Bank of Russia

Q4 2020 – Q1 2021

FINANCIAL STABILITY REVIEW

Information and analytical review

Moscow
2021

CONTENTS

This material was prepared by the Bank of Russia Financial Stability Department.

All statistical data and calculations in this review are provided as of 1 April 2021.

The electronic version of this Review is available in Russian and English on the Bank of Russia's official website

You can send your remarks, comments, or suggestions concerning the structure or contents of the review to reports@cbr.ru.

Photo on the cover: Shutterstock/FOTODOM

12 Neglinnaya St., Moscow 107016, Russian Federation
Bank of Russia website: www.cbr.ru

SUMMARY

As expected, 2021 is becoming a recovery year for both the Russian and global economy. The situation in the financial markets and the financial sector remains relatively calm. At the same time, the current epidemic situation in the world is still complex and there are continued risks of a periodic aggravation of the pandemic and, accordingly, increased market volatility. Regulators are faced with the task of finding a balance between supporting the economy and unwinding support measures in order, on the one hand, to promote further economic recovery, and on the other hand, to prevent the accumulation of risks, excessive growth of debt burden, overvaluation of assets, and, as a result, reduced resilience of the financial system.

1. Risks of the global economy and global financial markets

In the reporting period, economic activity has largely recovered in many countries, and forecasts for global growth prospects have improved on the back of the launch of large-scale vaccination of the population against COVID-19 as well as the key regulators' support measures. According to the April estimates of the International Monetary Fund (IMF), global GDP is set to grow by 6.0% in 2021 vs. a 3.3% decline in 2020. In this context, favourable sentiment has formed in global financial markets: stock indices in the US (S&P 500) and emerging market economies (EMEs) (FTSE EM) have reached new all-time highs, oil prices have returned to their pre-pandemic levels, and there have been record net inflows of portfolio investment in EMEs.

Although the situation in global financial markets remains stable overall, risks that the positive trend might reverse still persist due to the following two factors. Firstly, global inflation expectations have risen, among other things owing to the fact that the US and other countries are maintaining expansionary fiscal policy. This has led to a rise in the yields of US treasury bonds since early 2021 and, as a result, to an increase in interest rates in other countries. Risk premiums in EMEs have resumed growth. Secondly, uncertainty increased due to the fact that at the end of March the number of infections has started to grow again, and certain countries have extended restrictions (in Europe, in certain Asian countries). If the pandemic aggravates, for example, if new strains for which the existing vaccines are less effective spread, global growth prospects may deteriorate. At the same time, vulnerabilities in the global financial system continue to accumulate, which may increase market instability during periods of stress.

The key vulnerability for many countries is the threat of the spread of the so-called 'zombie' companies in the corporate sector as a result of the significant support measures provided during the pandemic. The realisation of corporate insolvency risks and serious losses in the banking sector due to low profitability (primarily in Europe) may entail systemic risks, as well as limit the possibilities for granting new loans. Another side effect of large-scale support measures, primarily budget spending, may be a noticeable acceleration of inflation in the leading countries, which would cause further increase in interest rates and volatility surges in financial markets. In addition, an excessive increase in public debt may undermine market participants' confidence in the stability of public finance, which will entail growth in sovereign credit risk. The widening gap between the prices of financial instruments and fundamental indicators may become an additional factor causing instability amid the persistence of accommodative financial conditions. Stock market indices are at their highs while there is a significant (and accelerating) increase in real estate prices in the US and a number of other countries. Structural imbalances in certain countries, as well as geopolitical risks, may increase volatility in local markets and lead to capital outflows from EMEs in general.

The episodes of high volatility in external markets during the reporting period and the increased sanction risks in April 2021 (when US sanctions against purchasing Russian ruble-denominated government debt in the primary market starting from 14 June were announced) did not affect the stability and functioning of the Russian financial market. Although uncertainty about potential external threats persists, the stable macroeconomic situation and the financial sector's safety margin will help maintain Russia's resilience to external challenges. The Bank of Russia is ready to implement support measures if necessary.

2. The financial and real sectors in the context of the COVID-19 pandemic

Companies' financial standing and corporate credit risks

The pandemic had a negative impact on the financial standing of many companies: both large firms and SMEs faced a decline in revenues and an increase in debt in 2020 (due to a higher demand for loans and foreign currency revaluations), which led to growth of their debt burden. The debt burden of the largest public companies[1] (measured by the debt/EBITDA ratio), which accounted for 45% of the total debt of the non-financial sector at the end of Q4 2020, reached 2.9x in 2020. This dynamics is temporary and has been caused largely by decline in profits and not by increased debt (most of which is related to revaluations of foreign currency obligations). Amid recovery of the economy and corporate profits in Q1 2021 debt burden ratios are expected to improve.

The decline in global oil prices and the forced reduction of oil production under the new OPEC+ deal had a negative impact on the financial standing of oil and gas companies. However, their debt metrics still remained at acceptable levels, and further improvement can be expected amid the return of oil prices to the pre-pandemic level and easing of OPEC+ restrictions. A significant increase in prices of a range of ferrous and non-ferrous metals [2] in the second half of 2020 – early 2021 amid the recovery of demand in China is having a positive effect on the financial standing of metallurgical companies.

In the absence of large-scale quarantine restrictions in Russia in Q4 2020 – Q1 2021, the situation in commercial real estate is developing in line with a moderate scenario relative to what could have been expected at the beginning of the pandemic. In Moscow, the vacancy rate of retail space rose to 11%, which is significantly less than during the 2014–2015 crisis. The office space segment has been less affected so far; however, its long-term development will be hindered by the transfer of some employees to remote work.

In Q3 and Q4 2020, the turnover of small enterprises (excluding microenterprises) was 9.6% and 10.8% less than in 2019, while the turnover of enterprises in such industries as tourism, hotels, and public catering dropped by 32% and 30.1% YoY.

Amid worsening global epidemic situation in spring 2021, Russian air transportation industry is undergoing a slower than expected recovery after suffering an unprecedented blow brought about by the pandemic: the volume of passenger air transportation dropped by 54% YoY in 2021. Due to the excess fleet and rising debt burden of airlines, their financial resilience will largely depend on the amount of state support. The main factor supporting the industry will be tourists switching to the domestic market.

Overall, debt burden growth will be temporary for most industries, and companies' financial performance may be expected to improve as the Russian economy recovers. This is evidenced by a considerable reduction in companies' demand for loan restructuring already observed at the end

[1] Roughly 90 of the largest Russian public companies.

[2] Aluminium by 69%, nickel by 46%, zinc by 49%, and palladium by 57 (YoY over 12 months (as of mid-May); according to Bloomberg).

of 2020: the average number of applications for debt restructuring decreased from over 85,000 in Q2–Q3 2020 to 8,000 in Q4 2020 – Q1 2021[3]. In 2020, banks' efforts to restructure the debt of companies facing difficulties, coupled with the Bank of Russia's regulatory measures, delayed the growth of bad debt (the share of quality category IV and V loans decreased in Q4 2020 – Q1 2021 by 1.0 pp to 9.7%).

The termination of most of the government lending support measures, under which more than 2 trillion rubles were allocated in 2020, including 1.4 trillion rubles to SMEs, did not slow down lending activity, as it was offset by accommodative monetary conditions. The loan portfolio grew by 9.1% YoY as of 1 April 2021.

The Bank of Russia key rate cuts in 2019–2020 spurred the transition of the Russian corporate sector to floating-rate ruble denominated loans, with the share of such loans totalling 37.5% as of 1 April 2021. Most of them were issued to borrowers with good financial standing, and an increase in interest rates will not lead to a deterioration in their creditworthiness.

Household debt burden and retail lending risks

Amid the pandemic, the increase in household debt was not accompanied by growth of household incomes, which led to an increase in the debt service ratio to 11.7% as of 1 January 2021.[4] Despite the high growth rates of mortgage lending (23% in annual terms as of 1 April 2021), the contribution of mortgage lending to the increase in debt burden was offset by a reduction in interest rates on loans to an average of 7.3% p.a. Unsecured consumer loans made the main contribution to the increase in debt burden. Amid dynamic economic recovery, the growth of debt on consumer loans in Q1 2021 was in line with the growth rate of more than 15% in annual terms.

The quality of the loan portfolio still exceeds the levels expected at the beginning of the pandemic. For 75% of restructured consumer loans, the restructuring period ended on 1 January 2021. Given the credit quality of loans that were restructured in 2020, it can be expected that the losses on restructured loans will not exceed 70–90 billion rubles in 2021 and 110 billion rubles during the total lending period. Due to withdrawal of relaxations with respect to provisions from 1 July 2021, the Bank of Russia has released part of the macroprudential buffer accumulated by banks on unsecured consumer loans in the total amount of 124 billion rubles. At the same time, amid the accelerated growth of consumer lending and an increase in household debt burden, the Bank of Russia has raised macroprudential add-ons on newly issued consumer loans to the pre-pandemic values. Increased add-ons will help reduce the incentives of banks to expand lending by issuing loans to borrowers with a high payment-to-income (PTI) ratio, as well as gradually restore the capital buffer and insure banks' resilience to potential stress scenarios.

Assessment of the banking sector resilience

During the pandemic, the banking sector has remained resilient to external shocks. Before the pandemic, credit institutions had accumulated sufficient capital and liquidity buffers, which, along with the Bank of Russia's anti-crisis measures, enabled them to support households and businesses through loan restructuring and continue lending to the economy.

Substantial profits of credit institutions will help maintain resilience to external shocks. As of the end of 2020, the banking sector's net profit totalled approximately 1.6 trillion rubles, which is only 6.3% less than the record values of 2019. Despite the difficulties of the crisis period, the key performance indicators of the banking sector remained at a rather high level. As of 1 April 2021, the return on assets stood at 1.6% and the return on equity at 15.8%. However, excluding the results of certain large banks and banks that had significant one-off expenses, the sector's profit shrinks

[3] *According to Bank of Russia's monitoring.*

[4] *Debt service ratio -- the ratio of loan payments to total household disposable income.*

by nearly a third, which, according to the Bank of Russia's assessment, better reflects the situation. Nonetheless, this result is rather positive given the current macroeconomic conditions and allows banks to further increase lending.

The dynamics of loan portfolio quality will primarily depend on the quality of servicing of restructured loans and the ability of borrowers from pandemic-affected industries to restore their financial standing. According to the Bank of Russia's estimates, aggregate losses on restructured loans will be extended over time and may amount to about 1.4 trillion rubles, which is lower than the volume of 2020 net income. Thus, financial results of the banking sector is able to fully cover possible losses on restructured loans. Moreover, banks have a significant capital buffer (6.0 trillion rubles) which can be used, as necessary, to absorb the indicated losses.

The liquidity situation in credit institutions is generally balanced. The Bank of Russia's instruments made it possible to smooth out temporary imbalances in the distribution of ruble liquidity in late 2020 – early 2021. In order to stimulate systemically important banks (SIBs) to manage their liquidity risk mainly through the use of market instruments, the Bank of Russia adjusted the parameters for the provision of an irrevocable credit line (ICL).[5]

Assessment of the resilience of non-bank financial institutions

During the pandemic, the financial standing of non-bank financial institutions (insurance companies, non-government pension funds (NPFs) and brokers) remained stable owing to the high quality of their assets. As of the end of 2020, profits of insurers and brokers remained at the 2019 level, while the return on pension savings and pension reserves of NPFs exceeded inflation. During the reporting period, brokers continued to rapidly attract new clients and increase the volume of client assets (during Q4 2020 – Q1 2021, the volume of assets of individuals rose by 27% to 2 trillion rubles). Due to the growing systemic importance of brokers in the financial market, the Bank of Russia accelerated the introduction of a capital adequacy ratio for professional securities market participants that takes into account credit and market risks. In 2021, it is also planned to introduce a risk-based approach to calculating capital to liabilities ratio of insurance companies.

3. Financial sector vulnerabilities

Short-term financial sector vulnerabilities

RUSSIAN DEBT MARKET'S SENSITIVITY TO ACTIONS TAKEN BY NON-RESIDENTS

During the previous periods of elevated volatility,[6] the behaviour of non-residents increased the amplitude of fluctuations in the Russian debt market. Over the last year, the share of foreign investors' OFZ holdings has significantly decreased: from the maximum value of 34.9% as of 1 March 2020 to 20.9% as of 1 April 2021[7]. At the same time, the amount of non-residents' OFZ holdings in absolute terms has remained virtually unchanged during recent years: since 2019, their amount has averaged 2.7 trillion rubles. Over the said period, yields on 10-year OFZs have slightly increased (by 56 bp) compared to a 73 bp average growth for 10-year government bonds in EMEs. OFZ placements in the primary market have been successful despite net OFZ sales by non-residents during this period.

---

[5] *In order to encourage the replacement of open ICLs with market instruments, effective from 1 October 2021 the Bank of Russia set the pre-crisis fee (0.5%) for the right to use ICLs opened from 1 April 2021 onwards, and from that date the plan to gradually reduce individual ICL limits came into force.*

[6] *April and August 2018, March 2020.*

[7] *According to the Bank of Russia official site (reporting form 0409711).*

In April 2021, US sanctions were imposed on US investors' acquisition of OFZs in the primary market, effective from June 2021. The impact of the sanctions on the public debt market has been limited since they have been expected and already partially priced in the yield curve. The stability of the OFZ market is explained by Russia's low public debt level and low structural budget deficit. In 2020, the ratio of total public debt to GDP rose by 4.8 pp to 17.1%[8] as of the end of the year, but even with new placements, it is still the smallest of the G20 countries. Secondly, the OFZ market is characterised by sufficient demand from domestic investors, primarily credit institutions. Currently, the Russian banking sector owns OFZs worth 8.1 trillion rubles,[9] or 7.5% of the sector's assets. If banks buy out the entire planned amount of the Ministry of Finance's placements by the end of the year (including the part already purchased in Q1 2021), this indicator would increase by only 1.8 pp to 9.3%, which is also a moderate level.

INTEREST RATE RISKS OF THE BANKING SECTOR

The banking sector's exposure to interest rate risk remained generally unchanged in the reporting period, yet the risk was more likely to materialise due to the upward trend in interest rates.

The main factor increasing banks' exposure to interest rate risk, i.e. the growing share of short-term liabilities, above all, balances in households' savings accounts, is still in place. The main factor behind the decrease in interest rate risk exposure was the growth of lending to legal entities at floating rates and an increase in the volume of variable-coupon bonds in banks' assets. The role of derivatives in interest rate risk hedging has also increased. However, the size of the derivatives market is still insufficient for large-scale hedging of interest rate risk.

Key rate hikes by the Bank of Russia will have a moderate negative impact on the banking sector's net interest income (NII), since the growth of expenses on borrowed funds due to higher interest rates will likely occur at a faster pace than the increase in the return on assets due to the lower maturity of the banking sector's liabilities compared to assets (gap risk). As of 1 April 2021, the gap risk of the banking portfolio (changes in the NII if interest rates rise by 200 bp[10] over a one-year horizon) is within the range of 128 to 317 billion rubles[11], which is equivalent to the negative impact on the banking sector's NII from 3.5 to 8.8%, with the main part of interest rate risk concentrated in Russian SIBs.

RISKS OF PRICE 'BUBBLES' IN THE RESIDENTIAL REAL ESTATE MARKET

Preferential mortgage lending programmes supported demand for mortgage loans and housing during the acute phase of the pandemic. However, the stimulation of mortgage lending without a corresponding increase in housing construction contributed to the growth of real estate prices. According to Rosstat data as of 1 April 2021, prices in the primary housing market increased by 17.6% in annual terms and by 13.6% in the secondary market. In certain regions, price growth reached 20–30% amid a decline in real household incomes. This has led to a situation where housing mortgage affordability for households remained virtually unchanged, despite a significant decline in mortgage rates since the outbreak of the pandemic (from 8.7% to 7.3%).

The quality of the mortgage loan portfolio remains high, with loans overdue for more than 90 days accounting for 1.2%. However, the share of loans with down payments of less than 20% continue to increase (from 32% before the pandemic to 37% in Q1 2021) primarily due to loans granted under preferential government programmes (from 33% before the pandemic to 45% in Q1 2021). Risks in the mortgage segment may accumulate if households purchase housing for investment purposes.

[8] The ratio was calculated for Russia's internal and external debt (according to Russian Ministry of Finance).

[9] According to reporting form 0409711 as of 1 April 2021.

[10] 200 bp – the amount of parallel shift of interest rates according to the procedure for compiling reporting form 0409127 (Bank of Russia Ordinance No. 4927-U).

[11] Depending on the assumptions used in the models.

To limit the banks' risks caused by looser lending standards and accelerated residential real estate price growth, the Bank of Russia has decided to increase macroprudentian add-ons to risk weights on mortgage loans with down payment from 15 to 20%, depending on the borrower's PTI ratio. New add-ons will be applied to loans provided from 1 August 2021. If the accelerated growth of real estate prices persists or lending standards weaken, the Bank of Russia may consider further tightening of macroprudential policy with respect to mortgage loans, provided to borrowers with high debt burden.

Potential financial sector vulnerabilities in the medium and long term

RISKS OF INFLOW OF HOUSEHOLDS' INVESTMENTS INTO FOREIGN FINANCIAL INSTRUMENTS

Active growth Russian households investing in securities, which began in the first half of 2020, persisted in Q4 2020 – Q1 2021. Over the said period, households showed great interest in non-residents' shares (net inflows totalled 282 billion rubles) and resident companies' bonds (294 billion rubles).[12] The increase in investments in foreign shares is associated with favourable dynamics in the stock markets in the leading countries and a decrease in foreign currency interest rates.

This trend of the active growth of Russian households' investments in non-resident securities has a number of advantages, however, if it accelerates significantly, the accumulation of systemic risks cannot be excluded. The advantages include the fact that the acquisition of foreign shares increases diversification, including sectoral, of household investment portfolios. The IT sector accounts for about 31% of investments in foreign shares while investments in the oil and gas sector prevail in the Russian stock portfolio (33%). Diversification makes it possible to achieve a more sustainable return on investments and may also have a countercyclical effect on investors' incomes in unfavourable periods. Foreign shares are mainly purchased via brokerage services on the Saint Petersburg and Moscow exchanges, which promotes the development of the business of Russian brokers and financial market infrastructure organisations and ensures transparency for the regulator.

At the same time, a continuous rise in investments in foreign securities may be accompanied by the increased share of foreign currency in household savings and have negative consequences, such as an increased outflow of private capital and a deterioration of foreign currency liquidity in the Russian banking sector.

Currently, this trend is still early in development, and the benefits of diversification exceed potential systemic risks: since the beginning of 2020, the share of foreign shares in the portfolio of households has increased from 4% to 16%, which is moderate. At the end of Q1 2021, the share of foreign currency savings of households stood at 22%[13], as at the beginning of the year. Thus, the risks associated with an increase in investments in foreign securities are still moderate and manageable. Nonetheless, as a preventive measure, the Bank of Russia considers it advisable to only offer tax incentives related to individual investment accounts for securities of domestic companies.

CLIMATE RISKS

In recent decades there has been an accelerated structural reorganization of energy use – transition from direct use of fuel to the most universal (or sole source for a lot of processes) and efficient source of energy – electricity, active electrification of all sectors of consumption is underway. The outlook for the liquid hydrocarbons market will largely depend on the decisions made by the leading economies to ensure a balance between energy availability for consumers and minimization of negative environmental impacts. During the last year, the global attention to climate

---

[12] *Ruble deposits and funds in household accounts increased by 262 billion rubles in the reporting period.*

[13] *The indicator was calculated as the ratio of the sum of foreign currency deposits, investments in shares and bonds of non-residents and bond of residents, denominated in foreign currencies to deposits and investments in shares and bonds.*

agenda and, subsequently, to negative environmental impact of corporate sector has increased dramatically: countries, companies, and investors have been intensifying their efforts to transition to a low-carbon economy, setting targets for achieving carbon neutrality by the middle of the 21st century. The EU is preparing to introduce a carbon border tax; global investors are reshaping their portfolios in favour of green assets, refusing to invest in coal, and gradually reducing their investments in the oil and gas sector. The measures that are being implemented create climate transition risks for countries with a high share of the oil and gas sector, metal and other industries with a high carbon footprint.

Given the high carbon intensity of the Russian non-financial sector, the global trend towards a sustainable economy may have a significant impact on its financial standing in the long run. The Bank of Russia's stress test of the impact of the carbon tax shows that most exporters will retain an acceptable financial standing after its introduction, and banks' potential losses as a result of increased provisions will be insignificant. However, changes in global investors' strategies may entail difficulties with regard to exporters' capability to refinance external debt, which will force them to raise more funds from Russian banks and in the domestic debt market. This will increase the concentration of risks and the exposure of the Russian financial sector to climate risks.

Exporters should be more active in undergoing a transformation by enhancing their environmental sustainability, and financial institutions should take into account climate risks in their activities, which includes when making lending decisions, thereby stimulating the Russian economy to become greener.

1. RISKS TO THE GLOBAL ECONOMY AND GLOBAL FINANCIAL MARKETS

During the reporting period, the outlook for global economic growth improved markedly against the background of mass vaccination for COVID-19 in the leading countries. Stock indices in the USA and EMEs hit new historic highs. An increased risk appetite among global investors enhanced the inflow of portfolio investments to EMEs. At the same time, the favourable economic outlook against a backdrop of large budgetary expenditures is being accompanied by a strengthening of inflation expectations, which has led to an increase in bond yields in the United States and other countries since the beginning of 2021. If financial conditions tighten considerably, markets may undergo corrections. Besides, the rate growth emphasises the significance of risks related to an increased debt burden both in the public and corporate sectors. In general, the situation regarding the pandemic remains uncertain, and the pace of vaccination is uneven, which also creates risks of market corrections.

In January and April 2021, the IMF raised its forecast for global GDP growth in 2021 by a total of 0.8 pp to 6.0% after a decline of 3.3% in 2020 (Table 1). The IMF expects that the GDP of developed countries will increase by 5.1% (against a decrease of 4.7% in 2020) and that of EMEs and developing countries will increase by 6.7% (against a decrease of 2.2% in 2020).

The prospects for global economic growth improved due to the start of large-scale vaccination against COVID-19 around the world and the expansion of the support measures taken by leading regulators. In particular, several packages of fiscal incentives were approved in the US amounting to $900 billion in December 2020 and $1.9 trillion in March 2021. Against this background, the growth of economic activity significantly accelerated in the USA both in the manufacturing and service sectors. In Europe, despite high infection rates and new variants of the coronavirus, renewed lockdowns did not have such a strong impact on the business activity as they did at the beginning

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

Table 1

	2020	Forecast for April 2021		Deviation from January 2021 forecast (pp)		Deviation from October 2020 forecast (pp)	
		2021	2022	2021	2022	2021	2022
Global GDP growth rates	***-3.3***	***6.0***	***4.4***	***0.5***	***0.2***	***0.8***	***0.2***
Advanced economies	***-4.7***	***5.1***	***3.6***	***0.8***	***0.5***	***1.2***	***0.7***
USA	-3.5	6.4	3.5	1.3	1.0	3.3	0.6
United Kingdom	-9.9	5.3	5.1	0.8	0.1	-0.6	1.9
Euro area	-6.6	4.4	3.8	0.2	0.2	-0.8	0.7
Germany	-4.9	3.6	3.4	0.1	0.3	-0.6	0.3
Italy	-8.9	4.2	3.6	1.2	0.0	-1.0	1.0
Spain	-11.0	6.4	4.7	0.5	0.0	-0.8	0.2
Japan	-4.8	3.3	2.5	0.2	0.1	1.0	0.8
EMEs and developing countries	***-2.2***	***6.7***	***5.0***	***0.4***	***0.0***	***0.7***	***-0.1***
China	2.3	8.4	5.6	0.3	0.0	0.2	-0.2
India	-8.0	12.5	6.9	1.0	0.1	3.7	-1.1
Russia	-3.1	3.8	3.8	0.8	-0.1	1.0	1.5
Brazil	-4.1	3.7	2.6	0.1	0.0	0.9	0.3
South Africa	-7.0	3.1	2.0	0.3	0.6	0.1	0.5
Mexico	-8.2	5.0	3.0	0.7	0.5	1.5	0.7

Source: IMF.

of the pandemic in the spring of 2020 (Table 2). In the euro area, the manufacturing sector showed a marked acceleration of business activity growth in February and March. Activity in its service sector recovered at a slower pace – the Markit PMI increased from 41.7 points in November 2020 to 48.8 points in March 2021. However, the situation is still unstable: some deterioration of the epidemical situation in European countries and in Asia (India) at the end of March exacerbated the risks of new lockdowns. A number of countries have extended their quarantine measures to contain the spread of the pandemic. Thus, the recovery process is uneven, and unemployment in many countries remains high. The problems related to the availability of vaccines in low-income countries can lead to the threat of new variants of the mutating virus and represent a serious challenge to the sustainable and synchronous recovery of the global economy.

