sector (16.4%) and the oil and gas industry (7.6%) accounted for a significant share of investments (Chart 36).

The increased volatility observed in the stock market since March has not spared the securities portfolio of insurance organizations. The maximum negative revaluation over March 2020 of the portfolio of securities classified as of 1 March 2020 as financial assets at fair value[1] amounted to 5% of the value of the corresponding portfolio. The portfolio consists of 71% corporate debt securities, 25% government and municipal bonds and 4% shares.

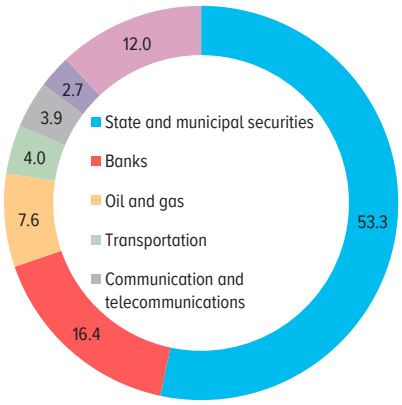
To ensure the economic stability of insurers, the Bank of Russia has introduced temporary measures of regulatory and supervisory easing, in particular, a moratorium on revaluation of the securities portfolio until 1 January 2021; until 30 September 2020, no measures will be taken against insurance legal entities violating the requirement to comply with the limit (45%) of corporate securities out of assets in which the insurer invests insurance reserves as well as out of assets in which the insurer invests its own funds.

CREDIT QUALITY OF LIFE INSURERS' ASSETS AS OF 31 DECEMBER 2019* *Chart 35*
(%)



** Ratings are provided based on the scales of the credit rating agencies AKRA and 'Expert RA'.*
Source: Insurers' supervisory reporting, factoring in the Bank of Russia's data (reporting form 0420154).

SECTORAL STRUCTURE OF LIFE INSURERS' SECURITIES PORTFOLIO AS OF 31 DECEMBER 2019* *Chart 36*
(%)



** Not including non-residents.*
Source: Insurers' supervisory reporting, factoring in the Bank of Russia's data (reporting form 0420154).

[1] *Securities classified as available-for-sale financial assets were also included in the portfolio.*

5.2. RISKS OF NON-GOVERNMENTAL PENSION FUNDS

During Q1 2020, the value of the portfolio of pension savings decreased by 1% to ₽2,822 billion, and the portfolio of pension reserves decreased by 2% to ₽1,386 billion. Such an insignificant change in the value of pension portfolios was due to the substantial part of bonds in NPF portfolios and valuation of some financial instruments at amortised cost. In addition, the peak of interest rate growth, which could affect the negative revaluation of bonds, occurred in the middle of the quarter, and as of 31 March 2020 the values of the coupon-free yield curve had already been adjusted to the lower limits.

Despite increased volatility in the stock market, changes in the structure of NPF portfolios were insignificant. For example, the pension savings portfolio remained 94% unchanged compared to the end of 2019, and the pension reserves portfolio remained 93% unchanged[2]. In the pension savings portfolio, the share of investments in stocks decreased by 1 pp (to 5%), while the share of assets that act as collateral for repo transactions grew by 1 pp (to 6%). The share of government securities and corporate bonds in the pension savings portfolio did not change (30% and 52%, respectively). In the pension reserves portfolio, the share of government securities decreased by 2 pp (to 11%), the share of corporate bonds increased by 2 pp (to 47%) and the share of stocks did not change (11%). Thus, NPFs did not exert any significant pressure on the stock market during the period of increased volatility. It is worth noting the low proportion of assets denominated in foreign currency: in the NPF portfolio, the share of assets denominated in US dollars accounts for 2% of pension savings and 1% of pension reserves.

In the current crisis associated with the coronavirus pandemic, the risks of negative returns are increasing, leading to the growth of risks associated with covering fixed liabilities to insured persons based on the results of the five-year period. At the same time, these risks are offset by the accumulated income from investing pension savings in the previous period not guaranteed by the funds when undertaking obligations as well as by the mandatory pension insurance reserves created by the funds and the need each year to fix obligations only to those insured persons whose next five-year period ends this year.

