



Bank of Russia



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# FINANCIAL STABILITY REVIEW

Information and analytical review

Moscow  
2021

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## KEY SYSTEMIC RISK INDICATORS<sup>1</sup>

### CURRENT AND POTENTIAL VULNERABILITIES OF THE FINANCIAL SECTOR

Table 1

	Current state		Potential risks	Mitigating factors, Bank of Russia measures
	01.04.2021	01.10.2021		
Current vulnerabilities	<b>1. Growth in household debt burden and retail lending risks</b>			
	Debt burden at the macro level, %	10.1	10.2 (as of 1 July 2021)	
	Share of consumer loans with DSTI above 50% in the last quarter, %	59.2	59.5	
	Share of consumer loans with DSTI above 80% in the last quarter, %	30.0	31.0	
	Share of mortgage loans with DSTI above 50% in the last quarter, %	51.8	55.3	
	Share of mortgage loans with DSTI above 80% in the last quarter, %	23.0	24.0	
	Share of mortgage loans with LTV over 80% in loans issued in the last quarter, %	39.0	37.0	
	Primary market price index (YoY)	117.6	124.7	
	Ratio of the average price per square meter to the average salary per year	1.54	1.66	
	<b>2. Sensitivity of the Russian financial market to the behaviour of non-residents</b>			
Absolute volume of non-residents' investments in OFZs in foreign depositories' accounts with NSD, ₪ billion	2,918.7	3,284.7		
Share of non-residents in the OFZ market, %	20.2	21.0		
Volume of the aggregate net position of foreign participants in currency swaps, \$ billion	-9.5	-24.6		
<b>3. Bank portfolio interest rate risk</b>				
Share of short-term liabilities in the total volume of ruble liabilities to individuals, %	68.8	68.8		
Ratio of the basic estimate of the gap risk over a one-year horizon with an increase in rates by 2 pp against net interest income for 1 year, %	3.5	4.8		
Ratio of the estimate of the gap risk with behavioural adjustments over a one-year horizon with an increase in rates by 2 pp against net interest income for 1 year, %	6.6	8.7		
<b>4. Risks associated with the entry of retail investors into financial markets</b>				
Share of households' investments in FX instruments in the total investments of households, %	21.5	21.6		
Share of households' investments in securities in the total investments of households, %	22.5	24.5		
Share of households' investments in non-resident stocks in the total volume of households' investments in stocks, %	15.3	14.9		
<b>5. Risks of ecosystem development in the Russian financial market</b>				
<b>6. Climate risks</b>				
Potential vulnerabilities in the medium and long term				
				The share of households' investments in securities (including non-residents) is still low
				High profits of the banking sector. Development of regulation for immobilised assets by the Bank of Russia
				Development of approaches to regulation of climate risks by the Bank of Russia

<sup>1</sup> For a brief description of the indicators, see the Annex.

## MONITORED VULNERABILITIES

Table 2

	Current state		Potential risks
	01.04.2021	01.10.2021	
<b>1. Dollarization of the banking sector</b>			
Dollarization of liabilities to individuals, %	21.3	20.8	
Dollarization of liabilities to corporate customers, %	35.4	35.2	
Dollarization of the corporate loan portfolio, %	25.6	23.4	
Total balance sheet open foreign currency position, % of capital	-21.9	-25.5	
Net open foreign currency position, % of capital	3.1	2.2	
<b>2. Risks of the corporate debt burden</b>			
Debt burden of the non-financial sector, % of GDP	61.1	57.5 (as of 1 July 2021)	
Corporate sector external debt, % of GDP	21.6	19.9 (as of 1 July 2021)	
Net debt/EBITDA (for a sample of major non-financial companies)	1.7	1.4 (as of 1 July 2021)	
Operating profit interest coverage ratio (for a sample of major non-financial companies)	4.9	6.8 (as of 1 July 2021)	

## KEY FINANCIAL SECTOR STABILITY INDICATORS

Table 3

<b>Banks</b>	<b>01.01.2020</b>	<b>01.01.2021</b>	<b>01.04.2021</b>	<b>01.10.2021</b>
Capital buffer of the banking sector, % of the loan portfolio net of loan loss provisions	11.6	11.2	11.3	10.7
Return on equity, %	19.5	15.7	15.8	21.5
LCR, %	126	115	112	109
Net stable funding ratio, %	118	117	116	116
Ratio of liquid foreign currency assets to foreign currency liabilities, %	14.5	14.6	16.2	14.3
<b>Non-bank financial institutions</b>	<b>01.01.2020</b>	<b>01.01.2021</b>	<b>01.04.2021</b>	<b>01.07.2021</b>
Insurance companies, ROE, %	33.0	28.7	25.6	24.5
Insurance companies (life), share of assets with a low credit rating or without a rating, %	0.2	0.7	1.0	0.9
Insurance companies (non-life), share of assets with a low credit rating or without a rating, %	7.1	5.6	5.6	5.8
Insurance companies (non-life), combined loss ratio, %	90.4	90.2	90.2	93.0
NPFs (pension savings), share of assets with a low credit rating or without a rating, %	2.0	1.6	1.8	1.3
NPFs (pension reserves), share of assets with a low credit rating or without a rating, %	18.5	17.9	16.2	16.2
Brokers, share of entities with high leverage (5 or more), %	68.0	75.1	83.7	79.4
Brokers, share of brokers' assets with LCR below 0.7, %	24.9	6.4	7.1	10.6
Brokers, CAR aggregated by industry, %	14.3	7.3	6.6	6.0
MFOs, median MFCR1, %	28.6	18.2	17.4	18.6
MFOs, median MCCR1, %	52.0	63.1	59.0	58.8
MFOs, share of NPL 90+, %	33.0	35.6	34.6	33.8
Leasing companies, portfolio dynamics, %	7.7	9.3	5.9	12.2
Leasing companies, share of non-performing debts, %	4.6	19.5	18.0	18.6
Factoring, portfolio dynamics, %	32.3	36.8	34.9	55.8
Factoring, share of non-performing contracts, %	2.5	1.7	1.8	1.4

## SUMMARY

**Continuous monitoring of the financial system vulnerabilities is vital for ensuring stable operation of the financial sector and enhancing its resilience which is one of the key responsibilities of the Bank of Russia. Currently, the Russian financial system is sufficiently stable and capable to perform its functions, including providing financial resources to the real sector and ensuring the smooth functioning of the market infrastructure, even if conditions deteriorate. The ability to withstand possible external and internal shocks is facilitated by buffers, including considerable amount of international reserves, low public debt, significant capital buffers and profit of the banking sector.**

### 1. Risks of the global economy and global financial markets

In the reporting period, the rebound of the global economy was uneven, mainly due to differences in vaccination rates, with economic growth slower than expected in many emerging market economies (EMEs). This is reflected in a reduction in the difference in GDP growth rates between EMEs and advanced economies (1.2 pp in 2021 vs 2.3 pp on average in 2015–2019). The evolution of the pandemic remains a key factor of uncertainty. Nonetheless, in the baseline scenario, many regulators expect the epidemic situation to improve and the global economy to advance further.

A considerable number of countries experience inflation acceleration due to the demand for goods and services significantly exceeding the capacity to expand supply, and record surge in energy prices. The main risk is linked to the possibility of persistent elevated inflationary pressure for a longer period. In this situation, phasing-out of asset purchase programmes, as well as faster policy rate increases by leading central banks, may entail a sharp tightening of global financing conditions. Already in September–October 2021, the demand for risky assets slightly declined.

As interest rates are rising, the main vulnerability of the global economy will be associated with the problems of debt servicing by governments, companies and households, as debt has increased notably during the pandemic and continues to grow. This can lead to surges in volatility, especially in countries with accumulated structural imbalances. Drastic revaluation of financial assets and price adjustments in the housing market may become additional factors underlying instability. Moreover, subject to less strict regulation compared to banks, non-bank financial institutions are gaining importance in global markets. Global risks may be also exacerbated due to the growth of investment in cryptocurrencies.

### 2. Key financial sector vulnerabilities

#### ***Current financial sector vulnerabilities***

##### ***Vulnerability 1. Growth of household debt burden and retail lending risks***

In H1 2021, household debt burden at the macro level increased from 9.8% to 10.2% of disposable income. This was primarily caused by a faster growth of unsecured consumer lending, which was accompanied by looser lending standards, i.e. an increase in the share of loans issued to borrowers with debt service-to-income (DSTI) ratio exceeding 80% (from 23% in Q2 2020 to 31% in Q3 2021), an increase in the share of long-term (over 5 years) consumer loans (from 11% before the pandemic to 21% in Q2 2021), characterised by an elevated risk level. The growth of consumer lending is driven not by the expansion of the banking sector's client base, but rather by an increase in loan amounts, which creates systemic risks.

To contain the risk of household excessive debt burden, the Bank of Russia raised macroprudential capital requirements for banks on consumer loans on 1 July and 1 October 2021. The higher the debt burden of the borrower, the larger was the increase in capital requirements. To limit the practice of issuing long-term (over 5 years) consumer loans, the Bank of Russia is amending the procedure for calculating borrowers' DSTI ratio, which, from 1 February 2022, will make the DSTI calculated for regulatory purposes on such loans higher. This will increase banks' capital requirements for long-term consumer loans and make them less profitable. In order to further contain risks in this segment, it is planned to add a new instrument – macroprudential limits – to the toolkit of macroprudential measures, which will allow the Bank of Russia to introduce quantitative restrictions on the issuance of risky unsecured consumer loans.

The growth of mortgage lending has somewhat normalised after the changing of the state-supported mortgage lending programme conditions from 1 July 2021, as well as after the increase in the key rate and macroprudential requirements for mortgage loans with a low down payment.

Additionally, beginning from 3 July 2022, Federal Law No. 329-FZ introduces a limit on effective interest rate (EIR) on mortgage loans. The measure is aimed at preventing possible significant fluctuations of interest rates in the mortgage market.

### ***Vulnerability 2. Sensitivity of the Russian market to the behaviour of non-residents***

Amid introduction of the United States' restrictions on the purchase of bonds by investors in the primary OFZ market and discussion of potential expansion of the restrictions to the secondary market, as well as expectations of an earlier unwinding of monetary policy incentives by the advanced countries, the vulnerability associated with the sensitivity of the Russian market to the behaviour of foreign investors is still relevant.

Over the reporting period, the Russian financial market demonstrated resistance to sanctions; foreign investors are still its active participants. Foreign investors' demand for Russian interest-bearing instruments has grown against the backdrop of an increase in ruble interest rates, which has led to a net inflow of capital to both the OFZ market and the interest rate derivatives market. According to the NSD data, the volume of non-residents' investments in OFZs reached ₹3.3 trillion, an all-time high, by the end of the Q3 2021.<sup>1</sup> In the FX swap market, non-residents were increasingly active in carry trade operations, their FX short position reached a record value of \$30 billion in October 2021. Meanwhile non-residents continued to exit the equity market; this trend was accompanied by high demand from Russian private investors and by the growth of stock indices.

### ***Vulnerability 3. Interest rate risk of the banking sector***

The growth of interest rates in the economy has not yet led to a decrease in the net interest income (NII) of the banking sector. The net interest margin remained unchanged, while the NII continued to rise on the back of a robust loan portfolio growth and a significant portion of assets at floating rates (including variable coupon OFZs). The scope of negative revaluation of bonds in banks' balance sheets is limited.<sup>2</sup> However, in the future, interest rate risk may crystallise to a greater extent due to a faster revaluation of liabilities compared to assets because of a high share of short-term liabilities and also as a result of a gradual reallocation of funds into more expensive term deposits. However, possible negative consequences of the interest rate risk materialization for banks are insignificant amid considerable increase in their profits in 2021 due to other factors.

<sup>1</sup> Over the last week of October, non-residents reduced their OFZ portfolio by ₹74 billion, after the Bank of Russia decision to raise key rate by 75 bp. As of 18 November 2021, the nominal value of investments amounted to ₹3,197 billion.

<sup>2</sup> Further details are available in the October 2021 issue of the Financial Market Risks Review.

## **Potential financial sector vulnerabilities in the medium and long-term period**

### **Vulnerability 4. Risks associated with the entry of retail investors into financial markets**

In 2021, retail investors continue to actively enter the stock market amid growing stock indices in Russia and other countries, elevated inflation, as well as development of the Russian exchange infrastructure. In January–September 2021, investment inflows into non-residents' shares and bonds (₽616 billion) exceeded inflows into foreign securities for the whole of 2020 (₽474 billion). Inflows of households' investment into shares and bonds of Russian companies also remained at a significant level (₽469 billion).

The massive household investments in securities will increase the dependence of their financial standing on stock market prices fluctuations. In addition, active participation of private investors with identical strategies can theoretically increase market volatility, but so far household investments have been characterised by moderate concentration. Overall, values of systemic risks indicators arising from the growth of retail investments in securities are modest. The growth of household foreign investments has so far led to a slight increase in the portion of foreign currency-denominated savings from 21.0% as of the beginning of 2021 to 21.6% as of 1 October 2021. Amid increased interest rates on ruble-denominated deposits, the attractiveness of term ruble-denominated deposits for the population increases.

At the same time, the risks associated with household investments in cryptocurrencies are rising. According to various indirect estimates, Russian investors are among the most active participants in cryptocurrencies market. As Bitcoin and other cryptocurrencies are not backed by any assets, investments in them can be entirely lost, both due to their volatility, and as a result of fraudulent activities and cyberattacks.

### **Vulnerability 5. Risks of digital platforms and ecosystems development in the Russian financial market**

In 2021, major banks have continued to expand their non-core business, associated with the development of ecosystems. Moreover, the role of BigTechs is increasing in the Russian financial market, through both the acquisition of own banks and the active offer of financial products (including instalments), mainly in partnership with financial institutions. The uncontrolled development of ecosystems leads to greater step-in risk of banks developing ecosystems, increasing systemic importance of BigTechs and the emergence of new channels of contagion in the financial market.

In this regard, the Bank of Russia is considering strengthening regulation of bank investments in non-core assets, as well as introducing differentiated capital add-ons for banks developing ecosystems.

### **Vulnerability 6. Transition climate risks**

The global transition to a low-carbon economy will affect many sectors of the Russian economy, from electric power to mining. Transition risks will be reflected in a decline in revenues, growing operating expenses and capital expenditures of energy-intensive companies, which will lead to an increase in their debt burden.

The analysis of current corporate strategies for addressing climate risks has shown that only some of the largest representatives of carbon-intensive industries have specific quantitative goals to reduce their environmental impact. Many companies in 'brown' industries do not disclose data on their greenhouse gas emissions. At the moment, the share of environmental expenditures in the revenue of Russian carbon-intensive companies from such industries as oil and gas, power generation and transport is considerably lower than that of their foreign peers.

Significant capital investment needs of Russian companies to reduce emissions and the difficulty of obtaining financing from global investors, that are gradually phasing out investments in 'brown'

industries, will contribute to an increase in the concentration of Russian banks' portfolio on the largest 'brown' companies.

In this regard, the Bank of Russia believes that banks and other financial institutions should already take into account transition climate risks when assessing credit and market risks. Stimulating companies most exposed to energy transition risks to disclose non-financial information and elaborate sustainable development strategies is one of the priority tasks for increasing the competitiveness of the Russian economy in the long term.

### **3. Corporate lending amid economic recovery and the end of regulatory easing**

The economic recovery and the desire of companies to raise financing before interest rates hikes have led to an increase in corporate lending, leasing and factoring operations. The annual increase in corporate loan debt amounted to 11.2% as of 1 October 2021; the leasing portfolio grew by 12.2%, and the factoring portfolio was up by 56% as of 1 July 2021.

Due to the rapid recovery in economic activity, the financial standing of many companies has improved. Exporters were supported by the rise in prices in commodity markets; the adverse impact of termination of the Bank of Russia's temporary regulatory easing on banks was insignificant. Regulatory easing was not required when restrictive measures were imposed due to the new wave of the pandemic in October–November 2021.

The improvement in the financial standing of companies influenced the quality of banks' loan portfolio. The share of loans of IV, V quality categories decreased from 9.7% to 8.5% over the period from 1 April to 1 October 2021. The quality of floating rate loans remained unchanged, despite the increase in the key rate by 2.5 pp over the period from the beginning of the year to 1 October 2021. Conversely, the level of bad debt of leasing companies increased (by 0.6 pp to 18.6% in Q2 2021), which was caused by high concentration of leasing companies portfolios in the sectors affected by the COVID-19 pandemic (air and railway transportation).

### **4. Assessment of the financial sector resilience**

#### ***Assessment of the banking sector resilience***

In the reporting period, the resilience of banks increased due to the growth of profits as a result of borrowers' credit quality improvement. Lower provisioning costs were the main driver of profit growth. Based on the results of Q2–Q3 2021, the net profit was about ₱1.3 trillion, which is 2.2 times over the results of Q2–Q3 2020 (and is 76% higher than in the same period of 2019). This enabled to ensure a significant improvement of profitability of the banking business: as of 1 October 2021, the return on assets of credit institutions amounted to 2.2% (+0.5 pp from 1 April to 1 October 2021). The increased profitability was registered across a wide range of banks, but to the greatest extent it was typical of the largest systemically important banks (SIBs).

Due to the favourable economic conditions, banks managed to expand their safety margin to be used if potential risks crystallise.

#### ***Assessment of the resilience of non-bank financial institutions***

The performance indicators of non-bank financial institutions (NBFI) in 2021 demonstrate accelerated growth (in H1 2021, insurance premiums increased by 21%, the volume of client assets of brokers increased by 16%), while the marginality of their business has slightly decreased. In H1 2021, the pre-tax profit in the insurance market dropped by 19%, while the combined loss ratio of insurers increased by 3.5 pp to 93%.

Given the faster growth of NBFIs in the financial sector, the Bank of Russia is strengthening their regulation. From 1 July 2021, the insurance market started a transition to new requirements for the financial resilience and solvency of insurers; from 1 October 2021, requirements for capital adequacy ratio and the liquidity coverage ratio were introduced for brokers. Tighter regulation may require additional investment from banking groups and financial holding companies that own NBFIs.

## 1. RISKS OF THE GLOBAL ECONOMY AND GLOBAL FINANCIAL MARKETS

*The reporting period saw extensive recovery in advanced economies amid mass vaccination and lifting of restrictive measures, while growth in emerging economies slowed down due to new COVID-19 outbreaks. The uneven economic recovery was accompanied by accelerating inflation around the world exacerbated by strong increases in energy prices. Against this background, expectations regarding the normalisation of the policy of major central banks, including the US Fed, are shifting to earlier dates. And despite these expectations being gradually incorporated into the prices of financial assets, surges in volatility cannot be ruled out. Financing conditions may be tightened more severely than the markets expect, which in turn may lead to a noticeable reduction in the risk appetite of global investors and an increase in risk premiums in emerging market economies (EMEs). In addition, the issue of interest rate growth may be aggravated by the continuing increase in the debt burden of governments, companies and households. The Russian economy is affected by the external environment, but the risks are limited due to the stable macroeconomic situation and the high resilience of the financial sector.*

### Situation during the reporting period

In October, the International Monetary Fund (IMF) lowered the forecasted global GDP growth in 2021 by 0.1 pp to 5.9%. This is due to the deterioration of the forecast for EMDEs (Table 4). GDP growth rates in EMDEs are still higher than in advanced economies, although recovery is slower, which results in a narrowing gap in GDP growth rates between these groups of countries (from 2.3 pp on average for 2015–2019 to 1.2 pp in 2021 and 0.6 pp in 2022). The uneven recovery of the global economy is mainly due to non-uniform vaccination rates. Countries with lower vaccination rates (predominantly EMEs) continue to face spikes in infection rates (the spread of the delta strain

GDP GROWTH RATES, IMF FORECAST FOR OCTOBER 2021  
(%)

Table 4

	2020	October 2021 forecast		Deviation from April 2021 forecast (pp)	
		2021	2022	2021	2022
<b>Global GDP growth rates</b>	<b>-3.1</b>	<b>5.9</b>	<b>4.9</b>	<b>-0.1</b>	<b>0.5</b>
<b>Advanced economies</b>	<b>-4.5</b>	<b>5.2</b>	<b>4.5</b>	<b>0.1</b>	<b>0.9</b>
United States	-3.4	6.0	5.2	-0.4	1.7
United Kingdom	-9.8	6.8	5.0	1.5	-0.1
Euro area	-6.3	5.0	4.3	0.6	0.5
Germany	-4.6	3.1	4.6	-0.5	1.2
Italy	-8.9	5.8	4.2	1.6	0.6
Spain	-10.8	5.7	6.4	-0.7	1.7
Japan	-4.6	2.4	3.2	-0.9	0.7
<b>EMEs and developing countries</b>	<b>-2.1</b>	<b>6.4</b>	<b>5.1</b>	<b>-0.3</b>	<b>0.1</b>
China	2.3	8.0	5.6	-0.4	0.0
India	-7.3	9.5	8.5	-3.0	1.6
Russia	-3.0	4.7	2.9	0.9	-0.9
Brazil	-4.1	5.2	1.5	1.5	-1.1
South Africa	-6.4	5.0	2.2	1.9	0.2
Mexico	-8.3	6.2	4.0	1.2	1.0

Source: IMF.

in the Asian region), which affect economic activity. At the same time, mass vaccinations and new fiscal support measures facilitate growth in advanced economies.

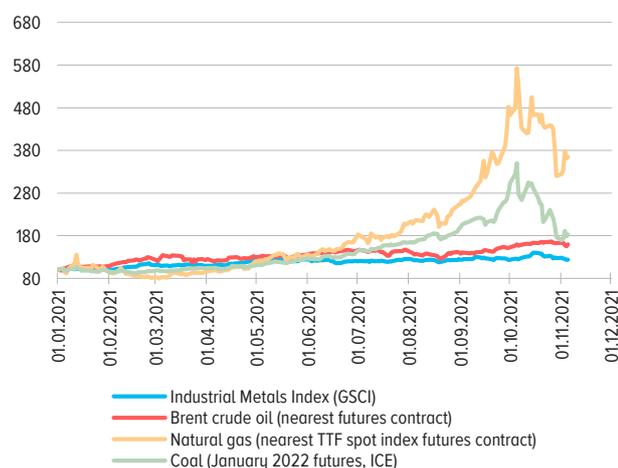
During the reporting period, many countries were increasingly affected by higher inflation rates caused by noticeable discrepancies between supply and demand. On the one hand, demand rebounded quickly due to the removal of lockdowns and large-scale fiscal incentives (including a significant increase in money issuance by the US). On the other hand, supply is recovering more slowly due to difficulties in rebuilding supply chains and growing production costs. In particular, food prices show significant growth amid shortages and rising global food prices (the FAO Food Price Index is the highest since September 2011). Inflationary pressure intensified further as energy prices climbed (Chart 1). In the summer of 2021, the growth of gas prices in Europe accelerated due to insufficient reserves in European underground gas storage facilities resulting from the cold winter of 2020–2021 and redirection of liquefied natural gas (LNG) supplies from Europe to the Asian market. The rise in gas prices brought about an increase in coal prices, leading to an energy crisis in a number of countries, including China and India. This caused concerns that a resulting shortage in the supply of goods from these countries could act as another shock to global supply chains. Although gas and coal prices declined at the end of October, they remain elevated and continue to exert a pro-inflationary impact. The shortage of gas and coal also contributed to a rise in oil prices: the price of Brent crude oil had grown to \$85 per barrel as of 1 November.

The September 2021 intensification of the energy crisis boosted expectations of an earlier normalisation of policies by major central banks. For example, the US Fed does not exclude the possibility of persistently high inflation in a longer-term perspective, although it notes that long-term expectations are reliably anchored. Consequently, the leaders of the US Fed revised the forecast for the first increase in the key rate, shifting it from 2023 to 2022, and the asset purchase programme began to be scaled down in November. As a result, the yield on 10-year US Treasuries had increased to 1.70% as of October 21 (from 1.22% in early August). Other advanced economies also show growth in government bond yields. In September, the Bank of England revealed that it could raise the rate at the end of this year – that is, before scaling down its asset purchase programme. The central bank of Norway raised its key rate by 0.25 pp to 0.25%. Among EMEs, many countries have already started actively raising interest rates to contain the pressure on prices (Brazil, Colombia, Mexico, Russia, Chile).

For most of the reporting period, the dynamics of the stock indices in advanced economies outpaced those in EMEs due to the faster economic recovery and improved returns of companies.

DYNAMICS OF COMMODITY PRICES  
(30 DECEMBER 2020 = 100)

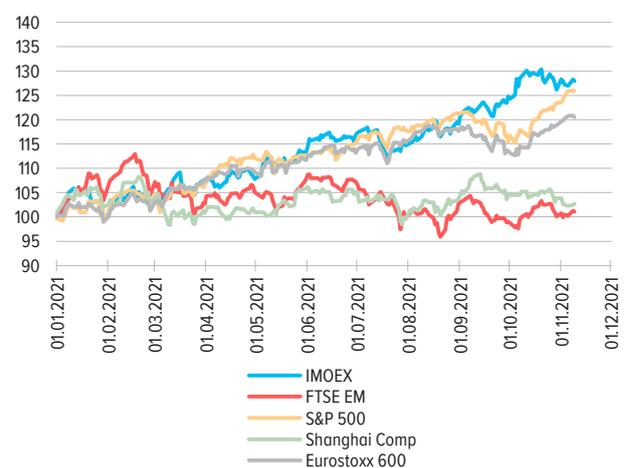
Chart 1



Source: Bloomberg, Thomson Reuters.

DYNAMICS OF STOCK INDICES  
(30 DECEMBER 2020 = 100)

Chart 2



Source: Bloomberg.

## DYNAMICS OF MARKET INDICATORS IN EMES

Table 5

Country	Change in indicators in September–October 2021					Values of indicators	
	National currency exchange rate to US dollar	Stock index	10-year government bond yields	5-year sovereign CDS spread	Rank (1 = the worst, 15 = the best)	10-year government bond yields	5-year sovereign CDS spread
	%		bp			%	bp
Turkey	-13.4	3.4	261	83	1	19.08	444
Brazil	-8.6	-12.9	170	69	2	12.25	244
Chile	-5.0	-8.9	132	26	3	6.22	89
South Africa	-4.7	0.1	87	24	4	9.64	207
Mexico	-2.4	-3.7	52	18	5	7.49	103
Hungary	-5.1	4.3	99	5	6	4.00	60
Poland	-4.0	3.7	104	2	7	2.88	52
Colombia	0.2	5.6	86	30	8	7.77	162
Thailand	-3.1	-0.9	40	3	9	1.99	39
Malaysia	0.4	-2.4	38	8	10	3.59	54
Philippines	-1.3	2.9	66	11	11	4.81	56
India	-2.5	3.0	17	17	12	6.39	81
Russia	3.7	5.9	117	4	13	8.17	83
China	0.9	0.1	12	12	14	2.98	46
Indonesia	0.7	7.2	9	13	15	6.17	81
<b>14 EMES excluding Russia</b>	<b>-3.4</b>	<b>0.1</b>	<b>84</b>	<b>23</b>		<b>6.80</b>	<b>123</b>

 Latin America

 Europe, Middle East, Africa

 Asia-Pacific Region

Source: Bloomberg, Thomson Reuters.

However, in September 2021, the intensification of the energy crisis caused an adjustment in the global stock markets (Chart 2).

The declining risk appetite of global investors in September–October 2021 affected the local markets of EMES. Many EMES faced an increase in risk premiums (sovereign CDS), the weakening of national currencies against the US dollar and growth of government bond yields (Table 5). This is due to both the deterioration of the epidemic situation in Asia and expectations for the scaling down of the US Fed asset purchase programme and the aggravation of a number of idiosyncratic factors (inflation and fiscal risks). Global investor sentiment was also negatively impacted by the heightened risks of corporate defaults in China due to the liquidity and solvency issues of the major Chinese developer Evergrande Group. In Russia, market indicators in September–October demonstrated more favourable dynamics: due to rising energy prices, the ruble is strengthening against the US dollar, and the equity market is growing.

### Scenarios for the development of the global economy

The further development of the global economy and the dynamics of global financial markets will depend on the Covid-19 situation and inflation risks. Under the baseline scenario, the Bank of Russia expects progressive growth in the global and Russian economies amid improvements in the epidemic situation. The process of the scaling down of incentives by major central banks will gradually be incorporated into asset prices and will not cause excessive spikes in volatility. However, alternative (risk) scenarios cannot be ruled out<sup>1</sup>.

- First scenario: *Intensification of the pandemic* due to the spread of new, more infectious strains of the coronavirus. As a result, it is possible that the 2020 situation will repeat itself,

<sup>1</sup> See [Monetary Policy Guidelines for 2022–2024](#).

with the introduction of anti-pandemic restrictions causing a reduction in economic activity and demand. Consequently, a marked disinflationary impact will allow major central banks to maintain easy monetary conditions for a longer period.

- Second scenario: active growth of the global economy accompanied by a steady increase in *global inflation rates*. Major central banks will be forced to take proactive measures and raise interest rates faster than in the baseline scenario. In this case, it is assumed that the emerging imbalances in the asset markets will self-eliminate as the global economy returns to the pre-pandemic trajectory.
- Third scenario: *Financial crisis* due to a faster-than-expected rate growth aggravating problems in servicing the increased debt burden. The crisis will be accompanied by an extended period of uncertainty and a protracted recovery.

In any case, the Bank of Russia is prepared to use its tools for maintaining price and financial stability. The stable macroeconomic situation and availability of the safety buffers in the financial sector will help maintain the stability of the Russian economy.

### **Key vulnerabilities of the global financial system**

Potential shocks can be exacerbated by a number of vulnerabilities in the global financial system and economy.

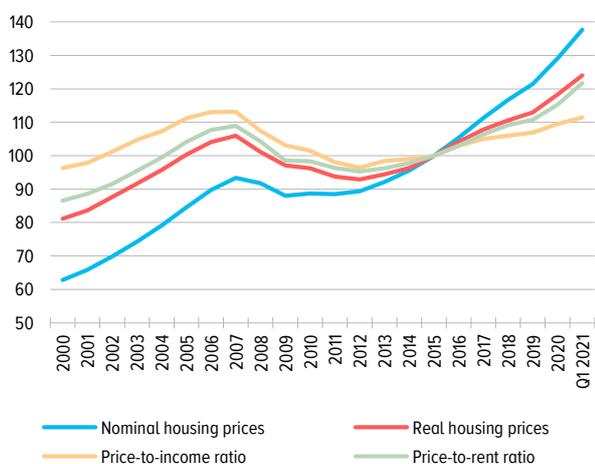
- *Fiscal unsustainability risks*. The increase in public debt during the pandemic contributed to the expansion of budget deficits in many countries. A persistently difficult epidemic situation may exert additional pressure and require an even greater increase in budget expenditure. In certain EMEs, deteriorating fiscal sustainability is already affecting investors' perception of risk (e.g., in Brazil). In a number of EMEs, fiscal vulnerability issues could be exacerbated by a further increase in the volume of government bond purchase programmes of central banks. Russia has one of the lowest levels of public debt to GDP (17.6% as of 1 July 2021<sup>2</sup>), and, unlike in other countries, its budget shows a surplus (according to the preliminary estimate of the Ministry of Finance, in January–September 2021, the budget surplus amounted to ₺1.444 trillion), which significantly limits fiscal unsustainability risks.
- *Growth of corporate debt burden*. The growth of corporate debt is accompanied by the problem of the proliferation of 'zombie companies'. Market participants are increasingly concerned about the risk of a debt crisis in China, especially given record levels of corporate bond defaults ([CNY 95 billion or \\$14.7 billion in 2021 H1](#)). Materialisation of such risk could cause spikes of volatility in global markets, including a plunge in the risk appetite of investors. Growing external corporate debt constitutes a major vulnerability of other EMEs (for 14 EMEs (Table 5), the corporate external debt increased from \$2.774 trillion in Q1 2020 to \$3.139 trillion in Q2 2021<sup>3</sup>). This could cause surges in volatility (so-called 'pandexit tantrums') as rates in global markets rise during the post-pandemic period. The external debt of other sectors of Russia increased slightly over the same period (by \$5 billion to \$319 billion).
- *Growth in household debt burden and risks of overheating in the housing market*. According to the Bank for International Settlements (BIS), household debt in many countries has increased significantly since the start of the pandemic ([in advanced economies, from \\$34.6 trillion in Q1 2020 to \\$37.6 trillion in Q1 2021; in EMEs, from \\$13.5 trillion to \\$16.2 trillion, respectively](#)). At the same time, housing prices, housing affordability (the ratio of nominal housing prices to per capita income) and profitability of home ownership (the ratio of nominal housing prices to housing rent) are at the same level or higher than before the 2008 global financial crisis

<sup>2</sup> Data on external and internal public debt according to the Ministry of Finance of Russia, on GDP, according to Rosstat.