Improvement in the global growth outlooks thanks to vaccination contributed to the growth of optimism in global markets. Global stock indices in the US (S&P 500), the euro area (Eurostoxx 600) and EMEs (FTSE Emerging Markets) reached historic high figures (Chart 1) when, during the reporting period, they grew by 18, 18 and 19%, respectively. Furthermore, the market value of shares in the United States has significantly exceeded the fundamental indicators of the companies involved. The ratio of the stock's market value to annual earnings per share (price to earnings ratio) on the S&P 500 index rose markedly (to 32 at the end of March) at the expense of technology companies (the figure for Tesla is 837). In such a situation, concerns about the collapse of 'bubbles' in the stock markets have increased. At the same time, the short-term fall in the value of some shares in the United States in the context of the 'short-squeeze'[1] at the end of January 2021 put the growing role of speculative factors on display.

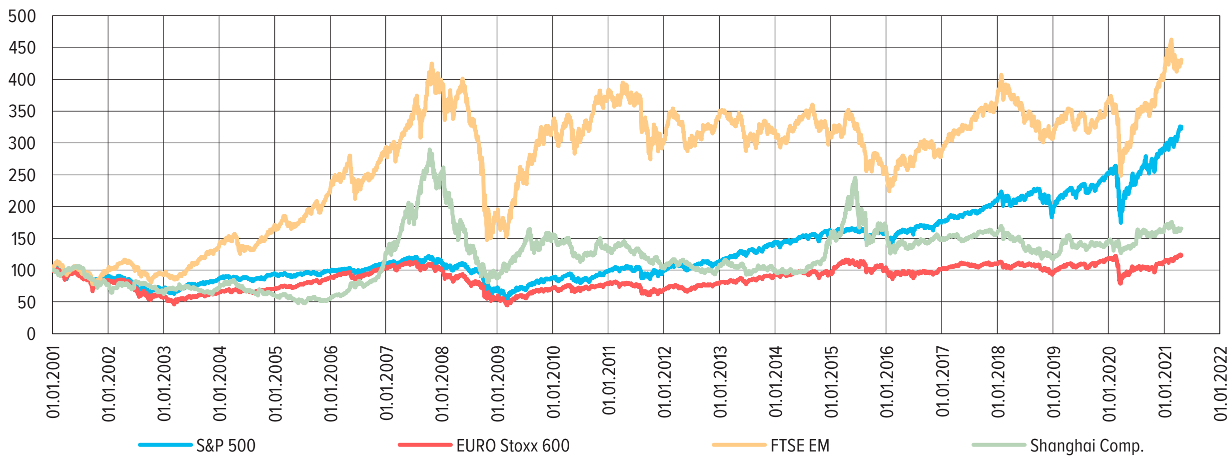
MARKIT PMI INDICATORS *Table 2*

	April 2020	November 2020	January 2021	March 2021	April 2020	November 2020	January 2021	March 2021
	Industry				Services			
World	39.6	53.8	53.6	55.0	23.7	52.2	51.6	54.7
USA	36.1	56.7	59.2	59.1	26.7	58.4	58.3	60.4
United Kingdom	32.6	55.6	54.1	58.9	13.4	47.6	39.5	56.3
Euro area	33.4	53.8	54.8	62.5	12.0	41.7	45.4	49.6
Germany	34.5	57.8	57.1	66.6	16.2	46.0	46.7	51.5
France	31.5	49.6	51.6	59.3	10.2	38.8	47.3	48.2
Italy	31.1	51.5	55.1	59.8	10.8	39.4	44.7	48.6
Spain	30.8	49.8	49.3	56.9	7.1	39.5	41.7	48.1
Japan	41.9	49.0	49.8	52.7	21.5	47.8	46.1	48.3
China	49.4	54.9	51.5	50.6	44.4	57.8	52.0	54.3
India	27.4	56.3	57.7	55.4	5.4	53.7	52.8	54.6
Russia	31.3	46.3	50.9	51.1	12.2	48.2	52.7	55.8
Brazil	36.0	64.0	56.5	52.8	27.4	50.9	47.0	44.1

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

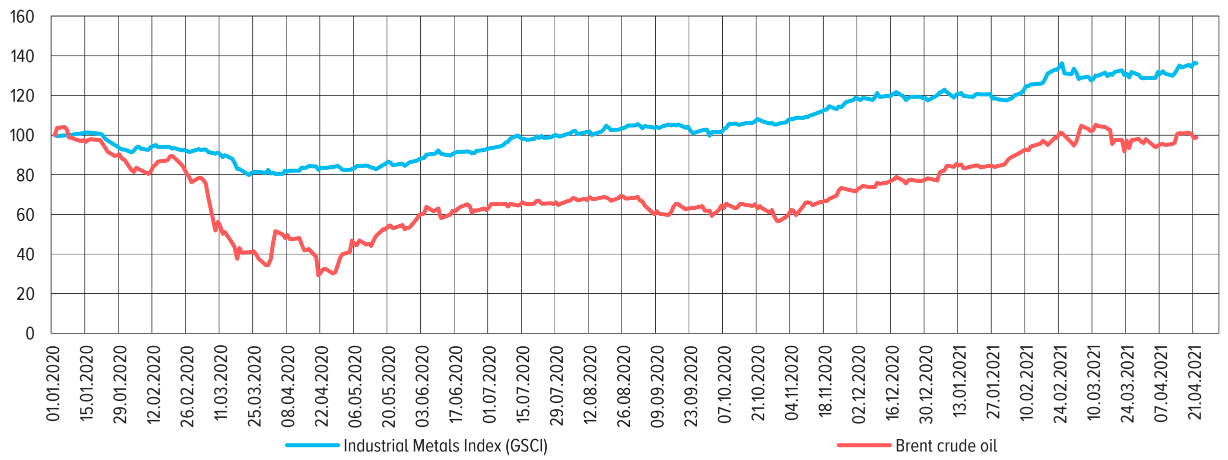
[1] *In January 2021, stock prices of certain loss-making companies (e.g. Gamestop) demonstrated abnormal growth caused by demand from retail investors who united on social networks (Reddit and a number of other platforms) against hedge funds, which were bearing the stocks of these companies. As a result, the hedge funds were forced to massively close short positions on unexpectedly rising stocks to minimise losses.*

DYNAMICS OF STOCK INDICES *Chart 1*
(1 JANUARY 2001 = 100)



Source: Bloomberg.

DYNAMICS OF COMMODITY PRICES *Chart 2*
(1 JANUARY 2020 = 100)



Source: Bloomberg.

In March 2021, oil prices reached pre-pandemic values (the price of Brent crude oil reached $70 per barrel) (Chart 2). Oil prices were additionally supported by a smoother easing of OPEC+ requirements on limiting oil production and the voluntary reduction of production by Saudi Arabia. Commodity prices in other categories also rose. During the reporting period, the GSCI Industrial Metals index grew by 28% to the highest level since 2011. This primarily reflects an increased demand for metals (iron, copper) from China thanks to its faster economic recovery.

Meanwhile, since the beginning of 2021, the trends in the rate dynamics in the global markets have been changing. This is due to growing inflation expectations in the US against the backdrop of large-scale support measures (the Federal Reserve expects inflation to accelerate this year to 2.4% in the context of a gradual economic recovery). As a result of aggravated inflation risks, the US 10-year treasury bond yields rose by 83 bp to 1.74% in January–March 2021, the highest level since January 2020. Moreover, the market began to expect the US Fed to start raising its key rate earlier (toward the end of 2022), even despite the regulator's verbal interventions on its intention to maintain a loose monetary policy for a long time. When rates rise in the US, rates in other countries also go up. In January–March 2021, 10-year government bond yields in Australia grew by 82 bp; in the UK, by 65 bp; in Germany, by 28 bp. Some differentiation among advanced economies is associated with investors' expectations regarding monetary policy and asset purchases by central banks.

EMEs see a more significant increase in the yields of government bonds in national currencies (in January–March 2021, on average for the 14 main EMEs by 120 bp, Table 3). This partly reflects rising rates in the leading countries and idiosyncratic factors in certain EMEs, including a decline in fiscal sustainability (for more on the structural imbalances in EMEs, see Box 1). At the same time, in some countries (Turkey, Brazil), the growth in borrowing costs rose considerably due to aggravation of inflation risks, compelling the central banks of these countries to raise their key rates.

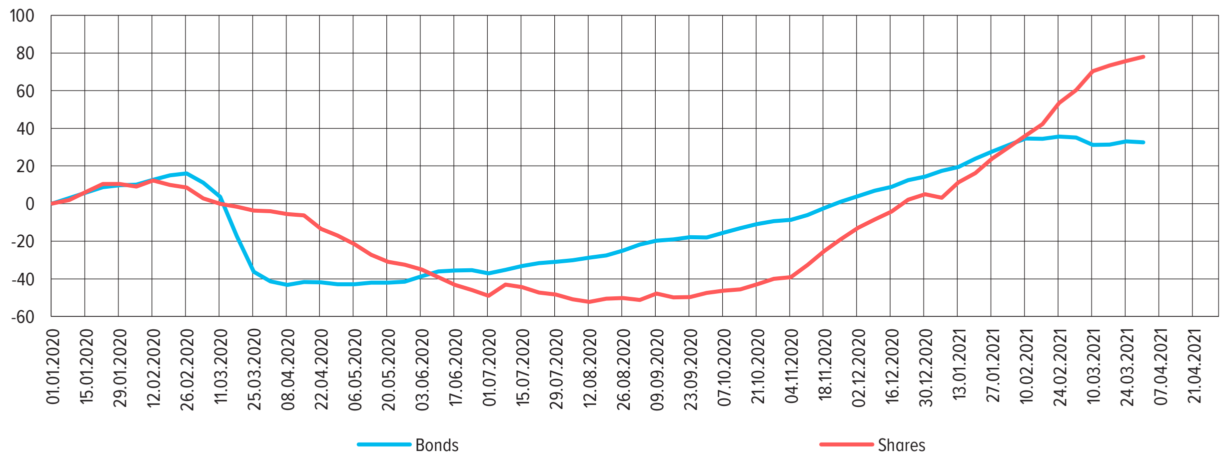
Meanwhile, an increase in risk appetite among global investors, amid expectations of a more favourable outlook for global growth, especially in the United States, has led to record high capital inflows to emerging markets (Chart 3). But while a net inflow of investments in equity funds was observed throughout the reporting period, the debt markets in EMEs in February–March 2021 faced outflows amid increasing concerns about EME sustainability amid growing interest rates. Deterioration in the perception of EME risks by investors was reflected in the accelerated growth of country risk premiums. From mid-February to the end of March, the value of 5-year CDS for 14 EMEs increased by 30 bp to 119 bp (at the end of January 2020, the value was 81 bp) on average. Against this background, the national currencies of EMEs began to weaken. From mid-February to the end of March, the value of the EME currency basket to USD (J. P. Morgan index) decreased by 4.6%. The currency crisis in Turkey caused by the unexpected resignation of the head of the central bank put additional pressure on EME currencies. Besides, a renewed daily growth in COVID-19 infections at the end of March 2021 and extended quarantine restrictions (in Europe, India) heightened fears of the new wave of the pandemic, thus influencing risk sentiment in global markets as a whole.

Given the deteriorating external environment as well as the aggravated risks of sanctions, volatility rose in the Russian financial market, but in comparison with many EMEs the main market indicators in Russia in January–March 2021 showed a higher degree of stability (Table 3). In April 2021, the US authorities announced the introduction of sanctions against Russian public debt (a ban on American financial institutions purchasing OFZs at primary auctions from June 14). When introduced, the sanctions did not have a significant impact on the Russian financial market as they were largely already priced into the market (see subsection 3.1.1).

The further development of the economic situation and the dynamics of global financial markets will depend, first and foremost, on the COVID-19 situation. In the coming years, new waves of the pandemic may emerge, if the pace of vaccination remains low, and new more infectious variants of coronavirus appear, for which vaccines may be less effective.

Regulatory policies will play an important role – namely, how effectively the support measures will be adapted to the stage of the pandemic and the structural characteristics of the economy,

DYNAMICS OF NET INVESTMENTS OF GLOBAL INVESTORS IN EME STOCK AND BOND FUNDS, WEEKLY DATA WITH A CUMULATIVE TOTAL *Chart 3*
($ BILLION)



Source: EPFR.

CHANGE IN EMES' MARKET INDICATORS IN JANUARY–MARCH 2021

Table 3

Country	Change in indicators in January–March 2021						Values of indicator	
	Exchange rate of national currency to the 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
	%		b.p.				%	b.p.
Turkey	-9.8	-5.8	557	163		1	18.08	468
Colombia	-6.4	-8.4	153	45		2	6.37	133
Brazil	-7.8	-2.0	191	80		3	8.89	222
Philippines	-1.0	-9.8	148	8		4	4.45	45
Malaysia	-3.0	-3.3	60	7		5	3.28	45
Indonesia	-3.3	0.1	72	22		6	6.81	89
Poland	-5.5	1.9	32	-13		7	1.58	37
Mexico	-2.5	7.2	159	31		8	6.89	113
China	-0.4	-0.9	0	6		9	3.20	35
Hungary	-3.8	5.4	63	0		10	2.78	64
Russia	-2.1	7.7	122	22		11	7.13	111
India	-0.1	3.7	28	16		12	6.18	80
Thailand	-4.1	9.5	62	6		13	1.78	41
South Africa	-0.5	11.9	75	37		14	9.49	239
Chile	-1.2	17.3	85	14		15	3.68	59
14 EMEs excluding Russia	-3.5	1.9	120	30			5.96	119

Latin America | Europe, Middle East and Africa | Asian-Pacific area

Thresholds	Change in indicators			
	Exchange rate of national currency against the US dollar (%)	Stock index (%)	10-year government bond yields (bp)	5-year sovereign CDS spread (bp)
min.	-10	-10	-300	-150
	0	0	0	0
max.	10	10	300	150

Source: Bloomberg, Thomson Reuters.

and whether a balance will be achieved between the short-term goals of supporting the real sector and the long-term sustainability of the financial sector (for information on the current phase of the implementation of support measures see Box 2). In light of that, it is especially important for the central banks of the leading countries, where interest rates are already in the negative zone or close to zero, to clearly communicate their policies. In the context of expanding monetary and fiscal support, inflation surprises may cause a sharp revaluation of financial assets, and investor sentiment volatility may increase, negatively affecting the financial conditions in EMEs. It cannot be ruled out that the accelerating inflation in the US will lead to the need for an earlier tightening of the Federal Reserve's monetary policy, which may become a source of unexpected spikes in volatility.

Geopolitical risks (conflicts in the Middle East, aggravating relations between China and a number of countries, the introduction of additional sanctions by various countries) as well as social unrest in a number of countries (in the context of rising unemployment, food insecurity and poverty) can create additional risks for financial stability and selloffs on global markets.

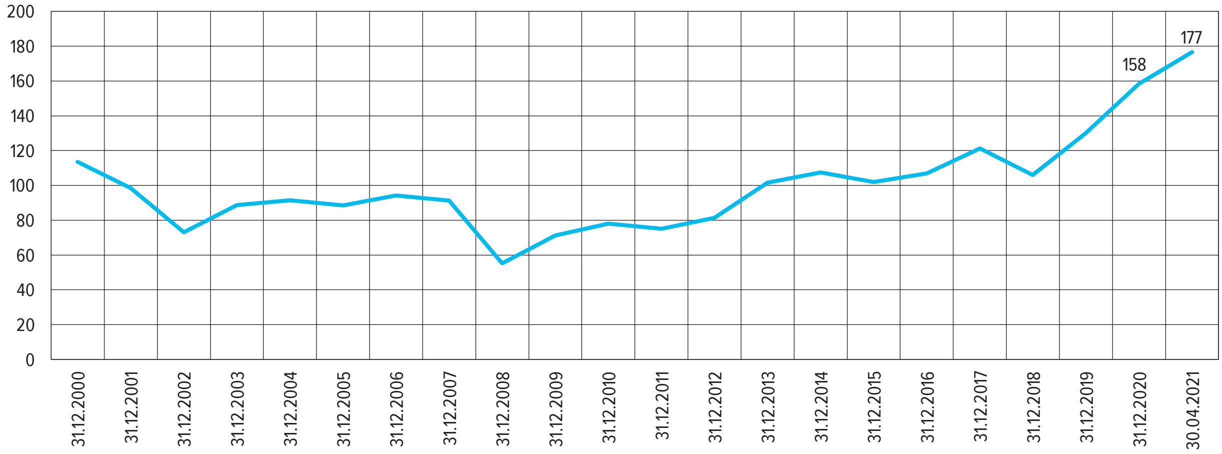
A number of vulnerabilities can worsen the situation in the global economy and in global markets:

- **Problems in the non-financial sector.** So far, the wave of bankruptcies has remained limited thanks to large-scale support measures that have helped keep non-viable companies (so-called 'zombies') in the market. However, the risks of non-repayment due to declining borrower incomes and rising debt obligations, especially for SMEs, may increase in both developed and developing countries (among other things, as support measures are being unwound, and financial conditions tighten). The problem may be particularly acute for borrowers with high and growing debt in EMEs and low-income countries. The debt burden is also continuing to rise in the household sector. At the same time, the risks faced by households may be exacerbated by the growth of unemployment amid bankruptcies in the corporate sector. The materialisation of risks in the non-financial sector may lead to banks facing serious losses in their loan portfolios, reduced capital reserves and limited ability to provide new loans, which will hinder the economic recovery. In Russia, given the normalisation of economic activity, support programmes are gradually being phased out, but this has not yet led to a decrease in credit activity (see subsections 2.1 and 2.2), and estimates of potential additional losses are small.

- **A further increase of the debt burden in the public sector.** The level of public debt has risen markedly since the beginning of the pandemic against the backdrop of financial support that governments have provided to the economy. According to the Bank for International Settlements (BIS), the public debt to GDP ratio for the G20 countries increased from 89.5% at the end of 2019 to 107.4% as of 1 October 2020. Many countries continue to expand fiscal incentives that lead to further increases in the size of the public debt. In the context of higher rates, this increases the interest rate risk on state balance sheets and the exposure of states to refinancing risks. A rise in the level of public debt can also have an impact on financial stability in general. High sovereign credit risks can exacerbate financial market tensions amid increased volatility. It can also entail unwinding the risk spiral in the banking sector in the event of considerable investments in sovereign bonds, as was the case during the European debt crisis in 2010–2012. In Russia, public debt relative to GDP continues to be the lowest among the G20 countries, while the growth rate in 2020 was insignificant compared to other countries and amounted to 4.8 pp to 17.1% as of 1 January 2021.
- **Dependence on dollar financing.** According to the BIS, as of 1 October 2020, the total amount of dollar claims against non-bank borrowers outside the United States (bank loans and debt liabilities) amounted to $12.6 trillion, of which $3.9 trillion was accounted for by EMEs. Further increases in the cost of dollar borrowing may affect borrowers' ability to roll over accumulated dollar debt at a reasonable cost. For EMEs, the situation is complicated by the fact that the US dollar usually strengthens concurrently with the growth of rates. The strengthening of the US dollar can be problematic primarily for companies that have dollar debts but receive revenue in the national currency. Besides, as the March 2020 episode showed, there are still risks of a lack of dollar liquidity in the global market, which may increase currency risks in EMEs. The global tightening of dollar financing conditions may become even more of a problem if the pandemic develops at different rates in different countries. Asynchronous economic cycles can lead to an even greater difference in the increase in interest rates between countries and aggravate the problem of uneven liquidity distribution, which will cause capital outflows from emerging markets. EMEs may need to raise interest rates more significantly to suppress capital outflows, which will make it even more difficult for the non-financial sector to service debt. In Russia, market participants did not show additional demand for foreign currency liquidity during periods of increased volatility in the global market in 2020, and there was no shortage of foreign currency liquidity. In addition, according to macro-financial indicators of external debt sustainability, Russia is one of the most stable countries among the main EMEs (the ratio of total external debt to GDP as of 1 January 2021 was 32.3%, and international reserves fully cover the amount of external debt).
- **'Bubbles' in financial markets.** Global financial conditions remain ultra-soft, which may contribute to an even more significant revaluation of financial instruments (stocks, bonds) and their separation from fundamentally based indicators (Chart 4, Table 4). In Russia, the ratio of

US STOCK MARKET CAP-TO-GDP RATIO (S&P 500 TO US GDP)

Chart 4



Source: Bloomberg.

PRICE-TO-BOOK RATIO AND PRICE-TO-EARNINGS RATIO

Table 4

		Price-to-Book Ratio	**Price-to-Earnings Ratio**
FTSE All World Index Technology USD	02.01.2020	5.1	26
	30.04.2021	6.9	34
S&P 500	02.01.2020	3.6	21
	30.04.2021	4.5	31
NYSE FANG+ (Facebook, Apple, Amazon, Netflix, Google)	02.01.2020	5.7	44
	30.04.2021	7.7	48
Tesla	02.01.2020	11.8	3314 (as of 31 March 2020)
	30.04.2021	29.7	684
Moscow Exchange index	02.01.2020	1	7
	30.04.2021	1.2	14

Source: Bloomberg.

the capitalisation of shares included in the Moscow Exchange index to GDP is moderate and amounts to 44.5% as of 1 January 2021, while there is an increase in the ratio of the market share price to annual per-share earnings (from 7 at the beginning of 2020 to 14 as of 30 April 2021). This situation partially reflects a temporary drop in companies' profits amid the pandemic and expectations of early recovery. In recent months, there has also been a sharp increase in the value of crypto assets. Such trends exacerbate the exposure of the global financial system to price correction risks in the event of certain triggers (for example, an aggravation of the pandemic or sharp rate growth). At the same time, retail investors, whose coordinated activities using social media platforms and trading applications can increase price volatility, play an increasingly important role in the financial asset market. In Russia, the population is also showing a growing interest in the securities market, but at present this factor does not pose a threat to financial stability (see subsection 3.2.2).

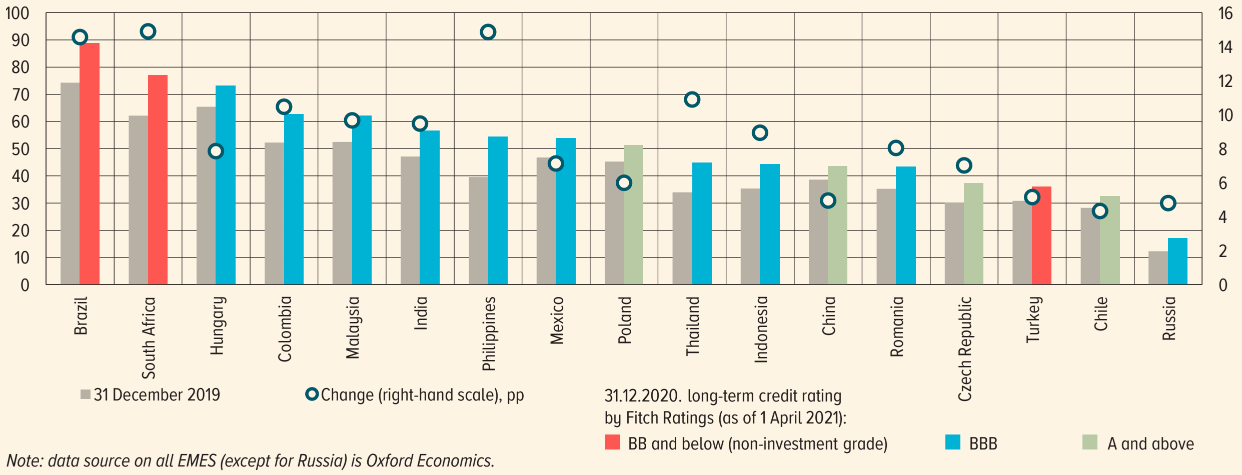
Box 1. Increasing fiscal imbalances in emerging markets

In the reporting period, fiscal imbalances in emerging markets continued to increase. Since the beginning of the coronavirus pandemic in 2020, there has been a gradual decline in the sustainability of the public finances of EMEs due to the expansion of fiscal incentives by the fiscal authorities to support economic activity and provide assistance to the population. Expanding the volume of fiscal assistance leads to an increase in expenditure from the state budget and more active borrowing, while budgetary revenues are reduced amidst a slowdown in economic growth.

In 2020, public debt rose in all the considered EME countries, with the largest debt increase observed in countries with initially weaker structural parameters and a relatively low sovereign rating (Brazil and South Africa) (Chart 5).

An analysis of changes in the fiscal stability of emerging markets based on tracking the dynamics of several indicators (expanded budget deficit, public debt changes and economic growth rate) showed that the EMEs with the most vulnerable public finance saw the most significant increase in government bond yields since the beginning of the year (Table 5). The exception is Turkey where escalated financial market tensions are related to doubts about the independence of the central bank, rather than to the aggravated structural problems in the state budgetary sector.