In March 2020, the Bank of Russia introduced measures of temporary regulatory and supervisory easing for pension funds: funds may 'freeze' the prices of securities until 1 January 2021, the Bank of Russia will refrain from imposing sanctions if the structure of pension savings and pension reserves portfolios does not comply with the established limits, and if stress testing reveals insufficiency of assets, provided that such inconsistencies and insufficiencies occurred solely as a result of market factors, and the inconsistency does not exceed 50% of the established structural constraint.

5.3. RISKS OF BROKERS[3]

At the moment, the main operations of brokers have not been significantly affected by the development of the pandemic. On the contrary, due to increased price fluctuations in the stock market, there was a slight increase in demand for brokerage services. In particular, despite declining indices in March, the volume of the securities portfolio and client funds increased by 4% and 40%[4], respectively. This indicates that there was no mass outflow of client assets from the industry. However, the current situation carries potential risks for brokers due to:

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[2] *Based on the index:* $I_t = \frac{\sum_{all\ NPFs} \sum_{all\ securities} \min(K_t, K_{t-1}) \cdot (P_t + P_{t-1})/2}{(V_t + V_{t-1})/2}$ *where* K_t *is the number of the securities as of date t,* P_t *is the price of the securities as of date t, and* V_t *is the volume of the securities portfolio of all NPFs as of date t.*

[3] *Non-bank financial organisations with a brokerage license, except for JSC DOM.RF.*

[4] *Estimates are based on data of reporting form 0420418. As of 28 February 2020, 106 entities had provided data on the volume of client portfolios of securities and cash, and 103 entities had provided data as of 31 March 2020. Three entities did not have to provide information by the time the review was prepared due to the Bank of Russia's granting appropriate exemptions. These organisations did not have any significant impact on aggregate volumes. Also, an entity with an excessively volatile volume of client assets was excluded from the sample.*

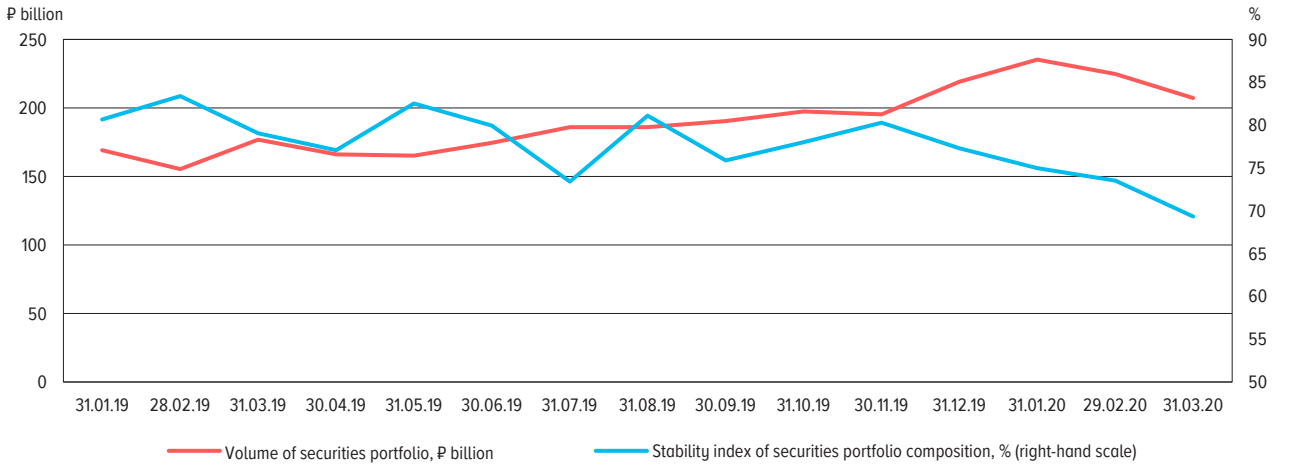
– a reduction in the value of the securities portfolio;
– possible customer default on margin transactions;
– an increase in liabilities due to adverse changes in FX rates;
– a lack of liquid assets.