<sup>3</sup> Calculated according to World Bank data.

HOUSING PRICES IN OECD COUNTRIES  
(2015 = 100)

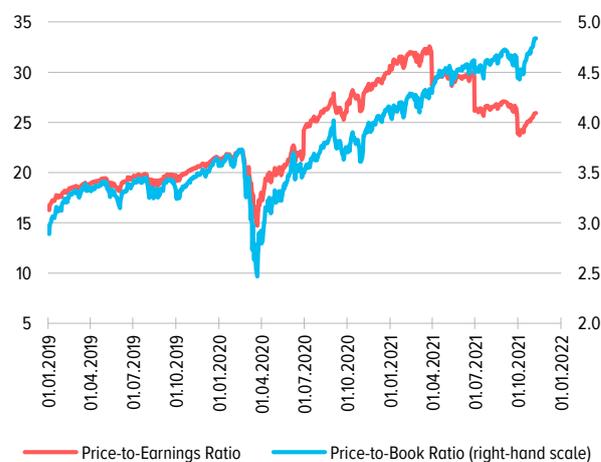
Chart 3



Source: OECD.

DYNAMICS OF PRICE-TO-EARNINGS  
AND PRICE-TO-BOOK FOR S&P 500 STOCKS

Chart 4



Source: Bloomberg.

(Chart 3)<sup>4</sup>. In the context of revised inflation prospects and accelerated interest rate growth in major countries, the markets may undergo a sharp adjustment.

- *Revaluation of assets in financial markets exceeds fundamentally sound values.* Monetary conditions remain easy and contribute to the further strengthening of risk appetite and the growth of asset prices, primarily in the equity markets. At the same time, amid improved returns of companies in the reporting period, the price-to-earnings ratio decreased, while the price-to-book ratio continued to grow (Chart 4). In Russia, similar trends are observed, with the stock market growing at a faster pace, largely due to the growth in the value of shares of oil and gas companies.
- *The growing importance of non-bank financial institutions.* [According to the Financial Stability Board](#), the share of NBFIs in the global financial system has grown significantly over the past decade, accounting for almost half of its assets. Consequently, the importance of vulnerabilities of the NBFIs sector for global financial stability is growing, which was clearly demonstrated last March when many foreign open-end investment funds faced massive outflows of investors and were forced to sell assets, increasing market volatility. NBFIs played an increasingly important role in the EME markets for providing dollar financing. Currently, policymakers across the world are developing a systematic approach to the supervision and regulation of NBFIs. In Russia, NBFIs account for only about 10% of the total volume of the financial system in terms of assets; therefore, they do not pose any significant risks to financial stability.
- *Cyber risks.* Cyber threats are becoming more common as financial technologies advance. Cyberattacks can have serious consequences for financial stability if they affect systemically important financial institutions or critical areas of market infrastructure. In such case, erosion of trust can lead to liquidity problems, and banks may face an outflow of deposits. In addition, cyberattacks can have a global impact given the increasing interconnectedness of financial systems through international payments.

### Stability of the global financial system

The global financial system and global financial regulation have undergone major changes since the 2007–2009 global financial crisis. The transparency of the financial system and the quality of approaches to risk assessment have increased considerably, and financial institutions have become more capitalised. Nevertheless, new crisis events may have a significant negative impact. First, as

<sup>4</sup> [Calculated according to OECD data.](#)

the 2020 crisis demonstrated, regulators need to develop practices of regulation and supervision of non-bank financial intermediaries. Second, under certain circumstances, accumulated capital and liquidity buffers cannot entirely prevent adverse effects for the banking sector in many countries. For example, some banks may be vulnerable to higher corporate loan defaults amid low profit margins. In Russia, such risks are limited due to rapid recovery of the financial position of companies and improved quality of banks' loan portfolios (see Section 3) supplemented by sufficient capital and liquidity buffers (see Subsection 4.1). Third, the scale of potential contagion risks is not easily estimated due to the increased interconnectedness of the financial system participants and real economy, including at the global level.

### Box 1. Anti-pandemic measures of foreign regulators

The epidemic situation remains unfavourable, and due to uneven economic recovery in the reporting period opinions on the need to extend or remove certain support measures significantly differ across the world.

Some countries continue to *support liquidity and lending* to the real sector of the economy while trying to avoid excessive growth of the debt burden (Argentina, India, South Korea, Mexico, Singapore). Other countries, where the rates of economic recovery are the highest, are beginning to unwind their support measures (the US, Canada, some EU countries). In a number of regions, especially in emerging markets, the observed cutback on support measures is also often driven by budgetary constraints. Countries start by unwinding asset purchase and other liquidity programmes. However, *measures aimed at supporting operational processes*, such as permissions to hold shareholder meetings and board meetings in absentia or arrangements for remote work, remain largely in place. Simultaneously, most countries are lifting previously introduced restrictions on the payment of dividends by banks (euro area countries, India, South Korea, Mexico, the UK, the US).

In general, we observe a *shift* from support measures aimed at a very wide range of recipients to *more targeted* ones covering only the most affected sectors and households. In particular, this can be said about state lending programmes, provision of grants and introduction of various regulatory easing (Argentina, Spain). Other countries have scaled down such support measures as government loan guarantees to apply to small- and medium-sized enterprises only. Some countries extended moratoriums and other measures aimed at stimulating restructuring of loans to SMEs (Canada, France, Hong Kong, Spain, India, South Korea).

Incentives for the use of accumulated buffers to continue lending are also applied in a diverse manner. Some central banks observe significant growth in asset values (including residential real estate) and are returning to normal, pre-pandemic capital requirements (India, Mexico), in some cases setting even higher requirements than prior to the pandemic (e.g., the countercyclical buffer in Canada). At the same time, South Korea lowered LCR requirements, and Brazil extended the easing of requirements for provisions for term deposits.

## 2. KEY FINANCIAL SECTOR VULNERABILITIES

### 2.1. Current financial sector vulnerabilities

#### **Vulnerability 1. Growth of household debt burden and retail lending risks**

**The retail lending market returned to pre-pandemic growth rates of about 20% per year. In the unsecured lending segment, the accelerated growth of debt is accompanied by an increase in the share of loans to borrowers with high debt burden and a growing share of long-term loans with elevated risks of default.**

**In order to cool down the unsecured consumer lending market, the Bank of Russia implemented several rounds of increases of macroprudential add-ons and is making changes to the procedure for calculating borrowers' DSTI<sup>1</sup>, discouraging artificial overstatement of loan maturity terms. In addition, the Bank of Russia is developing a new macroprudential tool (macroprudential limits) which will make it possible to restrict the share of newly issued high-risk unsecured consumer loans, for example, with a high DSTI and a longer maturity term.**

**In the mortgage segment, the Bank of Russia resolved to increase risk ratio add-ons for loans with an LTV from 80 to 85%. The new values of the add-ons range from 50 to 100 pp, depending on the value of the borrower's debt burden ratio, and are applied to loans granted starting from 1 August 2021. This measure and revision of the government mortgage lending programme balanced the growth of the mortgage loan portfolio and reduced the risks of overheating in the residential real estate market.**

**EIR limits on mortgage loans to be introduced from 3 July 2022 establish that EIR for the contracts to be concluded should not exceed the average market EIR for the relevant category by more than one-third. Taking into account consultations with the banking community and DOM.RF JSC, the Bank of Russia has initiated the development of the categories of such loans.**

#### **Household debt burden dynamics**

The growth in retail lending observed from early 2021 was due to the simultaneous impact of a number of factors: recovery growth of the economy, materialisation of deferred demand for loans accumulated during the 2020 lockdowns, low interest rates on loans and government programmes of concessional mortgage lending. In this context, the household debt burden, defined as the share of compulsory loan payments in the disposable income of the entire population<sup>2</sup>, grew steadily and as of 1 July 2021 had reached a historical high of 10.24%.

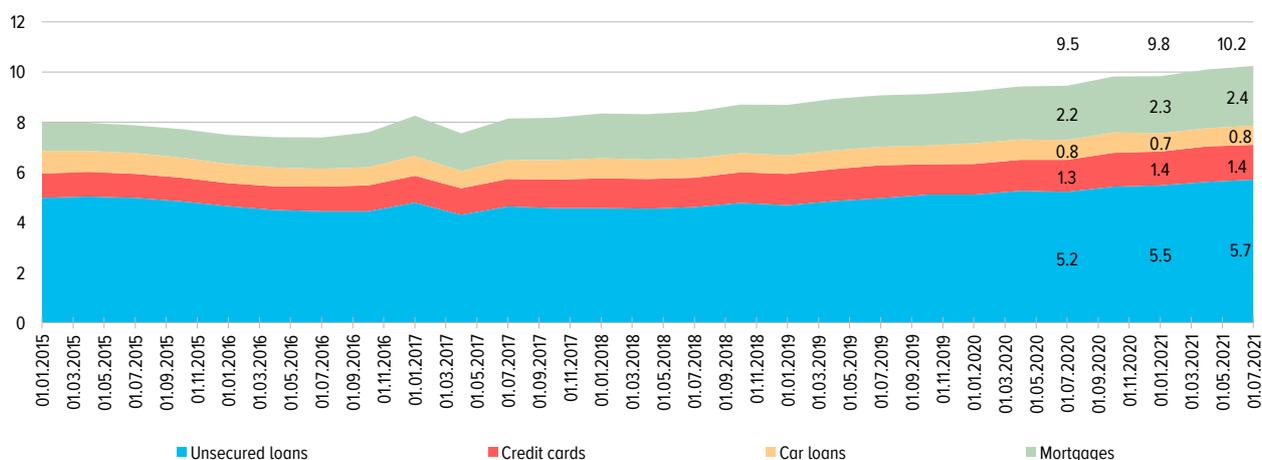
The increase in the household debt burden in H1 2021 was mainly contributed to by the segments of unsecured consumer and mortgage lending (0.2 and 0.1 pp, respectively). The growth in obligatory payments on the mortgage loan portfolio was balanced due to a simultaneous increase in both the average debt per borrower (0.1 pp) and the number of borrowers (0.08 pp). In contrast, the growth of unsecured consumer lending was driven solely by an increase in the average debt per borrower. This increases risks of the unsecured consumer loan portfolio (Chart 6).

<sup>1</sup> When calculating the DSTI, the average monthly payments on loans maturing in more than four years are estimated on the assumption that the loan is to be repaid within 48 months. This will result in an increased DSTI for long-term loans and ensure higher capital requirements for such loans.

<sup>2</sup> The [methodology for calculating the household debt burden ratio](#) is set out in the information and analytical report of the Bank of Russia.

DYNAMICS OF HOUSEHOLD DEBT BURDEN, SIZE OF PLANNED PAYMENTS ON LOANS, DISPOSABLE INCOME (%)

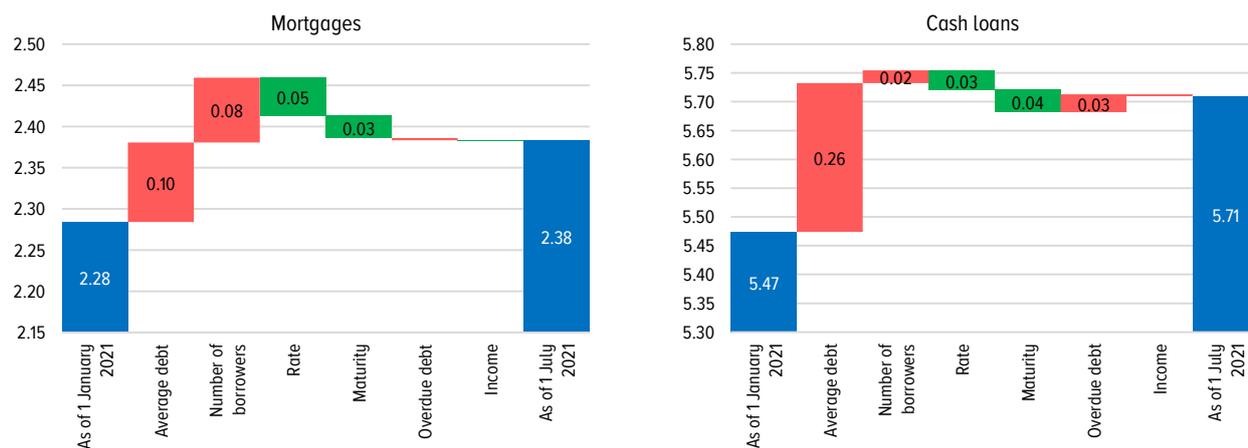
Chart 5



Source: Bank reporting forms 0409126 and 0409115, combined data of CHBs.

BREAKDOWN OF CHANGES IN THE DEBT BURDEN FOR THE RETAIL LOAN PORTFOLIO BY FACTORS (%)

Chart 6



Source: Data of CHBs.

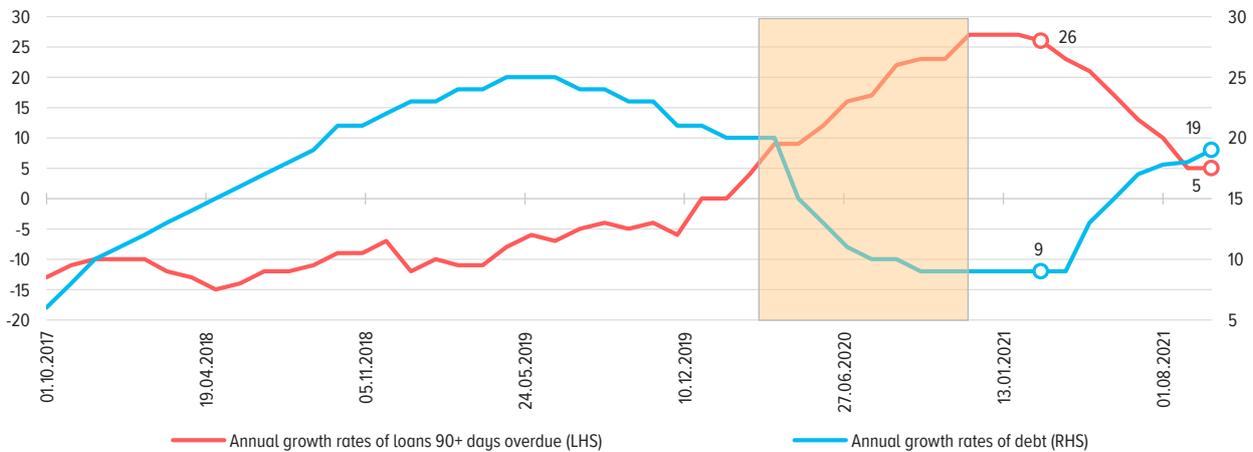
### Unsecured consumer lending

In H1 2021, banks received an additional incentive to increase unsecured consumer lending from the successful completion of large-scale intrabank debt restructuring programmes. The return of most of the restructured portfolio to the contractual payment schedule lowered expectations for credit risk and motivated credit institutions to build up their unsecured consumer loan portfolios. As of 1 October 2021, the annual growth rate of outstanding debt on unsecured consumer loans amounted to 19.1%, which corresponds to the pre-pandemic level; however, in the context of slow growth of household income (by 3.8% in Q1–Q2 2021 compared to Q1–Q2 2019), such a rate is unbalanced and may lead to a deterioration in the credit quality of retail portfolios in the future.

The accelerated growth in lending was uneven and was accompanied by a significant redistribution of market shares between banks. The major universal banks demonstrated the largest loan portfolio growth, while banks that lacked significant capital reserves hardly increased their loan portfolios (17% of credit institutions accounting for 19% of debt) and often even reduced them (42% of credit institutions accounting for 20% of debt).

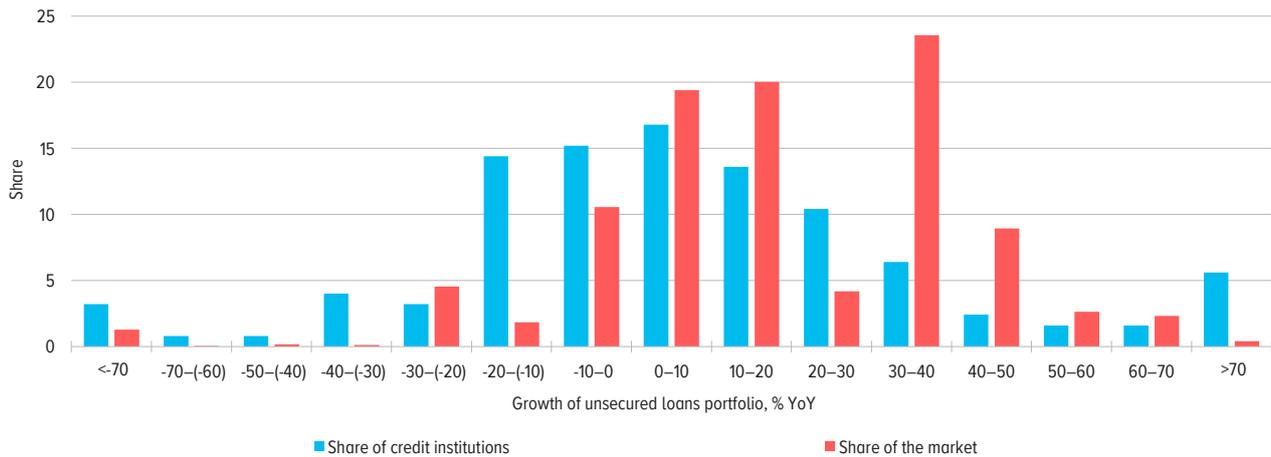
In H1 2021, growth in lending was accompanied by a loosening of requirements for potential borrowers and an increase in the share of high-risk loans provided by banks. For example, the share

ANNUAL GROWTH RATES OF DEBT ON UNSECURED CONSUMER LOANS AND THE NON-PERFORMING LOANS PORTFOLIO *Chart 7*  
(%)



Source: Bank reporting form 0409115.

DISTRIBUTION OF CREDIT INSTITUTIONS BY ANNUAL GROWTH RATES OF THE UNSECURED LOAN PORTFOLIO *Chart 8*  
(%)



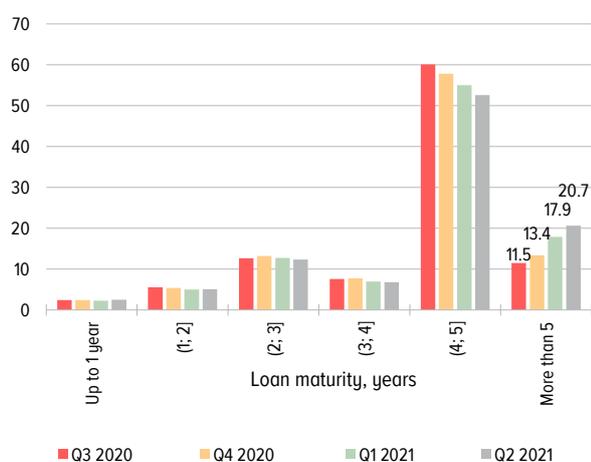
Source: Bank reporting form 0409115.

of unsecured loans with a debt burden ratio of more than 80% grew from 23% in Q2 2020 to 31% in Q3 2021, and the share of long-term unsecured consumer loans (maturing in more than five years) surged from 11% pre-pandemic to 21% in Q2 2021.

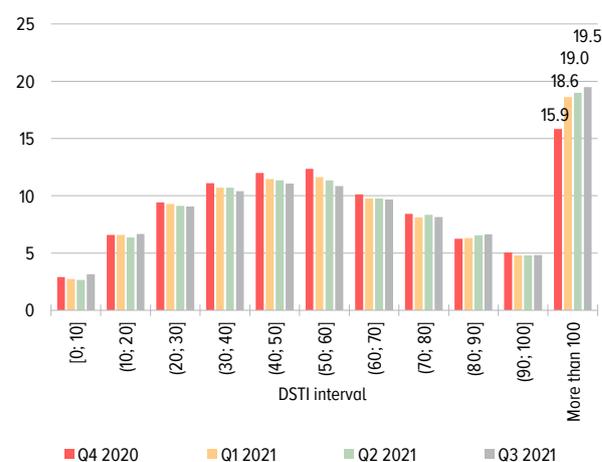
The increase in loan maturity is explained by banks’ desire to offer larger loans to borrowers. The average amount for loans maturing in more than five years is ₺747,000, and for loans maturing in less than five years it is ₺242,000<sup>3</sup>. Long-term loans are more exposed to risks. Default frequency on long-term loans during the first year of the loan is almost twice the rate of defaults on loans maturing in less than five years. To limit the practice of providing long-term consumer loans, starting from 1 February 2022, the Bank of Russia will tighten the DSTI requirements on such loans. Average monthly payments on loans maturing in more than four years will be calculated based on a maturity of four years. This will mean increased DSTI values and tighter capital requirements for long-term loans. These measures will discourage banks from providing consumer loans with high DSTI for more than four years.

Generally, banks are increasing unsecured consumer lending without proper verification of borrowers’ income. According to a survey of the largest banks in the retail market, only 4 out of 14

<sup>3</sup> According to combined data of the largest credit history bureaus.

DISTRIBUTION OF CONSUMER LOANS BY MATURITY (%) *Chart 9*

Source: Bank of Russia survey.

DISTRIBUTION OF UNSECURED CONSUMER LOANS BY DSTI (%) *Chart 10*

Source: Bank reporting form 0409704.

credit institutions issued more than half of loans in Q2 2021 with an estimation of borrowers' DSTI on the basis of supporting documents. The rest of the survey participants mainly calculate DSTI on the basis of information on the borrower's income obtained from the borrower's application, CHB data on the current level of loan payments and model estimates of the bank.

The Bank of Russia analysed the results of various approaches to income assessment used by banks and found that the assessment of imputed income according to CHB data may result in a systematic underestimation of the borrower's debt burden. For this reason, effective from 1 January 2022, the Bank of Russia will tighten the requirements for income assessment based on CHB data. Imputed income according to CHB data will be calculated as the average monthly amount of the borrower's actual payments on previously issued loans multiplied by 1.5 (previously, by 2). In the future, the Bank of Russia will encourage banks to use official data on the borrower's income, including information obtained from the Digital Citizen Profile.

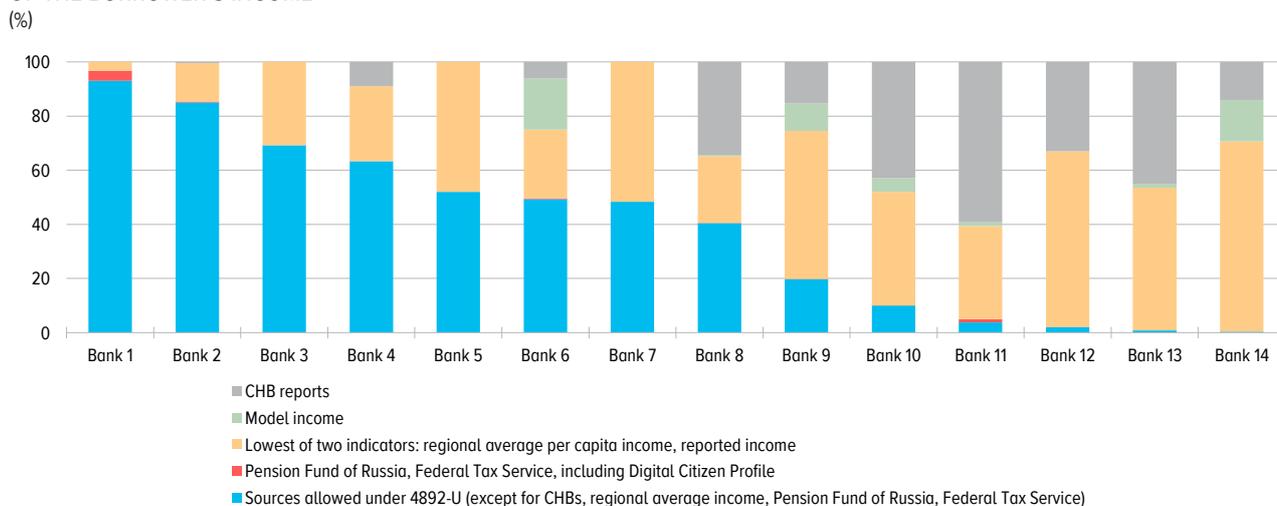
Accelerated lending growth exceeding the growth of household income with a simultaneous deterioration in lending standards leads to accumulation of risks by banks. The overall growth of interest rates in the economy has not yet had a significant limiting effect on the unsecured consumer lending segment. In the context of the key rate growing by 2.5 pp in Q1–Q3 2021, EIR in the largest market segment of cash loans grew by 0.26 pp during this period, while in the segments of POS loans and credit cards EIR even dropped by 0.8 and 2.0 pp, respectively. In 2017–2021, EIR had a significant impact on the dynamics of new loans (Chart 12), and in the event of an increase in rates at the end of 2021 we can expect growth in the volume of loans granted. At the same time, the high marginality of consumer lending (including due to so-called 'tied insurance' services not included in the calculation of formal EIR) currently allows banks to reduce margin somewhat instead of raising rates.

The Bank of Russia is using macroprudential measures to cool down the consumer lending market. Effective from 1 July and 1 October 2021, the capital requirements for banks on unsecured consumer loans were increased. For the riskiest loans with a borrower DSTI of more than 80%, the aggregate risk ratio already ranges from 250 to 340% (with a change in EIR from 0 to 25% per annum), which makes such loans the least profitable for banks. As the introduced higher capital requirements apply to newly issued loans, the impact of the adopted macroprudential measures will noticeably affect unsecured consumer lending only in 2022 as banks' loan portfolios are renewed.

The impact of the higher macroprudential capital requirements is extended over time and has an uneven impact on banks. Banks with significant capital reserves continue to rapidly build up their consumer loan portfolios despite the introduction of macroprudential measures. For this reason, the

## DISTRIBUTION OF UNSECURED CONSUMER LOANS IN Q2 2021 BY SOURCES OF ASSESSMENT OF THE BORROWER'S INCOME

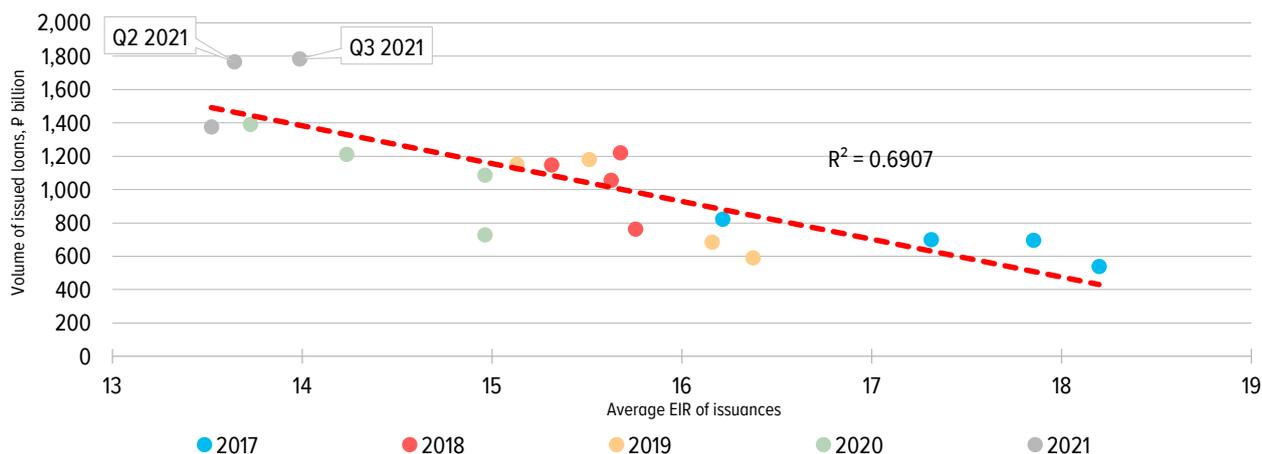
Chart 11



Source: Bank of Russia survey.

## SENSITIVITY OF DEMAND FOR CASH LOANS TO THE DECREASE OF EFFECTIVE INTEREST RATE IN 2017–2021

Chart 12



Source: Bank reporting form 0409126.

Bank of Russia is developing a new tool for limiting risks – macroprudential limits. This tool will allow the Bank of Russia to set a limit on the share of high-risk unsecured consumer loans provided by banks and microfinance organisations per quarter. High-risk loans may include long-term unsecured consumer loans and loans to borrowers with a high debt burden. Since macroprudential limits only limit the share of high-risk loans and do not ban them outright, such loans will remain available for households. The State Duma has passed the draft law empowering the Bank of Russia to set macroprudential limits in its third reading.

For loans issued in violation of macroprudential limits, the Bank of Russia plans to apply capital requirement penalties equivalent to a deduction from the lender's capital. In addition, any exceedance of the macroprudential limit for a quarter will lead to a reduction in the lender's limit for the next quarter. Such measures will encourage lenders to comply with the limits.

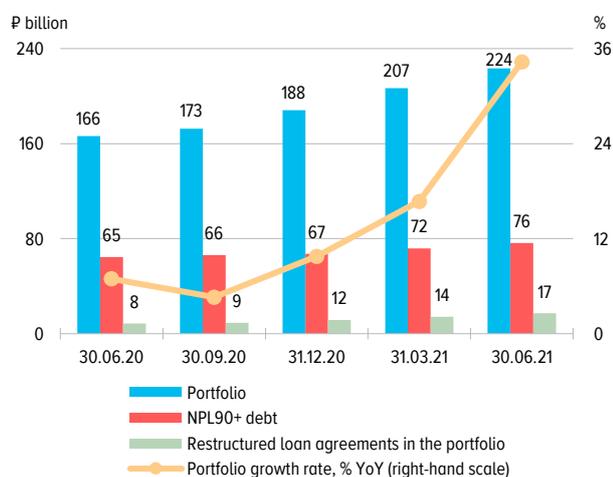
Given that this tool is new and will require banks and MFOs to modify their information systems to ensure compliance with the limits, its introduction is not possible before H2 2022.