PUBLIC DEBT (% OF GDP) IN EMES AND CHANGES THEREOF IN 2019–2020 *Chart 5*



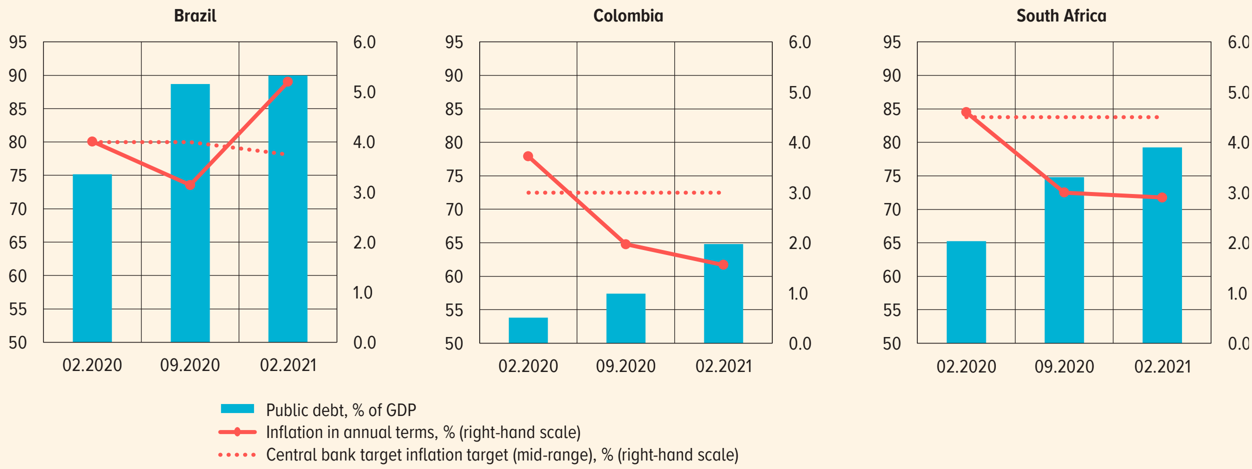
Note: data source on all EMES (except for Russia) is Oxford Economics.
Source: Bloomberg, Thomson Reuters, Ministry of Finance of Russia, Bank of Russia calculations.

CHANGE IN EME FISCAL SUSTAINABILITY INDICATORS IN 2020–2021 *Table 5*

EME country	Expanded budget deficit (% of GDP) in 2020, pp	Public debt growth (% of GDP) in 2020, pp	Real GDP growth rate in 2020, %	Aggregate rank 1 being the worst 17 being the best	Change in 10-year government bond yields (1 January 2021–31 March 2021), bp
South Africa	7.0	14.9	-7.1	1	75
Brazil	7.5	14.6	-4.4	2	191
Philippines	3.7	14.9	-9.5	3	148
Colombia	4.4	10.5	-6.8	4	153
India	4.8	9.5	-6.9	5	28
Thailand	3.9	10.9	-6.1	6	62
Hungary	6.5	7.9	-5.0	7	63
Czech Republic	6.2	7.0	-5.6	8	60
Poland	7.5	6.0	-2.7	9	32
Romania	5.2	8.0	-3.9	10	14
Malaysia	2.8	9.7	-5.6	11	60
Mexico	2.2	7.1	-8.2	12	159
Russia	6.0	4.8	-3.0	13	112
Indonesia	3.6	8.9	-2.1	14	72
Chile	4.5	4.3	-5.8	15	85
China	5.0	5.0	2.3	16	0
Turkey	0.6	5.1	1.6	17	557

Source: Bloomberg, Thomson Reuters.

DYNAMICS OF PUBLIC DEBT AND INFLATION IN BRAZIL, COLOMBIA AND SOUTH AFRICA. *Chart 6*



Source: Bloomberg, Thomson Reuters.

Fiscal parameters deteriorated considerably in **Brazil, Columbia and South Africa** (Chart 6).

The problem of excessive debt accumulation is particularly relevant for **Brazil**. It is associated with one of the largest-scale packages of supportive measures adopted by the fiscal authorities of any of the major EMEs (15% of GDP, a cumulative total since January 2020[1]) in the conditions of low controllable development during the pandemic. At the end of March 2021, the increase in new COVID-19 infections per day was more than 100,000 cases, which is the highest value since the beginning of the epidemic in 2020. As a result, since the beginning of March 2020, total public debt has risen by 14.8 pp and reached a historic high of 90% of GDP as of 28 February 2021. The Bank of Brazil's move to tighten monetary regulation in March 2021, against the backdrop of increased inflationary processes,[2] may lead to more problematic servicing of sovereign debt.

High debt accumulation rates are also typical of **South Africa** where since the beginning of March 2020 the total debt of the central government has risen by 14 pp, amounting to 79.2% of GDP as of 28 February 2021. The problem of excessive debt burden is compounded by the continuing decline of the country's economy, which in 2020 was characterised by one of the strongest recessions among the major EMEs (the decline in real GDP was 7.1% as compared to 2019).

Columbia is also experiencing a gradual increase in government borrowing, and the **problem of budgetary deficit expansion** is acute. Against the background of the pandemic in 2020–2021, the country's authorities have repeatedly revised the target fiscal deficit upwards. In 2020, the indicator was 7.8% of GDP. In March 2021, the target budget deficit for 2021 was again raised by 1 pp to 8.6% while maintaining an economic growth forecast at 5% YoY.[3] The gradual decline in the balance of public finance leads to increased **downside risks for the sovereign credit rating** in the reporting period.[4] Tax reform is currently under consideration. The first draft of reform that ensured $6.4 billion in additional funds for the state budget (about 2% of GDP) was recalled after a wave of protest. New draft provides for a more modest increase of budget funds ($3.6 billion). In May 2021, S&P Global Ratings lowered its long-term credit rating on Columbia to 'BB+' due to intensified fiscal problems and rise of political risks.

The decrease in EME financial stability leads to increased sensitivity of local financial markets to global shocks and creates severe risks of enhanced volatility in emerging markets in the medium term. EMEs with vulnerable structural parameters (fragile countries) may be most susceptible to the current growth of US government bond yields and the possible tightening of monetary policy by the US Federal Reserve in the coming years, dubbed 'taper tantrum two'.[5]

[1] *Fiscal monitor database of national fiscal measures in response to the COVID-19 pandemic. IMF. April 2021*.

[2] *Since the beginning of June 2020, Brazil has seen a gradual increase in annual consumer inflation. In March 2021, it reached 6.1%, which exceeds the Bank of Brazil's target of 3.75% with the confidence interval of +/-1.5 pp.*

[3] *Colombia's revised fiscal targets for 2021. Thomson Reuters News. 5 March 2021.*

[4] *Colombia fiscal deficit estimate above Moody's prediction, agency says. Thomson Reuters News. 11 March 2021.*

[5] *Fragile frontier markets most exposed to 'Taper Tantrum Two' risk. Fitch Ratings. 17 March 2021*.

Box 2. Support measures by foreign regulators during the COVID-19 pandemic: the path to balancing risks

At the beginning of the pandemic, all countries faced similar problems and implemented a similar set of fiscal measures, switched to a stimulating monetary policy, eased macroprudential measures and introduced regulatory forbearance (see Q2-Q3 2020 Financial Stability Review).

After a year, the situation has changed significantly. Countries are passing through the stages of the pandemic and the economic cycle asymmetrically; they have differing capacities for providing support; therefore, their approaches to unwinding of support measures differ. The protracted nature of the pandemic presents regulators with an important challenge, either to extend measures to support the economy or to begin to phase them out in order to prevent an underestimation of credit risks, an excessive increase in the debt burden and the emergence of 'zombie' companies. In a number of countries, given the severe epidemical situation, some measures have been prolonged because the short-term risks of their premature unwinding are high, in other cases countries are gradually phasing out measures.

Measures aimed at **providing liquidity to financial institutions** were extended only as needed: in the US, several such programmes were prolonged until 31 March[1] and have already been concluded. Besides, in December, the European Central Bank (ECB) announced the introduction of additional operations to provide long-term financing (PELTRO[2] and TLTRO III[3]). India has extended its targeted long-term repo operations programme to provide funding to construction, housing and microfinance companies until 30 September 2021. At the same time, China, Switzerland and Turkey have cancelled additional **instruments for providing liquidity to banks**, while Canada has reduced the duration of its supplementary liquidity programme from 90 to 30 days. Some **asset purchase programmes** had been completed by the reporting period (Canada, India), but others were extended or expanded (Australia, Sweden).

As for **SME financing programmes,** Hong Kong has expanded its SME Financing Guarantee Scheme. The Republic of Korea continues to apply a reduced rate under the SME loan refinancing programme that provides funding to banks depending on their SME lending volumes. The US is pursuing a programme of providing liquidity to banks for SME lending (Paycheck Protection Program Liquidity Facility, PPPLF) until 30 June 2021. At the same time, a number of countries have already completed their concessional liquidity programmes. Among them are China, Switzerland and Turkey.

Although the measures aimed at **granting loan repayment holidays** were mostly of a fixed duration, the continuing pandemic compelled a number of countries to extend them (the EU, the UK, Turkey, Israel, Hong Kong and some other countries). However, loan repayment holidays, as a rule, were not extended indefinitely: their validity period expires sometime in 2021. Many countries have already cancelled different forms of loan repayment holidays (Argentina, Saudi Arabia, Germany). The measures are being phased out by narrowing their scope. For example, Italy extended loan repayment holidays until March 2021, but they only applied to companies from the tourism sector. At the same time, Spain extended its **moratorium on the bankruptcy** of borrowers until 31 December 2021.

During the period under review, a number of countries expanded their **state guarantee** programmes (Spain, Ireland, Italy, Turkey). One country decided not to extend the measure (Switzerland). Most of the countries where such programmes apply have not set a firm final date for their conclusion as they are trying to avoid 'cliff effects' in 2021.

Some countries have maintained more relaxed **requirements for certain ratios,** for example, Israel has lowered its minimum leverage requirement to encourage lending. At the same time, within the reporting period, Switzerland and the United States, in contrast, cancelled easing that allowed certain central bank exposures[4] (involving cash) to be excluded from leverage ratio calculation.

While some countries are still extending restrictions on **dividend payments** (India, the Republic of Korea, Mexico), a number of countries have gradually relaxed these requirements (the UK,[5] the EU[6]), and oth-

---

[1] *Commercial Paper Funding Facility (CPFF), Money Market Mutual Fund Liquidity Facility (MMLF), Primary Dealer Credit Facility (PDCF) and Paycheck Protection Program Liquidity Facility (PPPLF).*

[2] *Pandemic emergency longer-term refinancing operations.*

[3] *Targeted longer-term refinancing operations.*

[4] *In the United States, this easing also excluded treasury securities from the leverage ratio calculation.*

[5] *The amount of profit distributed in the form of dividends for 2020 should not exceed 20 bp of risk-weighted assets at the end of 2020 or 25% of the total profit for the previous 8 quarters (2019–2020) net of dividend payments made and share repurchases.*

[6] *The amount of profit distributed should not exceed 15% of the total profit for 2019–2020 and 20 bp of the CET1 capital.*

ers have completely cancelled them (Australia, Switzerland, the Netherlands). When making decisions, regulators also rely on the results of capital adequacy stress testing and vulnerability assessments.

Most of the measures taken to extend the deadlines for the **regulatory reporting** by financial institutions were not extended and expired in 2020. Similar decisions were made on measures aimed at **reducing the operational burden** (postponing the implementation of new regulatory norms and standards, simplifying stress tests etc). For example, the UK plans to resume stress testing of the insurance sector in 2021.

At the same time, in order to avoid risk accumulation in various segments of the credit market some countries have moved towards **tightening of macroprudential requirements** (returning to their pre-crisis level). For example, to prevent the overheating of the mortgage market, from 1 March 2021, the Reserve Bank of New Zealand restored the loan-to-value ratio (LVR or LTV) restrictions lifted in April 2020. In addition, from 1 May, this authority tightened the LTV requirements for borrowers who purchase real estate for investment purposes. As the IMF notes,[7] the implementation of macroprudential policy measures aimed at reducing the vulnerabilities resulting from the application of support measures becomes paramount in the current environment.

[7] *Global Financial Stability Report, April 2021*

2. THE FINANCIAL AND REAL SECTORS IN THE CONTEXT OF THE COVID-19 PANDEMIC

2.1. Companies financial standing and corporate credit risks

During the pandemic, banks actively restructured loans to companies facing a deteriorating financial standing. The quality of the loan portfolio will be determined by the ability of such companies to recover their position. The gradual normalisation of economic activity leads to decreased demand among companies for the restructuring of loans and the recovery of quality of debt servicing. According to the most recent analysis, losses on restructured loans may amount to about ₽1 trillion but will be stretched over time. The unwinding of government measures for lending support did not lead to a slowdown in credit activity as it was offset by a loose monetary policy. The gradual normalisation of monetary conditions does not pose any risks for servicing loans with floating rates since the vast majority of them were provided to borrowers with a good financial standing.

Lending dynamics

As business restrictions are lifted, and the economy recovers from the crisis caused by the pandemic, business activities are being restored. Government programmes for lending support to legal entities, the Bank of Russia's regulatory easing for credit institutions and bank debt restructuring programmes have helped businesses cope with the devastating impact that the pandemic has had on production chains and reduced demand for products and services.

The growth in demand for ruble loans at the beginning of the pandemic, which became a distinctive feature of that period as compared to the crises of 2014—2015, continued in Q4 2020—Q1 2021. For 12 months starting from 1 April 2020, the loan portfolio grew by 10.3%[1] in rubles and 5.5% in foreign currency.

Since the beginning of the pandemic, demand for loans in foreign currency has been observed only in certain months. Such loans were in demand in July and December 2020 by exporting oil and gas, mining and chemical companies, most of the revenue of which is denominated in foreign currency. For Q1 2021, the debt on loans in foreign currency decreased by 3.3%.

In the SME segment, the segment most affected by the pandemic, loan debt is also continuing to grow (in the last 12 months starting from 1 April 2020 the increase was 24.6%[2]). The vast majority of disbursements are made by banks under the governmental programmes for interest rate subsidisation or under the guarantee or suretyship of the Corporation SME. The solvency of SMEs is gradually being restored, including through governmental support programmes ensuring loans to enterprises for wages at 0% and for urgent needs at 2%[3] (from April to December 2020, ₽374 billion was allocated to SMEs under these programmes, ₽51 billion of which was provided in Q4 2020). The recovery of solvency is indicated by the normalisation of SME loan portfolio amortisation rate to 2019 levels (Chart 7).

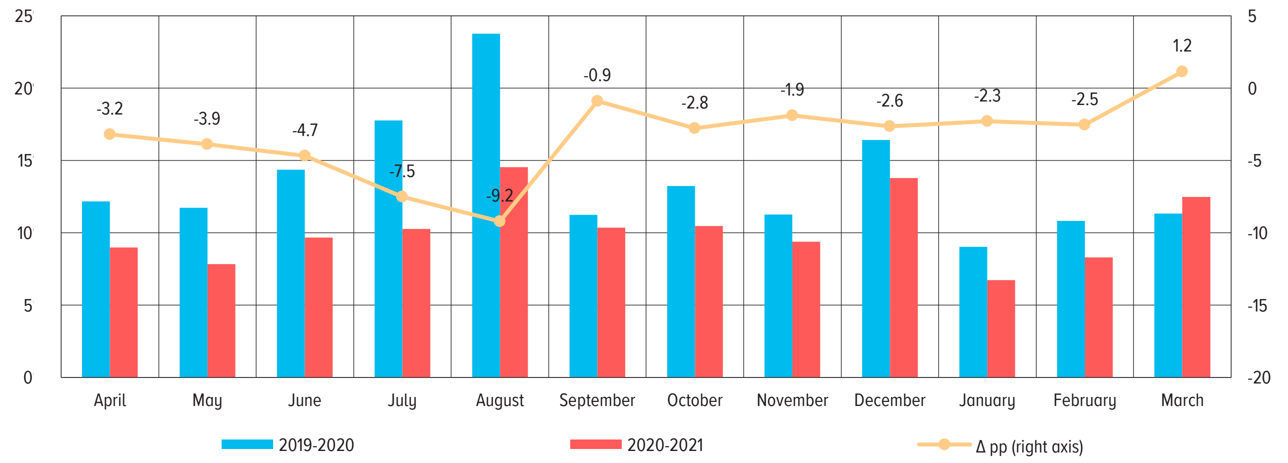
---

[1] *According to reporting form 0409101.*

[2] *According to reporting form 0409303 (seasonally adjusted).*

[3] *Resolutions of the Government of the Russian Federation No. 422, dated 2 April 2020, and No. 696, dated 16 May 2020, respectively.*

MONTHLY SME LOAN PORTFOLIO AMORTIZATION RATE *Chart 7*
(%)



Source: Reporting form 0409303.

In total, more than ₽2 trillion was provided under government lending support programmes for enterprises,[4] including ₽1.4 trillion to SMEs. In March 2021, a new annual government programme, FOT 3.0,[5] was adopted to support enterprises from the most affected industries. It is available to those companies that received concessional loans at 2% per annum last year and were included in the new list of affected industries.[6] The programme provides for the allocation of ₽7.8 billion from the reserve fund of the Government of the Russian Federation in 2021 to grant loans of up to ₽170 billion. The funds allocated will be used to reimburse the banks for the difference between the preferential and market interest rates as well as to repay the borrower's debt within six months from the date of the loan when the borrower is allowed not to make any payments.

Low interest rates provided additional support for corporate lending. Due to the loose monetary policy, the weighted average rate on long-term loans to non-financial companies[7] reached a low of 6.58% in November 2020, falling from 8.20 in March 2020. Weighted average interest rates on loans to SMEs also decreased: a minimum of 7.49% was reached in January 2021 (9.23% in March 2020).

Corporate loan portfolio quality

To overcome the negative impact of the pandemic on the financial situation in the private sector, the Bank of Russia recommended banks to restructure their loans by providing them with regulatory relief. After the active restructuring of corporate debt by banks in the spring and summer of 2020, the volume of restructuring had decreased by the end of the year, so had the number of requests from borrowers. From the beginning of the pandemic to 1 April 2021, 15.6% of debt on loans to large companies and 15.4% on loans to SMEs had been restructured.[8] As of 1 April 2021,[9] the total volume

[4] *'Loans for wages at 0%' (Resolution of the Government of the Russian Federation No. 422, dated 2 April 2020), 'Loans at a final rate of 2%' (Resolution of the Government of the Russian Federation No. 696, dated 16 May 2020), 'Loans for replenishment of working capital for strategic organisations' (Resolution of the Government of the Russian Federation No. 582, dated 24 April 2020), 'Subsidy programme at the rate 'Bank of Russia key rate + 2,75%' (Resolution of the Government of the Russian Federation No. 1764, dated 30 December 2018).*

[5] *Resolution of the Government of the Russian Federation No. 279, dated 27 February 2021.*

[6] *The loan is issued to the borrower within the period from 9 March to 1 July for one year at a rate of 3% per annum to cover any documented expenses, including the payment of wages and repayment of loans. For the first 6 months, the borrower does not need to pay any principal or interest. In the future, these accruals must be repaid monthly in equal instalments.*

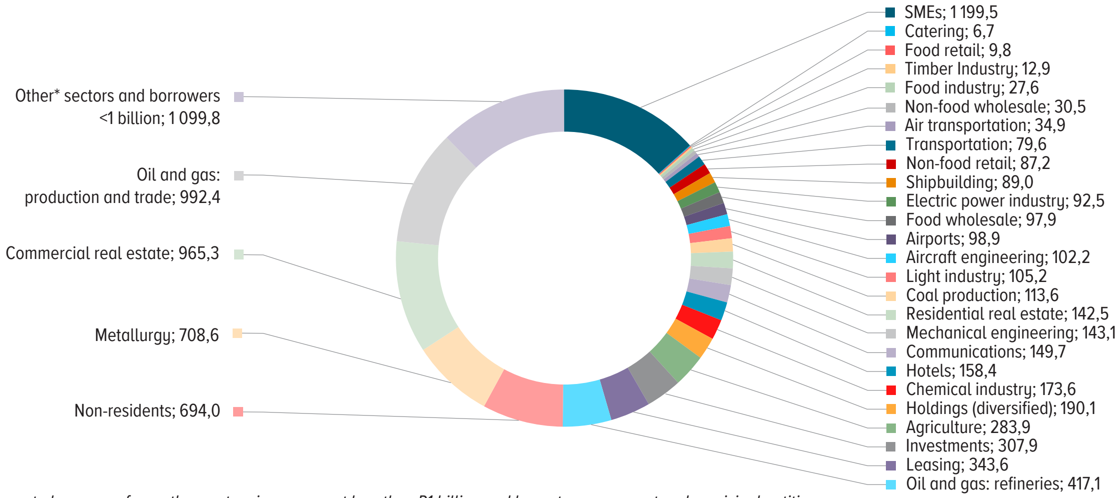
[7] *Interest rates on ruble loans provided to non-financial organisations for 1+ year.*

[8] *According to the monitoring of the Bank of Russia.*

[9] *According to the monitoring of the Bank of Russia.*

RESTRUCTURED DEBT ON CORPORATE LOANS
(%)

Chart 8



** Other: loans to borrowers from other sectors in an amount less than ₽1 billion and loans to government and municipal entities.*
Source: Reporting form 0409303.

of restructured loans to companies amounted to ₽6.5 trillion, including ₽907.1 billion of debt owed by small- and medium-sized enterprises. The most significant volume of restructured loans falls on small- and medium-sized businesses as well as large companies from the following industries: oil and gas, including the production of oil products and the hydrocarbons trade, metallurgy, commercial real estate, leasing and agricultural companies (Chart 8).

Regarding the restructured loans of large companies, on which banks had delivered regulatory relief, by 1 April 2021, loan loss provisions were formed based on banks' current assessment of the creditworthiness of the borrowers and the quality of loan servicing. In the future, additional provisions may be required due to the gradual maturation of problems upon the completion of the restructuring. However, as the epidemical situation in the country improves, and economic activity quickly recovers, further extension of regulatory relief is not necessary as it would have a distorting effect on the risk assessment of banks and investors.

The actions of banks to restructure debt to companies facing financial difficulties as well as the Bank of Russia's regulatory measures allowed postponing the growth of 'bad' debt. Thus, the share of quality category IV–V loans in the corporate portfolio for Q4 2020–Q1 2021 decreased by 1.0 pp to 9.7%.[10] For comparison: in the same period of 2015–2016, the share of non-performing loans increased by 1.2 pp (to 10.1%). For loans to SMEs, the share of quality category IV–V loans diminished more markedly: by 1.1 pp to 13.5%, while in the same period of 2015–2016 the share of non-performing loans increased by 2.9 pp (to 18.1%).

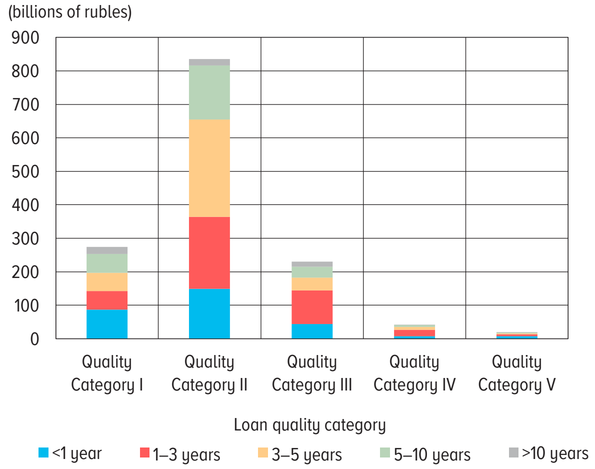
In the future, the dynamics of loan portfolio quality will primarily be determined by the quality of restructured loan servicing and the ability of borrowers from the affected industries to restore their financial position. According to the default scenario analysis of large borrowers with a high risk of financial difficulties and SMEs that restructured their debt during the pandemic, loan losses may lead to the need for banks to continue the formation of loan loss provisions (LLP) amounting to around ₽1 trillion. However, such a scenario is quite conservative; moreover, potential additional provisioning will not occur simultaneously but will be stretched over time. The volume of final losses may be lower due to availability of collateral on most of the restructured corporate loans.