As the business of brokers mostly deals with securities transactions, priority should be given to the stock market. The volume of the securities portfolio of brokerage organisations as of 1 March 2020 amounted to ₽225 billion, which is significantly lower than the volume of the portfolios of credit institutions (₽12 trillion), NPFs (about ₽4 trillion) and insurance legal entities (over ₽1.5 trillion). The portfolio is highly concentrated among the largest participants: 4 organisations account for 85.5% of the portfolio volume, and 10 organisations account for 92.8%. From 1 to 19 March, the portfolio volume decreased to ₽197 billion (by 12%); however, this did not significantly affect the financial stability of brokerage organisations: the volume of the decrease in the value of the securities portfolio did not exceed the amount of capital. The stability index of the securities portfolio[5] went down only slightly (Chart 37). Therefore, the risks that brokers will put significant pressure on the market with their own securities transactions are unlikely to materialise.

In comparison with the securities portfolio owned by brokerage organisations, the volume of customer portfolios is significantly higher, amounting to about ₽4.3 trillion as of 31 December 2019. This portfolio is also mainly concentrated among the largest market participants (as of 31 December 2019, the 10 major participants account for 83.6% of the portfolio). Customers make independent decisions on the purchase/sale of securities. At the same time, a significant proportion of customers have uncovered positions in assets: there are net liabilities to brokers for certain assets (mainly in rubles); as of 31 December 2019, uncovered positions in the industry amounted to ₽709 billion[6]. These liabilities are mainly 'guaranteed' by securities. Such transactions pose potential risks: in the event of a decline in stock market quotations, the volume of customer portfolios may become insufficient to cover liabilities, which will lead to the sale of securities and thus further decrease the quotations of these securities.

Potential instability in the financial system may impact brokerage organisations through the channel of foreign currency transactions, in particular, foreign currency liabilities. The open currency position of brokerage organisations in comparison with assets and capital is quite low (in most cases below 20% of the capital), while almost all brokers (as of 31 December 2019, 31 out of 32)

VOLUME OF THE SECURITIES PORTFOLIO, STABILITY INDEX OF THE SECURITIES PORTFOLIO *Chart 37*



Source: Reporting form 0420415 'Professional Securities Market Participant Report'.

[5] *The index is calculated using the formula* $I_t = \frac{\sum_{all\ brokers}\sum_{all\ securities}\min(K_t,K_{t-1})\cdot(P_t+P_{t-1})/2}{(V_t+V_{t-1})/2}$, *where* K_t *is the number of the given securities of the given broker as of date t,* P_t *is the price of the given securities of the given broker as of date t, and* V_t *is the volume of the securities portfolio of all brokers as of date t.*

[6] *It is worth noting that of the ₽709 billion in uncovered positions ₽615 billion belongs to customers that are designated as 'special risk' customers under the current legislation and may be affiliated with brokers.*

maintained a long currency position. Thus, the weakening of the ruble will slightly improve the financial situation of most brokerage organisations.

One of the main threats to financial institutions in the event of a deteriorating situation in the financial markets is the risk of a shortage of liquid assets. To prevent this situation, the Bank of Russia introduced a short-term liquidity coverage ratio ('LCR') for brokers at the end of 2017. Rather strict assumptions are used when calculating the LCR (in particular, no netting of claims and obligations to the Central Counterparty is allowed, customer repo operations significantly reduce the indicator). In the future, the Bank of Russia plans to set a standard LCR value, at the same time somewhat softening assumptions, which will entail an increase in the value of the indicator for market participants. As part of measures aimed at reducing the regulatory burden, the Bank of Russia has temporarily exempted market participants from LCR calculation.

As of 1 March, 42 out of 53 organisations in the analysed sample[7] had an LCR value that exceeded the planned standard ratio. When taking into account the simulated impairment of securities for the period from 1 March to 19 March, the number of organisations with an LCR value higher than the planned standard decreased slightly, from 42 to 41 organisations. Thus, the stock market shock did not significantly affect the liquidity situation of brokerage organisations.