## Consumer microfinancing

The consumer microfinancing market continues to recover. At the end of Q2 2021, the consumer microloan portfolio reached ₱223.5 billion (Chart 13), with its annual growth rate increasing to 34.3% (+27.4 pp per year), which is explained by the low base effect of the previous year and is lower than the growth rates of Q2 2019 (45.3%). In this context, we see a decrease in the share of debt on consumer microloans with payments 90+ days overdue (NPL90+) from 38.5% as of 30 June 2020 to 33.8% as of 30 June 2021, which could have been partially offset by an increase in the share of restructured agreements<sup>4</sup> for consumer loans with payments less than 90 days overdue from 5.1 to 7.6% in the corresponding periods<sup>5</sup>.

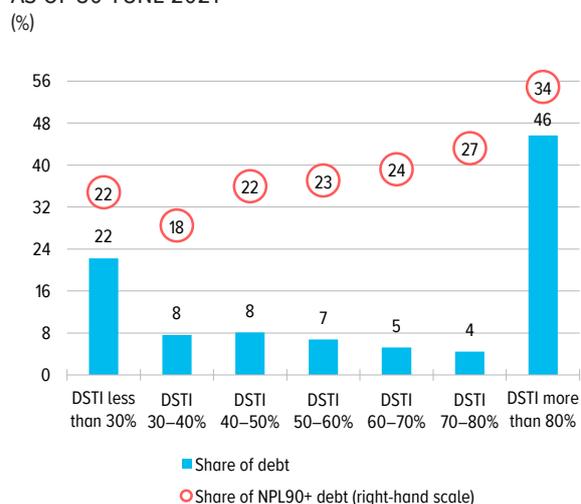
To calculate the DSTI<sup>6</sup>, MFOs may use information on income from borrowers' applications adjusted according to the MFOs' internal models. Despite this, the overall debt burden of borrowers in the market is fairly high. As of Q2 2021, the share of principal debt and accrued interest debt on microloans with an elevated DSTI (more than 50%) in the portfolio of MFO loans for which the DSTI is calculated amounted to 62.1% (Chart 14), and for microloans with a DSTI of more than 80% it amounted to 45.6%. At the same time, borrowers with the largest debt burden (in the category of loans with a DSTI of more than 80%) have the highest level of non-performing debt among microloans for which the DSTI is calculated (the share of NPL90+ among such borrowers was 34.3% vs 27.7% on average for loans for which the DSTI is calculated). Furthermore, as of 30 June 2021, the DSTI is not calculated for another 42.7% of MFO debt mainly due to the small amounts of such loans (less than ₱10,000); the share of NPL90+ for such loans is 81.4%.

DYNAMICS OF THE CONSUMER MICROFINANCING PORTFOLIO *Chart 13*



Source: Reporting forms 0420840 and 0420846.

DISTRIBUTION OF DEBT BY DSTI RANGES AS OF 30 JUNE 2021 *Chart 14*



Source: Reporting forms 0420840 and 0420846.

<sup>4</sup> Restructured consumer loan agreements are estimated as the sum of restructured claims on short-term retail loans to individuals and other restructured claims (all other loans) in proportion to the share of consumer loan debt in the loan portfolio.

<sup>5</sup> These trends were also influenced by exemptions in accordance with Bank of Russia Information Letter No. IN-06-59/140, dated 30 September 2020, 'On the Extension of Certain Measures to Limit the Consequences of the Spread of the Coronavirus Infection (Covid-19)'.<sup>6</sup>

<sup>6</sup> Paragraph 7 of Bank of Russia Ordinance No. 5114-U, dated 2 April 2019, 'On Setting Economic Ratios for a Microcredit Company Attracting Funds from Individuals, Including Individual Entrepreneurs Who Are Founders (Members, Shareholders), and/or from Legal Entities in the Form of Loans', Paragraph 12 of Bank of Russia Ordinance No. 5115-U, dated 2 April 2019, 'On Setting Economic Ratios for a Microfinance Company Attracting Funds from Individuals, Including Individual Entrepreneurs, and/or from Legal Entities in the Form of Loans and for a Microfinance Company Issuing and Placing Bonds'.

Despite the regulatory restrictions introduced by the Bank of Russia earlier to reduce the debt burden of MFO borrowers<sup>7</sup>, the past year saw an increase in the share of loans with an elevated DSTI<sup>8</sup> and a growing number of borrowers in the MFO market (according to the three largest CHBs, over 12 months, the number of current unique MFO borrowers increased by 23.0% to 6.7 million<sup>9</sup>). It should be noted that the share of MFO borrowers with both bank loans and MFO loans in the total increase in borrowers was comparable to the share of borrowers with only MFO loans (51.3 vs 48.7%, respectively). Given this and taking into account the successive tightening of macroprudential additions in the banking sector, to limit the subsequent growth of the debt burden and the risks of regulatory arbitrage, the Bank of Russia is developing measures to tighten the current risk ratios for loans with an elevated DSTI and loans of up to ₹10,000.

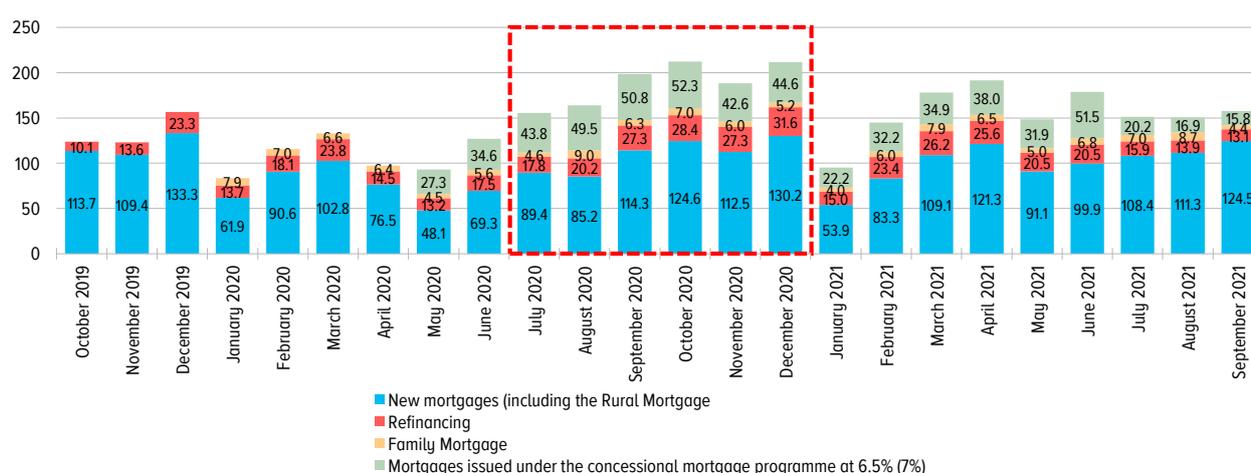
## Mortgage lending

Due to the coming change in the conditions for mortgage loans under the Government Concessional Lending Programme (6.5%), borrowers showed increased demand for loans. As of 1 July 2021, the annual growth rate of outstanding loans reached 28.9%. The change in the conditions of the programme (the interest rate increasing from 6.5 to 7% per annum, with the establishment of a uniform ₹3 million limit on the loan amount in all regions) balanced the growth of the mortgage loan portfolio. In the future, the mortgage lending segment is expected to grow, among other things, through the Family Mortgage Programme, which, effective from 1 July 2021, was extended to include families with one child born since the beginning of 2018.

The increase in mortgage lending through government subsidy programmes led to an increase in the share of high-risk loans with a low down payment. This was most typical of the primary housing market where in Q3 2020– Q2 2021 the share of mortgage loans provided under the Concessional Lending Programme at 6.5% (7%) ranged from 80 to 90% of all loans. Since the minimum down payment for government mortgage programmes is set at 15%, this led to an increase in the share of loans under equity participation agreements with LTV of more than 80% in Q2 2021 to 48%, which is significantly higher than the pre-pandemic values (24%). However, after the changes in the

NUMBER OF MORTGAGE LOANS ISSUED  
(THOUSAND UNITS)

Chart 15

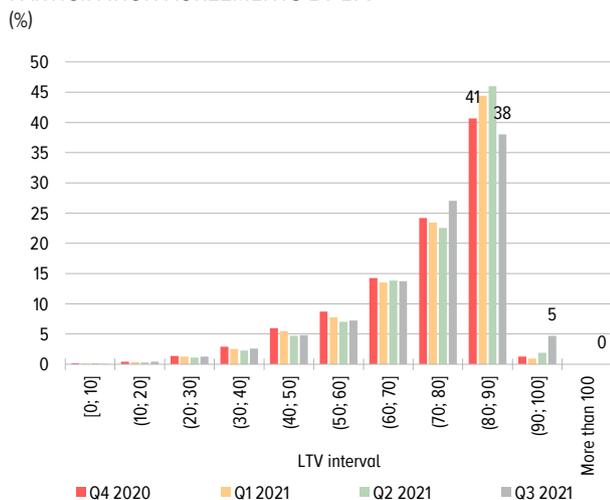


Source: Bank reporting form 0409316, DOM.RF.

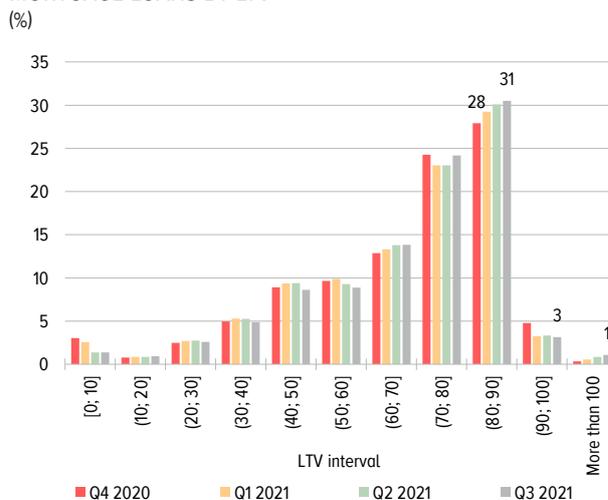
<sup>7</sup> Limits on the maximum EIR and total amount of interest accrued to the initial amount under the agreement and on the maximum number of loans per MFO; introduction of a requirement for calculating DSTI when providing consumer loans and taking it into account when calculating the capital adequacy ratios of MFOs.

<sup>8</sup> According to the Bank of Russia quarterly survey of the largest MFOs in 2020, the share of loans with an elevated DSTI grew from 51.2 to 54.4%.

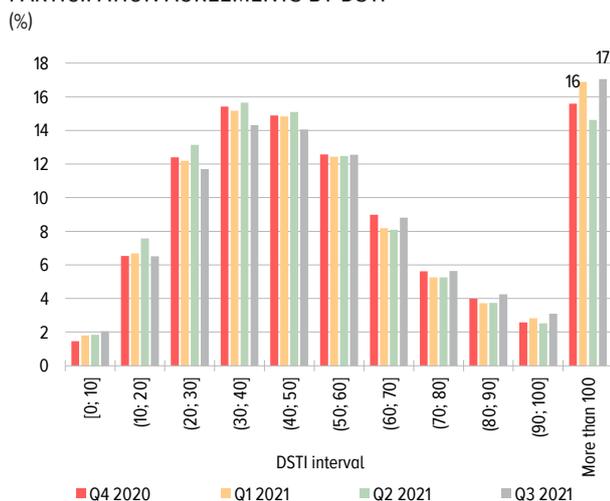
<sup>9</sup> This includes borrowers with only MFO loans and borrowers with both bank loans and MFO loans.

DISTRIBUTION OF MORTGAGE LOANS UNDER EQUITY PARTICIPATION AGREEMENTS BY LTV *Chart 16*

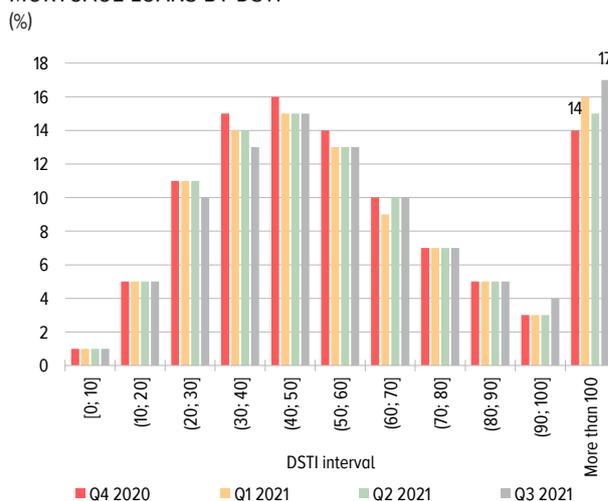
Source: Bank of Russia surveys.

DISTRIBUTION OF NON-EQUITY PARTICIPATION MORTGAGE LOANS BY LTV *Chart 17*

Source: Bank reporting form 0409704.

DISTRIBUTION OF MORTGAGE LOANS UNDER EQUITY PARTICIPATION AGREEMENTS BY DSTI *Chart 18*

Source: Bank reporting form 0409704.

DISTRIBUTION OF NON-EQUITY PARTICIPATION MORTGAGE LOANS BY DSTI *Chart 19*

Source: Bank reporting form 0409704.

programme became effective on 1 July 2021, the share of such loans decreased to 43% and is likely to further decline in the future.

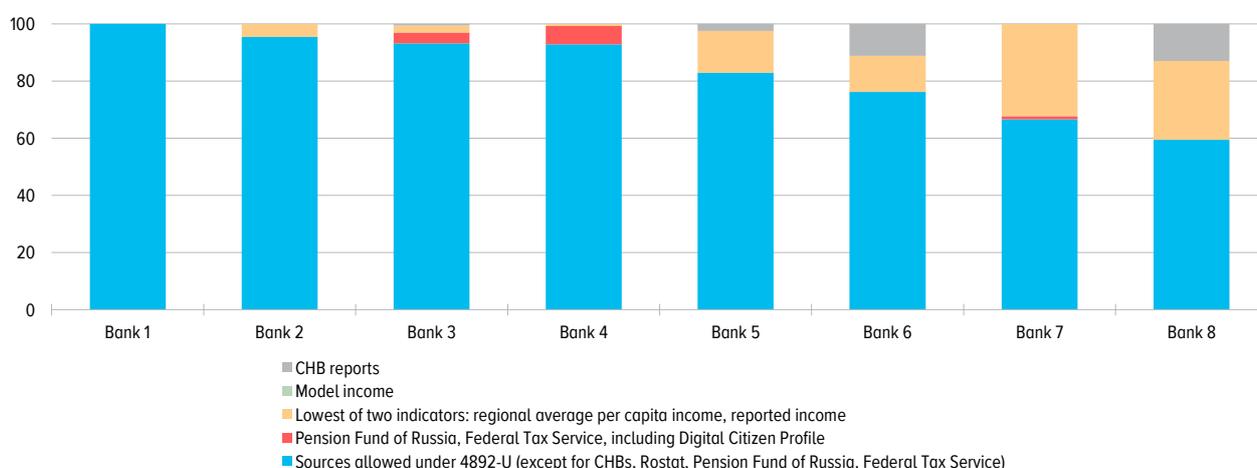
Certain banks built up their mortgage loan portfolios by, among other things, increasing the share of loans to borrowers with a high DSTI; however, the growth of the debt burden as a whole was inhibited by a significant increase in loan maturity: from May 2020 to October 2021, the average maturity for loans secured by equity participation agreements increased from 213 to 253 months, which is equivalent to a decrease in the monthly principal and interest payment by 8–10%, depending on the loan rate.

Unlike unsecured consumer loans, in the mortgage segment, credit institutions assess borrowers' income mainly using officially confirmed sources. Only three of the eight largest mortgage banks assessed borrowers' income according to unofficial sources of information on income for more than 15% of loans.

Despite the increase in the share of high-risk mortgages, the overall credit quality of the mortgage portfolio remains high. There is a decrease in both the share in the portfolio and the absolute value of debt on loans that are 90+ days overdue. As of 1 October 2021, the share of such loans amounted to a historical low of 0.9%.

DISTRIBUTION OF MORTGAGE LOANS IN Q2 2021 BY SOURCES OF ASSESSMENT OF THE BORROWER'S INCOME (%)

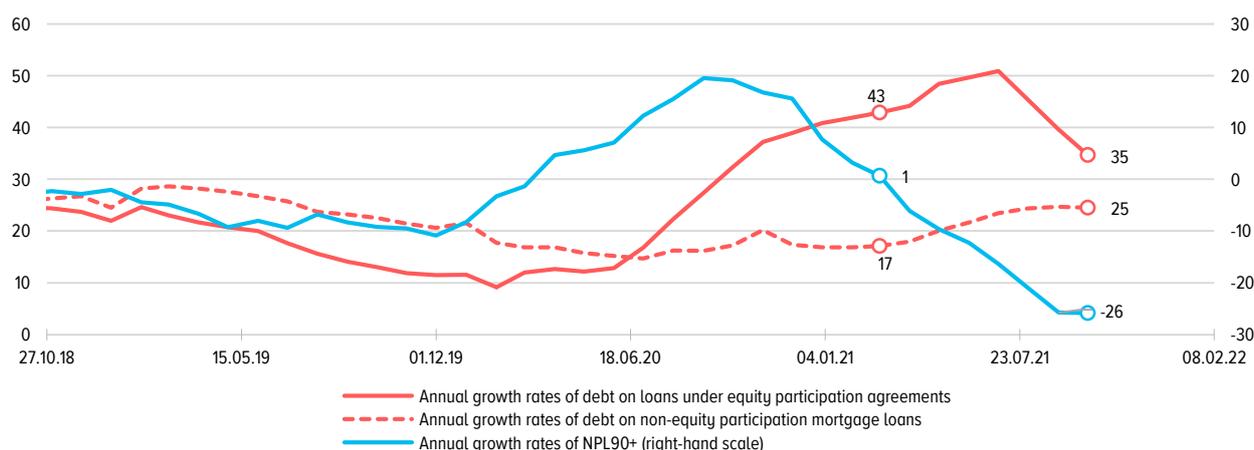
Chart 20



Source: Bank of Russia survey.

ANNUAL GROWTH RATES OF DEBT ON MORTGAGE LOANS AND THE NON-PERFORMING LOANS PORTFOLIO (%)

Chart 21



Source: Bank reporting form 0409115.

## Price dynamics in the real estate market

In Q3 2021, a slight slowdown in the price growth rate in the Russian residential real estate market was observed: in quarterly terms, the price growth rate in the Russian primary housing market amounted to 5.1% QoQ (Table 6).

Starting from August 2020, there has been a decrease in the positive spread between rental yields<sup>10</sup> on the Russian housing market and the weighted average rate on retail deposits maturing within 1–3 years, and starting from July 2021 the rate on deposits exceeds the rental yield rate<sup>11</sup>, which may lead to a gradual decline in the attractiveness of purchases of rental residential real estate. This situation is also typical of the largest Russian regions by the volume of residential real estate commissioned (Chart 22).

<sup>10</sup> Including taxes and utility bills.

<sup>11</sup> Currently, this trend is largely due to an increase in the weighted average interest rate on retail deposits, while the rental yields remain fairly stable.

PRICE INDEX ON THE PRIMARY AND SECONDARY HOUSING MARKETS  
(QOQ)

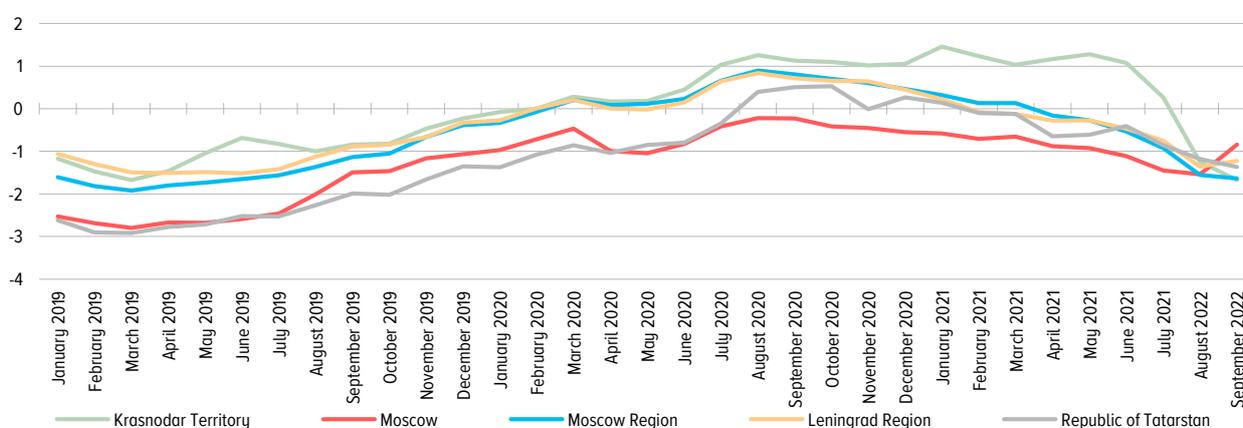
Table 6

	Housing market	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021
Russian Federation	Primary	101,4	102,7	103,7	103,7	106,0	107,0	105,1
	Secondary	100,2	101,4	103,2	104,4	103,6	104,4	103,4
Moscow	Primary	98,2	100,4	105,4	102,0	106,7	110,1	104,2
	Secondary	96,9	105,1	110,2	108,5	100,4	110,6	104,5

Source: Rosstat.

DIFFERENCE BETWEEN RENTAL YIELDS AND THE WEIGHTED AVERAGE RATE ON RETAIL DEPOSITS IN THE LARGEST  
REGIONS BY THE VOLUME OF RESIDENTIAL REAL ESTATE COMMISSIONED IN SEPTEMBER 2021\*  
(PP)

Chart 22



\* It should be noted that rental yields may be overestimated due to the fact that the data used in the calculation reflect the prices indicated in ads and do not take into account changes at the time of the actual transactions.

Source: domofond.ru, Rosstat, Bank of Russia estimates.

## Vulnerability 2. Sensitivity of the Russian financial market to the behaviour of non-residents

Despite materialisation of geopolitical risks, the Russian financial market demonstrated stability in the reporting period. Foreign sanctions on the primary market of Russian public debt did not have any significant impact on the behaviour of non-residents. The interest of foreign investors in Russian interest-bearing instruments grew in the context of an increase in ruble interest rates, which led to a net capital inflow both to the OFZ market and to the market of interest-bearing and FX derivatives. At the same time, in the reporting period, non-residents reduced their investments in the stock market. The exit from Russian stocks took place amid growing stock indices and high demand from Russian private investors; therefore, it did not have any adverse effect on the market.

Currently, the Russian financial market is resilient to the behaviour of non-residents. Nevertheless, changes in market environment (e.g., an increase in global interest rates, tougher sanctions etc.) may lead to temporary surges of volatility in the Russian market.

### The public debt market under new sanctions

On 15 April 2021, the United States announced that effective from 14 June American investors would be banned from purchasing public debt in the primary market. Market response to both the decision and its formal entry into force was limited. From the moment the sanctions were announced to the end of October, the yield on 10-year OFZ bonds grew by 1.16 pp<sup>12</sup>. Over the same period, the

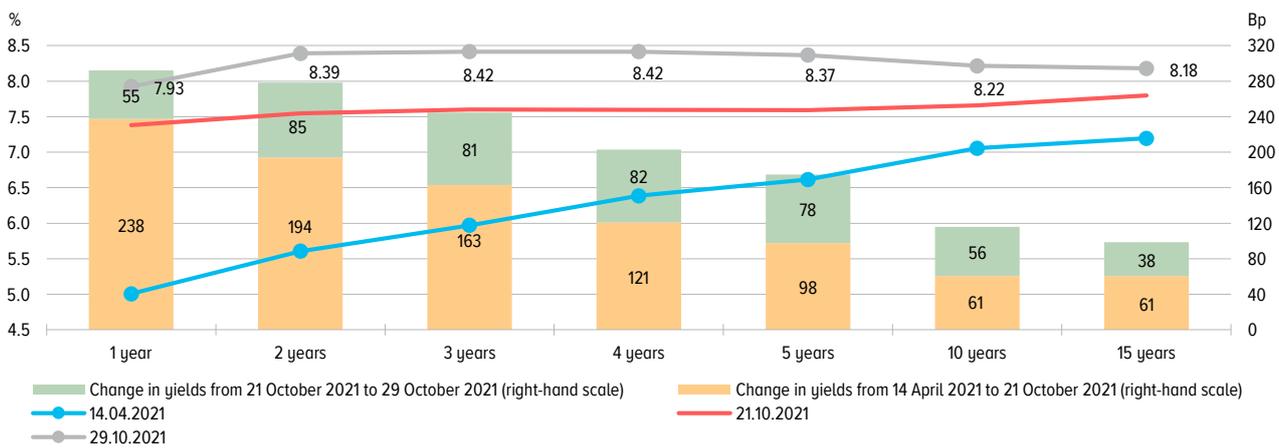
<sup>12</sup> Their growth on the eve of the announcement of the sanctions amounted to 25 bp.

yields on EME government bonds also grew by 0.97 pp on average. Despite the sanctions, non-residents increased the nominal volume of investments by ₺374 billion<sup>13</sup> to ₺3,197 billion.

**OFZ yields under sanctions**

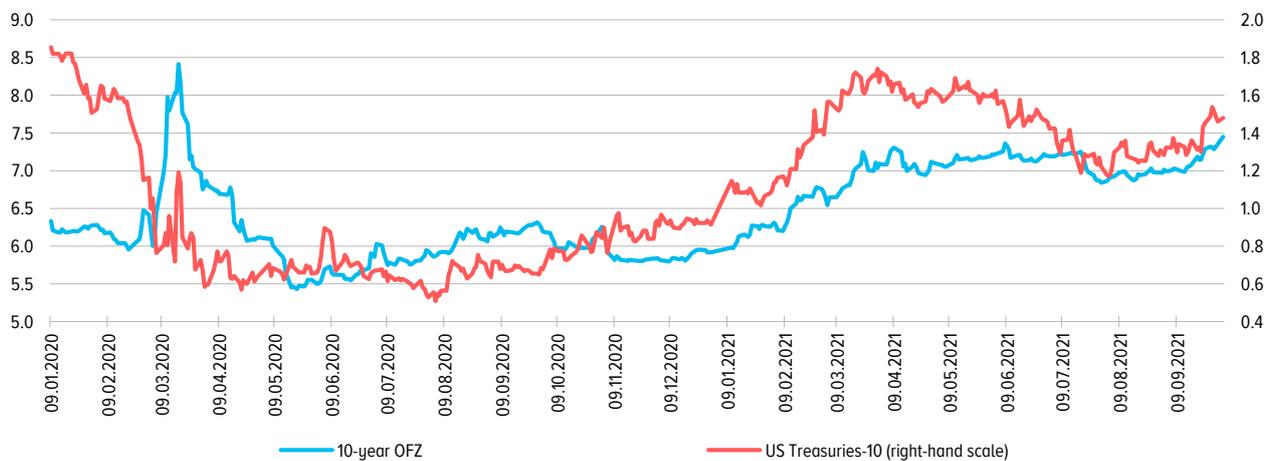
The market reaction to the announcement of the restrictions on 15 April was unsubstantial and restrained as the introduced restrictions were milder than the market expected. In Q2–Q3 2021, OFZ yields continued to grow; in total, for the period from 15 April to 29 October, yields increased by an average of 2.01 pp. Yield growth accelerated at the end of October after another stage of monetary policy tightening (from 22 October to 29 October, yields increased by an average of 68 bp). The increase in yields was mainly observed at the nearer part of the curve, for maturities of 1–5 years, and on average for the period amounted to 2.39 pp (Chart 23). The increase in yields at the farther part of the curve was less significant, with 10-year bond yields up by 1.16 pp. The yield growth on predominantly short-term securities led to an inversion of the yield curve for maturities of over 3 years, and the spread between 10-year and 2-year OFZs became negative (-18 bp at the end of the period).

YIELD CURVE LEVELS AND THEIR CHANGE FOR THE REPORTING PERIOD BY MATURITY WITH THE MOST LIQUID OFZ ISSUES\* Chart 23



\* Yields as of the end of the day.  
Source: Bloomberg.

DYNAMICS OF 10 YEAR RUSSIAN AND US GOVERNMENT BOND YIELDS (%) Chart 24



Source: Bloomberg.

<sup>13</sup> From 15 April to 18 November 2021.

The prevalence of yield growth at the nearer part of the curve indicates that it was mainly linked to the monetary policy tightening in Russia amid continued acceleration of inflation (from mid-April to the end of October, the key rate increased by 3 pp to 7.5%) and not to the impact of foreign sanctions. The OFZ yield growth in Q3 was also substantially affected by an increase in the yields of US Treasuries in August–September 2021 amid expectations of an earlier hike in the US Fed rate, curtailment of quantitative easing and growing inflation expectations (Chart 24).

### Behaviour of non-residents on the OFZ market

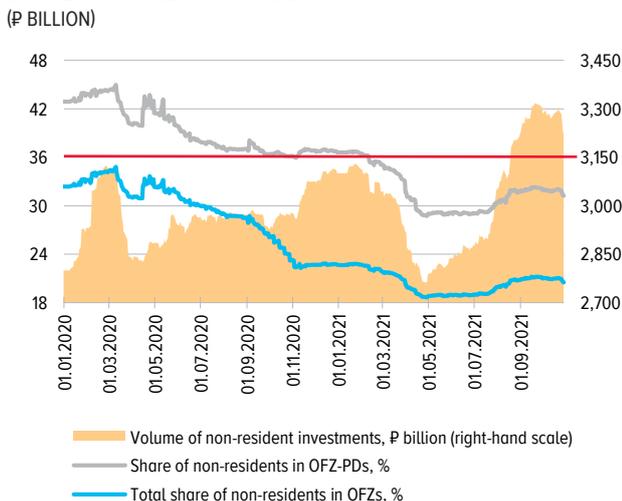
After the announcement of the sanctions, the OFZ market saw short-term sales of OFZs by non-residents in the amount of ₹61 billion, followed by net purchases. In total for the period from 15 April to 18 November, despite the introduction of sanctions, the volume of investments by non-residents increased by ₹374 billion, reaching a historical high in September (₹3,318.2 billion on 20 September 2021). In general, over the period from 15 April to 18 November, their share in OFZs increased (by 1.2 pp to 20.3%), which also indicates continued high demand from foreigners (Chart 25). The volume of investments by non-residents declined from the peak values of September mainly at the end of October; from 22 to 29 October, investments by non-residents dropped by ₹74.3 billion (the largest outflow was observed in OFZs maturing within 4–5 years). Starting from mid-June, due to the introduced sanctions, part of the demand of foreign investors shifted from the primary market to the secondary market, which was most evident at the first auctions after the sanctions came into effect.

At the end of September, the US House of Representatives approved a draft defence budget that includes the expansion of sanctions to the secondary OFZ market. The US Senate must also approve its own version of the budget, then the details of the two drafts will be coordinated and both houses will again vote for the document. In general, even if the tougher sanctions are introduced, their impact is unlikely to be substantial as fundamental indicators of the Russian market are sound.