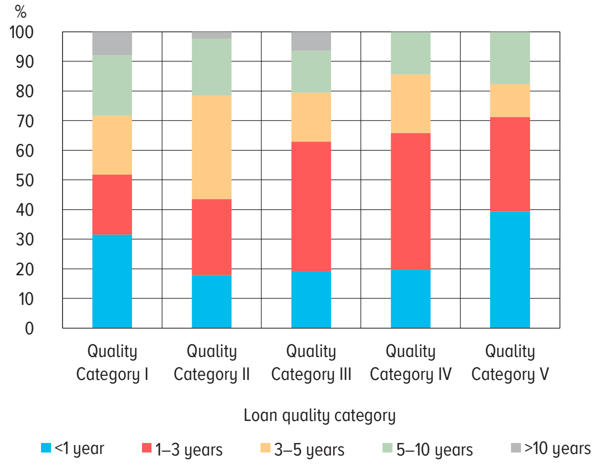
Risks of floating interest rate loans

In recent years, to reduce interest rate risk, banks have actively provided companies with floating interest rate loans. The share of ruble loans at floating interest rates in the loan portfolio gradually

[10] *According to reporting form 0409115.*

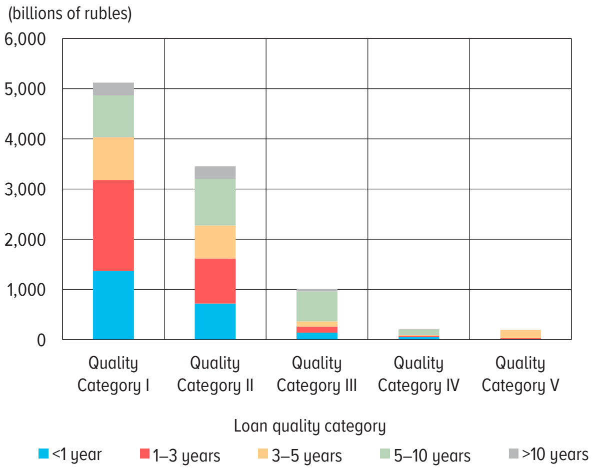
DISTRIBUTION OF TERMS TO MATURITY BY SME LOAN QUALITY CATEGORY *Chart 9*

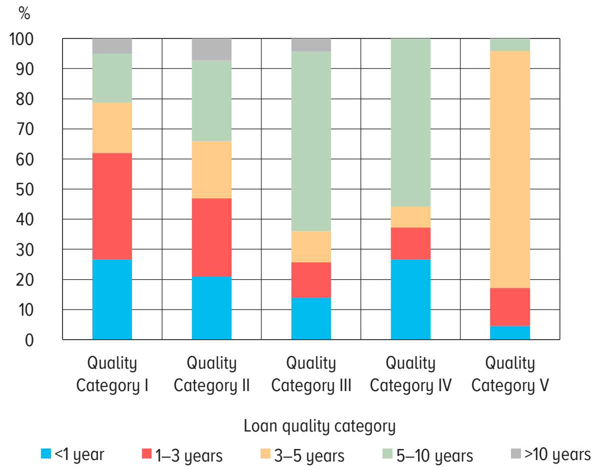




Source: Reporting form 0409303.

DISTRIBUTION OF TERMS TO MATURITY BY LARGE COMPANY LOAN QUALITY CATEGORY *Chart 10*





Source: Reporting form 0409303.

increased up to the end of 2020 primarily due to loans to large companies, and since the beginning of 2021, due to loans to SMEs. The share of floating rate loans to SMEs is significantly lower than that to large companies (as of 1 March 2021 25% vs 38% respectively[11]).

Floating rate loans to SMEs are of relatively high quality: the share of quality category IV–V floating rate loans is lower than in other loans to SMEs. Floating rate loans are granted only to high-quality borrowers based on market conditions (excluding government programmes) and have low maturity: long-terms loans with a maturity exceeding 10 years that potentially bear the greatest interest rate risk for the borrower account for only 4.0% of the volume of floating rate loans to SMEs and belong to a high-quality category (I–III) (Chart 9).

A similar situation is observed on loans granted to large companies. Floating rate loans are granted to high-quality borrowers. Long-term loans with a maturity exceeding 10 years (5.4% of floating rate loans to large enterprises) that potentially bear the greatest interest rate risk are fully concentrated in high quality category of loans (category I–III) (Chart 10).

Thus, an increase in the Bank of Russia's key rate in the course of monetary policy normalisation will not have a significant negative impact on the quality of loans provided at floating interest rates.

[11] *According to reporting form 0409303.*

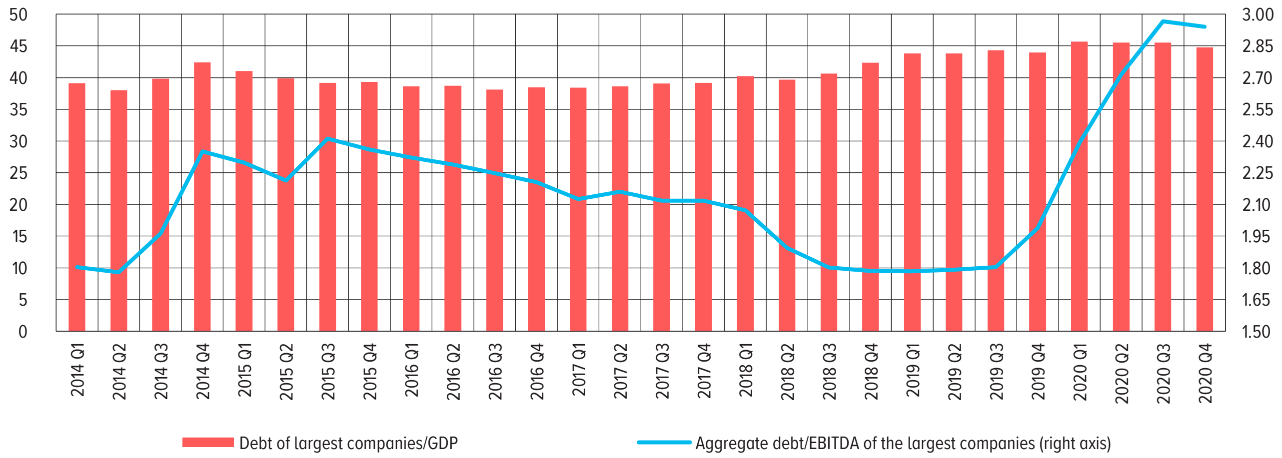
Concentration of corporate lending among the largest borrowers

Despite the fact that the total debt burden of the Russian non-financial sector does not significantly stand out among other emerging market economies, debt concentration in the largest corporate borrowers continues to be high.

In 2020, the debt burden of the corporate sector (as % of GDP) increased significantly (+9.0 pp)[12] mainly due to a revaluation of foreign currency liabilities because of the weakening of the ruble exchange rate. According to the Bank of Russia, the largest[13] public non-financial companies by debt volume accounted for 45% of the total debt of the non-financial sector at the end of Q4 2020. This indicator remained stable during 2020 but had increased by 5.6 pp over the previous three years.

Meanwhile, the debt burden of the largest companies, estimated by the 'Debt/EBITDA' indicator, has been growing since 2019 and reached value of 2.9x by the end of 2020. This trend is temporary and for the most part reflects the decline in profits rather than growth of debt (the major part of which is accounted for revaluation of FX liabilities). Amid economic recovery and growth of companies' profits in Q1 2021, debt burden indicators are expected to improve.

DEBT BURDEN OF THE LARGEST COMPANIES *Chart 11*



Source: Rosstat, Bank of Russia, S&P Capital IQ.

[12] *According to the IMF's Global Financial Stability Report (GFSR), the debt burden of the corporate sector (measured in % of GDP) for the first 9 months of 2020 increased by 11.5 pp at the global level, by 11.8 pp in advanced economies and by 11 pp in EMDEs.*

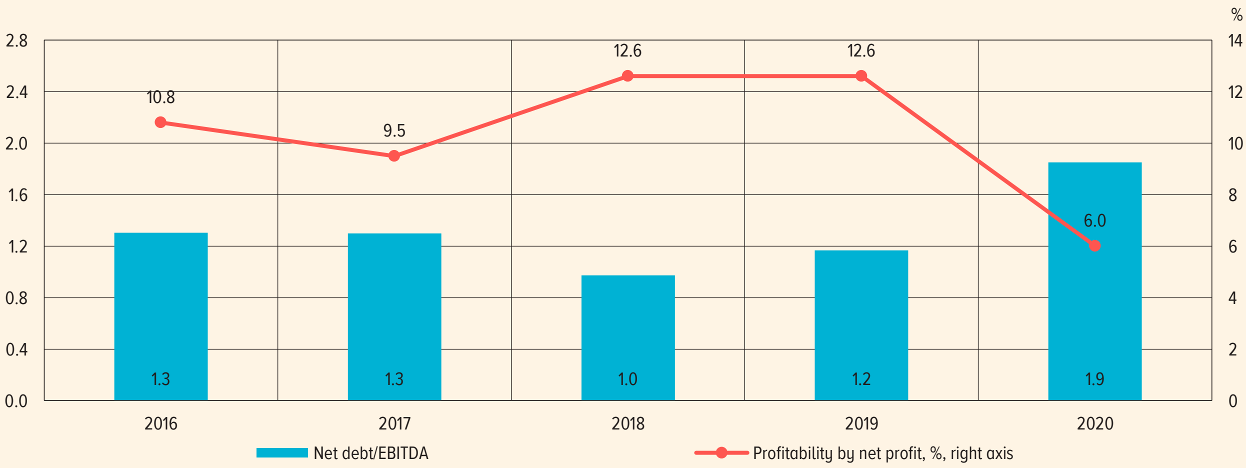
[13] *90 of the largest public companies in Russia.*

Box 3. Profit, debt burden and expected dividend payments of large Russian companies

Amid the spread of the novel coronavirus in 2020, dividend-paying public companies[1] saw a significant decline in revenue (by 16% YoY), which, with larger fixed costs, led to a significant reduction in net profit (by 60% YoY) and net profit margin (by 6.6 pp YoY). At the same time, the need for loans to replenish working capital, pay salaries to employees and meet other needs has increased. Due to reduced revenue and an increased volume of loans and amid a revaluation of foreign currency liabilities, the debt burden of the companies sampled measured by the net debt/EBITDA ratio grew (from 1.2x to 1.9x) but remained at a level sufficient for making dividend payments.[2]

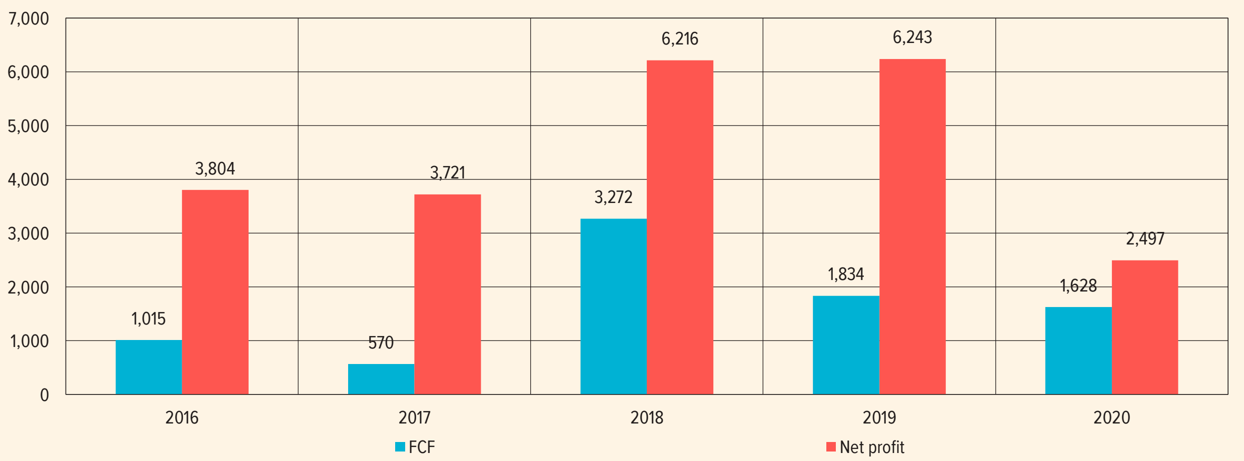
In terms of share by industry, the indicators above were most strongly influenced by the oil and gas industry, which also accounted for most of the reduction in dividend payments. However, the decline in the key indicators of oil and gas, in total net profit and the free cash flow of dividend-paying public companies, was offset by mining and metallurgy companies, which may see record dividend growth in 2021 (Chart 13, Chart 14). As a result, the total volume of dividend payments made by Russian companies in 2021 may increase by 18% as compared to the previous year, with most of the payments to shareholders falling in Q2–Q3 2021.

DYNAMICS OF THE DEBT BURDEN AND PROFITABILITY OF THE COMPANIES SAMPLED *Chart 12*



Source: S&P Capital IQ.

DYNAMICS OF NET PROFIT AND FREE CASH FLOW (FCF) OF THE COMPANIES SAMPLED *Chart 13*
(BILLIONS OF RUBLES)



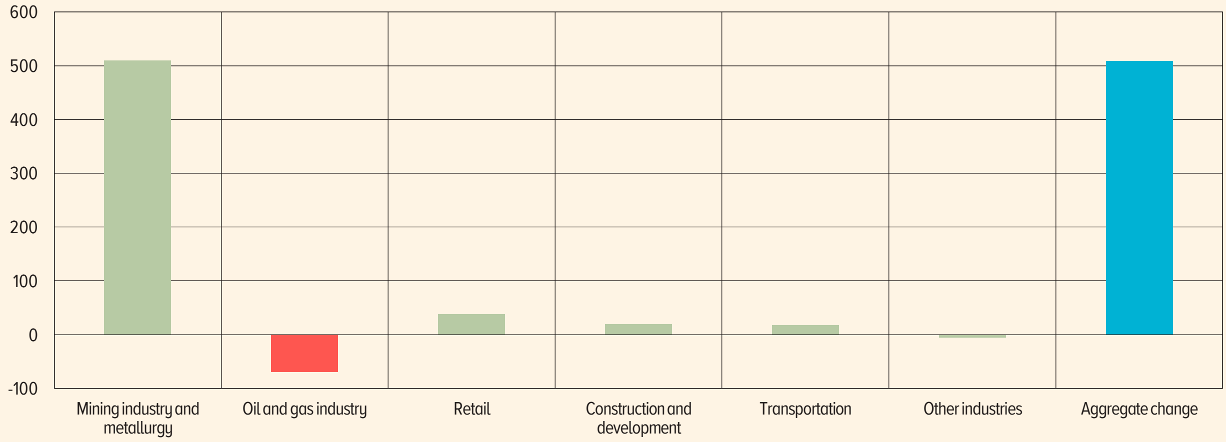
Source: S&P Capital IQ.

[1] *Around 110 companies from mining and metallurgy, oil and gas, retail, construction, transport, agriculture, finance and other industries.*

[2] *For a large number of companies, dividend policy includes restrictions on payments depending on debt burden indicators.*

TOTAL CHANGE IN DIVIDENDS PAID IN 2021 AS COMPARED TO THE PREVIOUS YEAR BY SECTOR
(BILLIONS OF RUBLES)

Chart 14



Source: Bloomberg, S&P Capital IQ, Bank of Russia estimate.

Situation in certain affected sectors

OIL AND GAS INDUSTRY

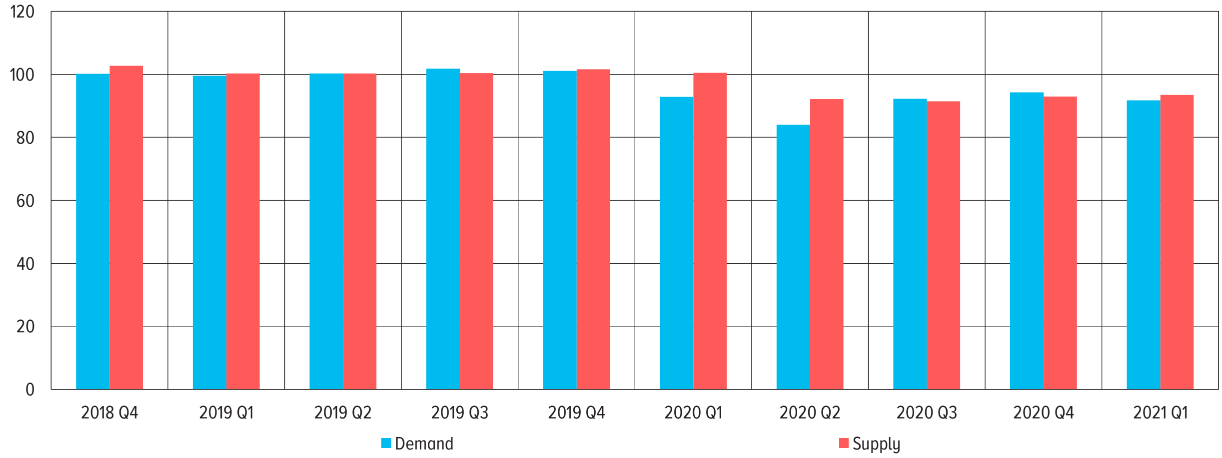
Supply and demand. In 2020, the oil market faced an unprecedented shock – a sharp drop in demand amid the rapid rise in coronavirus infection rates. Along with the termination of the previous OPEC+ deal, this led to a collapse in oil prices in April and a record increase in global crude oil reserves. In the second half of the year, there was a gradual recovery in demand, surpassing the supply of crude oil. According to IHS Markit, by the end of 2020, oil demand worldwide came to 91 million barrels per day, a decrease of 10 million barrels per day as compared to the previous year. Based on the results of Q1 2021, global oil demand reached 92 million barrels per day, falling by 1 million barrels per day against the same indicator for last year (Chart 15). In 2020, on the back of the successful implementation of the new OPEC+ deal, global oil production reached the lowest level in the last few years, amounting to 94 million barrels per day, exceeding demand by 3 million barrels per day. It is also worth noting that according to the International Energy Agency (IEA) the excess reserves in the oil market, which formed during the pandemic, had almost been exhausted in February 2021.

In 2020, oil production in Russia reached the lowest level in the last 10 years at 10 million barrels per day, down by 1 million barrels per day or 9% (YoY) (Chart 16). As part of the OPEC+ deal, in February–April 2021, special conditions were agreed on a phased increase in production for Russia, while for the majority of other countries it was decided to extend the current level of restrictions on crude oil extraction.. At their April meeting, OPEC+ members decided to increase production in May–July: Russia can increase overall production by 114 barrels per day for three consequent months.

Global prices. In the autumn of 2020, there was a slight decline in global oil prices due to the threat of a second wave of the pandemic, but by the end of the year, amid news that mass vaccination had begun in a number of countries amid continuing production restrictions, prices were rapidly rising. Currently, the trend toward a gradual recovery in global oil prices is continuing (Chart 17). However, the possible deterioration of the epidemical situation may put pressure on oil prices in the short term.

GLOBAL SUPPLY AND DEMAND FOR OIL (LIQUID HYDROCARBONS)
(MILLION BARRELS PER DAY)

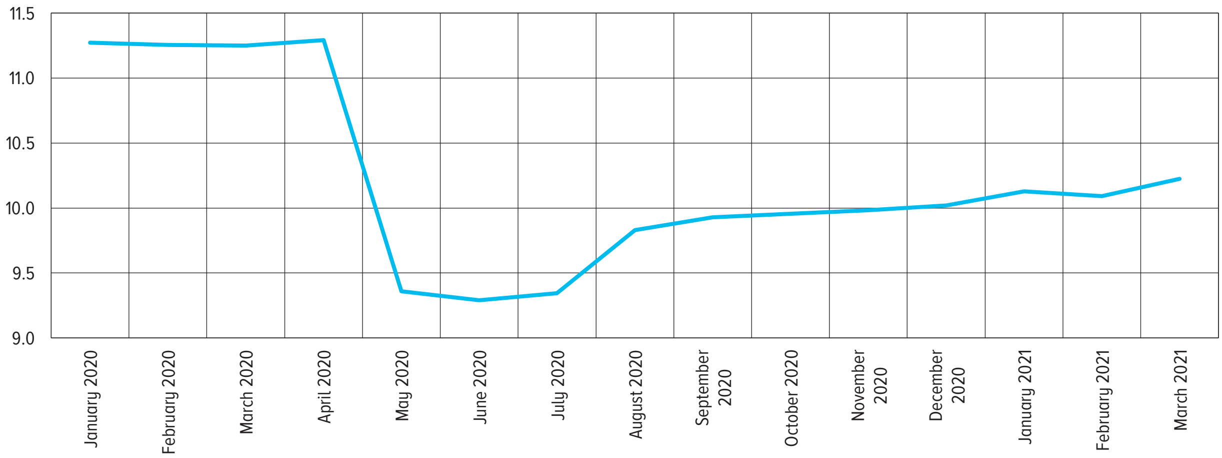
Chart 15



Source: IHS Markit.

OIL PRODUCTION IN RUSSIA
(MILLION BARRELS PER DAY)

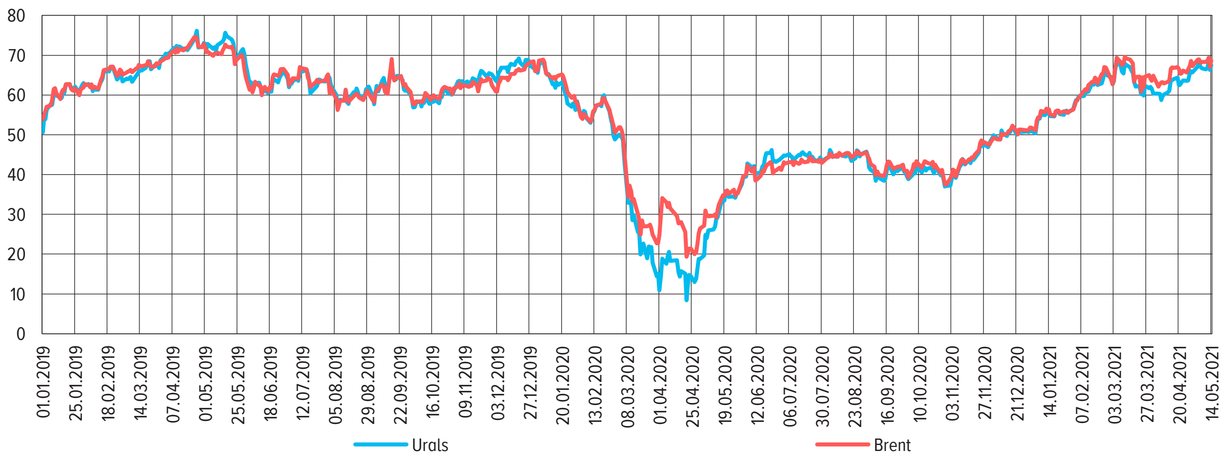
Chart 16



Source: IHS Markit.

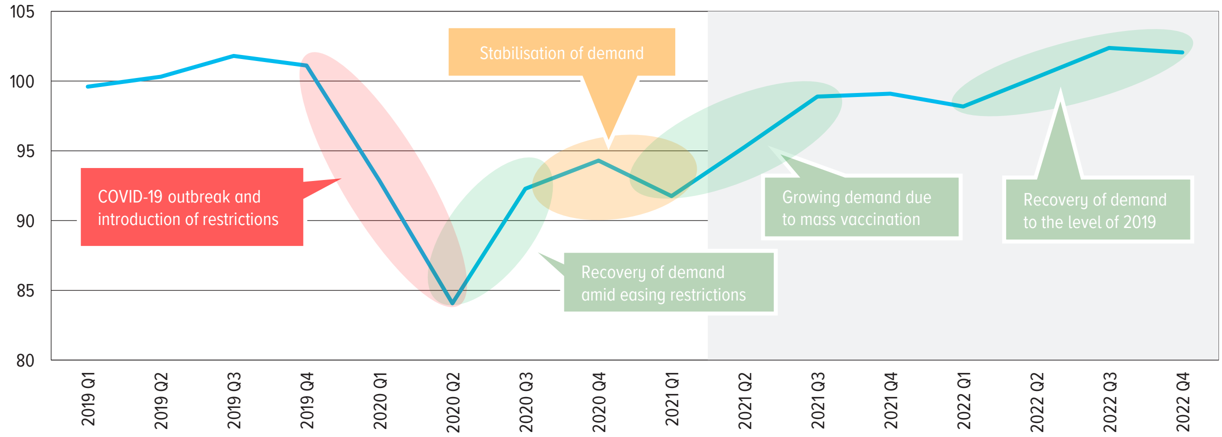
BRENT AND URALS CRUDE OIL PRICE DYNAMICS
(US$ PER BARREL)

Chart 17



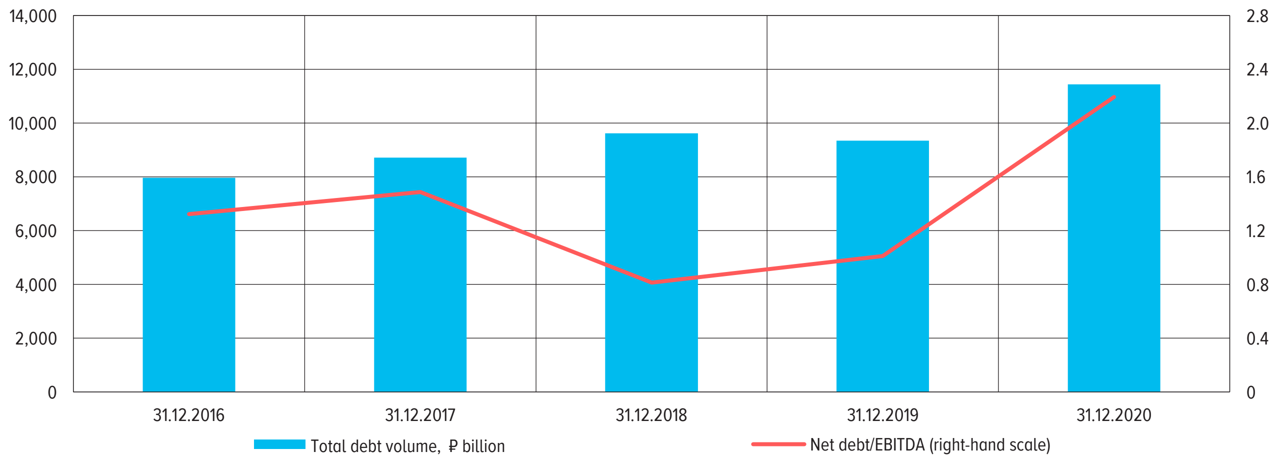
Source: Bloomberg, Thomson Reuters.