As in other segments of the financial market, the Bank of Russia has taken preventive measures to support brokerage organisations (easing of reporting requirements, supervisory measures and the recognition of the value of securities).

5.4. RISKS OF UNIT INVESTMENT FUNDS

In Q1 2020, the net asset value of unit investment funds (UIFs) decreased from ₽4.5 trillion to ₽4.2 trillion (by -6.5%). The main volume of the UIF market (more than 80%) is accounted for by closed-end unit investment funds; however, their dynamics are mostly non-market in nature due to the significant share of real estate in the structure of portfolios of this type of funds. Excluding these funds, the industry had an inflow of investments in January–February 2020. The weakening of the ruble in March and increased volatility in the stock market caused a slight outflow of assets from some UIFs. At the same time, an increase in investor demand for currency-denominated assets led to an inflow of investments in funds that primarily invest in foreign assets.

From January to February 2020, there was a tendency toward a decrease in the share of Russian corporate bonds (-2%) and shares of Russian joint-stock companies (-1 pp) in open-end unit investment funds (OUIFs). The exit of OUIFs from these types of assets may also be associated with the diversification of risks toward an increase in the share of foreign assets. In March 2020, the structure of OUIF assets was characterised by an increase in the share of investments in bonds of foreign issuers (2 pp) and units of foreign investment funds (1 pp), caused, among other reasons, by a positive revaluation of foreign assets due to the weakening of the national currency.

In comparison with the outflow of funds from shareholders in the 2008 and 2014 crisis years, the current outflow of investments from UIFs is not so significant, in part due to the changed behaviour of investors in crisis.

Despite the unstable situation in the financial markets, the drivers of the UIF industry remain continuing low deposit rates, the development of technologies and online distribution channels, the increasing financial literacy of the population and the expanding legislative capabilities of management companies. In addition, in March 2020, to reduce the impact of the coronavirus pandemic, the Bank of Russia adopted a number of measures aiming to support the collective investment market, in particular, management companies and specialised depositories. The measures include easing of reporting requirements, temporary exemption from the established restrictions on the portfolio structure and the 'freezing' of the value of securities.

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[7] *Some organisations that submitted an LCR were excluded from the sample due to incorrect data in the reports.*

APPENDIX

APPENDIX 1. OVERVIEW OF FOREIGN FINANCIAL REGULATORS' MEASURES FOR SUPPORTING THE FINANCIAL MARKET AND THE ECONOMY

In the face of the novel coronavirus (COVID-19) pandemic, many countries have taken extensive measures to support the financial market and the economy starting in late February 2020. Financial regulators acted to create conditions for maintaining the normal volume of financing for the real economy, supporting affected borrowers and ensuring a sufficient level of liquidity for financial institutions.

First, to ensure that financial institutions are able to function properly and to serve the needs of the economy, regulators **started adapting their regulatory and supervisory policies**. That entails regulatory easing, temporary exemption from a number of regulatory requirements (forbearance) and postponement of certain supervisory procedures and reporting obligations.

Regulatory easing. Many countries have eased capital buffer requirements. *Countercyclical buffers* were reduced in the UK, France, Sweden, Hong Kong and some other countries; Germany abandoned a planned increase in the countercyclical capital buffer to 0.25%. Canada, the Netherlands and Finland reduced additional capital buffers for systemic importance (nevertheless, the buffers are still in force). Brazil lowered the *capital conservation buffer* requirement (from 2.5% to 1.25%), while India has postponed its latest increase to 2.5% indefinitely.

Sector requirements were amended in mortgage lending (the maximum value of LTV[1] was increased in Turkey and the UAE, limit on LTV was abandoned in New Zealand and the restriction on DTI[2] was temporarily lifted in the Czech Republic) as well as in corporate lending and lending to small- and medium-sized enterprises (risk ratios for SME loans were reduced in Brazil).