### Fulfilment of the Russian Ministry of Finance's plan to raise funds through OFZ auctions

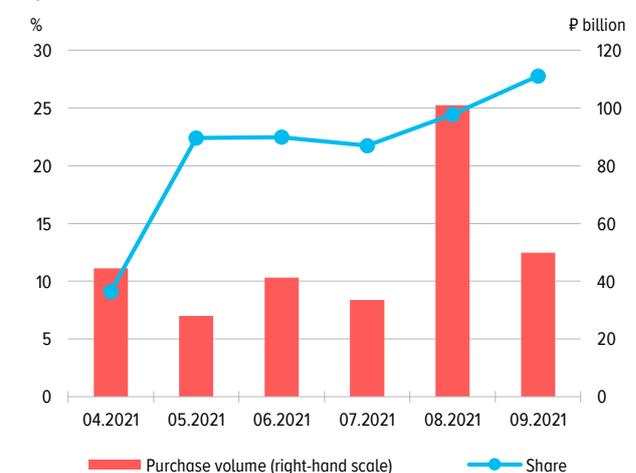
The overall growth in demand from non-residents and the continued high demand of local participants (mainly SIBs; their share in auctions in Q2–Q3 was 57% of the placement volume) at auctions allowed the Russian Ministry of Finance to place OFZs in the amount of ₹1,615.2 billion. In Q2 2021, the volume of placements amounted to ₹858.3 billion (86% of the planned volume). Despite the entry of the sanctions into effect, in Q3 2021, the Ministry of Finance was able to

DYNAMICS OF NON-RESIDENTS' INVESTMENTS IN OFZs ACCORDING TO NSD *Chart 25*



Source: NCI JSC NSD.

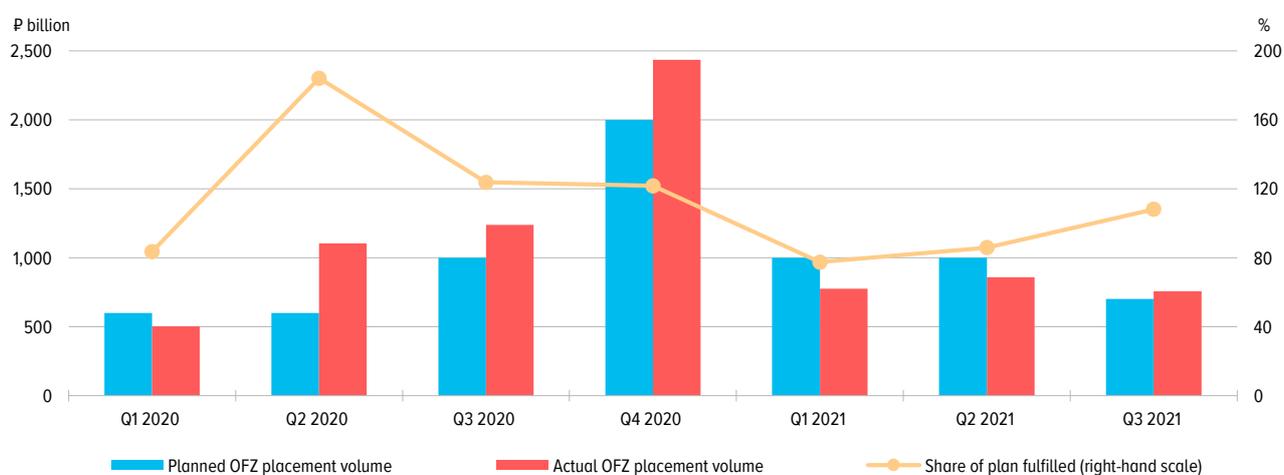
DYNAMICS OF THE PRESENCE OF NON-RESIDENTS AND FOREIGN SUBSIDIARIES AT OFZ AUCTIONS BY MONTH *Chart 26*



Source: Moscow Exchange.

## FULFILMENT OF QUARTERLY OFZ PLACEMENT PLANS

Chart 27



Source: Ministry of Finance of the Russian Federation.

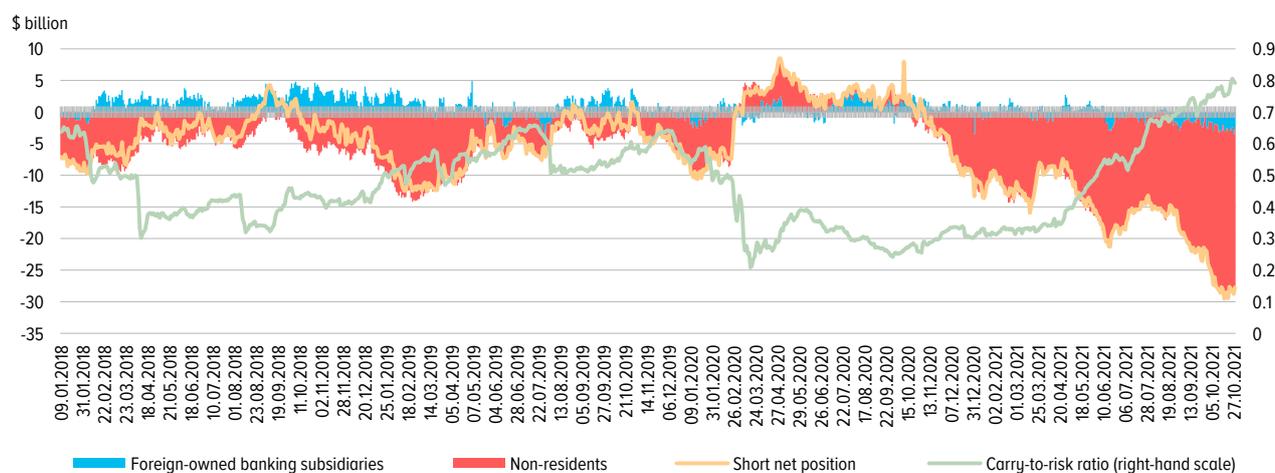
exceed the quarterly plan of ₹700 billion; the volume of placement at auctions amounted to ₹756.9 billion – that is, 108% of the planned volume (Chart 27). Risks are mainly mitigated by the current surplus of the Russian budget, which allows the Ministry of Finance to pursue a more flexible fiscal policy and significantly reduces the dependence of the federal budget on external funding. After 9 months of 2021, the Russian budget has a surplus of ₹1,443.7 billion. Such a favourable situation is caused by high energy prices and rapid economic recovery.

In addition, Russian credit institutions have good potential to replace foreign investors at the auctions of the Ministry of Finance and show high demand in the primary and secondary markets. As of 1 July 2021, the share of the total OFZ portfolio of credit institutions in the banking sector's assets was equal to only 7.9% (since the beginning of the year, the share in the sector's assets has grown by 0.6 pp), which is moderate compared to the same indicator in other countries. This means that the Russian banking sector and NBFIs are able to meet the needs of the Government of the Russian Federation for the placement of OFZs. The moderate share of foreign investors (currently 20.3%) reduces the sensitivity of the Russian public debt market to fluctuations in the global financial markets.

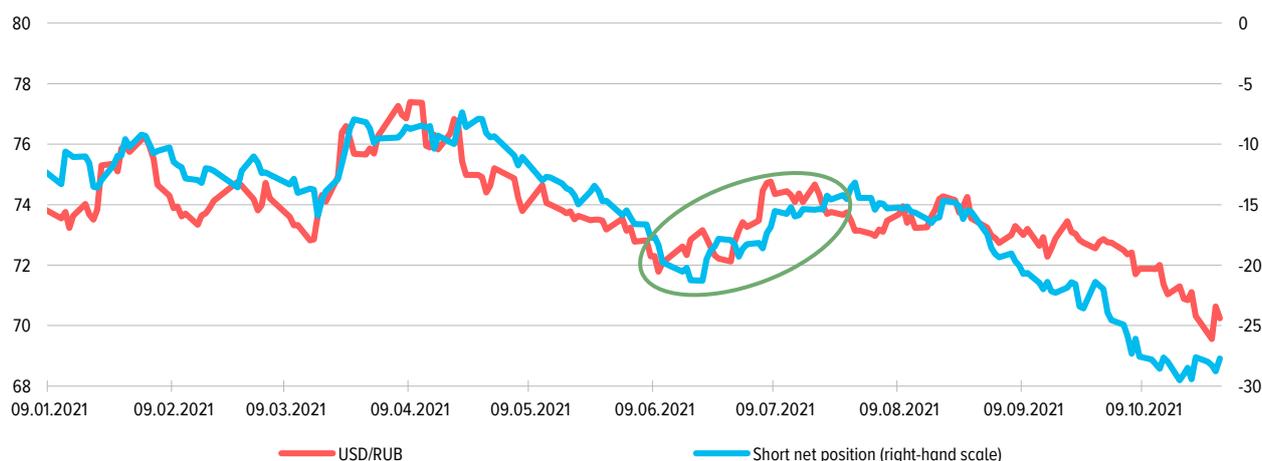
### **The FX swap market amid the increasing attractiveness of carry-trade deals**

In Q2–Q3 2021, non-residents' interest in carry-trade deals in the FX swap market sharply increased. This was facilitated by the growth of ruble interest rates and the stability of the ruble exchange rate. The short position in the currency of foreign participants topped its historical high twice, reaching a peak at the end of September.

Non-residents have always been among the main participants in the Russian FX swap market. Due to the prevailing market conditions, foreign participants can dramatically change both the volume and direction of the aggregate position on FX swaps since the vast majority of transactions are overnight and one-week swap deals. A classic example of the behaviour of this group of market participants is opening short positions in currencies to profit from the difference between interest rates. Foreign participants place their rubles, either received from various transactions (dividends of Russian companies, OFZ coupons etc) or converted on the market for further investment in ruble assets (e.g., in securities or the money market), in FX swaps. Placement through swaps of rubles received due to the conversion of dollars on the first 'leg' involves the use of the carry-trade strategy, which requires reverse conversion (i.e., buying currency) when positions are closed.

DYNAMICS OF THE NET POSITION OF NON-RESIDENTS AND FOREIGN-OWNED BANKING SUBSIDIARIES ON FX SWAPS AND THE CARRY-TO-RISK RATIO Chart 28

Source: PJSC Moscow Exchange, NCI JSC NSD.

DYNAMICS OF THE RUBLE EXCHANGE RATE (USD/RUB) AND THE SHORT NET POSITION OF FOREIGN PARTICIPANTS (\$ BILLION) Chart 29

Source: PJSC Moscow Exchange, NCI JSC NSD.

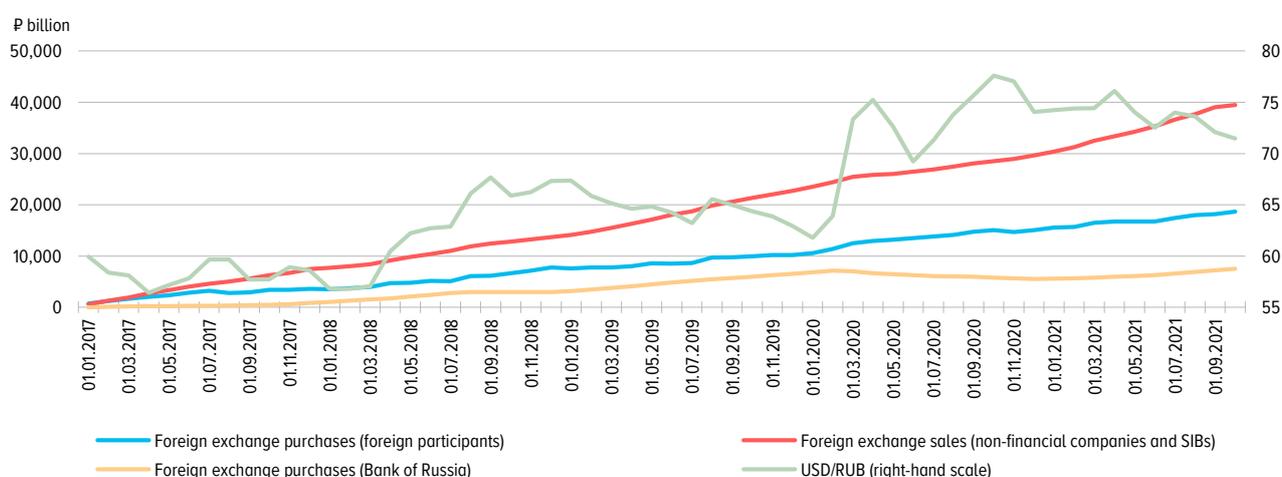
The carry-to-risk ratio is one of the indicators of the attractiveness of carry-trade deals<sup>14</sup>. It gradually increased in Q2–Q3 2021 and at the end of September reached a new high for the last several years of 0.75. In H2 2021, the cumulative short net currency position of non-residents and foreign subsidiary banks in the FX swap market topped its historical high twice. First, in July, it exceeded \$20 billion, and then, after a slight correction, it reached \$27 billion by the end of September (Chart 28).

From the point of view of financial stability risks, carry-trade deals are of the greatest interest since they include conversion operations, and their closing may put pressure on the ruble exchange rate. Usually, such positions are built up by foreign participants when the domestic market is stable, and volatility is not elevated. The supply of foreign currency on the swap market is mainly formed by large Russian banks that place the foreign currency funds accumulated on their deposits. From 1 April to 1 October, funds in foreign currency in the accounts of credit institutions increased by \$15 billion (corporate and household funds). The short position of foreign participants in FX swaps increased by \$14 billion over the same period.

<sup>14</sup> Ratio of the ruble and dollar interest rate differential to exchange rate volatility. The higher this value, the more profitable carry-trade operations become and vice versa.

## DYNAMICS OF FOREIGN CURRENCY SALES/PURCHASES IN EXCHANGE TRADING AND THE RUBLE EXCHANGE RATE

Chart 30



Sources: Moscow Exchange, reporting form 0409701.

Non-residents closing their positions on FX swaps as part of a carry-trade strategy may put pressure on the ruble. For example, from 28 June to 9 July 2021, foreign participants reduced their position on FX swaps by \$5 billion, while over the same period the ruble weakened against the US dollar by 4.2%, although media coverage remained calm. Thus, the increased attractiveness of carry-trade deals in this market at the same time creates potential risks when the position is closed. However, a number of factors limit the risks to financial stability.

Currency in the domestic market is mainly sold by non-financial exporter organisations, either directly or through intermediary banks (Chart 30). The volume of the currency they sell significantly exceeds the volume of purchases of foreign participants, taking into account all periods of volatility (April and August 2018, March–April 2020). Immediately upon materialisation of a shock, the volume of foreign currency purchases by non-residents may slightly exceed the volume of foreign currency sales by exporters, but this trend is usually short-term. For example, in March–April 2020, foreigners bought foreign currency for ₴1.5 trillion, while non-financial companies sold for ₴1.4 trillion, but in May already the accumulated sales of non-financial companies for three months once again exceeded purchases of foreign currency by foreign participants. Other stress periods saw a similar situation. Thus, when non-residents' positions on FX swaps are closed, the potential volume of currency purchases in the domestic market is covered by its supply from non-financial companies and SIBs.

Local financial market participants prefer to attract rubles by placing currency in swaps, which means that exporters have currency (which they keep in banks). Otherwise, if credit institutions used other money market instruments (interbank lending or repo), this could be accompanied by a lack of foreign currency liquidity, which would increase the risks in the foreign exchange market. However, in the current situation, with a short-term closing of positions on swaps and a weakening of the ruble, the freed volume of currency may be directed to the spot market.

In addition to market mechanisms for stabilising the situation in the event of pressure on the ruble, the Bank of Russia has its own tools for supporting financial stability. In particular, the Bank of Russia may suspend purchases of foreign currency in accordance with the budget rule in the domestic market<sup>15</sup>.

Thus, despite the fact that the current market environment is indeed conducive to attracting foreign participants to the FX swap market for carry trade deals, the risks to financial stability remain

<sup>15</sup> This happened in August 2018, when the Bank of Russia stopped purchasing foreign currency under the budget rule until January 2019.

limited. The Bank of Russia continues to regularly monitor the position of foreign participants in the FX swap market.

### **Attitude of foreign investors towards the Russian stock market**

In Q2–Q3 2021, consequences of the COVID-19 pandemic continued to affect the interest of global investors in high-risk assets<sup>16</sup>. On the Russian market, foreign investors continued to sell stocks, which was facilitated by both foreign and domestic factors.

For a long time, the Russian stock market has shown a steady trend toward the sale of securities by non-residents and foreign subsidiaries in secondary exchange trading<sup>17</sup>. In particular, over the past 6 months (from April to September 2021), non-residents sold stocks for ₺208.9 billion. This took place amid continued capital inflows into EME stocks (according to EPFR Global, in Q2–Q3 2021, they amounted to \$45 billion vs \$73 billion in Q1).

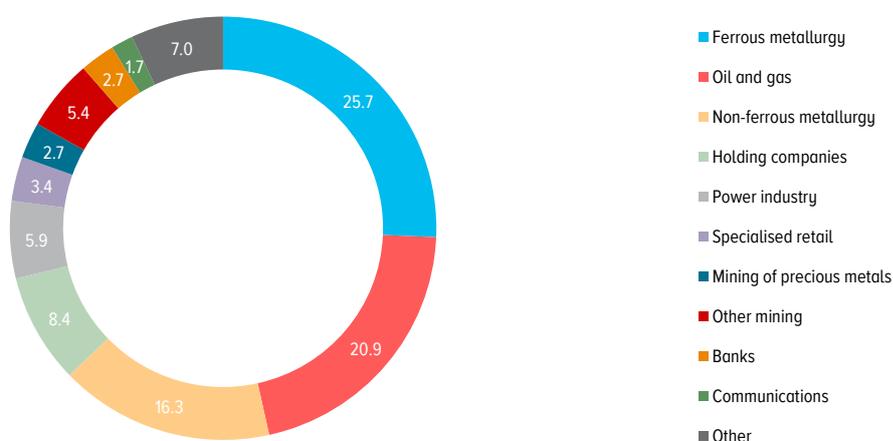
The bulk of sales by non-residents (62.8%) was accounted for by stocks of cyclical industries: ferrous metallurgy (25.7%), oil and gas (20.9%) and non-ferrous metallurgy (16.3%) (Chart 31). These stocks saw significant growth in prices, which enabled non-residents to exit the Russian market with a profit. In particular, the growth in stocks of metallurgy companies (ferrous and non-ferrous metallurgy) was caused by extensive growth of prices for metallurgical products in the global market in 2020–2021. Oil and gas stocks rallied amid a recovery in the global energy market and record increases in oil and natural gas prices.

In 2021, the Russian stock market repeatedly topped its historical highs, so the exit of non-residents could be motivated by a desire to secure their profits. Meanwhile, the changes in the domestic market also contributed to an increase in the volume of stock sales by non-residents and their profits.

For example, during the period under review, due to structural changes in the savings model of individuals, simultaneously with the outflow of non-residents, the Russian stock market saw a significant inflow of retail investors. The latter have become active net buyers of Russian stocks, buying back a volume comparable to the sales of non-residents<sup>18</sup>. The total inflow of funds from retail investors for Q2–Q3 2021 amounted to ₺248.0 billion (Chart 32).

SHARES OF INDUSTRIES IN NET SALES BY NON-RESIDENTS AND FOREIGN SUBSIDIARIES IN SECONDARY EXCHANGE TRADING OF RUSSIAN STOCKS FROM APRIL TO SEPTEMBER 2021 (%)

Chart 31



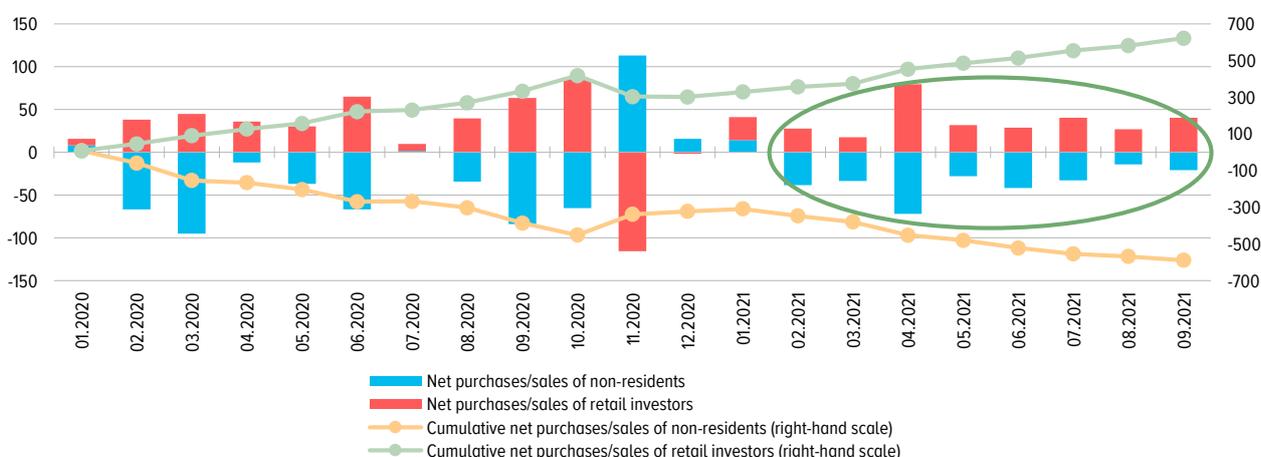
Source: Moscow Exchange.

<sup>16</sup> According to EPFR, the total inflow of funds into EME stocks declined in Q2–Q3 2021 to \$45 billion vs \$73 billion in Q1 2021.

<sup>17</sup> Since the beginning of 2020, excluding November–December 2020 and January 2021.

<sup>18</sup> For more details on retail investment in securities, see Subsection 2.2.

NET PURCHASES/SALES BY INDIVIDUALS, NON-RESIDENTS AND FOREIGN SUBSIDIARIES IN SECONDARY EXCHANGE TRADING OF RUSSIAN STOCKS (P BILLION) Chart 32



Source: Moscow Exchange.

The increased demand from retail investors in the stock market could serve as an additional incentive for foreign participants, increasing their desire to secure profits and exit this market segment, possibly expecting a correction in the Russian market. In the absence of an influx of retail investors to the stock market, non-residents would also sell securities, but the volume of sales would most likely be on a smaller scale. At the same time, due to the fact that net sales took place gradually and were accompanied by favourable conditions for Russian companies, the stock market faced no negative consequences.

The demand of retail investors was stable and was accompanied by an upward trend in stock indices<sup>19</sup>. In the period from April to September 2021, the Russian stock index grew by 15.9%, while on average EME stock indices increased by 6.0%. The upward trend of IMOEX and RTSIS was linked to an increase in the value of oil and gas sector stocks amid significant growth in oil and natural gas prices.

Thus, despite the chronic outflow of non-residents from the stock market, this trend does not threaten financial stability due to the gradual nature of sales. However, simultaneously with the decrease in the vulnerability of the Russian market to the behaviour of non-residents, the market may face growing dependence on the behaviour of retail investors (see Subsection 2.2).

### Vulnerability 3. Interest rate risk of the banking sector

**In Q2–Q3 2021, a significant acceleration of inflation and an increase in the key rate of the Bank of Russia created conditions for the materialisation of interest rate risks in the banking sector. So far, the increased rates have not resulted in a decrease in banks' net interest income (NII), but banks already face a significant negative revaluation of investments in bonds held at fair value and may face a reduction in NII further on due to the growth of interest expenses on liabilities. Banks' exposure to interest rate risk grew slightly in the reporting period amid continued inflow of funds to accounts and short-term deposits in April–July. Possible negative consequences of the materialisation of interest rate risk will be mitigated by the growth of banks' profits in 2021 due to other factors.**

Interest rates on deposits and loans gradually increased in Q2–Q3 2021 in the context of the increase of the key rate of the Bank of Russia (Charts 33, 35). Despite the negative interest gap in the ruble operations portfolio of the banking sector over a one-year horizon (Chart 36), at the

<sup>19</sup> In September, IMOEX topped its historical high, closing at 4,103.5 on 30 September 2021: during the period from 31 March to 30 September, the index grew by 15.9%. RTSIS reached its high since September 2011, closing at 1,777.7 on 30 September 2021: during the period from 31 March to 30 September, the index grew by 20.4%.

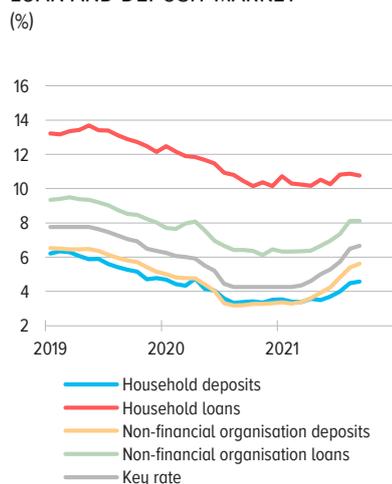
moment this has not led to a decrease in banks' NII (Chart 56). Due to the increase in the share of assets with floating rates in recent years and the growth of the loan portfolio, in Q2–Q3 2021, banks' NII increased to ₺2.1 trillion<sup>20</sup> (by 19% compared to Q2–Q3 2020). The growth in interest expenses of banks in the reporting period compared to Q2–Q3 2020 was not so significant due to the *decrease in interest expenses of banks on funds raised from individuals* by ₺93 billion (including expenses on deposits decreasing by ₺137 billion and expenses on current accounts of customers increasing by ₺41 billion). Thus, it can be said that basis risk has materialised: income on loans increased, while expenses on funds raised from individuals decreased. The resulting basis risk and gap risk were virtually zero in terms of the dynamics of the net interest margin (NIM).

In April–September, the volume of loans provided to non-financial organisations at a floating rate continued to grow (+11.1% from 1 April 2021 to 1 October 2021), and the share of such loans in the corporate loan portfolio remained close to 38%<sup>21</sup>. The share of corporate bonds with floating rates and OFZ-PKs in banks' debt securities portfolio also remained above 30% (over six months up to 1 October 2021, it decreased from 32.3% to 31.0%).

At the same time, the interest spread declined slightly (Chart 34), and the net interest margin of banks<sup>22</sup> in Q2–Q3 2021 remained close to 4.3%<sup>23</sup>. Thus, we can say that the interest rate risk has not yet materialised, and NII has increased mainly due to the growth in the volume of assets. However, the dynamics of the interest rate spread indicate the possibility of materialisation of interest rate risk in the near future.

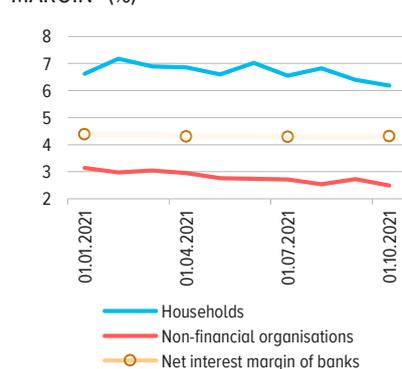
The banking sector's exposure to interest rate risk increased slightly in the reporting period amid the continued inflow of customer funds to current accounts and short-term deposits (mainly in SIBs) (Chart 36). The baseline estimate of the interest rate risk in rubles over a one-year horizon (in the hypothetical case of a 200 bp hike in rates) increased over the period from 1 April 2021 to 1 October 2021 from ₺128 billion to ₺192 billion, which is equivalent to 4.8% of the banking sector NII for the 12 months up to 1 October 2021. Taking into account behavioural adjustments<sup>24</sup>, the conservative estimate of the drop in NII in the case of the indicated hike in rates is about 8.7% of NII for 12 months.

DYNAMICS OF RATES OF THE LOAN AND DEPOSIT MARKET *Chart 33*



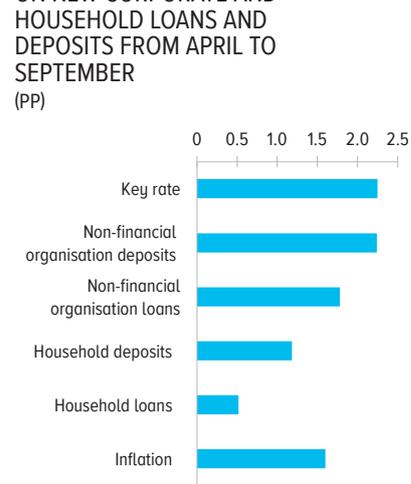
Sources: Reporting forms 0409128, 0409129 and 0409303 and the Bank of Russia website.

INTEREST RATE SPREAD IN THE RUBLE SEGMENT (PP) AND BANKS' NET INTEREST MARGIN\* (%) *Chart 34*



\* For the 12 months preceding the reporting date, calculated for quarter dates according to data from form 0409102. Sources: Reporting forms 0409128, 0409129, 0409303, 0409102 and 0409101, Survey of the Banking Sector of the Russian Federation.

CHANGE IN RUBLE RATES ON NEW CORPORATE AND HOUSEHOLD LOANS AND DEPOSITS FROM APRIL TO SEPTEMBER *Chart 35*



Sources: Reporting forms 0409128, 0409129 and 0409303 and the Bank of Russia website.

<sup>20</sup> For all credit institutions, except for the Non-core Asset Bank.

<sup>21</sup> Excluding loans to non-residents.

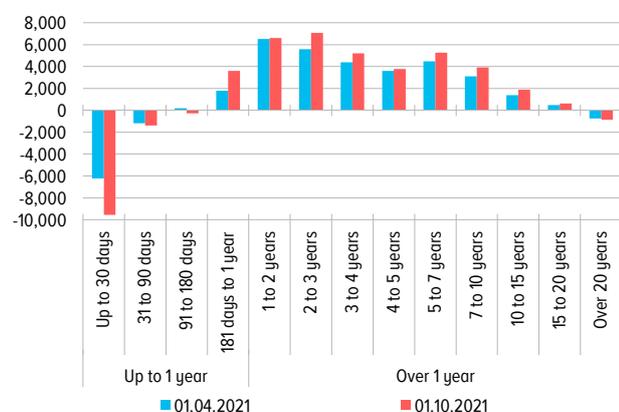
<sup>22</sup> For the 12 months preceding the reporting date.

<sup>23</sup> For all credit institutions, except for the Non-core Asset Bank.

<sup>24</sup> Taking into account possible early repayment of assets or calling of liabilities and also taking into account the exposure of paid current accounts to interest rate risk.

**INTEREST RATE GAP IN THE BANKING SECTOR PORTFOLIO FOR RUBLE OPERATIONS (BASELINE ESTIMATE, WITHOUT BEHAVIOURAL AND OTHER ADJUSTMENTS)** (P BILLION)

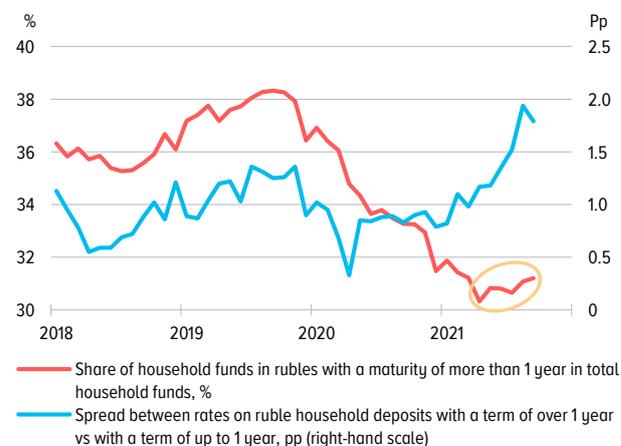
Chart 36



Source: Reporting form 0409127.