FORECAST FOR RECOVERY IN OIL DEMAND UP TO 2022 *Chart 18*
(MILLION BARRELS PER DAY)



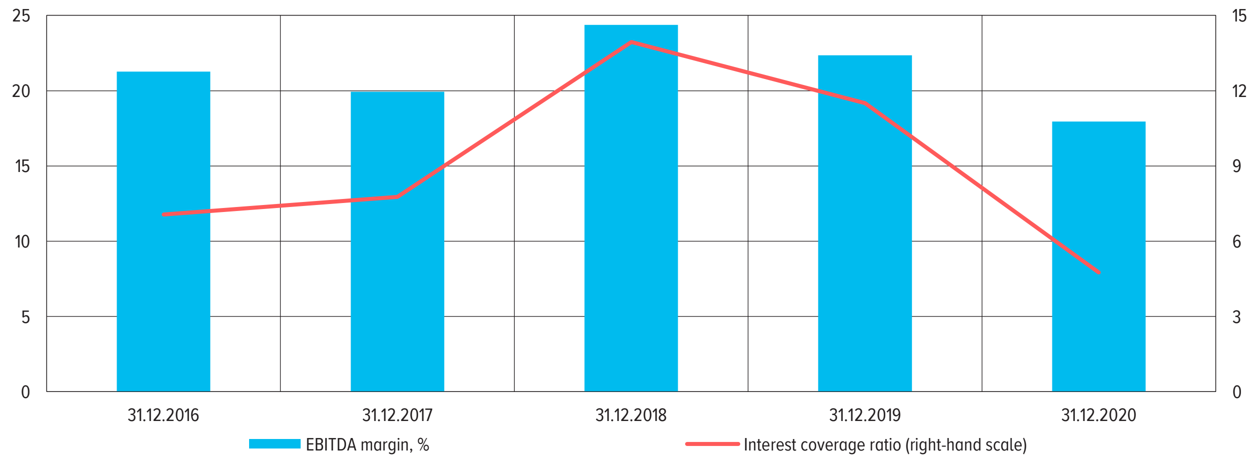
Source: IHS Markit.

DEBT BURDEN OF THE LARGEST OIL AND GAS COMPANIES *Chart 19*



Source: S&P Capital IQ.

PROFITABILITY AND INTEREST COVERAGE RATIO OF THE LARGEST OIL AND GAS COMPANIES *Chart 20*



Source: S&P Capital IQ.

Industry outlook. According to IHS Markit forecasts, easing of restrictions given an improved epidemical situation due to the mass vaccination programmes launched in leading countries may result in the growth of global demand by 5 million barrels per day from Q1 to Q3 2021 (Chart 18).

Financial position of companies in the industry. The total revenue of the largest oil and gas companies decreased by 28% YoY due to the dynamics of global oil prices and restrictions on its production determined by Russia's compliance with the new OPEC+ deal, which demonstrates the significant negative impact of the pandemic on the industry.

At the end of 2020, the debt burden estimate as per the Net Debt/EBITDA ratio increased to 2 (from 1 at the end of 2019) (Chart 19). Against the background of a decline in profitability (from 22% to 18%), there is also a significant drop in the interest coverage ratio, from 12 to 5 (Chart 20). Despite this, the debt burden of the largest Russian oil and gas companies remains at an acceptable level. The debt burden of the largest foreign representatives of the industry also shows significant growth along with a decrease in profitability (from 18% to 16%). The average industry indicator of the interest coverage ratio at the end of 2020 was 3 vs 13 a year earlier.

The unfavourable situation in the oil products market in 2020, which arose as a result of the COVID-19 pandemic and led to a drop in the consumption of oil products, as well as a reduction in compensation payments in the form of a reverse excise duty for oil due to a damping component negatively affected the margins for oil refining and created financial difficulties for refiners, which, in turn, had to optimize their production. In 2020, Russian oil refining companies made payments to the budget in the amount of ₽356.6 billion against ₽282.2 billion received due to the damping mechanism a year earlier.[14] Oil supplies to Russian refineries under the Transneft system decreased by 12.5 million tons in 2020 (up to 233.65 million tons) as compared to the previous year's indicator, returning to the 2011 level (233.38 million tons).[15] However, damper correction from 1 May 2021 will allow increasing payments to Russian oil refining companies.

Credit quality

For 2020, the share of non-performing loans among borrowers in the oil and gas industry showed an increase from 4.8% to 5.8% and then a decrease to 4.4% by the end of the year. As of 1 April 2021, the share of quality category IV–V loans was 4.7%.

FERROUS AND NON-FERROUS METALLURGY

According to the results of 2020, there was a decrease in global steel production by 0.9%, while in Russia output exceeded that of 2019 by 2.6%.[16] In 2020, Russian companies were also able to increase exports of ferrous metal products. According to the Federal Customs Service, exports of flat-rolled products increased by 9.6% in physical terms (but decreased by 3.7% in terms of value).

The recovery of the global non-ferrous metals markets after the COVID-19 pandemic was secured by the economic recovery of China, which is one of the main consumers of metals. The rapid demand recovery in China led to sharp price growth of a number of ferrous and non-ferrous metals (aluminium – by 69%, nickel – by 46%, zinc – by 49%, palladium – by 57%)[17] in the second half of 2020–early 2021, which may have a positive impact on the financial condition of companies in these industries.

Thus, despite the restrictions associated with the coronavirus pandemic, in 2020, steel companies increased their revenue[18] and free cash flow by 6.4% and 51%, respectively, against the

---

[14] *According to the Russian Ministry of Finance.*

[15] *According to Argus data, based on PJSC Transneft information.*

[16] *According to the World Steel Association.*

[17] *YoY change for 12 months (as of mid-May), according to Bloomberg.*

[18] *Export supplies predominate in the structure of companies' revenue, ruble prices for export supplies showed a significant increase in prices for a number of basic metals, such as gold, iron ore, steel, nickel and aluminium.*

background of the weakening ruble exchange rate, which allows them to significantly increase their dividend payments in 2021. At the same time, the financial position of certain large borrowers in the metallurgical industry remains unsatisfactory, the 'Net Debt/EBITDA' ratio of these companies, which was at a high level even before the pandemic, had increased by the end of 2020.

Credit quality

The share of 'bad' loans of metallurgical companies at the beginning and end of 2020 was 4.9%, during the acute phase of the pandemic it reached 7.8%, and as of 1 April 2021 it was 3.4%.

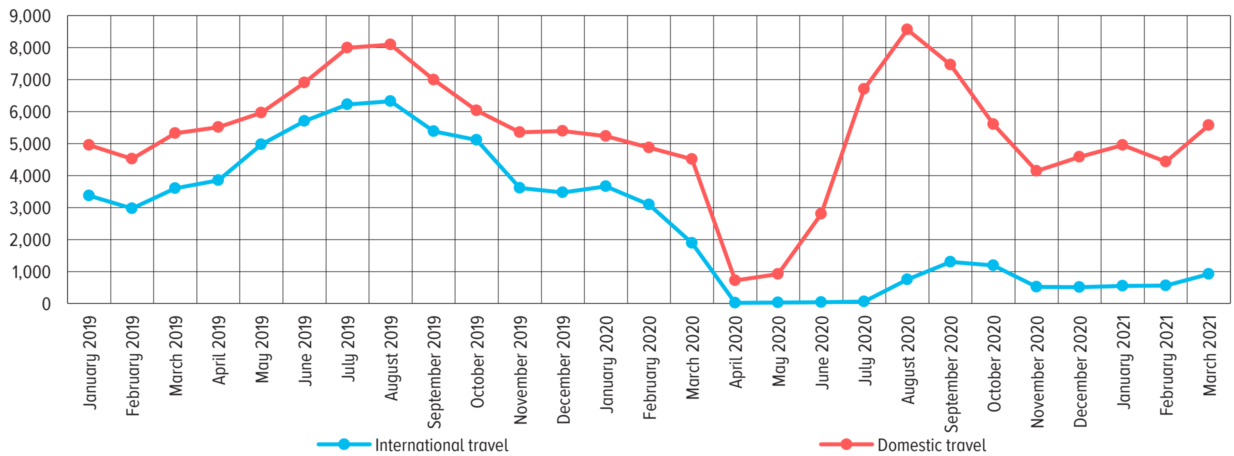
AIRLINES

The spread of COVID-19 has dealt an unprecedented blow to the aviation industry. In 2020, the International Air Transport Association (IATA) recorded a drop in global passenger traffic of 66% YoY: according to IATA estimates, passenger traffic on domestic flights fell by 49% and on international flights, by 76%. In the Russian Federation, 69.4 million passengers were transported in 2020, which is 54% less than in 2019. The dynamics of air transportation in Q1 2021 shows some recovery: the number of passengers transported decreased by 27% YoY, respectively.

The decline in air ticket prices and an increase in domestic tourism (in some months of 2020, the volume of domestic traffic exceeded the level in 2019) were the main factors contributing to the positive shift. However, the end of the summer vacation season and the increase in COVID-19 cases from the end of September 2020 have slowed the growth of domestic traffic. Taking into account the uncertainty related to the opening of the borders of foreign countries, domestic air transportation will remain the main factor supporting the passenger air transportation industry.

To support Russian airlines and airports, a number of support programmes were adopted in 2020 (the total amount of government support amounted to ₽34.3 billion[19]). In April 2021, the Federal Air Transport Agency proposed to resume subsidising the aviation industry, the projected amount of government support for the first half of 2021 may be about ₽13.2 billion (for airlines –₽8.2 billion; for airports –₽5 billion). In the middle of May 2021, Federal Agency for Tourism declared that ₽1.2 billion will be allocated to subsidise charter flights.

VOLUME OF PASSENGERS TRANSPORTED (DOMESTIC AND INTERNATIONAL TRIPS) IN THE RUSSIAN FEDERATION IN 2019–2021 *Chart 21*
(THOUSAND PEOPLE)



Source: Federal Air Transport Agency.

[19] *In 2020, the Federal Air Transport Agency was allocated ₽23.4 billion from the reserve fund of the Government of the Russian Federation (in December 2020, the amount was reduced to ₽20.9 billion) to provide subsidies to Russian airlines in 2020 for the reimbursement of expenses for commercial transportation (Resolution of the Government of the Russian Federation No. 661, dated 13 May 2020) and subsidies to Russian airports for the partial compensation of expenses due to a reduction in their revenues on account of the drop in passenger traffic amounting to ₽10.9 billion (Resolution of the Government of the Russian Federation No. 813, dated 3 June 2020).*

In 2021–2022, the industry's main problems will be excess fleet, a significant increase in debt burden, possible changes in flight routes, frequency and distance, booking conditions, increased competition and additional measures related to epidemical safety. In such circumstances, the further financial stability of airlines will be largely determined by the amount of government support.

Credit quality

For 2020, the share of 'bad' airline loans decreased from 19.3% to 9.7% (9.6% as of 1 April 2021). The loan portfolio of the industry is insignificant in terms of volume since the main financial liabilities of airlines are leases. However, the impact on banks may be significant due to lending to leasing companies, including those in the same financial groups as banks.

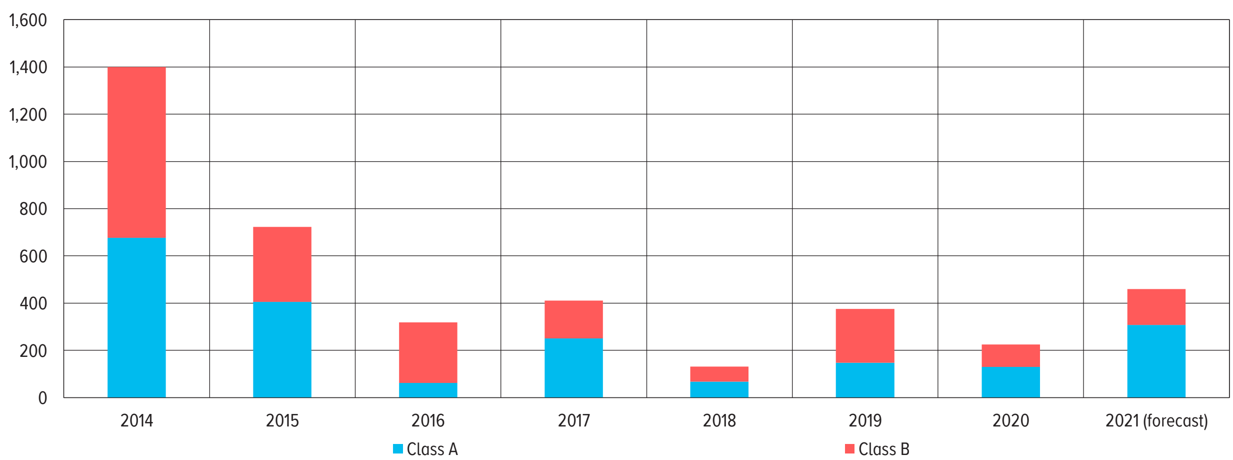
COMMERCIAL REAL ESTATE

Office real estate

Against the background of restrictive measures to address the coronavirus pandemic, office users postponed moving and developers put off the launch of new projects. At the end of 2020, the share of free supply in Class A business centres increased by 2.4 pp as compared to 2019 amounting to 11.7%. By the end of 2021, further growth is expected, but in general the vacancy rate remains significantly below the level of 2014–2015.[20] Despite the market conditions observed, office rental rates showed a slight increase. For Class A offices, the indicator was ₽25.5 thousand/m2/yr (exclusive of operating expenses and VAT), which is 2.1% more than at the end of 2019. For Class B offices, it was ₽17.1 thousand/m2/yr (exclusive of operating expenses and VAT) – a growth of 1.3% (Chart 22).

In the medium term, the consequences of the coronavirus pandemic will likely lead to structural changes in the industry: the quarantine measures introduced during the pandemic have forced many organisations to rethink the concept of office work. Currently, a number of large companies have transferred some employees to working from home until the end of 2021. If the concept of working from home is maintained in future periods, companies will begin to review their strategies for expanding or maintaining their current office space, which will lead to a higher level of available offices.

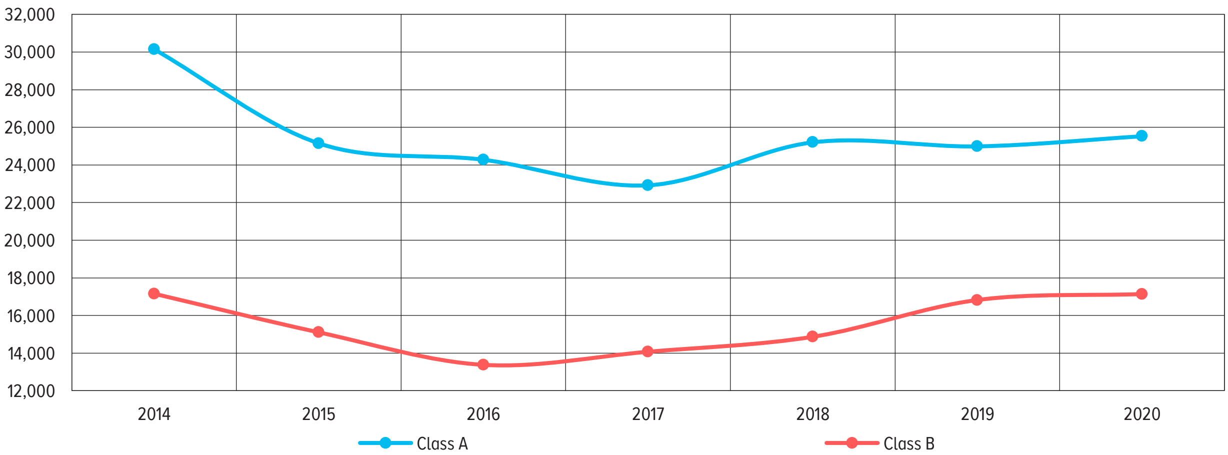
DYNAMICS OF CLASS A AND B OFFICE COMMISSIONING (MOSCOW)* *Chart 22*
(THOUSAND SQ. M)



** Excluding operating expenses and VAT*
Source: Knight Frank.

[20] *According to the analytical agency Knight Frank.*

DYNAMICS OF THE WEIGHTED AVERAGE ASKING RENTAL RATES FOR CLASS A AND B OFFICES, DENOMINATED IN RUSSIAN RUBLES (MOSCOW)* *Chart 23*
(₽/M2/Y)



Source: Knight Frank.
** Excluding operating expenses and VAT.*

Commercial real estate

At the end of 2020, 226,000 sq. m of retail space was commissioned in Moscow[21] (17% more than at the end of 2019).[22] Despite the fact that about 19% of the initially announced volume of retail space for commission in 2020 was put forward, the volume commissioned in 2020 was the highest in the last four years. Retail activity was changing extensively against the background of the transformation in consumer behaviour patterns and basic consumer habits caused by restrictions on movement introduced to contain the spread of the novel coronavirus. In 2020, the vacancy rate in Moscow's shopping centres increased slightly, reaching 10.7%, which is 1.6 pp higher than in 2019. The increase in the indicator is primarily due to the optimisation of network retailers as well as the record openings of new retail facilities over the year.

At the end of 2020, the prime rental rate[23] decreased relative to the last year's level by 20% in premium malls[24] (₽204,000/m2/yr) and by 24% in key malls (₽65,000/m2/yr).[25] In the new rental agreements concluded during the pandemic period in 2020, landlords began to use such flexible tools as increases in the percentage of turnover at a reduced lease rate, shortened contract terms and the possibility of unilateral termination, which will return the total rental rates to the pre-crisis level in the medium term given an improvement in the situation.

Credit quality

In 2020, the share of 'bad' loans among borrowers whose activities are related to real estate transactions increased from 20.6% to 26.4%. In 2021, the growth of the share of quality category IV–V loans continued, amounting to 29.1% as of 1 April 2021.

SERVICE SECTOR SMES

According to the SME *register*, in April 2021, the number of enterprises in the service sector decreased by 3.6% YoY to 225,300. Since the beginning of the spread of coronavirus in February

---

[21] Here and hereinafter in Moscow since the main retail space is located in the Moscow Region.

[22] According to the analytical agency Colliers International.

[23] Prime rental rate – the rental rate for premises of 150 sq. m of the clothing/shoes profile located on the first floor.

[24] Based on the data of the top 5 shopping malls with a traffic index of more than 1,000 people/1,000 m2 located within a radius of 5 km from the Kremlin.

[25] According to the analytical agency CBRE.

2020, a strong decline in profitability indicators was observed for SMEs in the hotel business and those serving as tour operators and catering enterprises.

In Q3–Q4 2020, the turnover of small enterprises (excluding micro-enterprises) amounted to 18.3 and ₽25.6 trillion, which is 9.6% and 10.8% less than in the same period in 2019. At the same time, the turnover in such areas as tourism, the hotel business and the catering industry for the same two periods was 32% and 30.1% less YoY.[26]

As of 1 April 2021, the total share of the above-mentioned industries in the corporate SME portfolio was 2.01% – that is, 0.5 pp more YoY, which is due to an increase in absolute debt by 65.5% YoY. This debt growth is associated with the restructuring of loans and the demand for additional financing on preferential terms. For example, until 30 September 2020, small- and medium-sized businesses from particularly affected industries[27] had the opportunity to receive loans at a preferential rate of 8.5% for 3 years for any purpose and a loan of 0% for up to 6 months to pay their employees' salaries. The measure on providing refinancing for SMEs on preferential terms continued to be in effect after 30 September 2020.[28] *The Bank of Russia recommended that credit institutions continue to restructure loans until 1 July 2021, without imposing penalties and fines on restructured loans during this period*.

Hotels

In 2020, during the pandemic, the Russian hotel business was supported mainly by domestic demand. The main regions affected were Moscow and Saint Petersburg as they have more high-end hotels, 40–60% of the demand for which has historically been provided by foreign tourists.

The lifting of restrictions in summer and the reduction in fares helped middle-class hotels partially restore occupancy by the autumn of 2020 mainly due to business events, the restoration of air traffic and the partial opening of borders. Owing to the increase in domestic tourism, regional hotels did not suffer so much, and in the southern regions they were able to increase their revenues relative to 2019 due to increased occupancy and prices. For example, with the opening of the tourist season on 1 July 2020, record hotel occupancy rates were observed in the Krasnodar Territory, which reached 100% in August 2020, while in 2019, during the holiday season, hotel occupancy in the region did not exceed 70%.

Tourism

According to the Federal Tourism Agency, in 2020, the total turnover in the industry amounted to ₽1.6 trillion – that is, 43% of the level of 2019. According to preliminary estimates,[29] by the end of 2020, inbound tourism to Russia in annual terms fell by 93.6% YoY. Compared to 2019, Russia lost 4.77 million foreign tourists. Outbound tourism became available to Russian tourists only from 1 August. Tour operators' entire activity focused on five open destinations: Turkey, the United Arab Emirates (UAE), Cuba, Maldives and Tanzania, while, compared to 2020, the flow of tourists to these countries decreased by 73.6% and amounted to 2.2 million tourists.[30]

Due to the border closures, domestic tourism has become the main focus. In 2020, the share of organised domestic tourism (tourists that used services of tour operators) increased slightly in the domestic market. According to ATOR, the number of tourists returning to the same place in Russia

[26] *According to the Moscow government, the turnover of the city's trade and services enterprises began to recover in August, reaching ₽928 billion (4.1% more YoY). In March 2021, this indicator was ₽1.18 trillion, 28% higher than in the same period in 2020.*

[27] *Among them are tourism, the hotel industry and the catering industry.*

[28] *The limit on refinancing loans is ₽175 billion.*

[29] *According to the Association of Tour Operators in Russia (ATOR).*

[30] *According to the aggregated data of the authorities of these countries, statistics of the border service of the FSB of Russia and information on flight occupancy.*

increased by 8–10% due to the opening of new recreational opportunities, most of which fell on the mountain resorts of Krasnodar Territory.

Catering

According to Rosstat, in 2020, the turnover of the public catering industry amounted to ₽1.4 trillion or 77.4% as compared to 2019. The largest drop in turnover was recorded in April and May – by 45.5% and 44.9% YoY, respectively, since many restaurants operated only through takeaway and delivery. Then, the turnover rate began to gradually recover due to the reduction of restrictions and the adaptation of restaurants to the new conditions. In Q4 2020 and Q1 2021, a full recovery did not occur: turnover was 83.1% YoY and 94% YoY, respectively. According to the Federation of Restaurateurs and Hoteliers (FRiO), 40% of public catering establishments have changed owners since the beginning of the pandemic, mainly in large cities due to high rents.

Credit quality

Due to government SME support programmes and the Bank of Russia's easing, there was no significant increase in the share of 'bad' loans. In 2020, the share of quality category IV–V loans to SMEs from the hotel, catering and tourism sectors decreased from 17.1% to 16.0%, the maximum value was observed during the acute phase of the pandemic and amounted to 18.0% in April 2020. As of 1 April 2021, the loan quality indicator had fallen to 19.6%.

2.2. Household debt burden and retail lending risks

In 2020—Q1 2021, the growth of lending outrunning the growth of the nominal incomes of the population led to an increase in the debt burden of households on macro level from 10.7% to 11.9%. The main contribution was made by the unsecured consumer lending segment, where growth is accelerating at the beginning of 2021. From 1 July 2021, the Bank of Russia decided to return to the macroprudential add-ons that were in effect before the pandemic. The increase of these add-ons will help reduce the incentive for banks to expand lending by providing loans to borrowers with a high debt service to income ratio (DSTI) and will also gradually restore the buffer value and ensure the banks' resilience in potential stress scenarios. At the same time, taking into account the planned unwinding of the regulatory easing introduced during the pandemic by 1 July 2021, the Bank of Russia decided to partially release the macroprudential buffer on unsecured consumer loans amounting to ₽124 billion. It can be used by banks to absorb losses on all types of lending, not only on unsecured consumer loans.

2.2.1. Lending growth rates and debt burden at the macrolevel

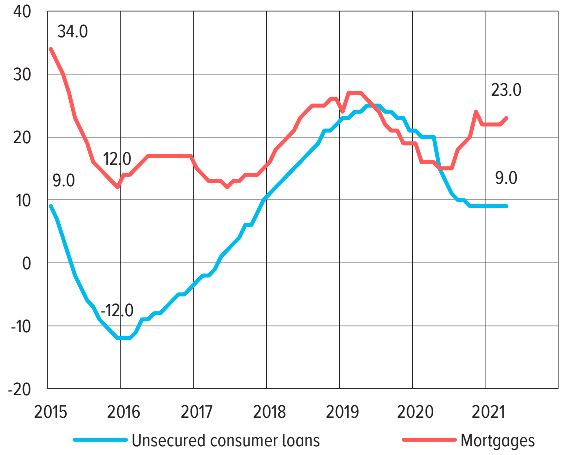
In Q4 2020 –Q1 2021, growth in retail lending accelerated. In the mortgage lending segment, high rates of debt growth remain due to the government programmes to subsidise mortgage rates as well as a loose monetary policy. In Q4 2020–Q1 2021, the average rate on mortgage loans granted in the primary market was 5.9%. The annual growth of the mortgage portfolio as of 1 April 2021 was 23.4%,[31] while as of 1 October 2020 it was 20.5% (and 18.7% as of 1 April 2020).