A number of regulators (for example, the European Central Bank (ECB) and the Financial Services Agency of Japan) have reminded banks that in accordance with the standards of the Basel Committee on Banking Supervision (BCBS) they may operate with a capital conservation buffer below the specified level (if a number of conditions are met, including a ban on payment of dividends and a mandatory recovery plan for restoring the buffer). Many regulators have also temporarily adjusted other Basel III requirements in terms of capital adequacy, leverage and liquidity ratios.

Regulatory relief (forbearance). In some cases, regulators suspend the application of enforcement measures for violation of certain requirements that can be traced to the effects of the pandemic. Such steps are widespread in relation to the classification of non-performing loans (NPL) and creation of provisions for them. For example, in the US, restructured loans of borrowers affected by COVID-19 are temporarily exempt from being classified as non-performing. The ECB does not classify government-guaranteed loans as NPLs. In some cases (Singapore, Argentina, India), regulators inform banks that such restructurings should not lead to a deterioration in the credit history of borrowers.

When easing the requirements for financial institutions, regulators emphasise that the released funds are not to be used for payment of dividends and remuneration to management.

Supervisory easing. Many jurisdictions have introduced easing of supervisory procedures and obligations: cancelled on-site audits (EU, Japan, Hong Kong), extended reporting and disclosure deadlines (the EU, several Latin American and Asian countries, Canada) and postponed introduction of new standards (including the transition to IFRS 9).

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[1] *Loan-to-value ratio.*

[2] *Debt-to-income ratio.*

Special measures were aimed at supporting financial markets. For example, some of European Union countries have introduced restrictions on short sales on the securities market. The European Securities and Markets Authority reminded issuers of the need to disclose any relevant significant information concerning the impacts of the coronavirus pandemic as soon as possible.

Regulators are working to provide support to the economy, including through the **adoption of targeted support measures for the corporate sector**, especially small- and medium-sized enterprises. To this end, central banks have launched or expanded special refinancing programmes. For example, the volumes of refinancing programmes for SMEs amount to $13 billion in Saudi Arabia and to $25 billion in South Korea. In the US, under a similar refinancing programme, commercial banks will be able to write off loans to SMEs (if the latter meet a number of requirements), and the written-off amount will be compensated to banks by the US Small Business Administration (such compensations will amount to about $350 billion in total).

Along with the measures adopted by regulators, government support is critical in the fight against the economic consequences of the COVID-19 pandemic. Such support mainly includes credit programmes, guarantees, loan repayment holidays, subsidies for salary payments, direct payments to individuals and businesses, increased unemployment benefits and various tax breaks. Government support measures vary significantly from country to country: according to the IMF, they amount to 4.3% of GDP in the EU, 14.3% of GDP in the US, 2.5% of GDP in China, 6.5% of GDP in Brazil and 21.1% of GDP in Japan[3].

Finally, international forums and organisations – the G20, the IMF and the Financial Stability Board as well as standard-setting bodies (the BCBS, the International Organisation of Securities Commissions and the International Association of Insurance Supervisors) – play a significant role by coordinating measures at the global level for improving the effectiveness of regulatory and state support measures aimed at addressing the economic consequences of the pandemic. Regulators exchange information on current vulnerabilities and best practices to address them, share experiences and coordinate international support measures. On 15 April, the finance ministers and central bank governors of the G20 met to agree on an Action Plan for supporting the global economy through the COVID-19 pandemic[4], which contains key principles and commitments for implementing measures aimed at ensuring a sustainable and confident economic recovery.

[3] *IMF Policy Responses to COVID-19. Policy tracker*.