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

Chart 37



Sources: Reporting form 0409129, Survey of the Banking Sector of the Russian Federation.

At the same time, it should be noted that as the ruble deposit rates grow the attractiveness of long-term customer deposits increases. The share of the banking sector's ruble liabilities to households with maturities exceeding one year stabilised at about 31% during the reporting period and resumed its growth after a prolonged decline in recent years (Chart 37). Although in the short term the growth of long-term funding sources will lead to a slight increase in banks' interest expenses, this will improve the maturity balance of their assets and liabilities and limit their exposure to interest rate and liquidity risk in the future.

## 2.2. Potential financial sector vulnerabilities in the medium and long-term period

### Vulnerability 4. Risks associated with the entry of retail investors into financial markets

**In Q2–Q3 2021, the trend of growing retail investments in the equity market instruments persisted. Inflows of investments in non-resident stocks and bonds in January–September 2021 (₽616 billion) exceeded inflows of retail investments in shares and bonds of Russian companies (₽469 billion), but the largest inflow into foreign securities was observed in Q1. In Q2–Q3, the Russian market became more interesting for Russian investors amid the accelerated growth of Russian stock indices<sup>25</sup>. Retail investors made the largest purchases in the segment of liquid shares of major Russian issuers.**

**The increase in retail investments in securities, including foreign stocks, carried out via the Russian financial infrastructure undoubtedly contributes to the development of the market but can also generate potential vulnerabilities. These include dollarization of household savings, dependence of households' well-being on the market environment and ineffective pricing during periods of herd-like behaviour of investors. Currently, the indicators of these vulnerabilities<sup>26</sup> are in the green area, but given the likely continuation of the trend they require regular monitoring.**

<sup>25</sup> For the period from January to September 2021, IMOEX increased by 25%, while the S&P 500 increased by 14.6%.

<sup>26</sup> For example, the share of foreign currency household savings, the share of investments in stocks, the share of investments in bonds and the share of investments in non-resident instruments via individual investment accounts.

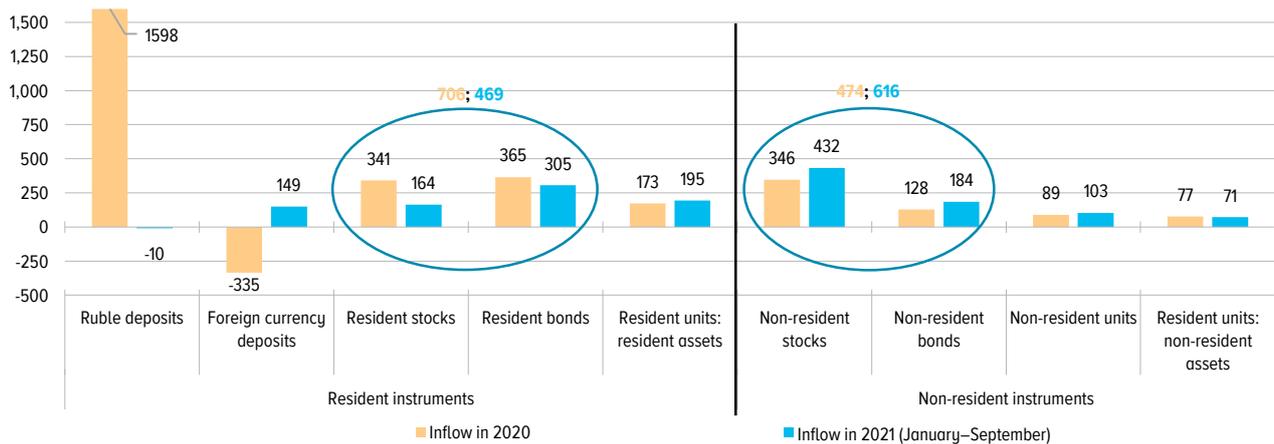
### Dynamics of inflows of retail investments to the stock market

In 2021, households continued to increase investments in securities and instruments of the collective investment market. Growth rates of investments in foreign stocks and bonds accelerated: the inflow of household funds into non-resident securities for 9 months of 2021 was higher than into resident securities (₽616 billion and ₽469 billion, respectively, Chart 38) and exceeded the value for the entirety of 2020 (₽474 billion).

The largest share of this increase involved non-resident stocks: compared to 2020, in 2021, the share of the inflow of household funds into non-resident stocks in the total inflow into stocks and bonds increased from 29 to 40% (Charts 39, 40); on the contrary, the share of inflow into resident stocks dropped from 29 to 15%. Shares of resident and non-resident bonds changed only slightly. At the same time, it should be noted that starting in Q2 2021 the situation began to level out somewhat: the inflow of household funds into resident securities was more pronounced than the inflow of household funds into non-resident securities (₽383 billion and ₽368 billion, respectively, Charts 41, 42).

ACCUMULATED NET INFLOW OF HOUSEHOLD FUNDS BY INSTRUMENT TYPE  
(₽ BILLION)

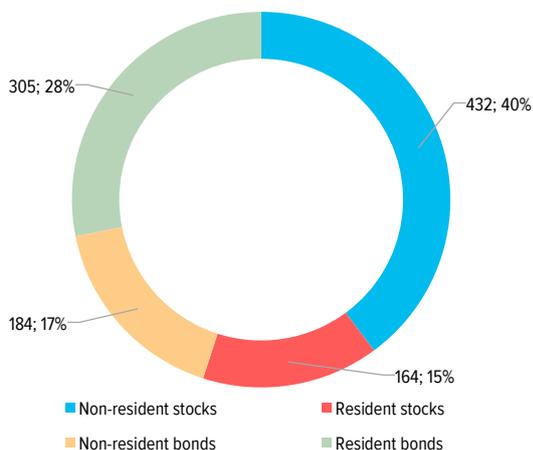
Chart 38



Note: Deposits and other borrowed funds and funds on household accounts were used to calculate the amount of household deposits. Foreign currency deposits were converted to rubles at the exchange rate as of 30 September 2021.  
Source: Reporting forms 0409415 and 0409711, Statistics of the Banking Sector of the Russian Federation.

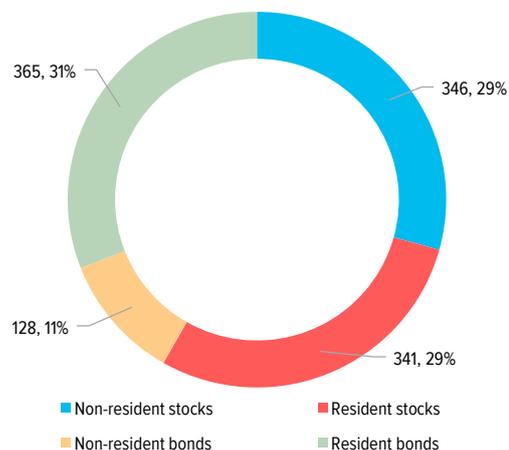
INFLOWS OF HOUSEHOLD FUNDS IN 2021  
BY INSTRUMENT  
(₽ BILLION, %)

Chart 39



INFLOWS OF HOUSEHOLD FUNDS IN 2020  
BY INSTRUMENT  
(₽ BILLION, %)

Chart 40



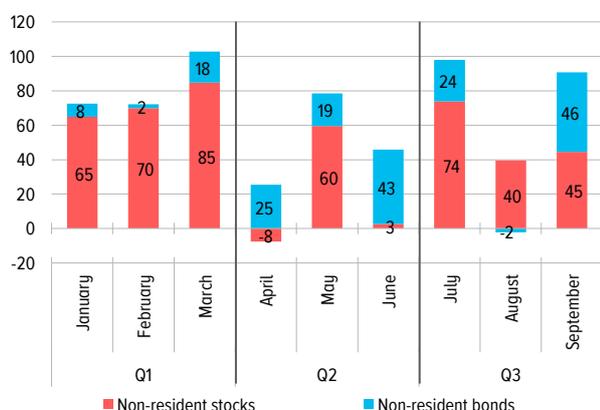
Source: Reporting forms 0409415 and 0409711.

Source: Reporting forms 0409415 and 0409711.

NET INFLOWS\* OF HOUSEHOLD FUNDS  
INTO NON-RESIDENT SECURITIES

Chart 41

(P BILLION)



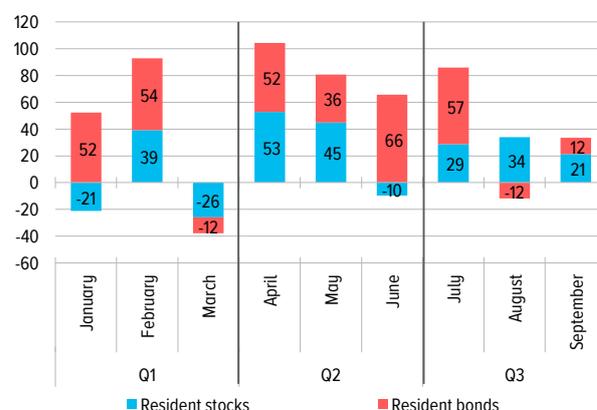
\* Inflows to securities were calculated as the product of the average monthly price and the change in the quantity of securities. Inflow for the period was calculated as the sum of monthly inflows.

Source: Reporting forms 0409415 and 0409711.

NET INFLOWS\* OF HOUSEHOLD FUNDS  
INTO RESIDENT SECURITIES

Chart 42

(P BILLION)



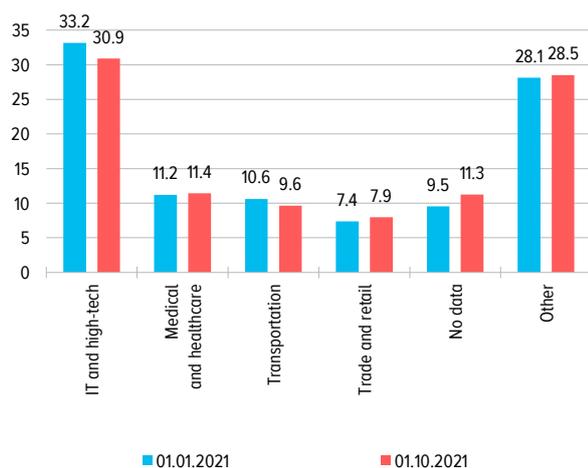
\* Inflows to securities were calculated as the product of the average monthly price and the change in the quantity of securities. Inflow for the period was calculated as the sum of monthly inflows.

Source: Reporting forms 0409415 and 0409711.

SECTORAL DISTRIBUTION OF INVESTMENTS  
IN NON-RESIDENT STOCKS

Chart 43

(%)

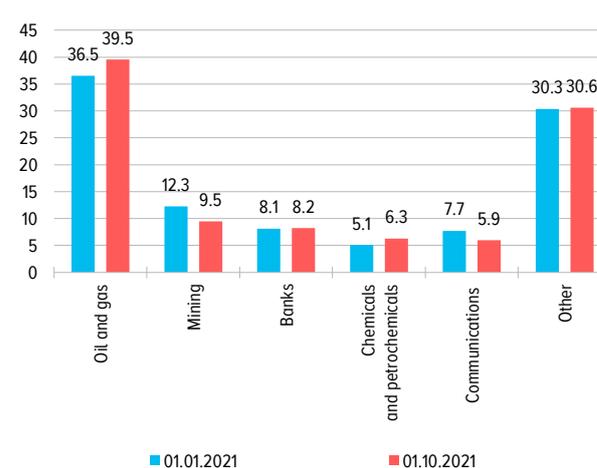


Sources: Reporting forms 0409415 and 0409711, Cbonds.ru.

SECTORAL DISTRIBUTION OF INVESTMENTS  
IN RESIDENT STOCKS

Chart 44

(%)



Sources: Reporting forms 0409415 and 0409711, Cbonds.ru.

Retail investments in resident and non-resident stocks differ in terms of the sectoral composition of issuers, which makes it possible to reduce the risk intensity of the aggregate securities portfolio of private investors through sectoral and country diversification (Charts 43, 44).

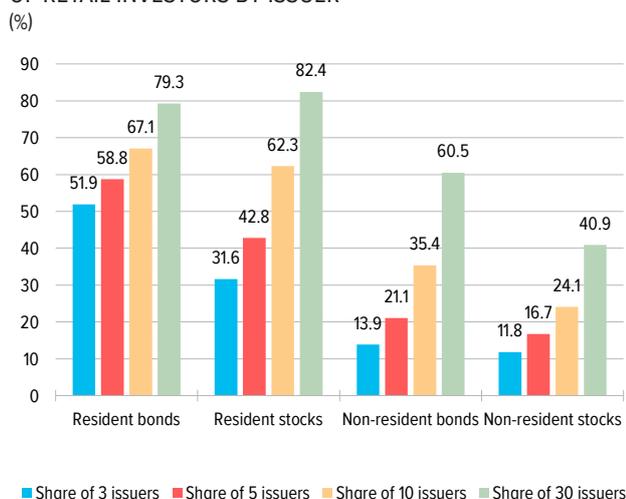
As of 1 October 2021, securities of IT and high-tech (31%) and medical and healthcare (11%) companies prevailed among foreign stocks, while the oil and gas industry (40%) and the mining industry (9%) prevailed among Russian stocks. Over three quarters of 2021, the share of the oil and gas industry in resident stocks increased (by 3 pp) due to growing oil prices. In foreign stocks, retail investors reduced the share of investments in high-tech companies slightly (by 2 pp over the specified period), which may be related to securing profits after extensive growth of quotations.

Portfolios of non-resident bonds and stocks are more diversified in terms of the volume of investments in securities by issuers than portfolios of resident bonds and stocks (Chart 45). The concentration of investments in non-resident stocks is lower but also significant (the share of five issuers is 17% for non-resident stocks and 43% for resident stocks).

The increased interest of retail investors in the stock market is due to expectations of higher yields. In 2021, this strategy resulted in yields that in fact significantly exceeded those on instruments of the debt market. Resident stocks yielded the highest returns out of all types of securities (on

CONCENTRATION OF THE SECURITIES PORTFOLIO OF RETAIL INVESTORS BY ISSUER

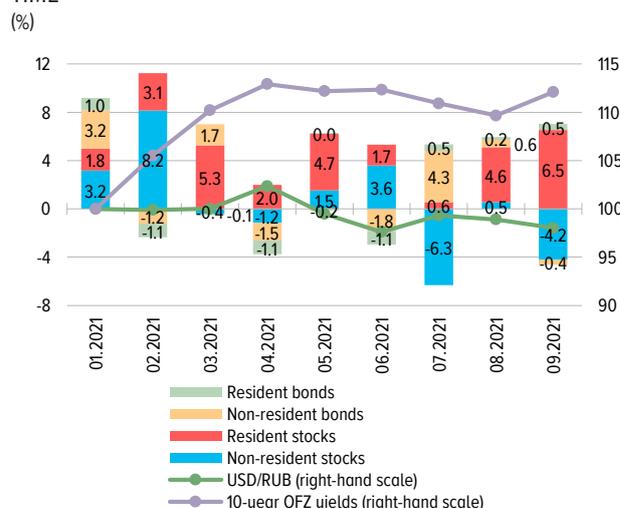
Chart 45



Source: Reporting forms 0409415 and 0409711.

RETURN ON ASSETS BY TYPE OF SECURITIES OVER TIME

Chart 46



Sources: Reporting forms 0409415 and 0409711, Bloomberg.

average, the total yield per month was 3.4%; Chart 46)<sup>27</sup>. This was due to a significant increase in the price of oil (Brent crude oil futures surged by 54.1%) and other extractive industry commodities. Furthermore, in 2021, Russian companies paid relatively high dividends per share, which increased the overall yields.

Non-resident stocks yielded lower returns than Russian shares (on average 0.5% per month), which partly explains a slight decrease in interest in them in the reporting period. The decline in investment growth rates may also be partly related to retail investors securing their profits. High-tech issuers, which make up the largest share of the foreign stocks portfolio of retail investors, pay dividends rarely or pay relatively low dividends per share. Relative volatility (variation ratio<sup>28</sup>) for the non-resident stocks portfolio for retail investors is 5.1 times greater than for the resident stocks portfolio.

## Box 2. Investments in non-resident securities via individual investment accounts

In 2020–2021, household investments in non-resident securities increased significantly, including investments via individual investment accounts. Individual investment accounts were established to stimulate long-term investment in the stock market through tax incentives. Via individual investment accounts, customers can purchase a wide range of assets traded on Russian stock exchanges, including non-resident securities.

Starting from Q2 2020, there has been an increase in the volume of household investments via individual investment accounts. The share of investments in non-resident assets also grew. In the first three quarters of 2021, the volume of investments in foreign securities via individual investment accounts increased by a factor of more than 1.5 (to ₹99 billion). The share of foreign assets in the total assets on individual investment accounts amounted to 21% (+6 pp from the beginning of 2021). At the same time, the growth rate of household investments in non-resident assets in 2021 dropped compared to 2020. Retail investors prefer non-resident stocks and units, which account for 44% and 34% of total investments in non-resident assets, respectively. Non-resident bonds and foreign currencies account for 7% and 15% of foreign investments via individual investment accounts, respectively.

The Bank of Russia is interested in promoting further development of the stock market, formation of private investment skills and an increase in the volume of long-term investments. However, due to a significant share of household investments in non-resident securities, further introduction of tax incentives

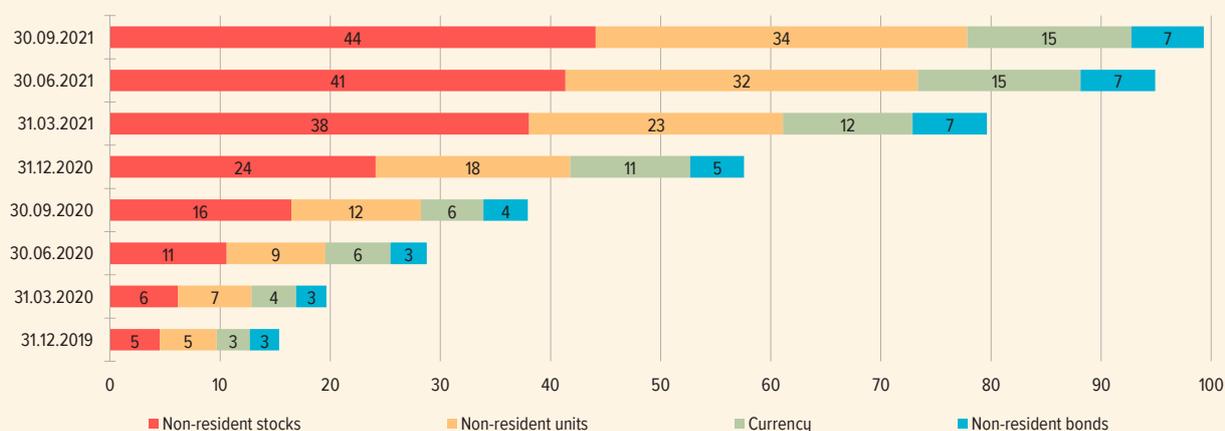
<sup>27</sup> The calculation of the total yield included data on the revaluation of securities, accumulated coupon income, paid dividends on the top 30 stocks in the retail portfolios and changes in the exchange rate for foreign exchange securities.

<sup>28</sup> The variation ratio is calculated as the ratio of the standard deviation to the average price for the period. To filter the data, some of the observations that were very different from the observed data (outliers) were removed from the sample.

for the growth of such investments within the framework of individual investment accounts would be inappropriate.

DYNAMICS OF INVESTMENTS IN NON-RESIDENT ASSETS VIA INDIVIDUAL INVESTMENT ACCOUNTS  
(P BILLION)

Chart 47



Source: Reporting forms 0409712 and 0420427.

In general, it should be noted that retail investors' strategy of investment in the most profitable instruments is associated with potentially higher risks. Therefore, the Bank of Russia monitors trends and assesses risk indicators that make it possible to track potential vulnerabilities for the Russian market<sup>29</sup>. In 2021, risk indicators continued to grow due to the strengthening of the trend of increased household investments in securities. In particular, the share of foreign currency savings of households and the share of investments in non-resident stocks increased. However, they are still lower than in other EMEs<sup>30</sup>.

A bigger share of household investments in financial instruments increases the dependence of financial markets on the actions of this group of participants. Considering that a significant part of retail investors are new to this activity, and their decisions can be based on irrelevant data (e.g., reviews on internet forums and media reports), massive similar strategies can form in the financial market and disrupt the mechanism of effective asset pricing. This may create 'bubbles' and lead to increased market volatility.

In addition, the growth of household investments in securities increases the dependence of the welfare of individuals on fluctuations in the financial markets. The risks of negative events in the stock market due to the increased importance of individual transactions can be prevented by high-quality information from brokers, the growth of investments in investment funds, the spread of other passive strategies and the regulator's policy to restrict misselling.

Currently, the share of household investments in securities is low, and the risks for financial stability are insignificant. However, given the likely continuation of the trend of increasing retail investments in securities, continued monitoring is necessary to detect potential vulnerabilities in the Russian market in a timely fashion. In the future, one such vulnerability may be investing in digital currencies (see Box 3).

<sup>29</sup> For more details on the structure of risk indicators, see [the Financial Stability Review for Q4 2020– Q1 2021](#).

<sup>30</sup> According to the IMF, portfolio investments of the household sector in foreign assets are 30.3% in Russia, 33.8% in Brazil and 40.1% in Turkey (according to data.imf.org as of December 2020). IMF portfolio investments include securities of quasi-non-residents (eg, Yandex NL, BCS Cyprus etc) and Eurobonds of Russian issuers that are issued in foreign capital markets.

### Box 3. Trends in investment in digital currencies

Over the past year, the market saw **rapid growth in the total capitalisation of the digital currency market (including stablecoins): at the beginning of November 2020, it amounted to about \$440 billion, and at the beginning of November 2021 it amounted to \$2.9 trillion** (the capitalisation of digital currencies increased by a factor of 6.6 over the year), which is higher than the market capitalisation of such major companies as Apple and Microsoft. *The Bank of England estimates that 95% of currently existing cryptoassets are unsecured.* Bitcoin has the largest volume of capitalisation (\$1.2 trillion, 43%), followed by Ethereum (\$560 billion, 20%). The stablecoin market is dominated by USDT, with a capitalisation of about \$73 billion in November 2021 (in November 2020, about \$17 billion). The growing market capitalisation is driven by the growing interest of investors in the latest technologies (such as Ethereum) and other blockchains, such as smart contracts, decentralised finance (DeFi) and stablecoins.

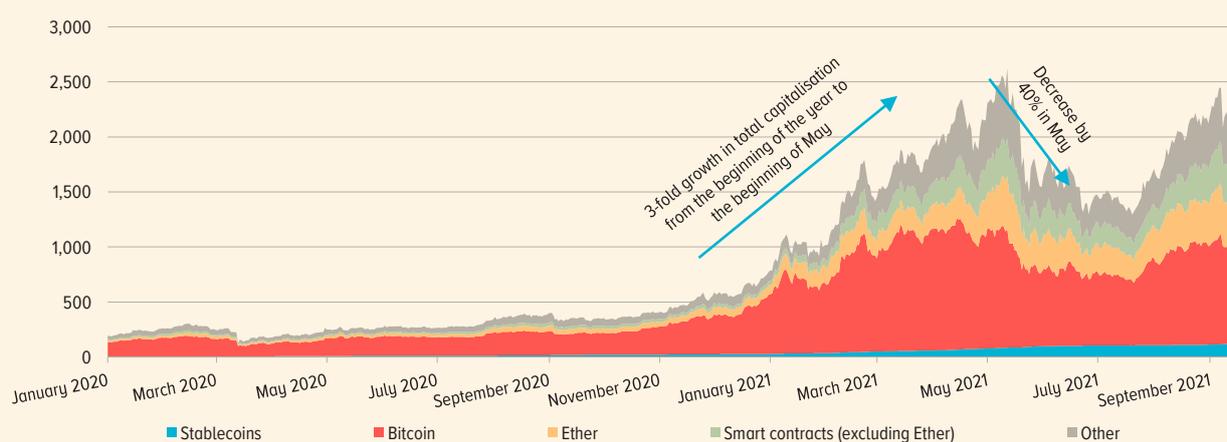
According to the research on digital currencies carried out in recent years by various international independent analytical companies<sup>1</sup>, **Russian users are among the most active participants of the digital currency market.** For example, Russia is among the leading countries by the number of visits to the Binance digital currency exchange. The volume of transactions with digital currencies and the number of users from Russia on other major global platforms designed for trading digital currencies are rapidly growing. According to the estimates of large banks surveyed by the Bank of Russia in July 2021, the volume of transactions of the Russian population with digital currencies amounts to about \$5 billion per year (about ₹350 billion)<sup>2</sup>.

Operations with digital currencies pose significant risks to financial stability and investors as well as climate risks. First, due to their anonymous nature, digital currencies are widely used in criminal activities (money laundering, drug trafficking, terrorism financing etc.), reducing the effectiveness of the existing AML/CFT system.

Second, transactions with certain digital currencies can pose significant risks to the well-being of investors. Households may transfer part of their savings to digital currencies (primarily stablecoins). This problem is similar to **dollarization**, when residents of a country prefer to save funds in foreign currency cash. However, unpredictable fluctuations in the prices of digital currencies prevent them from becoming a reliable instrument of savings. Media coverage has a significant impact on rates of digital currencies: there is a clear link between the growth spikes in their value and information messages on digital currencies.

DYNAMICS OF THE MARKET CAPITALISATION OF DIGITAL ASSETS (INCLUDING STABLECOINS)  
(\$ BILLION)

Chart 48



Sources: IMF Global Financial Stability Report.

<sup>1</sup> [Crypto Asset Market: Russia in 2020.](#)  
[The 2020 Geography of Cryptocurrency Report.](#)

<sup>2</sup> For comparison, Russian household investments in foreign securities amounted to ₹474 billion in 2020. Nevertheless, it would be incorrect to interpret the estimated volume of transactions with digital currencies as the flow of household savings into digital currencies (first, data on trading turnover may reflect alternating purchases and sales, and, second, part of this volume is sales of digital currencies obtained as a result of mining).

Significant risks include loss of funds, which is aggravated by the lack of consumers' understanding of the peculiarities of the digital currency market and by risks of fraud and hacker attacks. Potential use of **untargeted borrowed funds for investments in digital currencies** in the event of a significant change in their value may result in the inability of investors to fulfil their obligations, which means increased risks both for the financial stability of investors and for their creditors. Additional risks may be created by financial instruments linked to digital currencies, which are gradually attracting attention from investors<sup>3</sup>.

Third, the **increased consumption of power** when mining certain digital currencies, in particular, Bitcoin, leads to high greenhouse gas emissions and has an **adverse impact on the climate**, which contradicts the global agenda for reduction of greenhouse gas emissions and sustainable development. It should be noted that, [\*according to the University of Cambridge, as of August 2021 Russia ranks third \(after the United States and Kazakhstan\) in terms of the amount of computing power used for mining Bitcoin.\*](#)

This list of risks is widely recognised by foreign regulators; however, **regulatory approaches differ**, and the discussion on optimal regulation for digital currencies is ongoing. For example, in China, activities related to digital currencies, in particular, issuance, exchange, trade, mining, provision of intermediary services etc. are illegal. In Russia, it is officially prohibited to use digital currency as a means of payment, and in the UK there is a ban on transactions with derivatives related to digital currencies. At the same time, in 2021, Bitcoin was officially recognised as legal tender in El Salvador. A number of countries are introducing licencing/registration requirements for digital currency exchanges. As a rule, licenced digital currency exchanges are required to comply with AML/CFT regulations, requirements for identification of participants in transactions with digital currencies and some other regulations that protect the rights of their customers. Varying approaches to regulation across jurisdictions, including the regulation of stablecoins, which are in essence similar to money market investment funds but are not regulated, and the general lack of an effective supervision and regulation system can create risks of regulatory arbitrage.

On the whole, current links between digital currencies and the financial sector remain limited, and key financial markets are unlikely to suffer from contagion effects originating in the digital currency market. However, the rapid growth and widespread distribution of digital currencies pose increasingly higher risks both on a global scale and for the **Russian financial market. Market monitoring** needs to be developed to identify trends that potentially pose risks to financial stability.

<sup>3</sup> In September 2021, one of the world's largest derivatives exchanges, Eurex, announced the launch of a Bitcoin futures contract (ETN). In October 2021, the first U.S. exchange-traded fund (ETF) based on bitcoin futures traded on the Chicago Mercantile Exchange (CME Group) began trading on the New York Stock Exchange after receiving approval from the US Securities and Exchange Commission (SEC).

## **Vulnerability 5. Risks of digital platforms and ecosystems development in the Russian financial market**

**The coronavirus pandemic has accelerated the digital transformation of society and facilitated transition to an economy of digital platforms<sup>31</sup> and ecosystems<sup>32</sup>. On the one hand, major banks developing the non-financial aspects of their activities play a significant role in this process. On the other hand, big tech companies, which are acquiring their own banks and offering financial products in partnership with financial institutions, are strengthening their position on the Russian financial market. Unregulated development of ecosystems can negatively affect traditional activities of financial institutions and lead to the emergence of new channels of contagion in the financial system. Consequently, the financial sustainability of the ecosystems themselves is also increasingly important. To address this, the Bank of Russia is working on the issues of regulating ecosystems, primarily those created on the basis of banks.**

At the current stage of economic development, digital platforms and ecosystems represent the most progressive form of business model, which has a number of advantages but also poses certain risks (see the Bank of Russia report '[Ecosystems: Regulatory Approaches](#)'), in particular, the risks

<sup>31</sup> A platform is understood as an information system that allows participants to interact and create and exchange assets.

<sup>32</sup> An ecosystem means a set of services, including platform solutions, of one group of companies or a company and its partners that allow users to receive a wide range of products and services within a single process. The range of services offered by the ecosystem satisfies most of the daily needs of the customer or is built around one or more of the customer's basic needs (ecosystems at the initial stage or niche ecosystems).

of unfair competition and monopolisation, misuse of customer personal data and data leakage resulting from technological failures. The social and strategic importance of ecosystems as employers and centres of unique competencies and technologies is ever increasing. In May 2021, the Ministry of Economic Development of Russia developed the Concept for the Regulation of Digital Platforms and Ecosystems<sup>33</sup>, and in August the Federal Antimonopoly Service submitted for discussion a draft of key principles for the operation of digital platforms.

Development of the ecosystem economy affects the financial system, creating additional risks to financial stability, which also require attention from the Bank of Russia. First of all, due to the nature of the business model, any type of ecosystem is characterised by **contagion risk**, requiring a separate analysis of financial flows generated by ecosystems. First, contagion can occur directly within ecosystems that unite a significant number of buyers, suppliers and partner financial institutions. Second, additional effects may emerge through revaluation of the cost of investments in ecosystems, cross-financing and negative reputation impact.

## Banking ecosystem risks

Instead of active growth of BigTechs like in other countries, the Russian market is characterised by ecosystems that provide a wide range of products and services forming mainly around large banks. Although the share of bank revenue from non-financial activities is still small, current trends prove that non-financial businesses will play an increasingly greater role in banking groups, and variations of the business model itself will be implemented by an increasing number of financial institutions.