In the unsecured lending segment, the debt growth rate in March 2021 was 1.9%, which corresponds to the average annualised growth rate over the last three months, seasonally adjusted, of more than 15% (although the annual debt growth is 8.9% due to the collapse in the first months of the pandemic).

The growth of lending against a background of moderate increase of incomes was accompanied by an increase in the debt burden of households at the macro-level calculated through the Debt

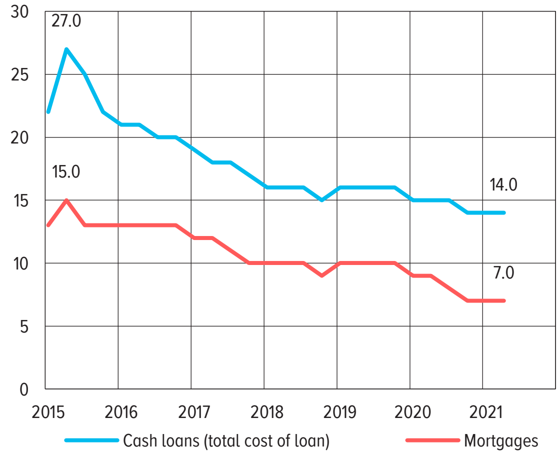
[31] All figures on mortgage growth rates are given taking into account the remaining debt on securitised mortgages.

PORTFOLIO GROWTH RATE BY LENDING SEGMENT *Chart 24*
(YOY %)



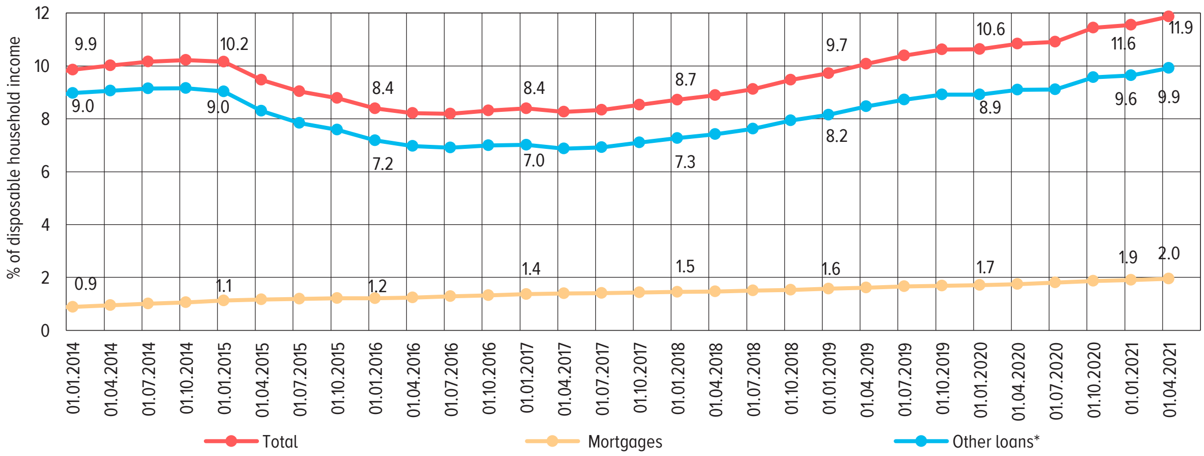
Source: Banking reporting form 0409115.

WEIGHTED AVERAGE RATES OF LOANS ISSUED DURING THE QUARTER *Chart 25*
(%)



Source: Banking reporting forms 0409126 and 0409316.

HOUSEHOLD DEBT SERVICE RATIO *Chart 26*



** Including car loans and unsecured consumer loans.*
Source: The Bank of Russia.

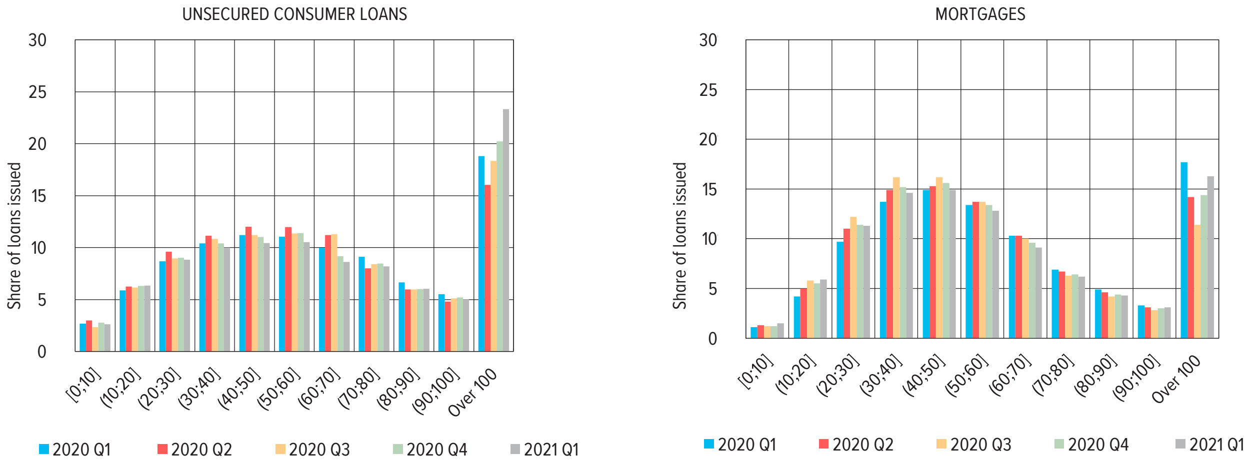
Service Ratio (DSR).[32] In Q3 2020—Q1 2021, the total debt burden increased by 0.96 pp and reached 11.9% of households' disposable income. In 2020, the loan debt growth, unlike in previous periods, was not supported by an increase in the disposable income of households. Unsecured consumer loans made the largest contribution to the total change in the DSR (DSR growth for Q3 2020–Q1 2021 by 0.8 pp). In the reporting period, the change in mortgage DSR was only 0.1 pp: the growth of the debt burden was hindered by the refinancing of mortgage loans at lower rates as well as the reduction in rates on newly granted loans.

2.2.2. Lending standards

In Q4 2020–Q1 2021, banks relaxed their requirements for the solvency of borrowers on unsecured consumer loans, after they were tightened at the beginning of the pandemic, and maintained the requirements for the debt burden of mortgage borrowers. In Q3 2020–Q1 2021, the share of consumer loans issued to borrowers with a debt service to income ratio (DSTI) of more than 80% increased from 26.8% to 34.4%, but this is determined by the activities of several banks. With their

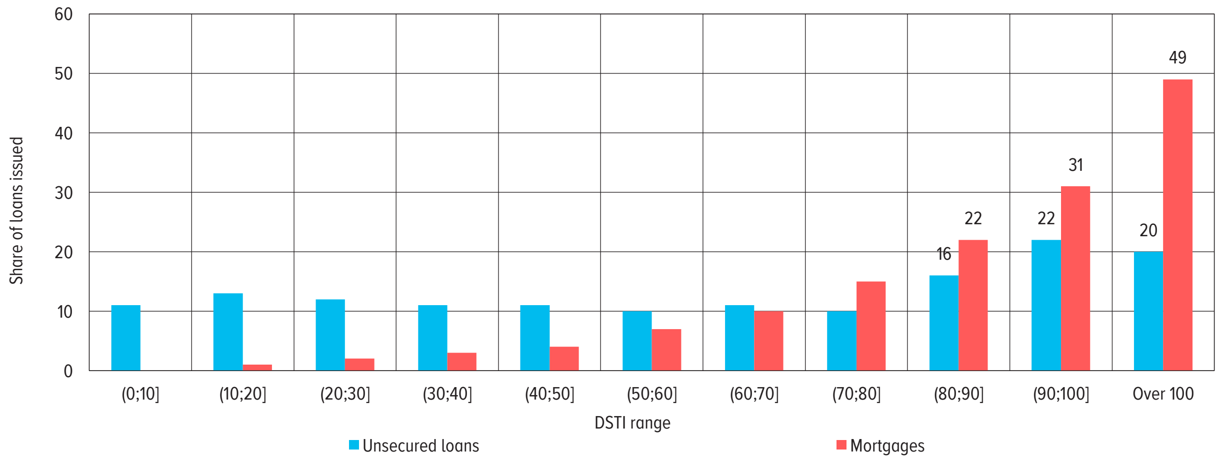
[32] *It is calculated as the ratio of planned loan payments to the disposable household money income in the Russian Federation.*

DISTRIBUTION OF THE VOLUME OF HOUSEHOLD LOANS BY DSTI LEVEL *Chart 27*
(%)



Source: Banking reporting form 0409704.

SHARE OF LOANS ISSUED IN 2021 Q1 TO BORROWERS WITH INCOME ASSESSED BASED ON THE MINIMUM VALUE OF THE AVERAGE INCOME IN THE REGION AND THE INCOME DECLARED BY THE BORROWER *Chart 28*
(%)



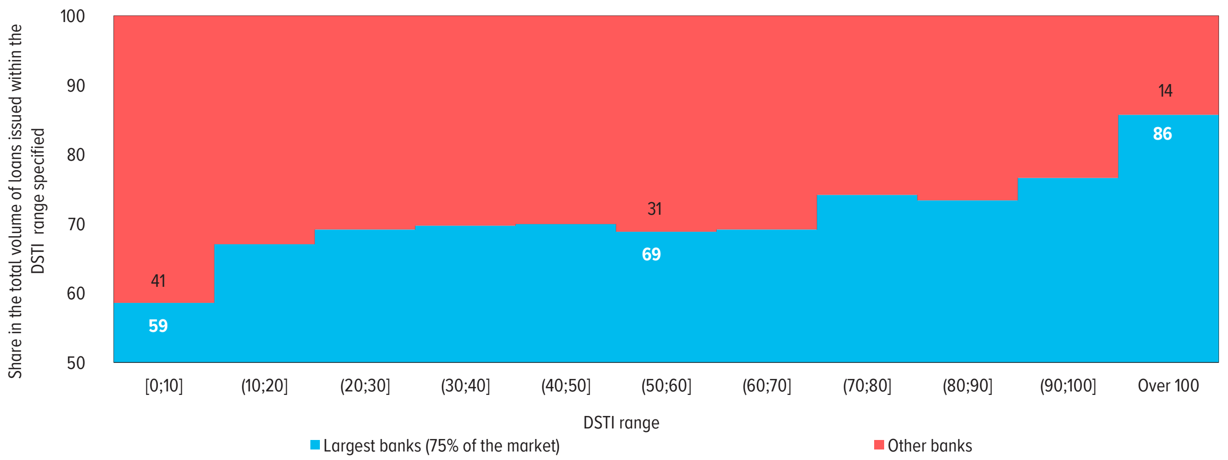
Source: Banking reporting form 0409704.

exclusion, the share of loans with a DSTI of more than 80% corresponds to the values observed before the pandemic. In mortgages, the increase in the debt burden of new borrowers did not occur as a result of the more conservative policy of banks, nor was the reduction in loan rates caused by government preferential lending programs (the share of which amounted to 30% of mortgage loans for June–December 2020).

Both mortgage and unsecured consumer lending maintain a high proportion of loans granted to borrowers with no confirmed income (15.2% and 15.4%, respectively). To estimate the income of such borrowers, banks use the minimum value of the average regional income and the declared income of the borrower when calculating the DSTI. This approach to the calculation of DSTI is applied by banks when there is no technical possibility to check the client's income or when providing loans to clients with shadow income. In the latter case, the risk on such loans is higher since shadow incomes are most likely to be more volatile. It is these loans that make up the majority of loans with a DSTI of more than 100%.

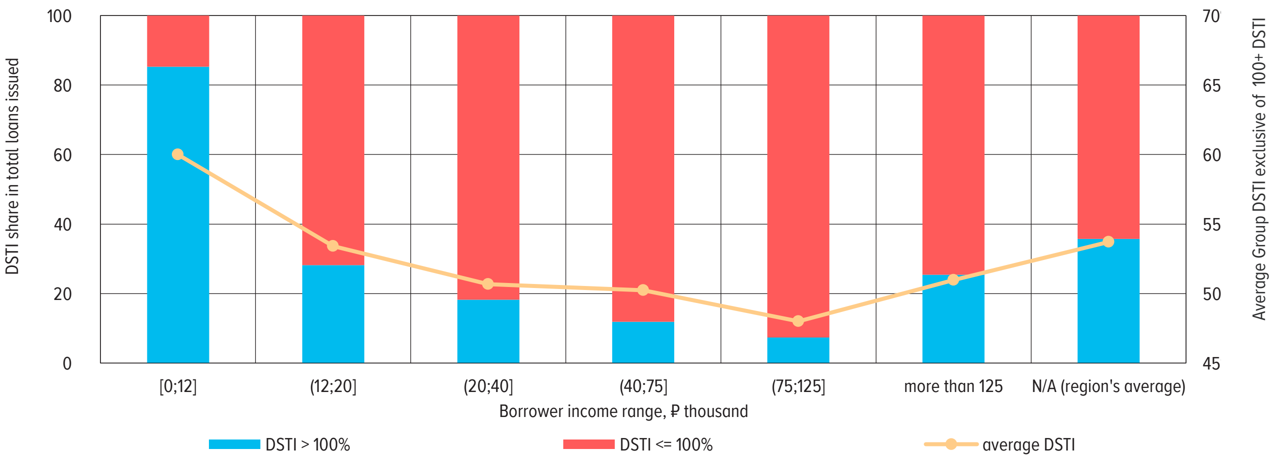
Consumer loans with high DSTI values are unevenly distributed among banks. Thus, in Q1 2021, a group of the largest banks, which occupy 75% of the consumer lending market, granted 86% of the volume of loans with a DSTI of more than 100%. Smaller banks (the remaining 25%) concentrated their loans in areas with low DSTI values where their share reaches 40% in the DSTI range of 0–10%.

DISTRIBUTION OF CONSUMER LOANS ISSUED IN Q4 BY DSTI RANGE AND BANK *Chart 29*
(%)



Source: Banking reporting form 0409704.

DISTRIBUTION OF NEW LOANS ISSUED ACCORDING TO DSTI FOR BORROWERS OF VARIOUS INCOME LEVELS *Chart 30*



Source: Banking reporting form 0409704.

The concentration of loans with high DSTI in the portfolios of the largest banks is explained by the active use of model income to assess the income of potential borrowers and access to the client's transaction history data. Using this data advantage, market leaders increase lending in segments where the DSTI value can exceed 100%. This is most typical of segments where the official income of borrowers does not exceed ₽12,000 per month or is unknown.

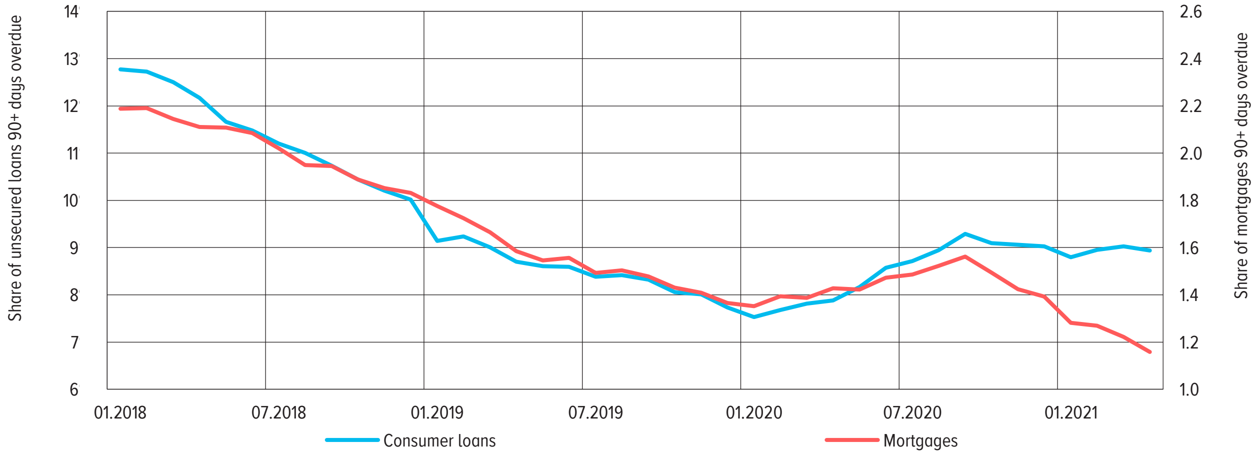
2.2.3. Dynamics of credit risk and macroprudential measures

During Q4 2020–Q1 2021, the growth of non-performing loans in unsecured consumer lending has stabilised. As of 1 April 2021, the share of 'bad' loans was 8.9%. After the peak values in housing and mortgage lending were reached on 1 September 2020, the volume of non-performing loans began to decline both as a share of total debt (from 1.6% to 1.2% as of 1 April 2021) and in nominal terms (from ₽100.5 billion to ₽82.5 billion as of 1 April 2021).

In accordance with the concept of macroprudential regulation, the risk growth caused by systemic factors that are beyond the control of credit institutions should be compensated by the release of macroprudential capital buffers. The first stage of the cancellation of the add-ons for unsecured loans was implemented in September 2020, which was equivalent to a capital release amounting to

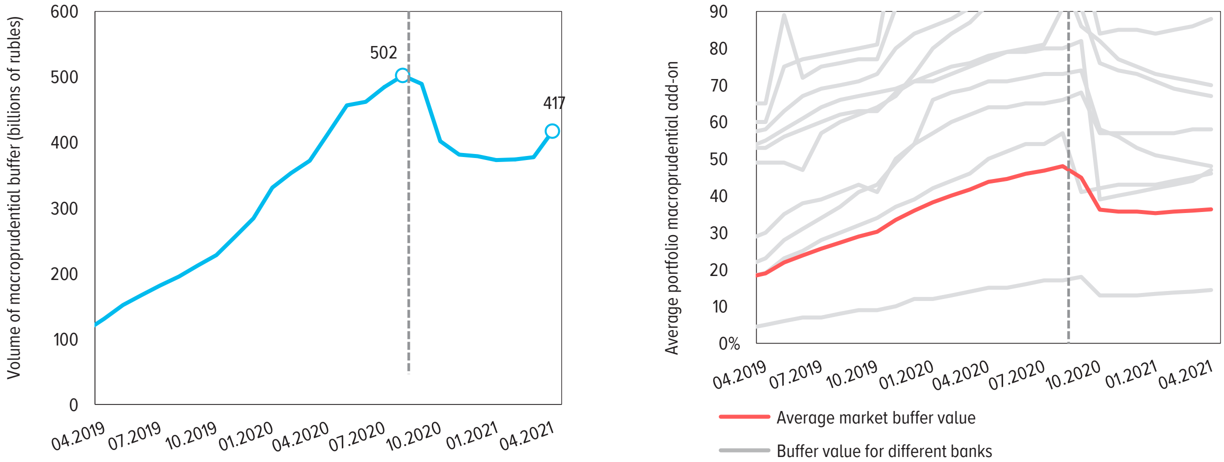
DYNAMICS OF SHARE OF LOANS 90+ DAYS OVERDUE WITHIN UNSECURED CONSUMER LOAN AND MORTGAGE PORTFOLIOS. VALUES SHOW THE VOLUME OF LOANS 90+ DAYS OVERDUE *Chart 31*

(%)



Source: Banking reporting form 0409115.

DYNAMICS OF THE MACROPRUDENTIAL BUFFER ON UNSECURED CONSUMER LOANS (LEFT) AND AVERAGE ADD-ON ON TO RISK WEIGHTS OF THE PORTFOLIOS OF THE LARGEST BANKS (RIGHT). THE DOTTED LINE REPRESENTS THE DATE WHEN ADD-ONS WERE RELEASED ON LOANS ISSUED BEFORE SEPTEMBER 2019 *Chart 32*



Note: dotted line indicates the date of release of add-ons on loans issued before September 2019.
Source: Banking reporting form 0409135.

ADD-ONS TO RISK WEIGHTS FOR RUBLE CONSUMER LOANS TO BE ISSUED FROM 1 JULY 2021 *Table 6*

(%)

		DSTI range							
		No DSTI	**0–30**	**30–40**	**40–50**	**50–60**	**60–70**	**70–80**	**Over 80**
EIR range	0–10	0.6	0.3	0.3	0.3	0.6	0.7	0.9	1.1
	10–15	0.7	0.5	0.5	0.5	0.7	0.8	1	1.2
	15–20	1.1	0.7	0.7	0.7	1.1	1.3	1.4	1.6
	20–25	1.5	1	1	1	1.5	1.7	1.8	2
	25–30	1.8	1.3	1.3	1.3	1.8	1.9	2	2.2

Source: The Bank of Russia.

₽168 billion. In this case, the effect for individual credit institutions was largely determined by the portfolio structure and credit policy in 2019–2020 (Chart 32).

Taking into account the cancellation of regulatory easing on retail loans from 1 July 2021 as well as possible losses on the portfolio of restructured loans during 2021 in an amount of up to ₽90 billion, from 30 June 2021, the Bank of Russia decided to further release the macroprudential buffer on unsecured consumer loans granted before 1 April 2020. This decision will allow to release up to ₽124 billion in bank capital.

At the same time, as the economy recovers, the observed growth rates of debt on unsecured consumer loans are beginning to accelerate and outstrip the growth of household incomes. Without a corresponding increase in income, loan growth will lead to an increase in the debt burden of households at the macro level. In this regard, the Bank of Russia has decided to establish from 1 July 2021 macroprudential add-ons for unsecured consumer loans that were in effect before the pandemic (Table 6).

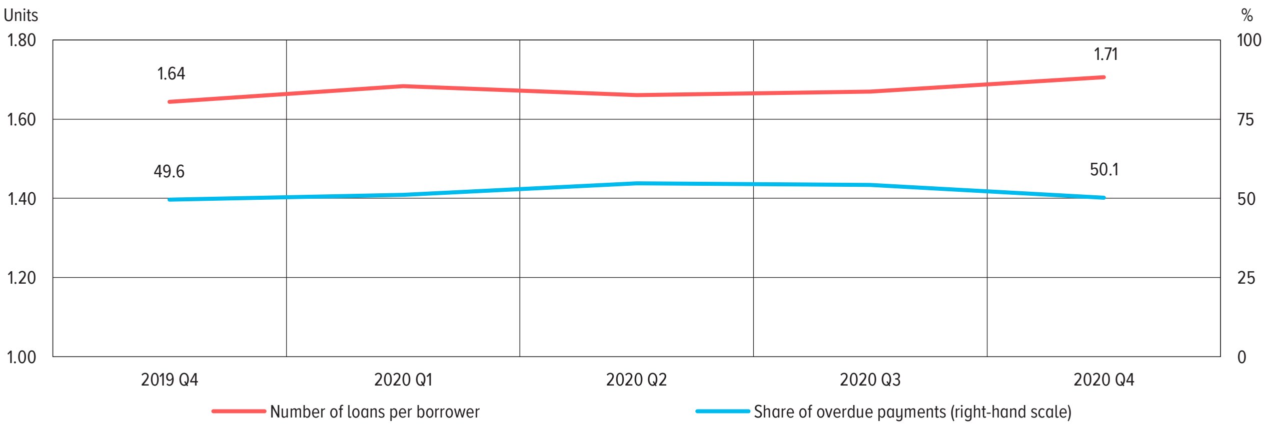
The return to macroprudential add-ons that were in effect before the pandemic will help reduce the incentives for banks to expand lending by providing loans to borrowers with a high DSTI ratio and will also gradually restore the macroprudential buffer and improve the banks' resilience in potential stress scenarios.

CONSUMER MICROFINANCING

For 2020, the annual growth rate of the consumer microfinance portfolio decreased from 27.9% to 9.8%, and the total amount of principal debt reached ₽188.2 billion. However, despite a slight slowdown, largely due to restrictions during the spread of COVID-19, the solvency and debt burden of borrowers continued to deteriorate.

According to the data of the three largest CHBs,[33] over the past 2 years, the number of loans (excluding bank loans) per borrower has had a steady upward trend (from 1.53 units to 1.71 units, for comparison: taking bank loans into account, from 2.83 to 2.94 units). At the same time, in 2020, this indicator remained almost unchanged (+0.07 units, Chart 33). At the same time, the average debt (inclusive of interest) per borrower remained at the same level and amounted to ₽39,200, which is most likely due to the previously introduced restrictions on the accrual of interest income.[34] There was also a slight increase in the share of overdue payments (more than 1 day) for 2020 from 49.6% to 50.1%, which was accompanied by an increase in the share of written-off contracts in the

DYNAMICS OF NUMBER OF LOANS PER BORROWER AND OVERDUE PAYMENTS (EXCLUDING LOANS FROM BANKS) *Chart 33*



Source: Bank of Russia based on data from CHBs.