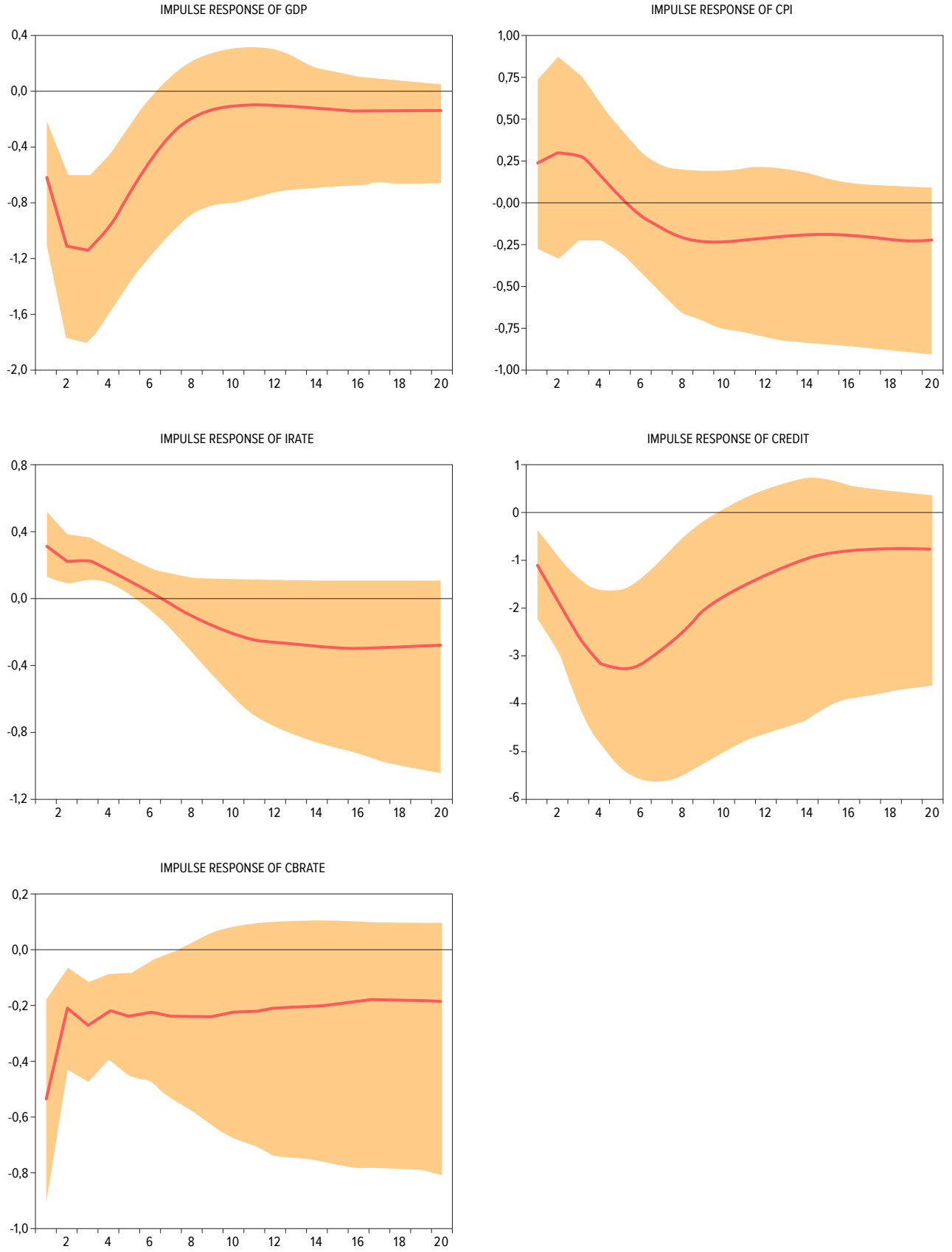
[4] *G20 Finance Ministers and Central Bank Governors Communique and Action Plan*.

APPENDIX 2. IMPULSE RESPONSE FUNCTIONS OF SIGN-RESTRICTED MODEL SPECIFICATIONS

IMPULSE RESPONSE FUNCTIONS OF SIGN-RESTRICTED MODEL SPECIFICATION 1 *Chart 38*

Source: Rosstat, Bloomberg, Bank of Russia calculations.

IMPULSE RESPONSE FUNCTIONS OF SIGN-RESTRICTED MODEL SPECIFICATION 2 *Chart 39*



Source: Rosstat, Bloomberg, Bank of Russia calculations.

LIST OF CHARTS

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