Banks that independently or through acquisitions create non-financial services for the ecosystem assume the **risk of subsidising ecosystem products and services by reducing the profitability of the main banking business and, most importantly, allowing an increase in the concentration of immobilised assets on their balance sheets**. Immobilised assets can manifest in the form of fixed assets, intangible assets, portfolio investments in the process of resolving non-performing debts and as a result of other participation in non-financial business.

Such assets pose higher risks for creditors and depositors since they do not generate a predictable cash flow and cannot be considered as reliable collateral for bank liabilities.

Moreover, the volume of banks' immobilised investments in ecosystems does not always reflect the magnitude of potential loss from such investments because fast-growing subsidiaries may require significant additional financing in the form of loans or capital and lead to losses in the bank's activities that may affect creditors and depositors. In turn, significant losses of large banks may disrupt the stability of the banking sector and the financial market as a whole.

With this in mind, [\*in June 2021, the Bank of Russia developed proposals to regulate the risks of banks' participation in ecosystems and investments in immobilised assets\*](#). On 24 November 2021, the Bank of Russia published [\*the Report on the Results of Public Consultations on the Consultation Paper Regulation of the Risks of Banks' Participation in Ecosystems and Investments in Immobilised Assets\*](#), which answers questions on the first report and contains information on some modifications of the conceptual framework for regulation. In November–December, the Bank of Russia will also conduct a survey of banks that will help clarify the parameters of regulation and the timing of its entry into force in the future. Along with regulating the risks of investments in ecosystems and other immobilised assets, the Bank of Russia plans to ensure an adequate assessment of ecosystem risks in the internal capital adequacy assessment process (ICAAP) of banks and is also considering possible ways to limit the systemic risks of certain banks developing large ecosystems by classifying them as SIBs and establishing differentiated buffers depending on the size of their ecosystems on top of capital adequacy requirements for such SIBs.

<sup>33</sup> A conceptual framework for the general regulation of the activities of groups of companies developing various digital services based on a single ecosystem.

## Risks associated with the development of digital platforms and ecosystems on the base of BigTechs

2021 saw an increasing role of digital platforms and ecosystems built on the basis of BigTechs in the Russian financial market. In particular, during the analysed period, a series of acquisitions took place, resulting in key BigTechs becoming owners of financial assets, primarily banks. Ozon, Wildberries and Yandex each acquired their own banks. So far, the activities of these banks are on a fairly small scale, but they can quickly scale up, taking into account the significant customer base of the associated BigTechs.

Tech companies (including international ones) have been developing their payment services on the Russian market for several years. Over the past year, BigTechs have also strengthened their position as intermediaries in the retail lending segment, providing their customers and other counterparties with an option to obtain loans or instalment plans through partner credit institutions, including large retail banks. For financial institutions working with digital platforms and BigTechs and participating in ecosystems through partnership models, **business risks** are of key importance. Mistakes in the choice of partners or investments in unpopular services can result in a decrease in loyalty and an outflow of bank customers. Moreover, the partnership scheme also has inherent **step-in risks**, when the bank will have to provide financial assistance to partners in the event of difficulties to avoid risks for their business.

The *further growth of the importance of BigTechs in the Russian market will be facilitated by the establishment of the institution of non-bank payment service providers*, which initiate transfers with the consent of customers by sending orders to customer bank accounts with credit institutions. We plan to develop regulation for non-bank payment service providers in 2022.

The growing importance of digital platforms and ecosystems in the financial market can also pose the following potential risks:

- **Risks of competition** between ecosystems and traditional financial institutions and between financial institutions themselves for inclusion in the perimeter of ecosystems, which in the long term may cause a decrease in operating margins and result in higher risk appetite of traditional financial institutions.
- **Risks of regulatory arbitrage and an increase in the share of unregulated financial services**, for example, development of instalment plans, direct payments from the platform interface and loyalty programmes for depositing funds and keeping a minimum balance of funds. Separately, we highlight the emergence of accounting units for use within the platform (ecosystem) as a means of payment for goods and services provided by the platform (ecosystem) and for accumulation and subsequent use, which essentially act as monetary surrogates and, if widespread, may become a threat for the national payment system.
- **Risks to the financial sustainability of ecosystems**. At the initial stage of forming a customer base, the development of an ecosystem requires significant investments without guaranteed returns. Over 9 months of 2021, most BigTechs showed revenue growth of 20–80%. EBITDA and net profit for the majority of the analysed companies have a downward trend or take on negative values. At the same time, BigTechs continue to increase their liabilities (over 9 months of 2021, the total debt of the analysed companies grew by 32%, although this indicator is still fairly low and amounts to about 20% of assets).

The Bank of Russia plans to keep monitoring the risks associated with the development of ecosystems in the Russian financial market and to take measures to limit the risks of regulatory arbitrage. In particular, for non-bank payment service providers, it is proposed to introduce requirements for a minimum net asset value, establishment of a risk management system, an information security system, business continuity and AML/CFT and segregation of customer funds. In addition, the Bank of Russia promotes partial regulation of instalment plan transactions.

#### Box 4. Global experience in regulating platforms and ecosystems in the financial market

A number of reports of the Financial Stability Board mention potential risks to financial stability as a result of BigTech companies entering the financial market<sup>1</sup>. A document of the Bank for International Settlements (BIS)<sup>2</sup> also notes the growth of risks associated with the strengthening of the systemic importance of ecosystems.

BIS experts believe that an activity-based approach to regulation will most likely not be able to provide an adequate answer to the challenges posed by the activities of BigTech companies (they highlight the risks associated with data management issues and the possibility of a sharp increase in market share and subsequent dominating position in the market, which will allow companies to increase prices for their services). In this situation, central banks need to assess the systemic risks for the financial activities of BigTechs and introduce appropriate protective mechanisms, primarily in relation to BigTechs that offer systemically important payment services. This implies the need to use a combined approach (activity-based and entity-based approach – that is, the development of regulation both at the level of activities and at the level of individual companies). In particular, it is proposed to research the possibility of identifying and regulating BigTech as systemically important financial institutions.

A number of recent law-making initiatives adopt an entity-based approach: requirements are being introduced for companies that occupy a dominant position in the market (gate keepers) in the European Union (EU) and for internet platforms in China; in the United States, lawmakers are also discussing certain initiatives that limit the concentration and non-competitive practices of BigTechs.

China has adopted significant changes in legislation in terms of tougher regulation of BigTechs. For example, new regulation was introduced for financial holdings (e.g., Ant Group), which became organisations directly supervised by the People's Bank of China. Financial holdings are subject to the same robust requirements for capital, risk management and corporate governance as banks. In addition, the People's Bank of China ensured the establishment of an equidistant infrastructure – that is, a centralised online clearing platform and a consumer credit reporting platform. It also introduced a requirement for centralised depositing of required reserves at the People's Bank of China or at an authorised commercial bank for 100% of customer funds held in electronic wallets or on prepaid cards with BigTechs, which significantly limited BigTechs' ability to accept deposits and issue loans.

<sup>1</sup> *BigTech in finance: Market developments and potential financial stability implications*, 9 December 2019; *BigTech firms in finance in emerging market and developing economies*, 12 October 2020.

<sup>2</sup> *Regulating big techs in finance*, 2 August 2021.

### Vulnerability 6. Transition climate risks

***The ongoing transformation of the global economy aimed at reducing greenhouse gas emissions and minimising the use of fossil fuels may pose significant risks for the Russian economy as more than 2/3 of its exports are carbon intensive.***

***In the long term, the introduction of a cross-border carbon regulation mechanism in the EU, the reduction of fossil fuel consumption and changes in the structure of the EU's energy balance in favour of an increase in the share of renewable sources will reduce the exports of carbon-intensive sectors of the Russian economy. In the EU, physical climate risks of climate change are already materialising in the form of heavy rainfalls and floods. The current European energy crisis, which can be partly attributed to uncoordinated decarbonisation policies, may lead to an accelerated transition to renewable energy sources and increased investment in green technologies in the EU<sup>34</sup>. Other countries are also developing in the direction of decarbonisation and changes in energy balance.***

***So far, many large Russian companies do not disclose emissions data and do not set clear targets for their reduction. Nevertheless, the available information allows us to conclude that at the moment the share of environmental expenditures relative to the total revenue of Russian companies in the oil and gas, power and transportation industries is lower than that of foreign peers. To ensure that the economy adapts to a low-carbon trajectory of development,***

<sup>34</sup> *Speech by the President of the European Commission at the opening of EU Sustainable Energy Week*, 25 October 2021.

**and that the risks of carbon-intensive companies are adequately addressed, it is necessary to disclose climate risks and implement strategies to reduce emissions and promote environmental transformation.**

**According to the approved Strategy for the Socio-economic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050, total investments in reducing emissions will amount to at least 1% of GDP per year until 2030 and to about 1.5–2% of GDP per year in 2031–2050 (estimated at ₺1–4 trillion per year). Such investments will require extensive financing from Russian banks and the financial sector as a whole, especially given that foreign investors are already choosing to distance themselves from companies in ‘brown’ industries.**

## Energy transition costs for the Russian corporate sector

Energy transition affects the Russian corporate sector through the following channels: decreasing revenues, increased operating and capital expenditures, higher cost of borrowed capital<sup>35</sup>. All these factors lead to lower operating profits and higher total debt and interest expenses. This may lead to an increase in the debt burden of the Russian corporate sector.

Since energy transition is primarily associated with the fuel and power sector, the main structural changes will affect power generation (which accounts for more than 30% of greenhouse gas emissions<sup>36</sup>).

### Box 5. Carbon regulation in Russia

To reduce the impact of transition risks on the Russian economy, a number of regulatory documents are currently being developed to define the main provisions of the energy transition.

Scenarios of a low-carbon trajectory of Russia’s development are considered in the approved Strategy for the Socio-economic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050 (the ‘Strategy’). The primary (target) scenario assumes that net greenhouse gas emissions will be reduced by 78.9% by 2050 compared to 2019, while carbon neutrality can be achieved by 2060. To achieve the targets in reducing greenhouse gas emissions, it is planned to implement measures aimed at electrification of transportation, create conditions for the implementation of climate projects, introduce carbon pricing and develop a system of public non-financial reporting and ‘green’ financing.

The target scenario of the Strategy also proposed a radical change in the structure of power generation: reduction of coal and gas generation and its replacement with carbon-free generation (nuclear power plants, hydroelectric power plants and renewable energy sources). Russia is fourth in the world in terms of power generation<sup>1</sup>, of which carbon-free generation accounted for more than 40% in 2020 (hydroelectric power plants – 20.2%, nuclear power plants – 20.6%, renewable energy sources – 0.32%)<sup>2</sup>.

To respond to the challenges of the EU countries and other jurisdictions that are actively introducing ESG principles into their policies, Russian policymakers have to establish a legal mechanism for registration of greenhouse gas emissions and develop a national system for the circulation of carbon units in order to offset payments for greenhouse gas emissions and prevent a significant outflow of funds for these payments from the Russian economy under cross-border carbon regulation introduced by the EU<sup>3</sup>.

Federal Law No. 296-FZ ‘On Limiting Greenhouse Gas Emissions’<sup>4</sup> (‘Federal Law No. 296’) establishes a fundamental regulatory basis for the impact of greenhouse gas emissions on the environment; it requires regulated organisations<sup>5</sup> to submit reports on greenhouse gas emissions containing information on the

<sup>1</sup> See [Global Energy Statistical Yearbook 2021](#).

<sup>2</sup> [According to the Ministry of Energy of Russia](#).

<sup>3</sup> Payments under cross-border carbon regulation could be offset only if the methodology for calculating greenhouse gas emissions from the manufacturing of products is agreed upon with the EU.

<sup>4</sup> Adopted on 2 July 2021, comes into force on 31 December 2021.

<sup>5</sup> Regulated organisations are legal entities and individual entrepreneurs with greenhouse gas emissions of 150,000 or more tons of CO<sub>2</sub> per year before 1 January 2024 or 50,000 or more tons of CO<sub>2</sub> per year after 1 January 2024.

<sup>35</sup> For a more detailed classification, see [the Financial Stability Review for Q2–Q3 2020](#), p. 65

<sup>36</sup> [Historical GHG Emissions. Climate watch](#).

volume of emissions and initial data for calculating the mass of these emissions<sup>6</sup>. The relevant information will be consolidated in a greenhouse gas emission register that will be made publicly available to all stakeholders. In addition, Federal Law No. 296 provides for the development of a Russian national system for the circulation of carbon units aimed at stimulating the implementation of climate projects. By the end of 2021, a number of by-laws will be issued to specify the procedures for the operation of Federal Law No. 296.

Decarbonisation of businesses requires significant investments, which can be harder to raise due to a decrease in the investment attractiveness of companies that damage the environment, for both international and Russian investors/lenders. A Decree of the Government of the Russian Federation<sup>7</sup> as part of a system for financing 'green'/adaptation projects and initiatives in sustainable development will increase the inflow of investments for modernisation and 'greening' of production facilities. The decree established the criteria<sup>8</sup> for the relevant projects and the requirements for their verification system. According to the Ministry of Economic Development of the Russian Federation, the process of verification of climate projects according to the Russian standards developed on the basis of internationally recognised standards will begin as early as 2022.

<sup>6</sup> Regulated organisations with emissions of 150,000 or more tons of CO<sub>2</sub> starting from 1 January 2023 and with emissions of 50,000 or more tons of CO<sub>2</sub> starting from 1 January 2025.

<sup>7</sup> Decree of the Government of the Russian Federation No. 1587, dated 21 September 2021.

<sup>8</sup> Quantitative restrictions depending on the nature of the project (maximum specific greenhouse gas emissions, quantitative reduction in power and water consumption etc).

## **Decrease in revenues**

Due to the transition to carbon-free generation, coal industry companies are primarily exposed to transition risks through a drop in revenues due to a decrease in demand for thermal coal for thermal power plants (TPPs) and carbon-intensive goods such as iron and steel, which are produced with the use of coking coal.

One of the risks to the future expansion of thermal coal exports to the Asia-Pacific region is China's intention to reduce carbon intensity (CO<sub>2</sub> produced per dollar of GDP) by 2025, start reducing coal use from 2026 and become a carbon neutral country by 2060<sup>37</sup>.

The potential drop in demand for coking coal would be lower as this type of coal is used in metallurgy.

Oil and gas companies are exposed to the transition risk of a potential decline in revenues due to a drop in demand for gas linked to the transition to 'green' energy and a drop in demand for oil linked to the replacement of combustion engines and the transition to electric or hydrogen-powered vehicles.

## **Increased operating expenditures**

Companies in carbon-intensive industries will also be exposed to a number of regulatory and legal risks triggered by the introduction by most countries of various initiatives to reduce harmful environmental impacts, such as agreements to minimise the anthropogenic impact on climate (primarily, the Kyoto Protocol to the United Nations Framework Convention on Climate Change<sup>38</sup>, the Paris Agreement<sup>39</sup> and the European Green Deal<sup>40</sup>), and by other national measures.

<sup>37</sup> At the same time, the People's Republic of China is planning to build 43 new coal-fired TPPs based on the principles of high efficiency, low emissions (HELE).

<sup>38</sup> A treaty committing advanced economies to limit and reduce greenhouse gas emissions in accordance with the agreements adopted.

<sup>39</sup> An international treaty to keep the rise in mean global temperature below 2°C above pre-industrial levels and preferably limit the rise to 1.5°C.

<sup>40</sup> The EU strategy for reducing net greenhouse gas emissions by 55% by 2030 and achieving carbon neutrality by 2050.

Operating costs of Russian export-oriented companies will grow mainly due to the introduction of a cross-border carbon regulation mechanism<sup>41</sup> in the EU as part of the Fit for 55 package to combat climate change<sup>42</sup>. According to Boston Consulting Group, by 2030, the volume of carbon fees for Russia may reach \$3.5–6.4 billion per year (while maintaining the structure of the industries that are subject to regulation).

In the EU, physical risks are already materialising in the form of heavy rainfalls caused by climate change, which led to flooding in western Europe and human casualties. This provides an incentive for the fight against rising average temperatures and replacement of fossil energy sources. The surge in prices for energy resources in the EU in Q2–Q3 2021 may also have a mixed impact on the tightening and the pace of sustainable development policies. By October 2021, gas prices in Europe grew by a factor of 4.9 compared to the beginning of the year, reaching \$1,900 per 1,000 cubic meters due to a shortage on the market. On the one hand, this situation will lead to an even greater tightening of measures to replace fossil fuels with renewable energy sources in the long term<sup>43</sup>. On the other hand, however, in the short term, the need to mitigate the impact of the energy crisis on the European economy will stimulate a temporary increase in supplies and production, including supplies of natural gas, to compensate for the growth in demand due to the impossibility of quickly abandoning fossil fuels in light of the imperfect technological solutions of renewable energy sources. The European energy crisis has shown that currently renewable energy projects are unable to generate the required volumes and capacity of power; in addition, carbon-free energy technologies have higher costs and lower efficiency.

In addition to the above-mentioned regulatory and legal risks, energy transition risks for the Russian corporate sector involve the introduction of mandatory disclosures in the field of climate change and environment protection (which will lead to an increase in operating costs for compliance and introduction of new types of reporting). Currently, there are many international non-financial disclosure initiatives such as TCFD, GRI, SASB, CDP etc<sup>44</sup>. It is also worth noting that emerging regulatory requirements and standards for products and services can lead to write-offs and premature disposal of assets and result in a subsequent increase in capital expenditures.

Industries with a high carbon footprint may be recognised as ‘brown’ by their counterparties, which can entail risks of interruptions in production processes, supplies of raw materials and equipment and the need to look for new counterparties, thus leading to additional expenses for companies. There is also a risk of growth in production costs resulting from the higher cost of power from renewable energy sources due to their novelty and the lack of inexpensive efficient technologies.

### **Increased capital expenditures**

According to the Strategy for the Socio-economic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050, total investments in reducing emissions will amount to at least 1% of GDP per year until 2030 and to about 1.5–2% of GDP per year in 2031–2050 (estimated at ₹1–4 trillion per year). Although the banking system currently has a high level of capital adequacy, its ability to lend to transition and ‘green’ projects may be limited due to high risk and lack of transparency. Extensive demand for such investments requires a transparent financing

<sup>41</sup> The mechanism of cross-border carbon regulation involves charging fees to importers of high-carbon products into the EU for the greenhouse gas emissions generated for manufacturing such products. Industries subject to regulation include iron and steel, fertilisers, aluminium, cement and power. The collection of fees is scheduled to begin in 2026.

<sup>42</sup> In July 2021, the European Commission developed an action plan (‘Fit for 55’) to combat climate change, which includes implementation of a cross-border carbon regulation mechanism, measures to reduce greenhouse gas emissions and increase the share of renewable energy sources in the energy balance and other measures aimed at facilitating ‘green’ development in the EU countries.

<sup>43</sup> Speech by the President of the European Commission at the opening of EU Sustainable Energy Week, 25 October 2021.

<sup>44</sup> Task Force on Climate-related Financial Disclosures, Global Reporting Initiative, Sustainability Accounting Standards Board, Carbon Disclosure Project.

infrastructure: harmonised and consistent environmental disclosure standards, audit and verification systems, robust ratings, ‘green’ project selection criteria and appropriate government regulation.

Technological transition risk linked to introducing new green technologies will entail an increase in the operating costs of power companies at the early stages of research and development (R&D) and in capital expenditures at later stages. Currently, alternative carbon-free energy has high technology costs, low efficiency and uneven power generation, which requires additional storage capacities. Development of hydrogen power generation is another promising area, with the production of hydrogen<sup>45</sup> either at nuclear power plants (‘yellow’), with the help of renewable energy sources (‘green’) or from gas (‘turquoise’). But such facilities require significant investments for the development and establishment of profitable production. However, there is also a potential technological transition risk of unsuccessful investments in ineffective new technologies (hydrogen is expensive to produce, explosive and negatively affects infrastructure facilities) and risk of an increase in capital expenditures for new potential projects.

In addition to the high demand for green energy, another area of capital investment for power companies will be to improve distribution networks to reduce transmission losses and increase energy efficiency, including generation efficiency.

The energy transition will require non-power sector companies to make capital investments in modernisation, change the structure of energy consumption and improve their own energy efficiency. Capacity supply agreements (‘CSA’) can be used as a decarbonisation tool (in addition to carbon capture technologies) under the Renewable Energy Development Support Programme for 2025–2035 through guaranteed payment for capacity. To participate in CSAs, companies bid at auctions for the allocation of quotas for the construction of generating capacities (e.g., wind power) for their own needs with a guaranteed return on investment.

The programme provides for competitive selection of investment projects for the construction of renewable energy generating facilities, and a number of oil and gas companies and metallurgy companies have already begun construction of their own renewable energy sources to reduce scope 2 greenhouse gas emissions.

### **Higher cost of borrowed funds**

Coal, metallurgy and oil and gas companies are exposed to behavioural transition risk manifesting as investors’ attitudes toward carbon-intensive industries as ‘brown’, which can lead to difficulties in raising funds and increased cost of borrowing. As of 30 June 2021, companies in the chemical industry (60% in the structure of total debt) and the mining industry (56%) had the largest shares of foreign financing. The total share of liabilities of the oil and gas, mining, chemical and transportation sectors of the economy to foreign creditors amounted to 40%. The largest investment funds have been reducing or phasing out investments in carbon-intensive projects over the past few years: for example, the Government Pension Fund of Norway (the largest national wealth fund in the world) has sold all its oil-related assets (see Box 6).

#### **Box 6. Global investor strategies for investing in ‘brown’ and ‘green’ assets**

A growing number of investors adapt their strategies to meet the climate agenda and introduce ESG disclosures, including goals and progress in decarbonising investment portfolios. In 2021, large investors continue to integrate investment caps in carbon-intensive sectors into their strategies. At the same time, investments in environmental projects and ‘green’ securities keep growing.

Government pension funds and private investors use different approaches to reduce investments in non-environmentally friendly and carbon-intensive industries, in particular, the coal and oil and gas industries. Investors are **introducing criteria of companies in which investment is prohibited**. A number of insurance companies (Aegon N V, Zurich Insurance Group, Aviva, Allianz), government pension funds

<sup>45</sup> Hydrogen has high combustion efficiency, and its combustion is carbon-free as it produces distilled water.

(Norway, Denmark, the Netherlands and New Zealand) and private investment funds (BlackRock, AXA IM, Robeco) have already stopped investing in companies with a significant share of non-environmentally friendly business (share of proceeds from the extraction of coal or shale oil, volume of electricity produced by burning coal or shale oil etc). Other investors pledge to **stop financing companies in these industries in the medium term or to reduce the share of 'brown' assets in the investment portfolio** to a certain level by a set date. For example, Ping An Insurance aims to gradually reduce investment in the coal industry by 30% by 2030; CNP Assurances, Munich Re and Assicurazioni Generali intend to phase out of investments in the thermal coal sector by 2040. Major banks also **plan to stop financing the coal sector**: Deutsche Bank by 2025, CitiGroup by 2030, HSBC by 2040. In addition, financial institutions **decline to invest in or lend to certain other types of projects with a high degree of negative impact on the environment**: mining in the Arctic, construction of oil and gas transportation infrastructure etc (JPMorgan Chase, Goldman Sachs, Robeco, Zurich Insurance Group).

At the same time, investors pay ever-growing attention to green financing. [The global green bond market had grown from \\$104 billion in 2015 to \\$1.3 trillion as of the end of H1 2021](#). The Russian 'green' bond market, in turn, is just emerging: [as of November, issued bonds amounted to ¥133.9 billion \(\\$1.84 billion\)](#).

Investors are starting to **set targets for investment in green initiatives**. Both internal methodologies and international standards are used to determine the criteria for green securities or projects (e.g., the UN Sustainable Development Goals are used by *the pension fund ABP in the Netherlands and Credit Suisse*). Notably, investors more often indicate absolute values as a target: for many companies, the expected increase in green investments compared to their assets does not amount to a significant share of the portfolio (ranging from 0.5 to 30%, and many companies have targets in the lower part of this range).

As asset managers, central banks also pursue **green investment strategies**. For example, by the end of 2021, the Bank of France will invest €1.7 billion from its portfolio of pension obligations in bonds and funds that finance the transition to green energy. De Nederlandsche Bank NV intends to invest<sup>1</sup> €80 billion in green bonds in 2021, bringing the volume of such investments to €400 billion.

<sup>1</sup> Not for monetary policy purposes.

Thus, due to the higher cost of borrowed funds and the difficulty of obtaining financing from foreign investors, to cover the deficit of funds, Russian 'brown' companies will have to raise capital investments in the domestic financial market. This will increase the concentration of the debt burden of 'brown' companies in the country's financial system and may pose additional risks for the Russian market. A set of measures aimed at developing the market for sustainable and transition financing should be implemented to minimise potential risks. Various financial technology initiatives can be pursued in addition to public sector efforts to standardise and encourage company disclosures (see Box 7).

### Box 7. Using fintech to stimulate ESG financing

Digital technologies, such as big data and data processing technologies (e.g., artificial intelligence, including machine learning), blockchain and cloud technologies etc., are among the most promising areas for the development of the financial market. Fostering sustainable development and transition to a low-carbon economy, in turn, is gradually becoming a priority for regulators around the world. Recently, more and more financial market participants have begun to consider the use of financial technologies to promote sustainable development goals and stimulate the market for green finance.

Fintech can contribute to an effective transition to a sustainable economy, in particular, to address one of the main problems – that is, the **lack of comparable, reliable and meaningful data on the risks, opportunities and consequences of sustainable development**. A number of financial market participants have already begun to use technology to solve this problem. The People's Bank of China is testing a cloud-based platform for sharing green credit reporting between banks and the regulator based on 'big data' and artificial intelligence. The platform is a repository with statistical information on green lending, relevant analytics and reviews<sup>1</sup>. Data on all transactions are collected in real time and digitally processed, making it traceable, comparable and measurable and improving regulation and supervision.

<sup>1</sup> [Fintech Drives Sustainable Development in China](#).  
[PBC Outlines Plans for Development of Green Finance in China](#).

In addition, the use of fintech can **facilitate investor access to the sustainable finance market**. The Bank for International Settlements innovation hub is working with the Hong Kong Monetary Authority (HKMA) to develop a [prototype digital infrastructure for tokenising green bonds](#). The platform will allow investors not only to simplify the process of buying green bonds but also to track the contribution of their investments to sustainable development in real time as artificial intelligence and general machine learning technologies **facilitate the assessment of the impact of specific investments on climate and social factors**.

To achieve the goal of the Paris Agreement – that is, to keep the rise in mean global temperature below 1.5–2 °C, fintech solutions can be used to **verify data on emission reductions and greenhouse gas absorption projects**. In Singapore, a number of financial market participants are developing a global carbon exchange and a carbon auction platform. In addition, this initiative will create a marketplace: companies that implement projects aimed at preserving and restoring ecosystems for carbon absorption will be able to sell their carbon credits to market participants. Blockchain and artificial intelligence will be used to analyse the quality of projects and their contribution to combatting climate change. [The platform is going to be launched in 2022](#).

**Regulators and global community are launching numerous initiatives to facilitate the use of fintech solutions to promote sustainable development goals and the green transition.** The Financial Conduct Authority (FCA), the Monetary Authority of Singapore (MAS) and the Bank of Italy have created dedicated platforms to facilitate development of fintech solutions for the green economy. In 2021, the G20 and the BIS launched a TechSprint developer competition to improve climate risk data collection and information exchange, climate risk analysis and assessment and interaction between organisations developing green projects and investors. The competition was won by the developers of platforms for green reporting, for monitoring and analysing climate risks, for selling green home solutions to mortgage borrowers of banks. The G20 Sustainable Finance Roadmap also highlights the need to consider leveraging on digital technologies to mobilise sustainable funding, including for ESG disclosures in reporting.

The Bank of Russia regulatory sandbox has such projects as well. In particular, they include a project to create a platform for settlements in agriculture via smart contracts, solutions that enable paperless document exchange by switching to electronic documents and projects in the field of cardless payment services. Sustainable development solutions appear to be a very promising direction for the development of the financial market.

## Companies' strategies for accounting of climate factors

At present, measures to reduce the impact on the environment are increasingly important from the point of view of the perception of companies by investors and consumers. The risks of reducing the attractiveness of a company and its products in the financial and commodity markets are highly dependent, among other things, on the level of elaboration of its sustainable development strategy. Availability of information on how the company is involved in the climate agenda, how it discloses the main quantitative and qualitative factors affecting the climate, what goals it sets for itself and what its results say about the effectiveness of its actions will increase the company's competitiveness.

As part of researching the involvement of non-financial companies in the sustainable development agenda, the Bank of Russia conducted a survey of non-financial organisations most vulnerable to the risks of the global transition to a low-carbon economy (see Box 8).

### Box 8. Survey of large companies in carbon-intensive industries

A survey of 20 companies from nine sectors of the economy collected information on their current activities aimed at sustainable development and their attitude toward ESG risks in general. The survey revealed that most large export-oriented companies have already adopted sustainable development measures; however, the depth of disclosures and the pace of transition throughout the entire Russian economy remain insufficient to conform to global trends in this area.

According to the data obtained, 95% of the companies in the sample either already take ESG factors into account or plan to take them into account in their activities; however, only 70% of the respondents included environmental factors in the strategy and/or key benchmarks of the company, which indicates an

insufficient level of accounting for sustainable development in the strategy of the companies and confirms the current problem of insufficient information disclosure.

According to respondents, the most important environmental factors for companies are greenhouse gas emissions (noted by 95% of respondents), environmental pollution (80%), climate change (65%), waste production (55%), depletion of natural resources (30%) and reduction of forest cover (5%).

ESG risks disclosures in the form of non-financial reporting that meets international disclosure standards (TCFD, CDP, CDSB, GRI, IIRC, SASB and others) are common among the largest companies in carbon-intensive industries: 70% of respondents already maintain such reporting, and another 15% plan to start in the next 1–2 years. Moreover, out of the companies surveyed, 70% have an assigned ESG rating, while most of them have two or more ratings (21% of respondents have two ratings, 14% have three and 57% have four or more).

Sustainable development strategies of most companies focus on policies in the area of reducing environmental impact by controlling emissions and measures to reduce waste, improve water use, preserve biodiversity and improve energy efficiency (five areas in total) recognised according to international standards for non-financial disclosures (GRI, TCFD) to assess the impact of the company's activities on the environment.

Monitoring<sup>46</sup> of 60 major public companies<sup>47</sup> from the most carbon-intensive industries (the 'sample'), such as the oil and gas, coal, metallurgy, chemical, power and transportation industries, carried out by the Bank of Russia revealed that a significant part of the sample provides partial disclosures or almost no disclosures on environmental factors, which hampers analysis of the companies' strategies and poses potential risks.

**Oil and gas.** Most oil and gas companies have set targets to reduce absolute and relative CO<sub>2</sub> emissions by 20–30% by 2030, mostly relative to the level of 2019, and only a few have committed to achieve carbon neutrality by 2050. As part of decarbonisation initiatives, the companies plan to modernise oil and gas production technologies and switch to renewable energy sources through the construction of their own solar and wind power plants. The companies also have targets for wastewater disposal and energy efficiency, and biodiversity conservation is stated in strategies without targets and ranges from environmental protection measures to funding research centres.