[33] *According to the National Bureau of Credit Histories (NBCH), Equifax and United Credit Bureau (UCB), the sample coverage was 86% of the consumer microfinance market, including deduplication.*

[34] *Effective interest rate is no more than 1% per day (and no more than 365% per annum), and a limit on the maximum amount of the ratio of interest income accrued to the original amount under the loan agreement is no more than 1.5 times.*

micro-loan portfolio from 1.1% to 1.7%. It is worth noting that as the number of loans to an MFO borrower increases, payment discipline deteriorates. For example, borrowers with one loan have a share of overdue payments of 36.4%, and borrowers with 2 or more loans, 61.4%. This trend is partly due to the low financial literacy of individual borrowers, who accumulate debt without assessing their ability to service it.

Taking into account the continuing growth of the debt burden and the lack of positive dynamics in servicing the debt of MFO borrowers, a year after the introduction of the requirement to calculate the borrower's DSTI when granting loans for the purpose of calculating MFO capital adequacy ratios,[35] it seems timely to give the Bank of Russia an additional tool for controlling the debt burden of borrowers in the form of direct quantitative restrictions on the issuance of unsecured consumer loans.

DRAFT LAWS AIMED AT PROTECTING CITIZENS AND LIMITING SYSTEMIC RISKS IN THE RETAIL LENDING MARKET

To expand the set of macroprudential policy tools available to the Bank of Russia, which will allow both current and future vulnerabilities to be addressed in a timely manner, a number of proposals for legislative changes have been prepared. The said proposals relate to:

- fixing the obligation for creditors to calculate the DSTI at the legislative level (the Draft DSTI Law);
- granting the Bank of Russia the authority to establish direct quantitative restrictions (the Draft DQR Law);
- risk limitation on floating-rate loans (the draft law on floating interest rates).

THE DRAFT DSTI LAW

The key challenge for the Bank of Russia within the three-year horizon is the growth of the credit burden of the population. If risks materialise, such an excessive debt burden can lead to increased losses in the banking sector, create risks for the real sector of the economy and have negative social consequences. Since the beginning of the pandemic, loan restructuring has been sought primarily by heavily leveraged borrowers. The average borrower who applied for the restructuring of unsecured consumer loans had 3.7 loans, while for the segment as a whole this indicator is 2.1 loans.

From 1 October 2019, the Bank of Russia regulations introduced the obligation for banks and microfinance organisations to check whether a citizen has any liabilities under credit agreements when granting a consumer loan as part of the calculation of the required ratios established for banks and microfinance organisations. In addition, the Bank of Russia recommended that banks and microfinance organisations notify borrowers of the calculated DSTI value.

Since the corresponding obligation of financial institutions is not currently provided for at the legislative level, given the importance of the borrower's understanding of the risks assumed, as well as in order to form healthy credit activity, the proposals were developed regarding the introduction of legislative changes that establish the obligation of banks and microfinance organisations to calculate the DSTI in cases established by law as well as to notify the borrower of the risk of default on the loan, in relation to which the DSTI is calculated, if the calculated DSTI value exceeds 50%.

THE DRAFT DQR LAW

Currently, the main instrument of the Bank of Russia's macroprudential policy in the retail lending segment is risk weights add-ons for capital adequacy requirements (increased risk weights) aimed at limiting the risks of unsecured consumer lending, depending on the DSTI and the effective interest rate of the loan.

---

[35] *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' and 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'.*

Risk weights add-ons applied to unsecured consumer loans contribute to the stability of the banking sector through the formation of capital stock. In the event of a stress scenario, this stock can be used to cover losses as well as to preserve the ability of financial institutions to continue lending to the economy. The countercyclical release of part of the buffer was implemented by the Bank of Russia during the coronavirus pandemic.

If the accelerated growth of unsecured consumer lending continues, which may be accompanied by a weakening of lending standards and an increase in the debt burden of households, additional tightening of macroprudential policy may be required. At the same time, banks will be forced to form provisions for loans previously restructured during the pandemic. The introduction of increased add-ons for risk weights will have an additional impact on the capital adequacy of credit institutions and reduce their ability to lend not only to households but also to enterprises. In such circumstances, it is more effective to use instruments that directly affect the standards of risky lending as well as the growth rate, while creating no further capital requirements for banks.

Based on international experience in the use of macroprudential instruments as well as on the results of the Bank of Russia's public discussion of possible mechanisms for introducing DQR into the Bank of Russia's set of tools,[36] it is proposed to define DQR as the maximum allowable share of certain types of unsecured consumer loans in the total volume of loans of this type provided by a credit institution or a microfinance organisation within the current quarter. The period during which the DQR is applied as well as the values of the loan characteristics for which the DQR is established (in particular, DSTI, effective interest rate and loan term) are supposed to be determined by a decision of the Bank of Russia Board of Directors.

DRAFT LAW ON FLOATING INTEREST RATES

On the back of the Bank of Russia's return to a neutral monetary policy, banks are becoming increasingly interested in lending at floating interest rates in order to reduce their interest rate risk. As for retail lending, the law currently allows for the use of floating interest rates; however, for individuals, particularly those with a high debt burden, floating interest rates may pose material risks, similar to those materialised in foreign currency mortgage lending in 2014—2015 (although certainly to a smaller extent since a floating interest rate only changes interest payments and not the principal). To limit such risks, it is reasonable to adopt legislative changes based on a balance between the minimised interest rate risk needed by banks and limiting the risks of household borrowers.

In pursuance of subclause 'a' of Decree of the President of the Russian Federation No. Pr-321, dated 2 March 2021, the Bank of Russia plans, with due regard to the results of public discussions with market participants,[37] to prepare legislative amendments governing the procedure for changing variable interest rates and/or consumer credit/loan repayment dates, including those with obligations secured by a mortgage. Such changes are supposed to limit the maximum increase in the floating rate under a loan agreement (for example, by no more than 2 pp as compared to the rate set on the agreement date) and, if the maturity is changed based on the floating rate, to simultaneously limit the change in such a credit/loan maturity (by no more than 3 years from the maturity set on the agreement date). In addition, it is suggested that lending at floating interest rates should be forbidden in relation to credit/loans granted for a period of up to a year and over 20 years as well as loans with a lending limit. Additionally, it is planned to draft regulations allowing the Bank of Russia's Board of Directors to limit the share of floating-rate loans in the total volume of loans issued by financial institutions.

---

[36] *The consultation paper On the Development of the Bank of Russia's Macroprudential Policy in Retail Lending.*

[37] *Possible approaches to regulate floating-rate loans are described in the Regulating the Risks Associated with the Possible Expansion of Floating Interest Rate Mortgages public consultation report.*

2.3. Assessment of banking sector resilience

The banking sector enjoys a significant level of stability in the form of an accumulated capital buffer of ₽6.0 trillion and a macroprudential capital buffer of ₽0.7 trillion. Moreover, in 2020, credit institutions earned a material net profit (about ₽1.6 trillion) comparable to the record value of 2019. Net interest income (NII) has continued to remain its main source. At the same time, there was an increase in other income, including commission income.

In October 2020—March 2021, the ruble liquidity conditions of banks were fairly stable despite the growing volatility of the factors that contribute to ruble liquidity. The Bank of Russia's repo operations helped credit institutions compensate for temporary liquidity distribution imbalances in late 2020—early 2021. In order for SIBs to have more incentives to use market instruments to comply with the short-term liquidity ratio, the Bank of Russia returned to the implementation of a temporarily suspended plan to reduce the SIBs' dependence on irrevocable credit line (ICL) limits with the simultaneous introduction of an adaptation period in terms of the amount to be paid for the right to use ICLs.

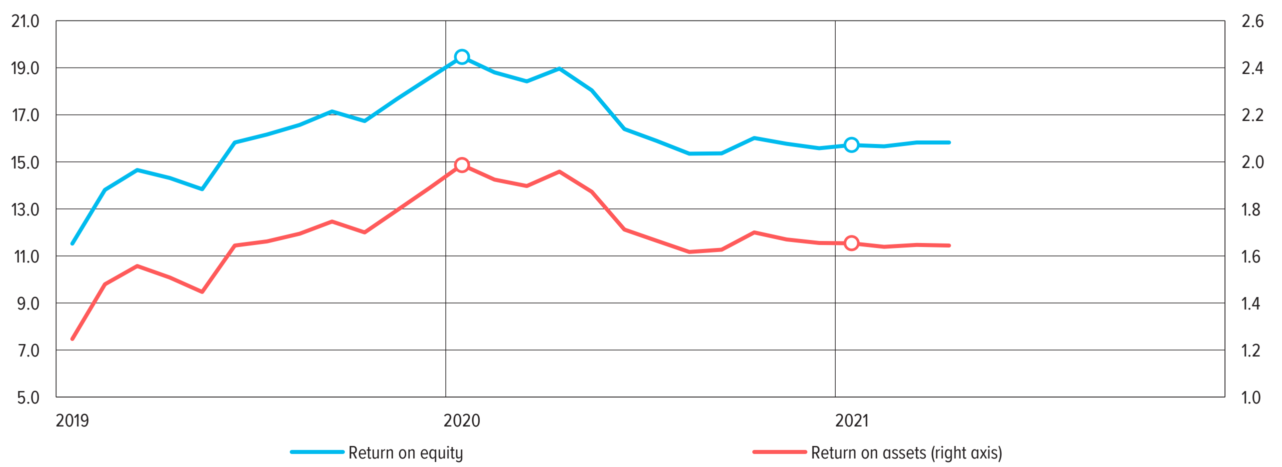
The FX liquidity situation remained stable amid the inflow of customers' foreign currency funds into the banking sector. No demand was seen for the Bank of Russia currency swap operations to sell US dollars for rubles, including in late 2020, while the European market witnessed an increased dollar liquidity cost at the end of last year.

BANKING SECTOR INCOME STRUCTURE[38]

In 2020, the banking sector's net profit amounted to ₽1.6 trillion,[39] which is 6% less than the record profit of 2019. Still, SIBs account for approximately 80% of that profit. Banking profitability indicators remained high despite a slight decrease given the continuing growth in the assets and capital of credit institutions: as of 1 January 2021, the return on assets decreased by 0.3 pp to 1.7%, and returns on balance sheet capital fell by 3.7 pp to 15.7% (Chart 34).

The net interest income (NII) continued to be the main source of profit generation and growth (Chart 35). At the end of 2020, NII increased by 8.4% to ₽3.6 trillion on the back of a higher-than-anticipated decline in interest expenses. The banks' interest margin decreased by 0.2 pp at the end of the year but stayed as high as 4.4% as of 1 January 2021. At the same time, there is a risk of lower

RETURN ON EQUITY AND ASSETS OF THE BANKING SECTOR *Chart 34*
(%)



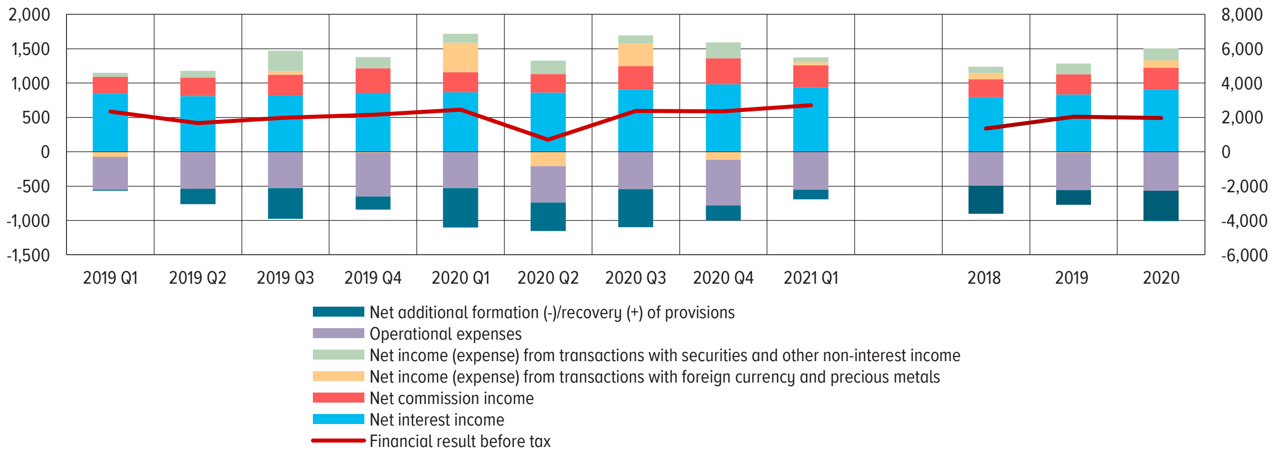
Source: Reporting form 0409101.

[38] *Data on the components of the financial result includes the result of the Bank of Non-Core Assets.*

[39] *According to reporting form 0409102.*

BANKING SECTOR INCOME STRUCTURE
(BILLIONS OF RUBLES)

Chart 35



Source: Reporting form 0409102.

NII in the future amid higher rates and continued exposure of credit institutions to interest rate risk in terms of gap risk (for more details, see Section 3.1.2).

Growing commission income and net non-interest income also contributed to a change in profit in 2020 (Chart 35). The volume of net additional forming of provisions in 2020 increased compared to 2019, reaching ₽1.8 trillion.

In Q1 2021, the profit of credit institutions continued to grow to ₽578 billion, which is 9% higher than the financial result in Q1 2020. Profit growth was supported by the ongoing increase in net interest income and net commission income as well as a decrease in the expenses from loss provisions for loans to non-financial organisations.

BANKING SECTOR CAPITAL ADEQUACY

The banking sector's capital buffer for the period from 1 October 2020 to 1 April 2021 increased to ₽6.0 trillion,[40] of which ₽2.3 trillion is accounted for by capital conservation buffer and ₽0.8 trillion for systemic importance buffer. Capital reserves are unevenly distributed across the banking system. 77% of the banking sector's capital reserves are accounted for by systemically important banks, 23% by other universal banks and less than 0.5% by banks with a basic licence.

Moreover, banks have a macroprudential capital buffer of ₽657 billion, which has remained stable over time as well. A significant part of the macroprudential capital buffer (64%) has been formed by add-ons on unsecured consumer loans, 24% by add-ons on banks' FX claims to legal entities, and 11% by add-ons on mortgage loans with a low down payment.

BANKING SECTOR LIQUIDITY

One of the consequences of the pandemic was higher imbalances in the temporary liquidity distribution within the banking sector. In Q4 2020, the liquidity outflow mainly resulted from budgetary operations. To increase the ability of credit institutions to manage assets and liabilities, in November 2020, the Bank of Russia increased the funding limit at one-month repo auctions from ₽1.0 trillion to ₽1.5 trillion. In November 2020–January 2021, credit institutions raised about ₽1.1 trillion on average at such auctions. Subsequently, increased budgetary expenditures contributed to the inflow of funds into the banking sector, which helped credit institutions repay the bulk of their debts to the Bank of Russia under monthly repo transactions: in February, demand was only ₽0.05 trillion.

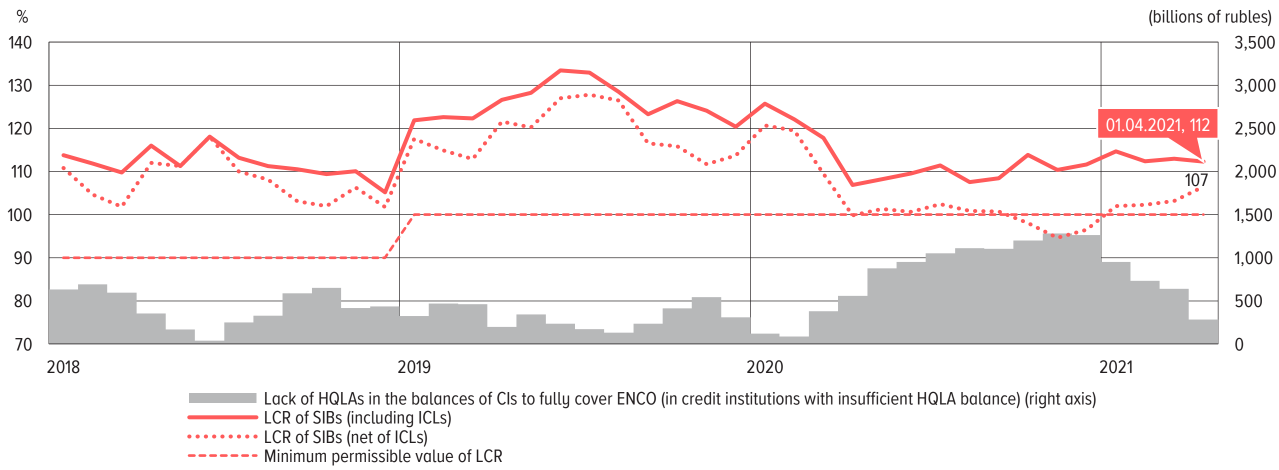
[40] *Including non-audited profit.*

The liquidity situation in credit institutions was generally balanced. The volume of the banking sector's liquid assets[41] continued to grow: by 6.1% for half a year to 1 April 2021 mainly due to increased investments in OFZs by SIBs; the share of liquid assets of credit organisations among the banking sector's assets stayed near 22.2%.[42] In other banks, between 1 October 2020 and 1 April 2021, the amount of liquid assets remained adequate to cover on average 81%[43] of their short-term liabilities and exceeded their volume by 32% on average, excluding the stable part of the resource base (liquid asset reserves amounted to about ₽1.6 trillion).

Most SIBs have enough high-quality liquid assets (HQLA) to cover the 30-day expected net cash outflow (ENCO). Between 1 October 2020 and 1 April 2021, the actual liquidity coverage ratio (LCR) of SIBs remained close to 113% (Chart 36), while some credit institutions included the ICL limit in the calculation of the ratio numerator. From October 2020 to March 2021, the ICL preferential criteria (the fee for using ICLs of 0.15%, the maximum aggregate limit of ₽5 trillion) and SIBs' simplified access to ICLs[44] continued to be effective. Between 1 October 2020 and 1 April 2021, the aggregate limit of open ICLs rose from ₽2.6 trillion to ₽2.8 trillion, while on average banks required about ₽0.9 trillion to maintain the actual LCR value at 100% as of the reporting dates.

At present, the Russian market has a sufficient volume of ruble financial instruments that meet the HQLA criteria to form HQLAs in an amount exceeding the ENCO. According to the Bank of Russia's estimates, the banking sector liquidity surplus is expected to remain in the near future.[45] The OFZ supply in the market will also increase (by ₽6.3 trillion by 1 January 2024,[46] for more details see Section 3.1.1). Taking this into account, there is no structural shortage in HQLAs to cover ENCO by SIBs on the horizon within the next three years. Banks with excessive growth in ENCOs have the opportunity to increase the HQLA portfolio on their balance sheets in proportion to increases in their short-term borrowed funds, mainly due to market instruments. Additionally, credit institutions should take measures to increase the maturity of liabilities, which will also reduce their exposure to interest rate risk (for more details, see Section 3.1.2).

DYNAMICS OF THE ACTUAL AVERAGE VALUE OF LCR FOR SIBS* *Chart 36*



** Calculated as a ratio of sum of all SIBS' LCR numerator values to all SIBS' LCR denominator values.*
Source: Reporting forms 0409805, 0409135.

[41] *Liquid assets taken into account when calculating the N3 current liquidity ratio.*

[42] *According to Reporting forms 0409135, 0409101.*

[43] *Based on the analysis of the actual value of N3 current liquidity ratio.*

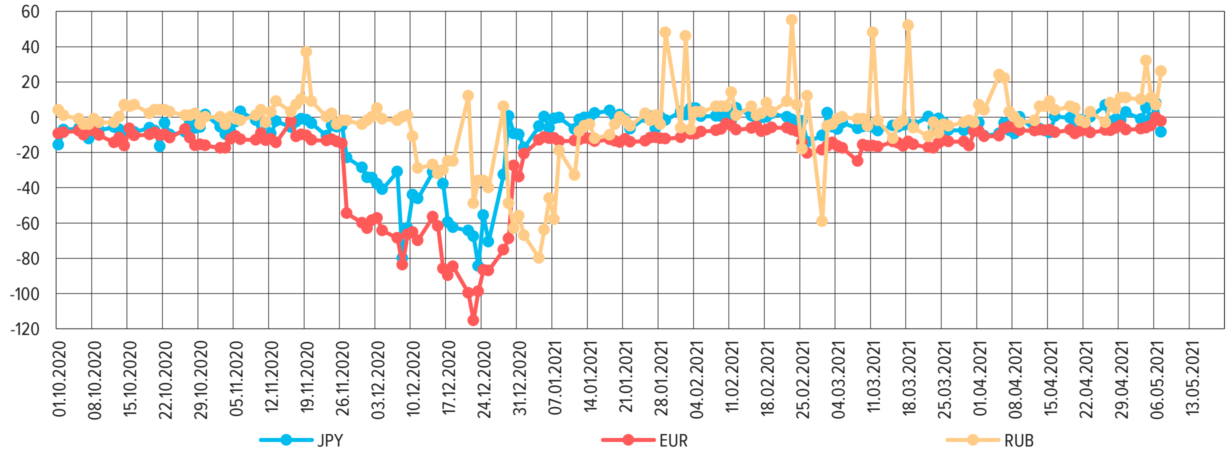
[44] *Bank of Russia Order No. OD-563, dated 1 April 2020.*

[45] *See the Bank of Russia website for the Monetary Policy Guidelines for 2021–2023.*

[46] *Guidelines for Fiscal, Tax and Customs and Tariff Policy for 2021 and the 2022–2023 Planning Period approved by the Ministry of Finance on 6 October 2020 taking into account the reduction in 2021, based on Ministry of Finance press release on 15 April 2021 "On measures to improve resilience of sovereign debt market".*

CROSS-CURRENCY SPREADS
(B.P.)

Chart 37



Source: Thomson Reuters.

Under such conditions, the Bank of Russia returned to the implementation of the plan temporarily suspended in the spring of 2020 to reduce the SIBs' dependence on ICLs. At the same time, an adaptation period will be in effect until October 2021 in terms of the amount of the fee for using ICLs: the pre-crisis fee (0.5%) will begin to apply only from 1 October 2021 under ICLs issued on or after 1 April 2021. The Bank of Russia also lowered the maximum aggregate limit under ICLs from ₽5 trillion to ₽4 trillion[47] and returned to the schedule for gradually lowering individual limits.[48]

The FX liquidity situation in the money market was also favourable despite the short-term widening of cross-currency spreads at the end of last year. The cross-currency spread for the ruble did not widen by more than 80 bp at the end of the year (Chart 37) compared to the European (maximum widening of 84 bp) and Japanese market (maximum widening of 118 bp). Between 1 October 2020

Box 4. Ecosystem development and related risks

The pandemic has led to a significant acceleration in the digital transformation of the economy. The quarantine measures have forced many companies to develop online platforms and electronic channels of interaction with customers. Unlike other countries in which big techs (large technology companies that enter various markets, including the financial market) grow at a rapid pace, the Russian market has been characterised by a different trend namely, creating ecosystems with a wide range of products and services based around large banks. Although the share of banks' revenue from non-financial activities is still small, current trends prove that non-core businesses will play an even bigger role in banking ecosystems, and the business model itself will be implemented by an increasing number of financial institutions.

The development of ecosystems has a positive impact on the availability of financial and non-financial services, contributes to the adjustment of goods and services to customers' needs. At the same time, this trend can create several new risks for banks and financial system.

In particular, for banks which form ecosystems these are the risks related to entry into new non-financial sectors, including strategic risk, step-in risk, information security risk.

To analyse the opportunities and risks arising in connection with the development of ecosystems in the Russian financial market, the Bank of Russia created a dedicated internal working group that published its consultation report on approaches to ecosystem regulation this April.[1]

A separate consultation report of the Bank of Russia will be dedicated to analysis of risks of banks which develop ecosystems and appropriate banking regulatory requirements.

[1] *The Bank of Russia starts public consultations on the role of ecosystems in the economy and financial market; on 2 April 2021.*

[47] *Decision of the Bank of Russia Board of Directors, dated 25 February 2021.*

[48] *Bank of Russia Order No. OD-439, dated 22 March 2021.*

and 1 April 2021, the volume of FX liquid assets[49] remained significant (increasing from $44.4 billion to $52.7 billion). Due to the inflow of clients' foreign currency funds, credit institutions replenished the demand for foreign currency on a market basis. No demand was observed for the Bank of Russia's FX refinancing instruments.

2.4. Assessment of resilience of non-bank financial institutions

The financial position of non-bank financial institutions (insurance companies, non-governmental pension funds, brokers) has remained stable due to the acceptable quality of their assets and their rather high profitability indicators for 2020. Professional securities market participants have experienced a certain increase in risk, which can be accounted for by the continuing growth in the number of customers and the volume of customer assets of brokers. In 2020, the aggregate capital adequacy ratio of brokers tended to fall due to the higher market risks of large brokers. Amid the growing systemic importance of brokers in the stock market, the Bank of Russia plans to introduce liquidity coverage ratio and capital adequacy requirements to cover credit and market risks. Insurance companies will also undergo a transition to new requirements to assess financial stability and solvency in 2021.

Insurance companies. In 2020, the profit of the insurance sector (before tax) remained at the 2019 level (growth amounted to less than 1%). At the same time, life insurers demonstrated increased losses from insurance operations by 3.8 times to ₽89.5 billion, which was partially levelled out by the growth in investment income of ₽55.4 billion to ₽163.5 billion. Insurance companies engaged in activities other than life insurance experienced a slight decrease in operating costs and an increase in investment income (Chart 39). As a result, the insurers' return on equity remained at a fairly high level (at the end of 2020: 27.1% for non-life insurers and 42.3% for life insurers).