**Coal.** Out of the coal companies in the sample, none have a goal to reduce greenhouse gas emissions in the coal segment of their business. The companies do not declare any intentions to use renewable energy sources but only participate in national projects (for example, 'Clean Air') and have almost no strategies to reduce waste, improve water use, preserve biodiversity and improve energy efficiency.

**Metallurgy.** All metallurgy companies in the sample have stated targets to reduce their specific CO<sub>2</sub> emissions, but only one company has committed to achieve carbon neutrality by 2050. The most common ways to reduce greenhouse gas emissions in the industry are a transition to renewable energy sources, modernisation of mining and production technologies, construction of new updated facilities, improvement of energy efficiency and introduction of best available technologies. Some companies also implement projects to create products with a low carbon footprint. However, for most companies, no decrease in waste volume is observed despite the stated intentions and targets within the initiative, and biodiversity conservation is represented by reclamation and monitoring of flora and fauna on the territories of the companies.

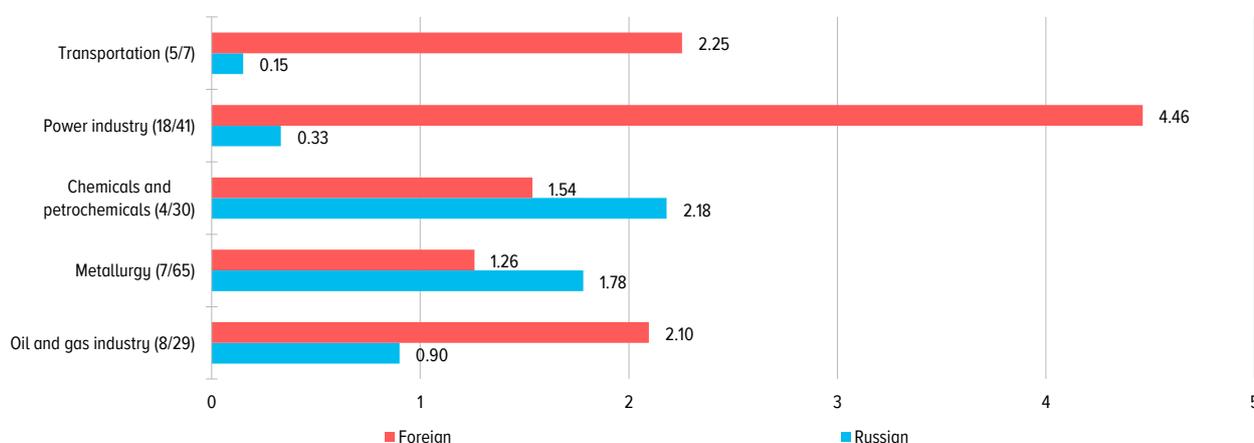
**Chemicals and petrochemicals.** In this industry, half of the companies in the sample have medium-term decarbonisation targets. They are running pilot projects to start the use of renewable energy sources and implement strategies to reduce the negative environmental impact in the five areas, but not all companies have targets in these areas.

<sup>46</sup> Monitoring for 2020– H1 2021.

<sup>47</sup> The total revenue of 60 companies in 2020 amounted to ₹36.2 trillion, and the total debt, to ₹21.2 trillion (31.9% of the debt of the Russian non-financial sector).

SHARE OF ENVIRONMENTAL COSTS IN THE REVENUE OF RUSSIAN AND FOREIGN COMPANIES\*  
(%)

Chart 49



\* The analysis perimeter is indicated as numerical values in brackets (Russian/foreign).  
Source: Financial statements of companies, Revinitive, Bank of Russia estimates.

**Power industry.** Only one-third of the generating companies in the sample have decarbonisation strategies, and only one company has committed to achieve carbon neutrality by 2050. About 10% of power distribution companies have comprehensive strategies to be implemented by improving the efficiency of reducing greenhouse gas emissions (without targets). The generating companies have plans to switch to renewable energy sources that they expect to implement with government support; in other areas of environmental strategies, they have planned nature conservation measures (e.g., to prevent a negative impact on biodiversity), and indicators for some of the areas, such as specific fuel consumption, are already decreasing. Nevertheless, more than half of the companies (mostly distribution companies) have no public sustainable development strategies.

**Transportation.** Only one transportation company has a target to reduce CO<sub>2</sub> emissions and also intends to use renewable energy sources. The rest of the companies do not have any plans since their emissions are directly related to operating activities, and only a third of them publish data on greenhouse gas emissions. In addition, most companies lack environmental strategies; they only monitor a number of indicators and declare their intentions to reduce negative environmental impact without any target indicators.

The monitoring shows that among Russian carbon-intensive industries the most ambitious in the transition to carbon neutrality are oil and gas, metallurgy, chemicals and petrochemicals, where most companies have real strategies for decarbonisation, reducing greenhouse gas emissions and switching to renewable energy sources. As these industries account for the largest greenhouse gas emissions, they strive to comply with international disclosure standards and have ESG ratings from several foreign agencies.

The least ambitious are companies in the power and transportation industries, which are just beginning to define their climate risk approaches, and the coal industry, which has the fewest environmental initiatives.

According to Bank of Russia estimates, companies in the metallurgy and chemical/petrochemical industries have the largest share of environmental investments relative to revenue – that is, 1.78% and 2.18%, respectively, which is higher than the investments of foreign companies. Higher shares of environmental costs relative to total revenues of foreign companies are observed in the oil and gas, power and transportation industries (Chart 49)<sup>48</sup>.

Thus, Russian companies with environmentally damaging activities have already begun to take measures to introduce the principles of sustainable development into their operations; however,

<sup>48</sup> No comparison was made for the coal industry since in the Russian sample only one company had data on environmental costs.

the degree of their integration into the global climate agenda remains rather low: only a few of the largest companies in the carbon-intensive sectors of the economy have well-developed strategies to reduce environmental impact with quantitative targets in the medium and long term, while other companies do not set specific targets or do not have any climate policy. This situation needs to change; otherwise, the financial sector will face high risks in the medium term. Consequently, the Bank of Russia is already implementing measures to stimulate non-financial disclosures by public companies<sup>49</sup> and is also working on the accounting of transition climate risks in the activities of banks and other financial institutions.

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<sup>49</sup> In July 2021, the Bank of Russia published Information Letter No. IN-06-28/49 to establish the main aspects of sustainable development disclosures recommended for public joint-stock companies.

### 3. CORPORATE LENDING AMID ECONOMIC RECOVERY AND THE END OF REGULATORY EASING

***Amid economic recovery, companies' demand for bank lending, leasing and factoring is growing rapidly<sup>1</sup>. Borrowers also sought to obtain bank loans before the tightening of pricing conditions.***

***Companies are successfully coping with the consequences of the pandemic and adapting to the current market environment. This is facilitated by the growth of the economy and rising prices in the commodity markets. Recovery in the financial position of companies and a number of major transactions for the write-off and sale of overdue debts led to an improvement in the quality of banks' loan portfolios. In the leasing sector, the share of restructurings remains elevated, which is associated with the traditionally high use of leasing in sectors affected by the pandemic – that is, air and rail transportation. Despite the growth of rates in Q2–Q3 2021, the quality of corporate loans with floating rates remained high.***

***Due to rapid recovery of the financial position of companies, the regulatory easing of the Bank of Russia for credit institutions were removed after fulfilling their objective of supporting borrowers affected by the pandemic. The support measures enabled the banking sector to avoid a significant increase in reserves at the beginning of the pandemic and to continue lending.***

#### Lending dynamics

The economic recovery in 2021 is accompanied by growth in corporate lending. The annual growth rate of debt as of 1 October 2021 amounted to 11.2%. Demand for ruble loans is growing significantly, with debt growth<sup>2</sup> amounting to 14.4% as of 1 October 2021. In contrast, demand for foreign currency loans remains limited, including due to the Bank of Russia policy of reducing dollarization in the banking sector. As of 1 October 2021, the annual growth of debt on foreign currency loans<sup>3</sup> amounted to 2.5%. The main borrowers in foreign currency are exporting companies from the oil and gas, mining and chemical industries, with most of their revenues denominated in foreign currencies. The reduction of dollarization is also occurring due to the conversion of foreign currency loans into rubles in order to reduce foreign exchange risk. In Q2–Q3 2021, conversion of loan currency was observed for companies from the real estate sector, which were most affected by the pandemic.

Among SMEs, debt on loans also continues to grow at a fairly high rate (growth over the past 12 months amounted to 22.7% as of 1 October 2021, excluding the factor of foreign exchange revaluation).

No further acceleration of corporate lending is expected, including due to the tightening of pricing conditions for corporate loans. The weighted average interest rate on ruble loans to non-financial companies with a maturity of more than a year amounted to 8.4% in September 2021, having increased by 1.4 pp compared to March (when it was the lowest since the beginning of the year), while the weighted average interest rates on loans to SMEs<sup>4</sup> with similar maturity amounted to 9.3% (7.6% in March 2021).

<sup>1</sup> The annual increase in corporate loan debt amounted to 11.2% as of 1 October 2021, the leasing portfolio had grown by 12.2% as of 1 July 2021 and the factoring market had grown by 56% as of 1 July 2021.

<sup>2</sup> Annual growth rates excluding acquired rights of claim for all credit institutions that submitted statements as of reporting dates (without using the chain method).

<sup>3</sup> Excluding foreign currency revaluation.

<sup>4</sup> Excluding individual entrepreneurs.

## Corporate loan portfolio quality

At the beginning of the pandemic, companies actively approached banks for loan restructuring. As the economy recovered, the demand for debt restructuring dropped significantly. From the start of the pandemic to 1 July 2021, 16.5% of debt on loans to large companies and 13.7% on loans to SMEs was restructured<sup>5</sup>. As of 1 July 2021, the total volume of restructured loans to companies amounted to ₱7.1 trillion<sup>6</sup>, including ₱936.2 billion of debt owed by small- and medium-sized enterprises. At the same time, in H1 2021, the volume of restructured corporate loans increased by only 12.6% (₱795 billion). The most significant volume of restructured loans falls on small- and medium-sized businesses and large companies from the following industries: oil and gas, including the production of petroleum products and the hydrocarbons trade, metallurgy, commercial real estate, leasing and agricultural companies.

### Box 9. The current situation in the sectors most affected by the COVID-19 pandemic

As of September 2021, the **air transportation industry** has not fully recovered from the damage resulting from the COVID-19 pandemic: passenger turnover in 9 months of 2021 dropped by 15.7% compared to the same period in 2019<sup>1</sup>. However, over the past year, there has been a gradual increase in the number of passengers carried, mainly due to a significant increase in domestic flights (by 62.8% and 21.0% in 9 months of 2021 compared to 9 months of 2020 and 2019, respectively).

**Commercial real estate.** The removal of anti-pandemic restrictions had a positive impact on the commercial real estate market. The recovery in demand is confirmed by growth in the volume of purchased and rented office space by 32.5% in H1 2021 compared to H1 2020; however, compared to 2019, the indicator declined by 4.0%. In H1 2021, the total volume of commissioning of class A and B +/- offices exceeded the same period in 2020 and 2019 by a factor of 7.3 and 3.7, respectively<sup>2</sup>.

New supply on the retail real estate market in Moscow, represented by the number of open shopping centres in H1 2021, exceeded the same value for 2020 and 2019 by a factor of 1.5 and 6, respectively; however, in absolute terms, the supply in square meters decreased by 67.9% and 13.0% compared to H1 2020 and H1 2019, respectively<sup>3</sup>. The vacancy rate in Moscow shopping centres decreased to 10.5% by 0.2 pp compared to the end of 2020 amid market recovery due to the removal of restrictions.

**Small- and medium-sized enterprises.** As of early October 2021, the total number of small- and medium-sized businesses increased by 1.9% compared to October 2020<sup>4</sup>. According to Rosstat, the total turnover of small (excluding micro-enterprises) and medium-sized enterprises for H1 2021 exceeded the pre-pandemic level: growth amounted to 23.8% and 17.6% compared to the same periods in 2020 and 2019, respectively. The largest increase in turnover is observed in small- and medium-sized enterprises providing temporary accommodation (by 148.8% in H1 2021 compared to H1 2020) and tourist services (by 132.5% in H1 2021 compared to H1 2020), which is mainly due to the revival of the tourism industry. The turnover of small- and medium-sized enterprises engaged in the provision of food and beverages also increased by 63.4% over the same period<sup>5</sup>.

**Metallurgy and oil and gas.** In 2020, oil and gas companies and ferrous and non-ferrous metallurgy companies faced an unprecedented shock of plummeting demand and prices for their products. However, along with the gradual recovery of the global economy, the demand for metals, oil and gas increased, which

<sup>1</sup> According to the Federal Air Transport Agency.

<sup>2</sup> Hereinafter, according to Colliers analytical agency. Calculations for Moscow since the main retail and office spaces are located in the Moscow area.

<sup>3</sup> These dynamics describe the upward trend in the quantity of ongoing projects in the industry accompanied by a decrease in their scale in sq. m.

<sup>4</sup> According to the Unified Register of Small- and Medium-sized Enterprises.

<sup>5</sup> Significant growth in the turnover of small- and medium-sized businesses in 2021 is largely due to the low base effect of 2020, but it should be noted that the turnover of enterprises providing temporary accommodation, food and beverages, tourist services in H1 2021 increased by 62.2%, 12.4% and 4.2% compared to H1 2019, respectively, which indicates significant growth of SMEs even above the pre-pandemic levels.

<sup>5</sup> According to the monitoring of the Bank of Russia.

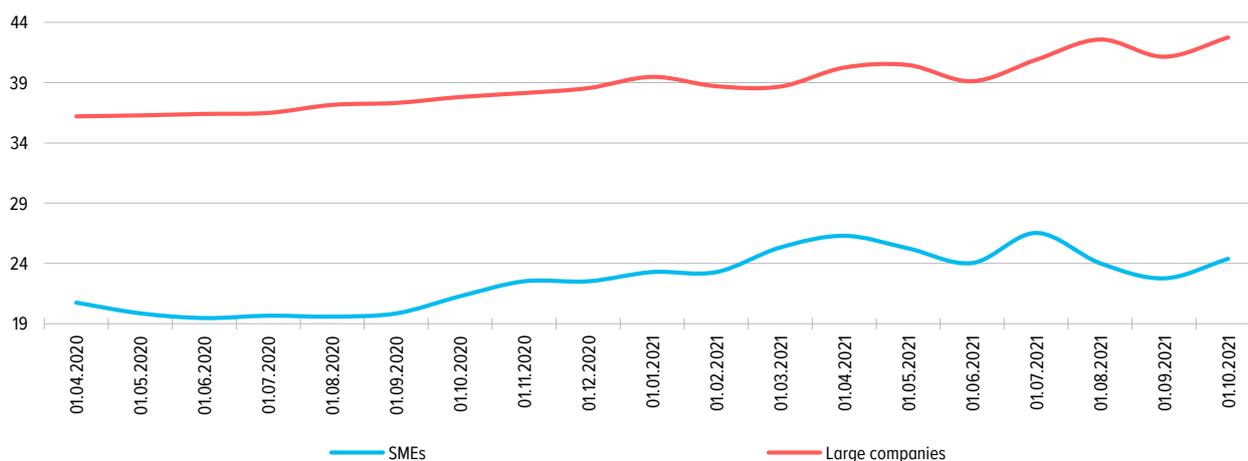
<sup>6</sup> According to the monitoring of the Bank of Russia.

led to prices rebounding from the fall of the previous year. The price of Brent crude oil as of mid-October 2021 had increased by 97.9% and 42.9% compared to the same period in 2020 and 2019, respectively. The growth rate of steel prices for the periods under review amounted to 67.7 and 119.0%, respectively, and for aluminium, to 69.4 and 81.5%, respectively<sup>6</sup>.

<sup>6</sup> According to Bloomberg.

SHARE OF FLOATING INTEREST RATE LOANS (%)

Chart 50



Source: Reporting form 0409303.

SME borrowers remained solvent after the partial termination of government support programmes, which is reflected in a gradual increase in the average rate of debt amortisation<sup>7</sup> to 10.5%<sup>8</sup> (10.2% a year earlier) and a decrease in the share of overdue debt in the SME portfolio from 10.4% as of 1 April 2021 to 9.1% as of 1 October 2021.

The termination of the regulatory easing of the Bank of Russia by 1 April for restructured loans to large companies and by 1 July for loans to SMEs did not lead to a significant increase in provisions in Q2–Q3 2021 for two reasons: banks formed the required amount of provisions in advance, and most borrowers were able to recover their financial position amid the favourable macroeconomic situation. The share of loans of quality categories IV and V in the corporate portfolio (excluding SMEs) in Q2–Q3 2021 decreased by 1.1 pp to 7.7%<sup>9</sup>. For loans to SMEs, the share of loans of quality categories IV and V decreased more noticeably: by 2.2 pp to 13.0%.

The quality of ruble loans with floating rates to resident legal entities also remains high despite a 2.5 pp increase in the key rate since the beginning of the year. The share of loans of quality categories IV and V for such loans amounted to 3.8% as of 1 October 2021.

Banks extensively increased the share of loans with floating rates in previous years. Since the beginning of 2021, their share in the portfolio of ruble loans to large companies has grown by 2.5 pp (43% as of 1 October 2021), while for loans to SMEs it declined from 26 to 24% from 1 April to 1 October 2021 (Chart 50).

<sup>7</sup> Calculated as the increase in debt for the month, net of the loans issued for this period, against the average level of debt.

<sup>8</sup> Adjusted for borrowers that have lost their SME status.

<sup>9</sup> According to reporting form 0409115.

### Box 10. Debt burden dynamics of large corporate borrowers

In H1 2021, the Bank of Russia conducted a survey of the banking portfolio of systemically important banks (SIBs) as of 1 April 2021 to analyse systemic risks associated with the elevated debt burden of certain large corporate borrowers.

The survey was conducted only for the non-public segment of the corporate portfolio, and the information on public companies was collected by the Bank of Russia independently. The volume of loan obligations in the final sample amounted to ₹10.5 trillion, of which public companies accounted for 53% and non-public companies for 47%.

Analysis of non-public groups of companies (Chart 51) showed that the volume of their loan liabilities to SIBs in the moderate debt burden area<sup>1</sup> (63.6% of the total claims of banks on non-public borrowers in the sample) is less than that of public companies (82.9% of the total claims of banks on public borrowers in the sample) (Chart 52), which confirms the presence of risks in the non-public segment of the corporate portfolio and demonstrates the need to monitor its financial indicators. In part, the high share of debt in

DISTRIBUTION OF CREDIT RISK OF SIBS BY MAJOR NON-PUBLIC GROUPS

Chart 51



Note: Companies that are loss-making at the level of operating income are highlighted in red. For visual presentation, they were assigned the values Total debt/Operating income – 90x and interest expenses/Operating income 3.5x

Source: Bank of Russia survey and reporting form 0409118.

DISTRIBUTION OF CREDIT RISK OF SIBS BY MAJOR PUBLIC GROUPS

Chart 52



Note: Companies that are loss-making at the level of operating income are highlighted in red. For visual presentation, they were assigned the values Total debt/Operating income – 60x and Interest expenses/Operating income 4x

Source: Bank of Russia survey and reporting form 0409118.

<sup>1</sup> The moderate debt burden area is a nominal area that does not include companies identified as groups with elevated debt burden. Companies with elevated debt burden were defined as groups with significant deviations from the average values of Total debt/EBITDA and Interest expenses/Operating income.

the sample outside the moderate debt burden area may be due to a drop in corporate profits during the pandemic.

Analysis of the dynamics of credit claims of SIBs on non-public groups showed that since the beginning of 2016 the volume of such claims grew by a factor of 4.4 (on public groups, by a factor of 1.8), and the dynamics of the debt of these companies across the entire bank loan portfolio increased by a factor of five (for public groups, by a factor of 2.7) since 2017.

Thus, the growth of debt of non-public companies and the concentration of their credit risk in SIBs may pose systemic risks for the Russian financial system and requires constant monitoring of non-public borrowers with high debt burden.

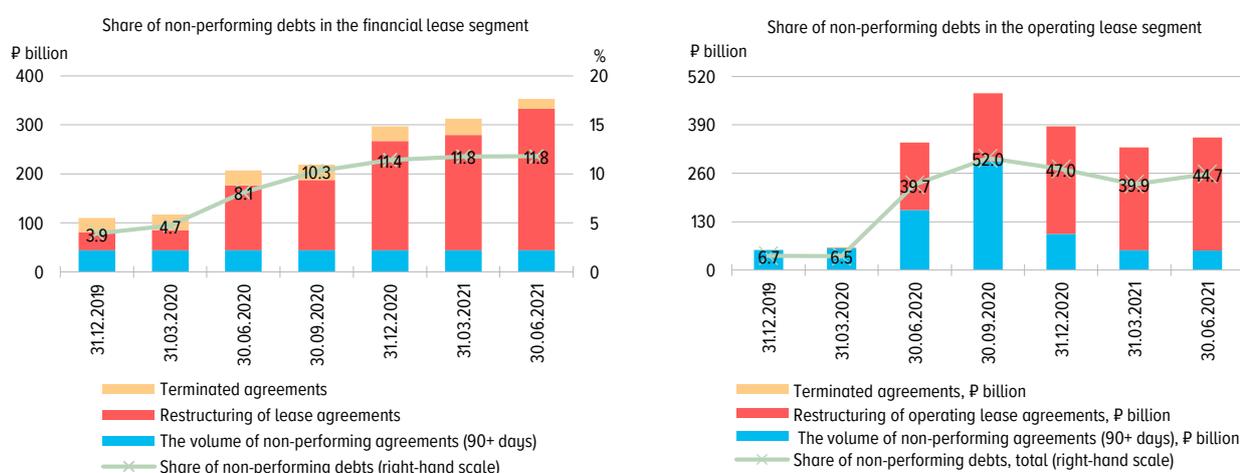
## Risks of leasing operations

Despite the recorded positive dynamics of operating indicators, systemic risks of the leasing segment remain significant since the key lessee industries (air and rail transportation, which make up 40%<sup>10</sup> of the leasing portfolio) continue to experience the negative impact of the COVID-19 pandemic.

At the same time, the coronavirus pandemic contributed to the accelerated development of other segments (leasing of trucks and passenger cars) and led to the establishment of extensive government programmes to support leasing. As a result, in the financial leasing segment, high growth rates of new business (+58.5%) against the background of a low base in 2020 ensured an increase in the leasing portfolio by 18.9% YoY as of 30 June 2021. At the same time, the operating lease segment has not yet rebounded to the values of 2019 as a decrease in new business (-11.5%) led to a 7.6% decrease in the operating lease portfolio. In general, in H1 2021, the operating indicators of leasing companies had improving or stable dynamics. As of 30 June 2021, average ROE for the sector amounted to 18.8% (+ 2.4 pp) for a rolling year, although it remained below the pre-pandemic level (33.5% as of 30 June 2019). The relatively high average return on equity is attributable to the high level of leverage, especially among bank leasing companies. The ROE of a number of companies specialising in operating leasing has grown but is still close to zero.

### NON-PERFORMING DEBTS IN THE OPERATING LEASE AND FINANCE LEASE SEGMENT

Chart 53



Source: Survey of leasing companies.

<sup>10</sup> Hereinafter, presented data are based on the results of a survey by the Bank of Russia for a comparable sample of leasing companies, including 22 leasing companies that submit IFRS statements (68% of the leasing portfolio in the market as of 30 June 2021 according to JSC Expert RA).

Credit risk of leasing companies remained high due to the significant share of non-performing debts<sup>11</sup>, which amounted to 18.6% as of 30 June 2021 (+2.6 pp YoY, +0.6 pp QoQ). In the total amount of non-performing debts, restructuring accounted for 82.6%, and agreements not serviced for 90+ days accounted for 14.5%. Lessees, including airlines, passenger and freight carriers that were significantly affected by the lockdown in 2020, sought to restructure lease agreements (restructuring in financial leasing for H1 2021 grew by 1.5 pp to 9.4%, and in operating leasing, by 2.9 pp to 38.0%). At the same time, the volume of agreements not serviced for 90+ days decreased by ₱70.0 billion, or by 1.9 pp, to 2.7% of the leasing portfolio due equally to restoration of lease payments, termination of agreements and write-offs of non-performing debts. In H1 2021, the share of formed provisions for expected losses under IFRS on financial leasing decreased by 1.1 pp to 3.8% of assets. It should be noted that a number of leasing companies have a high concentration of individual companies with low credit quality in their portfolios.

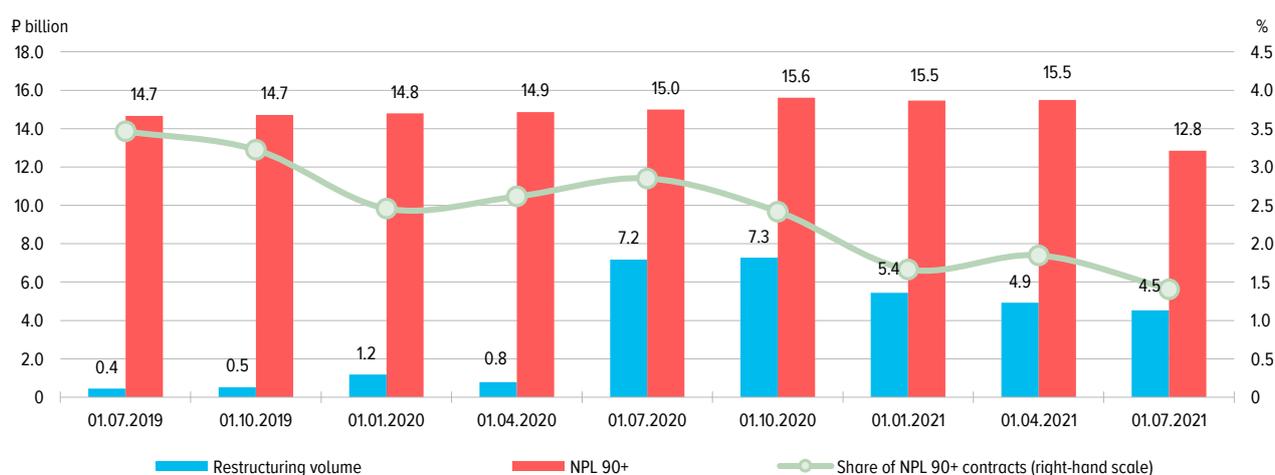
## Risks of factoring operations

The systemic risks of factoring operations remain low due to the high credit quality of the key counterparties of factoring companies. It should be noted that a significant share of the factoring market (about 90%) belongs to banking groups, to which banking standards apply on a group basis.

At the same time, the segment requires monitoring in view of its rapid growth and transformation of the business profile. For example, the factoring market in the last year grew at a faster pace than the banking sector (annual growth of 56% vs 13.9%<sup>12</sup> as of 1 July 2021) and reached ₱1.05 trillion according to the Association of Factoring Companies. Both new large companies and the SME segment were actively becoming involved in factoring operations due to accelerated digitalisation of business processes. The rapid growth of the factoring market is associated with increased convenience for customers and the fairly high profitability of factoring operations for banks, taking into account the turnover of funds (the weighted average portfolio turnover was 97 days<sup>13</sup>). The average transaction volume for the largest factoring companies increased from ₱4.7 million to ₱10.7 million, and the number of debtors increased by 50%. Over the past 12 months, the factoring portfolio

OVERDUE DEBT AND PROVISIONS FOR FACTORING TRANSACTIONS

Chart 54



Source: Survey of factoring companies.

<sup>11</sup> Non-performing debt means the volume of non-serviced (for 90+ days) and restructured agreements, excluding overdue payments with a continuous period of 90+ days, and the balance of debt under terminated financial lease contracts.

<sup>12</sup> Growth in the ruble corporate portfolio from 1 July 2020 to 1 July 2021 (according to reporting form O4O9101).

<sup>13</sup> Hereinafter, presented data are based on the results of a survey by the Bank of Russia for a comparable sample of 15 factoring companies, which account for 87% of the total factoring portfolio.

has grown by more than 75% in a number of industries (chemicals and petrochemicals, production of machinery and equipment, construction). New products were also developing vigorously, for example, up front factoring.

Factoring companies are characterised by a high *concentration* of the factoring portfolio, both for major debtors and customers and by industries. The largest debtors are companies from the oil and gas, trade, metallurgy and chemical industries, which have a sufficient margin of financial stability and solvency; as a result, the *credit risk* of the largest debtors of factoring companies is at an acceptable level. Despite the general deterioration of the economic situation due to the coronavirus pandemic, as of the end of Q2 2021, the volume of agreements not serviced for 90+ days remained stable and amounted to 1.4% of the factoring portfolio. Amid the accelerated growth of the factoring portfolio, as of the end of Q2 2021, the share of provisions in the portfolio of analysed factoring companies decreased slightly below the level of 2019 (to 2.4%).

## 4. ASSESSMENT OF THE FINANCIAL SECTOR RESILIENCE

### 4.1. Assessment of the banking sector resilience

***In the reporting period, banks received a record net profit amid improved credit quality of borrowers, which ensured a significant increase in the profitability of banking and increased the stability of the sector. As of 1 October 2021, the return on assets of credit institutions amounted to 2.2% (+0.5 pp in April–September), and the return on equity amounted to 21.5% (+5.7 pp in April–September). The reduction in provisions was the main driver of profit growth.***

***Banks' exposure to liquidity risk did not undergo any significant changes. According to a survey conducted by the Bank of Russia among the largest credit institutions, major banks have enough FX liquidity to cover expected repayments of foreign currency liabilities over the horizon of the next year.***

***In 2021, the banking sector's profit is likely to reach its historical high of ₺2.5 trillion, which will provide a significant additional margin of safety in the event of materialisation of potential risks. The macroprudential capital buffer, which reached ₺711 billion as of 1 October 2021 compared to ₺628 billion before the pandemic, also contributes to the stability of the banking sector.***

The stability of banks in the reporting period improved due to a record growth in profits. The net profit of credit institutions<sup>1</sup> at the end of Q2–Q3 2021 amounted to about ₺1.3 trillion<sup>2</sup>, which is 2.2 times more than the result of Q2–Q3 2020 (and 76% more than that of the same period in 2019). One of the main reasons for the increase in profit is a 69.8%<sup>3</sup> reduction in provision expenses compared to the same period last year. The largest reduction in provision expenses was observed in the major SIBs due to the dissolution of provisions for loans to commercial organisations. At the same time, the reduction of provisions for the household portfolio occurred at a fairly similar rate both in SIBs and in other banks.

NII of the banking sector also increased compared to Q2–Q3 2020 (+19%, or +₺326 billion) and remained the main source of profit generation (67% of operating income for Q2–Q3 2021). Growth in interest income was approximately equally determined by the growth of income from the corporate loan portfolio (34% of the increase in interest income), the retail loan portfolio (28%) and the securities portfolio (31%, mainly due to income from investments in OFZs). SIBs account for about 86% of net interest income growth in the banking sector. Fee and commission income also continued to grow in the reporting period (+28%, or +₺173 billion) (including from settlement and cash services and support of brokerage operations).

Thus, in spite of the uneven reduction in provision expenses for the corporate loan portfolio, the growth of net interest income, net fee and commission income and other incomes enabled not only the majority of SIBs but also other banks to increase profits in the reporting period.

Due to the growth in profits, the returns of the banking business as a whole increased significantly in the reporting period. As of 1 October 2021, the return on assets of the banking sector amounted to 2.2% (+0.5 pp from 1 April 2021 to 1 October 2021), and the return on balance sheet equity amounted to 21.5% (+5.7 pp from 1 April 2021 to 1 October 2021) (Chart 55), reaching its historical high for the last 10 years.

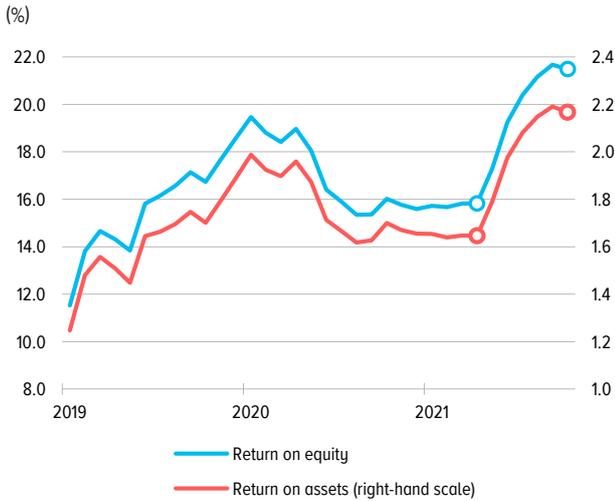
The liquidity situation in the banking sector stabilised after some imbalances amid the pandemic. In particular, this meant stabilisation of the size of the structural liquidity surplus. Households'

<sup>1</sup> Except for the Non-core Asset Bank.

<sup>2</sup> ₺1.9 trillion from the beginning of 2021.

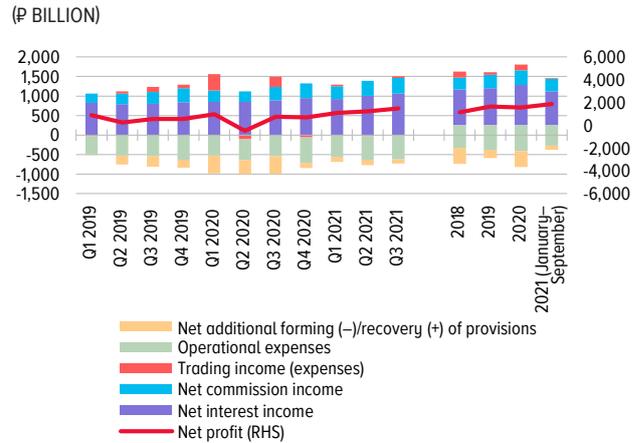
<sup>3</sup> Changes in provision expenses are shown without adjustment for foreign currency revaluation.

RETURN ON EQUITY AND ASSETS OF THE BANKING SECTOR *Chart 55*



Source: Reporting forms 0409101 and 0409102.

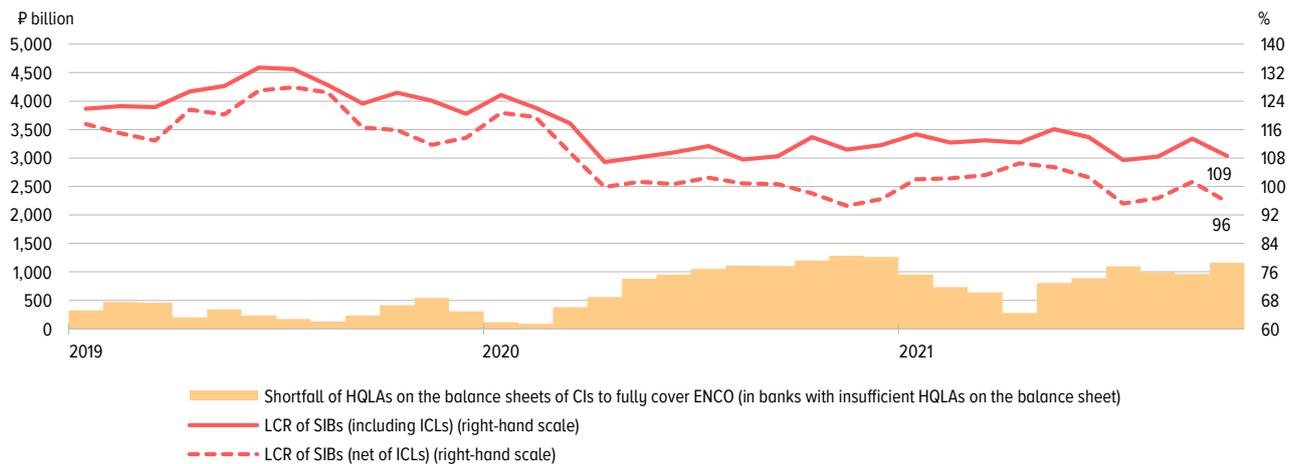
STRUCTURE OF BANKING SECTOR FINANCIAL PERFORMANCE\* *Chart 56*



\* For all credit institutions, except for the Non-core Asset Bank. Income from trading operations includes income from operations with foreign currencies, precious metals, securities and derivatives.

Source: Reporting form 0409102.

DYNAMICS OF THE ACTUAL AVERAGE VALUE OF LCR FOR SIBS *Chart 57*



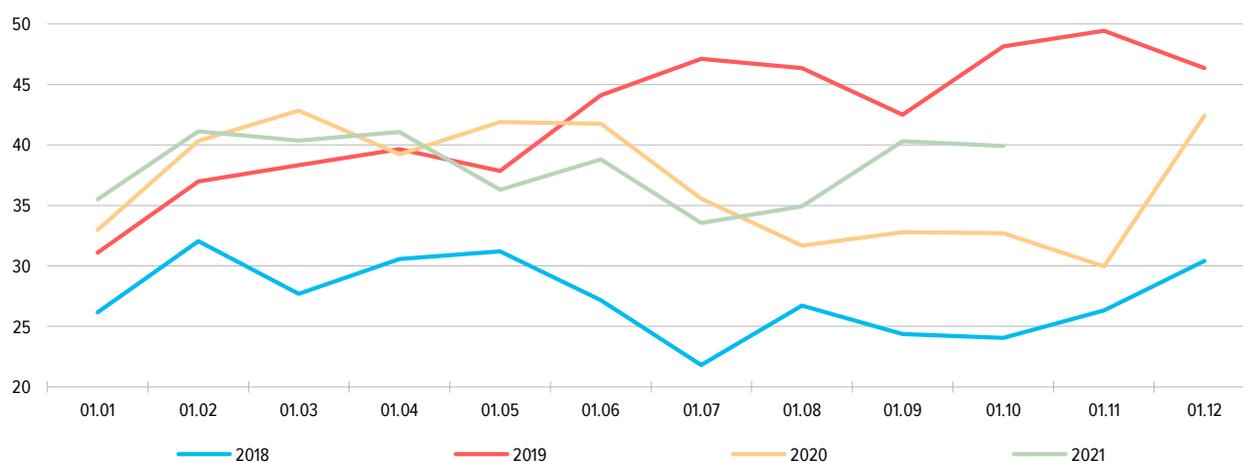
Source: Reporting forms 0409805 and 0409135.

demand for foreign currency in cash was generally in line with the seasonal dynamics of previous years.

Most SIBs have enough high-quality liquid assets to cover expected net cash outflow (ENCO) over a 30-day horizon, but some banks still included irrevocable credit line (ICL) limits in the calculation of the Liquidity Coverage Ratio (LCR) numerator. From 1 April 2021 to 1 October 2021, the average value of the LCR for SIBs was in the range of 107–116% (excluding ICL limits in the numerator, from 95 to 107%) (Chart 57). A decline in the LCR observed in certain months was not accompanied by an increase in systemic liquidity risk: only some banks increased ICL limits as part of the LCR numerator amid continuing growth of the loan portfolio. Starting from 1 April 2021, the plan for gradual reduction of ICL limits came into force. In the coming year, the dependence of credit institutions on ICLs is expected to decrease by 15%. The total limit of open ICLs for Q2–Q3 2021 decreased from ₱2.8 trillion to ₱2.7 trillion, and the six-month average ICL limit required to maintain the actual LCR value at 100% amounted to ₱0.9 trillion.

BALANCES ON CORRESPONDENT AND SHORT-TERM DEPOSIT ACCOUNTS WITH NON-RESIDENT BANKS  
IN FOREIGN CURRENCY  
(\$ BILLION)

Chart 58



Source: Reporting form 0409101.

The volume of high-quality liquid assets in the Russian financial market allows SIBs to limit<sup>4</sup> the use of ICL to comply with the Liquidity Coverage Ratio.

In Q2-Q3 as well as in general in 2021, the situation with foreign exchange liquidity remained favourable. Amid stable dynamics of customers' foreign currency funds, the liquid foreign currency assets of credit institutions remained fairly high: on average, they amounted to about \$49.5 billion in the period from 1 April 2021 to 1 October 2021 (mainly balances on short-term and deposit accounts with non-resident banks, Chart 58). In addition, credit institutions place a significant amount of foreign currency in currency swaps with non-resident banks (about \$24 billion by 1 October 2021), which also form a part of the banking sector's liquid assets (for more details, see 'Vulnerability 2. Sensitivity of the Russian financial market to the behaviour of non-residents').

In 2021, there was enough currency supply on the exchange that market participants did not need to use currency swaps with the Bank of Russia to sell US dollars for rubles, which indicates that there is no imbalance between supply and demand in the foreign exchange market. Moreover, some market participants used currency swaps with the Bank of Russia to obtain rubles. However, such transactions were of insignificant volumes and did not continue further.

To assess the situation in the medium term, the Bank of Russia conducted an annual survey<sup>5</sup> to assess the FX liquidity adequacy of the largest credit institutions. According to the survey, the largest banks have enough FX liquidity to cover expected repayments of foreign currency liabilities over the horizon of the next year. In Q4 2021, the aggregate negative gap in banks with a deficit<sup>6</sup>, in accordance with the forecasts of banks, will not exceed \$0.3 billion.

## 4.2. Assessment of the resilience of non-bank financial institutions

**The performance of NBFIs in 2021 demonstrates accelerated growth; however, the profitability of their business is decreasing. More robust regulation of NBFIs (transition to the indicator of equity adequacy with a risk-based approach for insurers, introduction of standards for brokers)**

<sup>4</sup> In accordance with the standards of the Basel Committee on Banking Supervision, a ICL limit may be included in the calculation of the LCR numerator if the financial market has a structural deficit of high-quality liquid assets denominated in the national currency. At the same time, these tools are not intended for use in operational management of the LCR value.

<sup>5</sup> In September–October, the Bank of Russia conducted an annual survey of 22 major banks in which respondents provided information on the most probable dynamics of foreign currency claims and liabilities in accordance with their own forecasts (taking into account the adjustment of planned terms for expected early repayment and/or prolongation of loans and withdrawal and/or renewal of deposits).

<sup>6</sup> The difference between liquid FX assets and liabilities to be repaid for banks for which this value is negative.

**will help reduce their financial stability risks but may require additional investments from NBFIs owners – banking groups and financial holdings.**

### Insurance market risks

Increasing losses and decreasing returns are being recorded in the insurance market, but in general insurers are prepared for the first stage of transition to risk-based regulation.

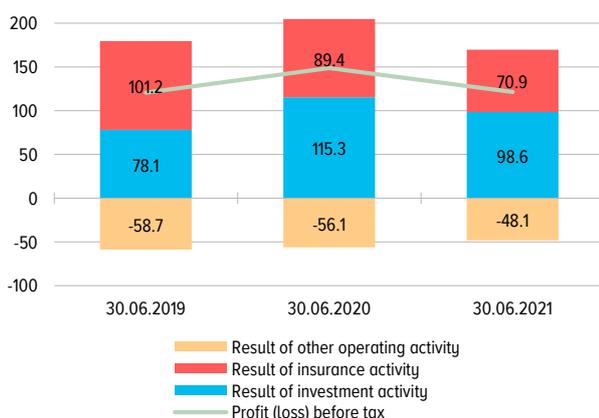
On 1 July 2021, *new requirements for financial stability and solvency*<sup>7</sup> came into force in the insurance market to provide for the transition to a risk-based approach to determining the solvency of insurance companies. For example, at the first stage, in calculating the standard ratio of equity and assumed liabilities, a number of assets and liabilities are revalued, including to zero value, and concentration risk assessment is also taken into account. Insurers promptly reduced to zero their investments in promissory notes, mortgage participation certificates and investment units of closed-end unit investment funds excluded from assets for the purpose of assessing financial sustainability. Concentration risk is non-zero for 11 out of 71 insurers that switched to the new requirements from 1 July 2021<sup>8</sup>, which will affect the increase in their estimate of the impact of risks on equity.

Tighter regulation may require owners of insurers to make additional contributions to their capital, including through the purchase of non-marketable assets. At the same time, the transition to risk-based regulation of insurance companies (in full from 1 July 2025) in the future will help improve the financial stability of the insurance sector.

In H1 2021, the insurance market grew by 21% due to the low base effect of the previous year (a year earlier, it decreased by 0.03%) and accelerated growth of insurance premiums in life insurance and credit insurance. At the same time, the pre-tax profit of the insurance market fell by 18.8% to ₺121 billion, remaining at the pre-pandemic level (-1.6% compared to H1 2019), which was, among other reasons, caused by a decrease in the results from insurance<sup>9</sup> and investment activities (due to negative revaluation of foreign currency assets).

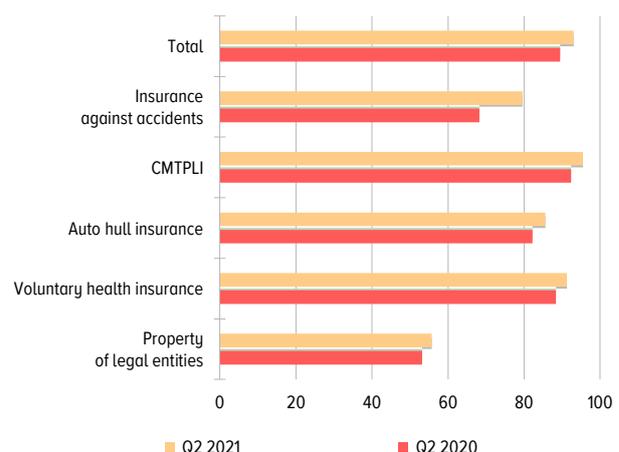
Losses and expenses for insurance activities grew. For example, in H1 2021, the rolling combined loss ratio increased to 93.0% (+3.5 pp), while the pre-pandemic loss ratio at the end of 2019

PROFIT FORMATION OF INSURANCE COMPANIES FROM 30 JUNE 2019 TO 30 JUNE 2021 (₺ BILLION) *Chart 59*



Source: Insurers' accounting (financial) statement data (reporting form 0420126).

COMBINED LOSS RATIO BY TYPE OF INSURANCE (%) *Chart 60*



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

<sup>7</sup> Bank of Russia Regulation No. 710-P, dated 10 January 2020, 'On Certain Requirements for the Financial Stability and Solvency of Insurers' ('Regulation No. 710-P').

<sup>8</sup> Starting from 1 July 2021, Regulation No. 710-P is applied by insurance companies and mutual insurance companies with insurance premiums (contributions) accrued under insurance, coinsurance and reinsurance contracts at the end of 2020 amounting to more than ₺2 billion, except for insurance companies engaged in compulsory health insurance.

<sup>9</sup> Primarily for non-life insurers.

was 5.1 pp lower. Combined loss ratios grew in the main segments of the non-life insurance market, including compulsory motor third party liability insurance (OSAGO) (+3.1 pp to 95.5%) and motor hull insurance (+3.4 pp to 85.6%), amid increased accident rates after the removal of restrictions related to COVID-19.

*Credit and market risks* of major insurers remain low due to their conservative investment policies. For example, as of 30 June 2021, the share of assets with low credit rating or unrated assets<sup>10</sup> for non-life insurers amounted to 5.8%, and for life insurers, to 0.9%.

### **Risks of NBFIs brokers**

The customer base of brokers continued to grow in Q3 2021: since the beginning of the year, the volume of customer assets of professional market participants increased by 24.8% to ₹7.7 trillion, and the number of brokers' customers increased by 29% to 1.9 million. Amid the growing importance of brokerage services for financial markets, starting from 1 October 2021, the Bank of Russia introduced regulatory values for the capital adequacy ratio (CAR)<sup>11</sup> and liquidity coverage ratio (LCR)<sup>12</sup> aimed at ensuring the financial sustainability of professional securities market participants.

Now, brokers, dealers, managers and FX dealers must comply with the capital adequacy ratio and form provisions for possible losses for assets that are deducted from capital and at the same time reduce the amount of credit risk for such assets. The capital adequacy ratio is calculated monthly as the ratio of capital to risks, taking into account an adjustment ratio, and must be maintained on an ongoing basis.

The liquidity coverage ratio requires a broker that has been granted the right to use customers' funds in the interests of the broker to keep a reserve of high-quality liquid assets which will make it possible to continue operations in the event of a significant outflow of funds for 30 days. Compliance with the liquidity coverage ratio by a broker contributes to the safety of customers' funds received with the right to use them in the interests of the broker and ensures that the broker is able to return such funds at the request of the customer, but no later than the next business day.

These ratios are aimed at developing risk-based supervision and will make it possible to limit systemic risks for the industry in the future.

Currently, liquidity risk is the most significant risk for the brokerage industry. The average LCR value<sup>13</sup> as of the end of September 2021 was significantly higher than the standard value (70%) and amounted to 159%: reserves of high-quality liquid assets in the broker industry as a whole were high. At the same time, for 7 out of 53 brokers calculating the LCR, its value was lower than the standard, which was associated with high outflows on repo operations in securities that are not included in high-quality liquid assets and outflows on securities transactions. The introduction of the ratio will require these organisations to increase the volume of high-quality liquid assets.

The median CAR of brokers<sup>14</sup> was fairly high (44%); at the same time, in recent years, there has been a gradual decrease in the value of the indicator in the context of increasing market risks (up to 89% of the total risks used for calculating the CAR). As of the end of September 2021, the aggregated CAR for the brokerage industry amounted to 7.6%. This value mainly resulted from the

<sup>10</sup> The share of unrated assets of insurers and assets with a rating below Fitch Ratings B-, Moody's Investors Service B3, S&P Global Ratings B-, Expert RA RuBB or ACRA (JSC) BB (RU).

The share is determined in the following assets: cash on accounts with credit institutions, deposits, securities.

<sup>11</sup> 4% from 1 October 2021, 6% from 1 April 2022 and 8% from 1 October 2022.

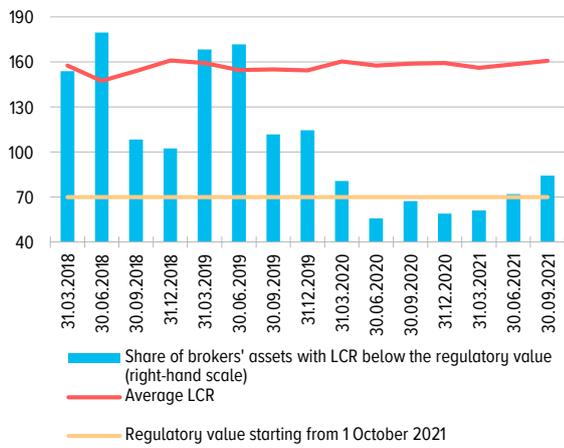
<sup>12</sup> 70% from 1 October 2021, 80% from 1 October 2022 and 100% from 1 October 2023.

<sup>13</sup> Due to the fact that a number of organisations have elevated LCR levels, when calculating the average LCR value, the maximum value of the indicator was restricted by a limit.

<sup>14</sup> CAR was calculated in accordance with a new formula introduced by Bank of Russia Ordinance No. 5873-U, dated 2 August 2021, 'On Capital Adequacy Requirements for Professional Securities Market Participants Involved in Dealer, Brokerage, Securities Management and Forex Dealer Activities' effective from 1 October 2021.

LCR DYNAMICS (%)

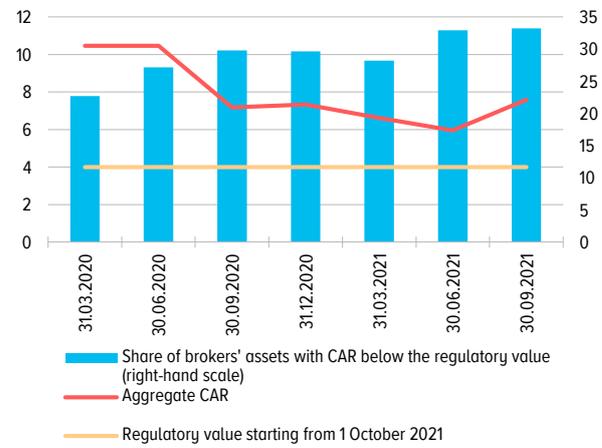
Chart 61



Source: Reporting form 0420454.

CAR DYNAMICS (%)

Chart 62



Source: Reporting form 0420455.

performance of a number of large companies. Companies that failed to comply with the standard must either increase their capital or rebalance their assets and liabilities in the near future.

## ANNEX. BRIEF DESCRIPTION OF INDICATORS PRESENTED IN TABLES 1–3

Indicator	Note	
	Brief description	Source
Debt burden at the macro level, %	Ratio of households' obligatory payments for servicing debt on loans to disposable household income	The <a href="#">methodology for calculating the household debt burden ratio</a> is set out in the information and analytical report of the Bank of Russia
Share of unsecured consumer loans with DSTI above 50% (80%) in the last quarter, %	Share of debt on consumer loans with debt service to income above 50% (80%) for the total debt on loans provided during the reporting quarter	Bank reporting form 0409704
Share of mortgage loans with DSTI above 50% (80%) in the last quarter, %	Share of debt on mortgage loans with debt service to income above 50% (80%) for the total debt on loans provided during the reporting quarter	Bank reporting form 0409704
Share of mortgage loans with LTV over 80% in loans issued in the last quarter, %	Share of debt on mortgage loans with a down payment of less than 20% in the total debt on loans provided during the reporting quarter	Bank reporting form 0409704
Primary housing market price index (YoY)	Nominal housing prices	Rosstat
Ratio of the average price per square meter in the primary housing market to the average salary per year	Numerator: <a href="#">Average price per square meter of the total area of apartments of all types in the primary housing market.</a> Denominator: <a href="#">Average monthly nominal accrued salary within a rolling one-year window</a>	Rosstat
Share of non-residents in the OFZ market, %	Ratio of the nominal volume of non-residents' investments in OFZs to the current volume of OFZ issues	NCI JSC NSD (National Settlement Depository)
Volume of the aggregate net position of foreign participants in currency swaps, \$ billion	Sum of all open positions on FX swaps by foreign participants ("+": long position in currency, "-": short position in currency)	Moscow Exchange, NCI JSC NSD
Share of short-term liabilities in the total volume of ruble liabilities to individuals, %	Ratio of individuals' funds in rubles maturing within 1 year to the total amount of individuals' funds in rubles	Bank reporting form 0409101
Ratio of the basic estimate of the gap risk over a one-year horizon with an increase in rates by 2 pp against net interest income for 1 year, %	Ratio of the baseline estimate of interest rate risk in the banking portfolio in terms of gap risk (the value of the parallel rate shift is 2 pp in accordance with the procedure for reporting form 0409127) to the net interest income (NII) of the banking sector for 12 months	Bank reporting forms 0409127, 0409102
Ratio of the estimate of the gap risk with behavioural adjustments over a one-year horizon with an increase in rates by 2 pp against net interest income for 1 year, %	Ratio of interest rate risk in the banking portfolio in terms of gap risk (the value of the parallel rate shift is 2 pp in accordance with the procedure for reporting form 0409127) with behavioural adjustments (taking into account possible early repayment of assets or calling of liabilities and exposure of paid current accounts to interest rate risk) to the NII of the banking sector for 12 months	Bank reporting forms 0409127, 0409102
Share of households' investments in FX instruments in the total investments of households, %	Ratio of households' investments in foreign securities, Russian bonds denominated in foreign currency and foreign currency deposits to the total investments in securities and deposits	Bank reporting form 0409711, reporting form of a professional securities market participant 0420415, banking sector survey
Share of households' investments in securities in the total investments of households, %	Ratio of households' investments in stocks and bonds of residents and non-residents to total investments in securities and deposits	Bank reporting form 0409711, reporting form of a professional securities market participant 0420415, Survey of the banking sector of the Russian Federation
Share of households' investments in non-resident stocks in the total volume of households' investments in stocks, %	Ratio of households' investments in non-resident stocks to total household investments in stocks of residents and non-residents	Bank reporting form 0409711, reporting form of a professional securities market participant 0420415
Dollarization of liabilities to individuals, %	Ratio of individuals' funds in foreign currency to the total funds of individuals	Bank reporting form 0409101
Dollarization of liabilities to corporate customers, %	Ratio of corporate customers' funds in foreign currency to the total funds of corporate customers	Bank reporting form 0409101
Dollarization of the corporate portfolio, %	Share of corporate loans denominated in foreign currency in total corporate loans	Bank reporting form 0409101

Indicator	Note	
	Brief description	Source
Total balance sheet open foreign currency position, % of capital	Ratio of the total balance sheet open foreign currency position to the capital of the banking sector	Bank reporting forms 0409634, 0409123
Net open foreign currency position, % of capital	Ratio of the net open foreign currency position to the capital of the banking sector	Bank reporting forms 0409634, 0409123
Debt burden of the non-financial sector, % of GDP	Ratio of the debt of the non-financial sector as of a specific date to GDP for 12 months ending on the date of calculation of the indicator	Expanded indicator of non-financial sector debt according to the Bank of Russia, GDP at current prices, according to Rosstat
Corporate sector external debt, % of GDP	Ratio of external debt of the public and private sectors in the category of 'other sectors' as of a specific date to GDP for 12 months ending on the date of calculation of the indicator	External debt of the Russian Federation (analytical presentation) according to the Bank of Russia, GDP in current prices, according to Rosstat
Net debt/EBITDA (for a sample of major non-financial companies)	Ratio of net debt to earnings before interest, income tax, depreciation and amortisation for a sample of about 100 major public companies in the non-financial sector of the Russian Federation	Financial reporting data of companies in Capital IQ
Operating profit interest coverage ratio (for a sample of major non-financial companies)	Ratio of earnings before interest and income tax to interest payments on debt obligations for a sample of about 100 major public companies in the non-financial sector of the Russian Federation	Financial reporting data of companies in Capital IQ
Capital buffer of the banking sector, % of the loan portfolio net of loan loss provisions	Ratio of banks' capital buffer before violation of required ratios and of the macroprudential capital buffer to debt on the corporate and retail loan portfolio, net of loan loss provisions	Bank reporting forms 0409135, 0409115
Return on equity, %	Ratio of profit for the 12 months preceding the reporting date to the average balance sheet capital for this period	Bank reporting form 0409101
LCR, %	Ratio of the sum of the values of the numerator of the liquidity coverage ratio (LCR) of all SIBs to the sum of the values of the denominator of LCR of all SIBs	Bank reporting forms 0409805, 0409135
Net stable funding ratio, %	Ratio of the sum of the values of the numerator of the net stable funding ratio of all SIBs to the sum of the values of the denominator of the net stable funding ratio of all SIBs	Bank reporting form 0409121
Ratio of liquid foreign currency assets to foreign currency liabilities, %	Ratio of liquid foreign currency assets to foreign currency liabilities	Bank reporting form 0409101
Insurance companies, ROE, %	Ratio of profit before tax for the past year to the average chronological value of equity for the past year	Insurance company reporting forms 0420125 and 0420126
Insurance companies (life), share of assets with a low credit rating or without a rating, %	Share of life insurers' assets without a credit rating or with ratings below: – Fitch Ratings B- – Moody's Investors Service B3 – S&P Global Ratings B- – Expert RA ruBB – ACRA (JSC) BB (RU) The share is determined for the following assets: – funds on accounts with credit institutions – deposits – securities	Insurance company reporting form 0420154
Insurance companies (non-life), share of assets with a low credit rating or without a rating, %	Share of non-life insurers' assets without a credit rating or with ratings below: – Fitch Ratings B- – Moody's Investors Service B3 – S&P Global Ratings B- – Expert RA ruBB – ACRA (JSC) BB (RU) The share is determined for the following assets: – funds on accounts with credit institutions – deposits – securities	Insurance company reporting form 0420154

Indicator	Note	
	Brief description	Source
Insurance companies (non-life), combined loss ratio, %	Sum of rolling loss ratios and expense ratios according to non-life insurers. The rolling loss ratio is calculated as the ratio of incurred losses to insurance premiums received. The rolling expense ratio is calculated as the ratio of deductions from insurance premiums, expenses for insurance operations, other income and expenses for non-life insurance and general and administrative expenses to insurance premiums received.	Insurance company reporting form 0420126
NPFs (pension savings), share of assets with a low credit rating or without a rating, %	Share in NPF pension savings of assets without a credit rating or with ratings below: – Fitch Ratings B- – Moody's Investors Service B3 – S&P Global Ratings B- – Expert RA ruBB – ACRA (JSC) BB (RU)	Specialised depository reporting form 0420865
NPFs (pension reserves), share of assets with a low credit rating or without a rating, %	Share in NPF pension reserves of assets without a credit rating or with ratings below: – Fitch Ratings B- – Moody's Investors Service B3 – S&P Global Ratings B- – Expert RA ruBB – ACRA (JSC) BB (RU)	Specialised depository reporting form 0420864
Brokers, share of entities with high leverage (5 or more), %	Share of assets of brokers with leverage of 5 or more in total assets of all brokers	Reporting form of a professional securities market participant 0420002
Brokers, share of brokers' assets with LCR below 0.7, %	Share of assets of brokers with LCR below 70% in total assets of all brokers that calculate LCR	Reporting form of professional securities market participant 0420454
Brokers, CAR aggregated by industry, %	Ratio of the total capital of all brokers to the sum of the credit and market risk of all brokers	Reporting form of professional securities market participant 0420455
MFOs, median MFCR1, %	Median capital adequacy ratio of microfinance companies	Microfinance company reporting form 0420840
MFOs, median MCCR1, %	Median capital adequacy ratio of microcredit companies	Microcredit company reporting form 0420846
MFOs, share of NPL 90+, %	Ratio of debt on consumer microloans with payments more than 90 days overdue (including under restructured consumer loan agreements estimated as the sum of restructured claims on short-term household loans and other restructured claims (all other loans) in proportion to the share of consumer debt in the loan portfolio) to the consumer microloan portfolio	Microfinance company reporting form 0420840 and microcredit company reporting form 08402846
Leasing companies, portfolio dynamics, %	Annual dynamics of lease payments (including overdue payments) and receivables under terminated finance lease and operating lease agreements	Bank of Russia survey
Leasing companies, share of non-performing debts, %	Ratio of non-performing (more than 90 days) and restructured agreements (excluding overdue payments with an uninterrupted period of more than 90 days) and debt under terminated lease agreements to the leasing portfolio	Bank of Russia survey
Factoring, portfolio dynamics, %	Annual dynamics of outstanding payments transferred to the factor	Association of Factoring Companies
Factoring, share of non-performing contracts, %	Ratio of non-performing agreements (more than 90 days) to the factoring portfolio	Bank of Russia survey

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