High profits led to a noticeable increase in the capital adequacy ratio of non-life insurers. The ratio of the actual solvency margin to the required value for such a group of companies increased by 27 pp to 341% over the year. In contrast, life insurers demonstrated a drop in the same indicator (by 9 pp to 193%, Chart 41)Chart) due to a higher solvency margin requirement tied to the insurance reserves indicator (life insurance reserves rose by 20.9% to ₽1,331.7 billion[50] in 2020).

---

[49] *Balances on correspondent and short-term deposit accounts with non-resident banks and cash.*

[50] *Due to a rise in the actuarial value of future insurance payments.*

Box 5. NBFI risk survey results

In Q1 2021, the Bank of Russia performed a survey of the largest non-bank financial institutions (31 insurance companies, 10 non-governmental pension funds and 10 brokers) to assess the likelihood of implementation and the impact of key financial risks on their business (Chart 38).

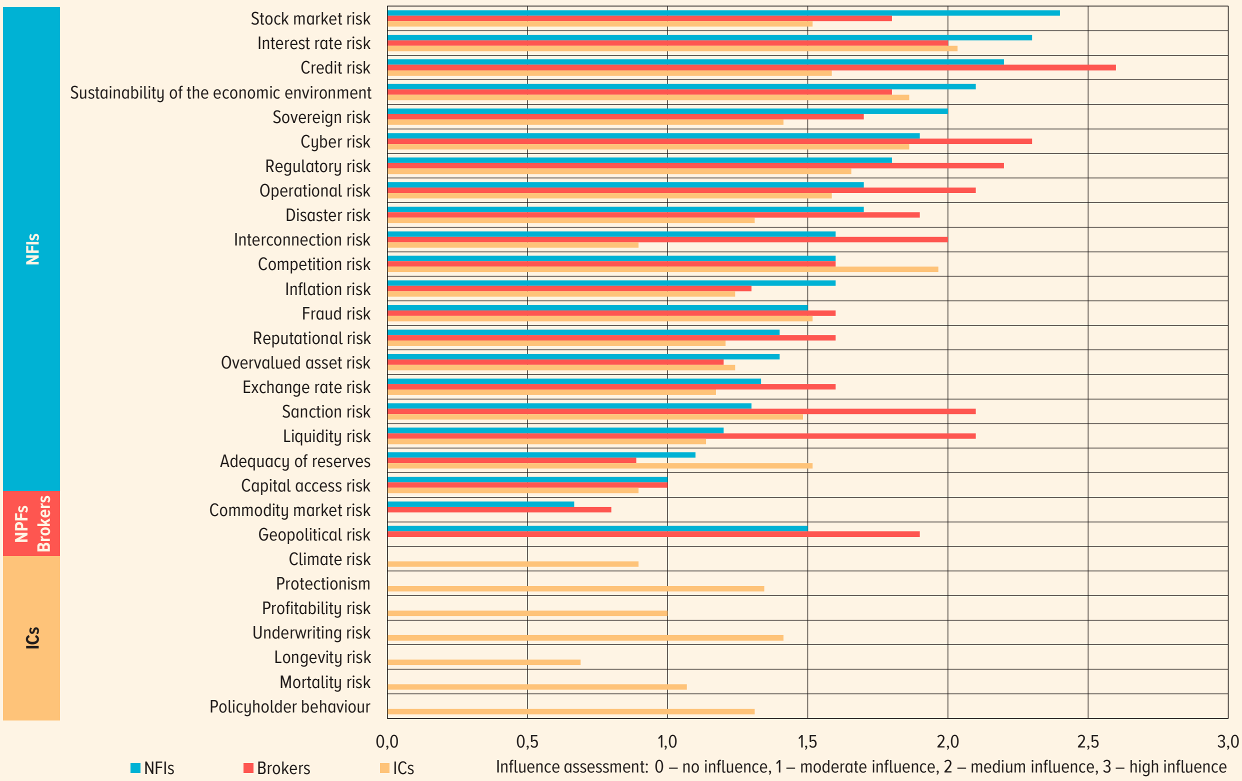
According to the survey's participants, in 2020, amid the increased market volatility, the main risk faced by NFOs was market risk (stock and interest rate). Credit risk also appears to be significant for both brokers (due to the predominance of claims under repo transactions and loans in the balance sheet) and NPFs (due to debt securities prevailing in the portfolio structure). However, the survey participants said the likelihood of credit risk materialisation was low due to existence of collateral under repo transactions and loans issued within the brokerage activities, and the sufficiently high credit quality of the assets of insurers and NPFs.

In 2020, most NBFIs noted the growing impact of cyber risk. At the same time, this has primarily affected brokers (5 out of 10 brokers classify the impact of cyber risk on the company's activities as high), which is primarily associated with business digitalisation, the latest information technologies and trading robots. Further, according to the survey results, liquidity risk stands out among the main risks faced by brokers. Its influence proves to be material, but the probability of its materialisation amid high LCR is assessed as low. For brokers, sanctions and geopolitical risks are also of great importance.

The top 3 key risks that insurance companies face include the risk associated with increased competitive pressure, which, in particular, is amplified as a result of the establishment of banking and insurance groups and financial ecosystems, the growing role of the government in the banking and insurance systems and more active competitive struggle of the largest players in the market. . In 2020, the share of the top 3 insurers connected with state-owned banks grew to 31.1% (+2.4 pp). According to the survey results, climate risks are not among the priority risks of insurance companies.

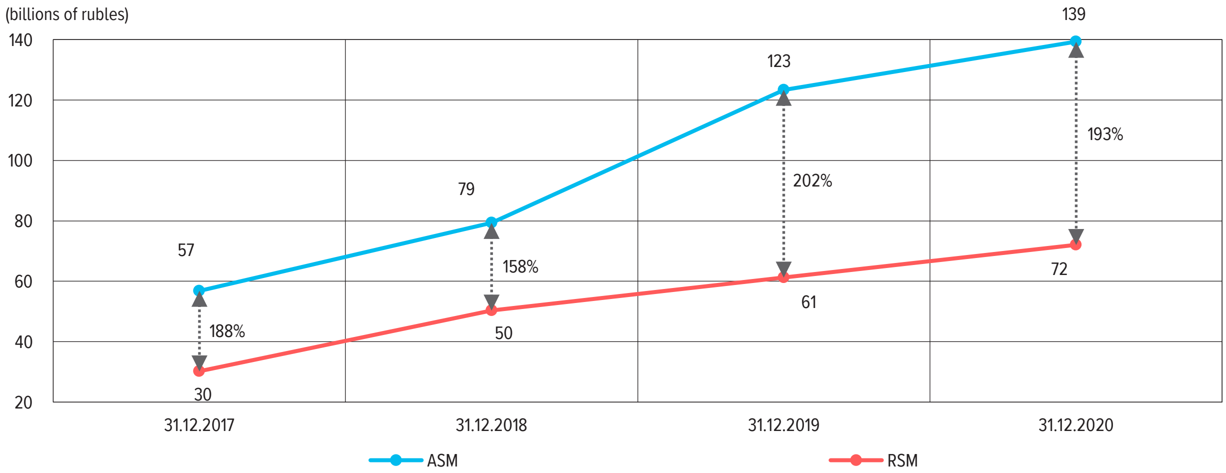
The significance of insurance risk was assessed by insurance companies as low or average. In contrast, NPFs (6 out of 10 surveyed companies) separately identified a significant impact of actuarial risk associated with increased liabilities due to changes in future cash flows under agreements with NPF customers (depositors, participants and insured persons).

NFI SURVEY RESULTS *Chart 38*



Source: Bank of Russia survey data.

DEVIATION OF ASM FROM RSM OF LIFE INSURERS *Chart 41*



Note: ASM = Actual Solvency Margin; RSM = Regulatory Solvency Margin.
Source: Insurers' supervisory reporting data (form 0420156).

Against the backdrop of low interest rates in 2020, life insurers have adjusted their investment portfolios in search of instruments with higher returns. As a result, life insurers reduced their investments in deposits (5.8 pp), replacing them with corporate bonds (+3.4 pp) and OFZs (+1.6 pp) (Chart 40) over the year (Chart 40). At the same time, the average credit quality of life insurers' assets was at a high level in late 2020, approaching the level of the sovereign rating. By the end of 2020, the average credit quality of non-life insurers' assets returned to 2019 levels, exceeding the A/A- level based on the Expert RA/ACRA rating scale.

In 2021, the insurance industry is preparing for regulatory reform that involves a risk-based approach to determining the solvency ratio introduced by Bank of Russia's Regulation No. 710-P, dated 10 January 2020, 'On Requirements for Insurers' Financial Sustainability and Solvency'.[51] The new approach is intended to increase the requirements for the insurance companies' asset quality and capital adequacy, making them more complex and sensitive to various risks and aligning them with international best practices.

Box 6. Impact of the new regulatory rules on investment products for insurance and brokerage companies

In order to protect the rights and legitimate interests of investors, in December 2020, the Bank of Russia recommended that professional securities market participants and banks acting as their agents refrain from selling complex and risky financial instruments (including derivatives and complex bonds) to unqualified retail investors or offering them margin trading until mandatory testing of the customers understanding of risks is introduced. In January 2021, recommendations were extended to cover insurance companies and insurance contracts with an investment component which require a one-off payment of insurance premiums and/or those, where payment of investment income depends on base assets, which are eligible to qualified investors only.

This measure is aimed at combating misselling and is to contribute to the prevention of unfair business practices, the revision of sales protocols and agency relationships among brokerage and insurance companies. While professional participants have a wide range of alternative investment products at hand (in particular, the investments of individuals in foreign securities are growing massively, see Section 3.2.2), life insurers can only render personal insurance services. In Q1 2021, the investment life insurance (ILI) and universal life insurance (ULI) premiums amounted to ₽79 billion (+3% compared to Q1 2020). In the context of a decreased cash inflow, life insurers will have to maintain a certain level of operating and insurance expenses in the long run since a significant share of life insurance reserves is formed for long-term periods. At the end of 2020, insurers had adequate capital reserves to support their business (the indicator of deviation of the actual solvency margin from the requirement for life insurers was 193%).

[51] *Enters into force on 1 July 2021.*

Moreover, the Bank of Russia further plans to set the minimum conditions for the sale of investment insurance products. In particular, insurance protection is expected to be strengthened as well as protection of capital in case of policy refusal prior to making the third insurance payment for contracts with periodical payments or during 30 days for contracts with one-off payment. On 19 May 2021, State Duma adopted the Federal Law 'On Amending Certain Legislative Acts of the Russian Federation' (draft No. 1098730-7), which require the following. Financial institutions are to disclose information on terms and conditions of financial service prior to rendering; the Bank of Russia is empowered to limit the sale of financial products in case of violation of information disclosure requirements by the financial institution or if the financial service is deemed to be complex and difficult for understanding by a person without special knowledge in the sphere of finance. If the substantial threat to rights and legitimate interest of a natural person is observed, the Bank of Russia is empowered to oblige a financial institution to direct a firm offer to natural persons to buy all assets transferred according to the contract or to return all assets received according to contract as well as recover all costs, born by the natural person when entering into a contract. The measures above are designed to improve the quality of financial services. At the same time, the duty to repurchase (if the rights and legitimate interests of clients are abused) can potentially lead to an increased risk of an unplanned asset sale by professional participants. At the same time, high-quality asset portfolios of brokers and their high liquidity help reduce the likelihood and mitigate the consequences of such risk.

NPFs. The situation in the NPF industry remained stable: at the end of 2020, the results of invested pension savings (PS) of NPFs and placement of the pension reserves (PR) of NPFs amounted to 7.2% and 5.8% per annum,[52] respectively. The results of transfer campaign of 2020 were significantly lower than the results of transfer campaigns of previous years. The volume of PS transferred between NPFs amounted to around ₽5 billion, whereas in 2018 transfers between NPFs amounted to ₽72 billion.

The market risk of NPFs decreased in 2020, which was associated with a decline in the share of assets with an increased risk, including units of UIFs. In general, NPFs adhered to a conservative investment strategy: in late 2020, the main share of NPF investments falls on corporate bonds (52.9% and 47.1% in PS and PR portfolios, respectively), mainly the bonds of leading Russian corporations in the real sector. The share of government stock amounted to 30.9% in the PS portfolio and 14.0% in the PR portfolio, having increased by 1.4 pp and 1.9 pp, respectively, in Q4 2020. At the same time, the ruble bond duration in PS and PR portfolios was at around a 3-year low. Shares accounted for 6.2% and 11.0% in PS and PR portfolios, respectively, with the issuers of shares being the leading Russian banks and corporations in the real sector. It is also worth mentioning that about 29% of the aggregate PS and PR portfolios consisted of assets measured at amortised cost and held to maturity without subsequent revaluation at fair value. The credit quality of assets in NPF pension fund portfolios was high: the share of assets with a sovereign rating and above (Baa3 and above according to Moody's scale) amounted to 79.8% and 70.0% in PS and PR portfolios, respectively, at the end of 2020 (excluding units of UIFs).

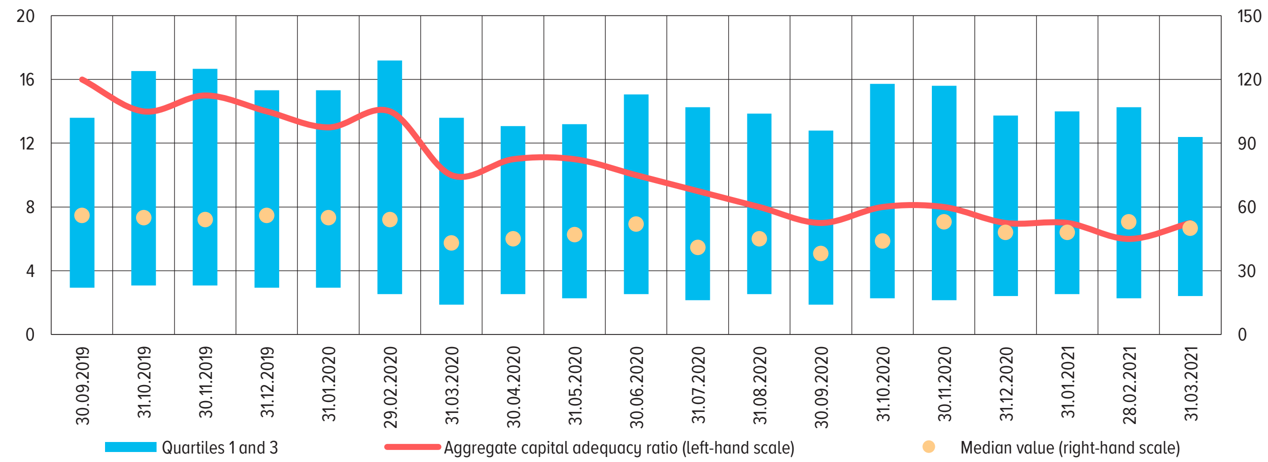
NBFI Brokers. Brokers continue to adhere to the trend toward an increasing number of customers and volume of customer assets. Between Q4 2020 and Q1 2021, assets of individuals increased by 27% to ₽1,995 billion, and of legal entities, by 7% to ₽4,897 billion. Brokers' revenue from the provision of services and commission income increased by 38% in 2020. Due to higher volume of clients' assets, brokers faced higher risks of customer cash outflow.[53] At the same time, the volume of liquid assets is now sufficient to cover the expected customer cash outflow.

Given the extended customer base, the systemic importance of brokers to the stock market is growing. To improve the reliability of professional securities market participants, the Bank of Russia

[52] *The yield is indicated before paying compensation to management companies, a special-purpose depository and a fund.*

[53] *In accordance with Bank of Russia Ordinance No. 5436-U, dated 13 April 2020, 'On Setting the Required Liquidity Coverage Ratio for Brokers Where Customers Entitle Brokers to Use Their Funds in Brokers' Interest', the liquidity coverage ratio for brokers is to be set at the level of 70% from 1 October 2021, at the level of 80% from 1 October 2022 and at the level of 100% from 1 October 2023.*

DYNAMICS OF BROKERS' CAPITAL ADEQUACY RATIO *Chart 42*
(%)



Source: supervisory reporting of professional securities market participants (form 0420455).

plans to establish a statutory requirement for the capital adequacy ratio.[54] The statutory requirement will be gradually implemented[55] to be 4% from 1 October 2021, 6% from 1 April 2022 and 8% from 1 October 2022. Over the past year, the aggregated capital adequacy ratio of brokers decreased by 4 pp to 6.6%,[56] which was associated with an increased volume of market risks calculated based on the methodology to calculate the capital adequacy ratio. The growth in market risks was mainly due to an increase in the volume of the securities portfolio as well as FX claims and liabilities of the largest brokers. At the same time, the value of the median capital adequacy ratio increased by 8 pp and stood at 50% by the end of Q1 2021. In general, a lower capital adequacy ratio (less than 4%) is observed with 6 brokers

[54] *At present, the professional securities market participants are only required to calculate the capital adequacy ratio.*

[55] *In accordance with the Draft Ordinance 'On Capital Adequacy Requirements for Professional Securities Market Participants Involved in Dealer, Brokerage, Securities Management and Forex Dealer Activities' (the 'Draft Ordinance').*

[56] *The capital adequacy ratio was calculated with due regard to the reporting data of brokerage companies as of 31 March 2021 and the adjustment ratio (12.5) to be introduced from 1 October 2021 pursuant to the Draft Ordinance.*

3. FINANCIAL SECTOR VULNERABILITIES

3.1. Short-term financial sector vulnerabilities

3.1.1. Russian debt market's sensitivity to non-residents' behaviour

The Russian financial market's dependence on external financing has remained one of its key vulnerabilities which is especially pronounced amid intensified sanctions rhetoric. In recent years, the dependence of the financial market on foreign investors has decreased in the context of external debt repayment by the corporate sector and the reduction in the share of non-residents in the OFZ market.[1] However, during periods of high volatility, non-residents' behaviour continues to increase market fluctuations.

On 15 April 2021, the United States imposed a ban (effective from 14 June 2021) on US financial institutions from purchasing primary market ruble bonds issued by the Bank of Russia, National Wealth Fund (NWF) or Ministry of Finance of Russia as well as granting loans to them. Similar restrictions on sovereign Eurobonds have been in effect since 2019. The market's response to the decision itself was insignificant,[2] with OFZ yields growing by 25 bp[3] in anticipation of sanctions. The potential for further strengthening of sanctions could stimulate non-residents to additional steps. Nevertheless, even if the sanctions are tightened, their general impact is likely to be short-term and limited due to the strong fundamental indicators of the Russian market.

YIELD GROWTH IN OFZ MARKET SINCE EARLY 2021

By the beginning of Q4 2020, the 10-year OFZ yields reached 6.3% and dropped by 36 bp by the end of the year. However, in Q1 2021, due to increased yields in the global market and the acceleration of inflation expectations in the US, Russia and some other countries,[4] a change in the trend was observed (Chart 43). The growth of 10-year OFZ yields amounted to 122 bp, also due to the expectation of new sanctions. In terms of yield growth in Q1 2021 among 15 EMEs, Russia ranks 6th, with the sample yields increasing by 120 bp on average (the yield growth of US treasury bonds amounted to 0.79 pp, see Section 1). The introduction of new sanction restrictions on Russian ruble debt did not affect OFZ yields since most of the growth was already taken into account during discussions on potential sanctions in March–April (two weeks after the announcement of the sanctions, yields increased by 4 bp on average along the curve).

---

[1] From March 2020.

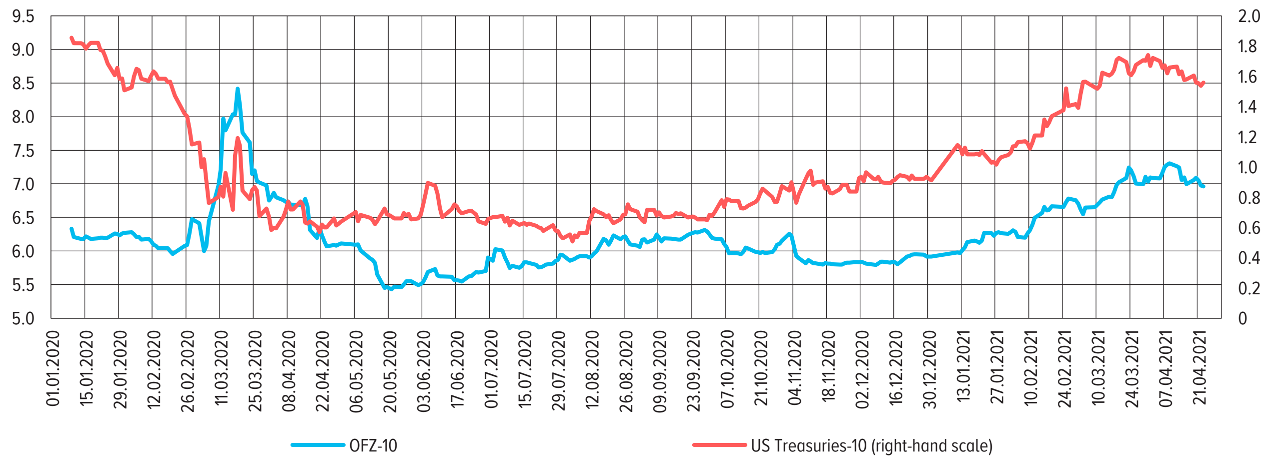
[2] Two days after the sanctions were announced, OFZ yields fell 7 bp. From 15 April to 21 April, the OFZ yields declined by 3 bp, non-residents sold OFZs worth ₽43 billion, and the ruble weakened by 0.1%.

[3] From 17 March to 14 April.

[4] In a number of EME countries (Philippines, Brazil and Turkey), inflation expectations were also growing.

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

Chart 43



Source: Bloomberg.

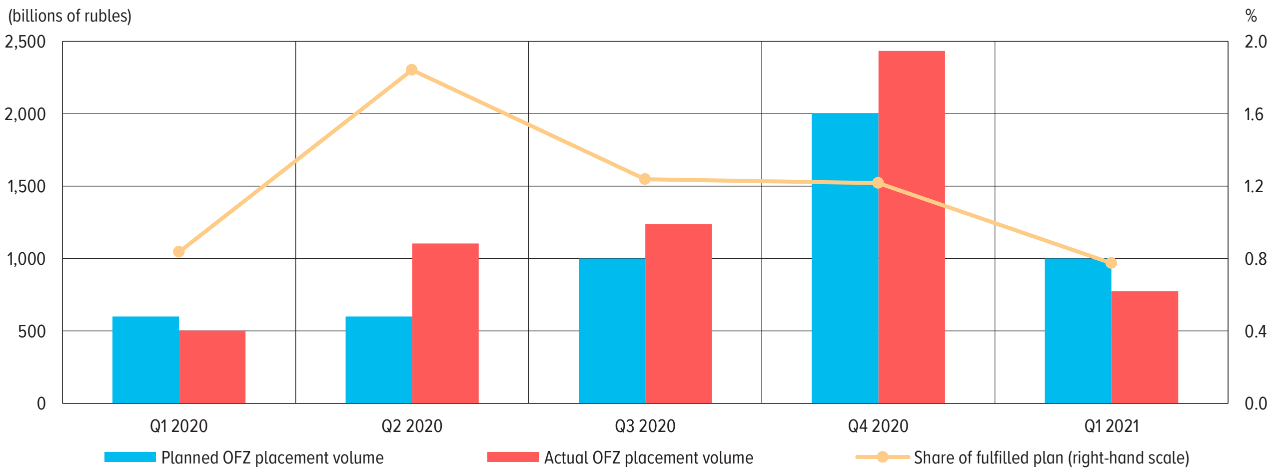
FULFILMENT OF THE MINISTRY OF FINANCE'S PLAN TO RAISE FUNDS THROUGH OFZ AUCTIONS

The growth in government bond yields was accompanied by a drop in demand at OFZ auctions. In Q1 2021, the overall volume of placements amounted to ₽774 billion instead of the planned ₽1 trillion (Chart 44). Placements in the OFZ market shifted to fixed income transactions (OFZ-PD, OFZ-IN). Non-residents also began selling OFZs from February 2021, and for the entire period from early 2021 to 23 April their investments (according to NSD data) decreased by ₽334.6 billion, and the share of their investments dropped by 4.0 pp to 18.7% (the share in OFZ-PD was 28.9%) (Chart 45). However, in absolute terms, the volume of non-residents' investments in OFZs has not changed much over the past few years: since 2019, the volume of investments by non-residents has been ₽2.7 trillion on average.

The Ministry of Finance of Russia managed to retain part of the funds raised due to the successful placement of significant OFZ volumes in 2020 and the more dynamic inflow of base oil and gas revenues (against the background of rising prices for commodities in H2 2020). Due to the use of free balances of funds in late 2020, the volume of government domestic borrowings is going to fall by ₽875 billion to ₽1,807 billion in 2021. The drop in borrowings to a level corresponding to the

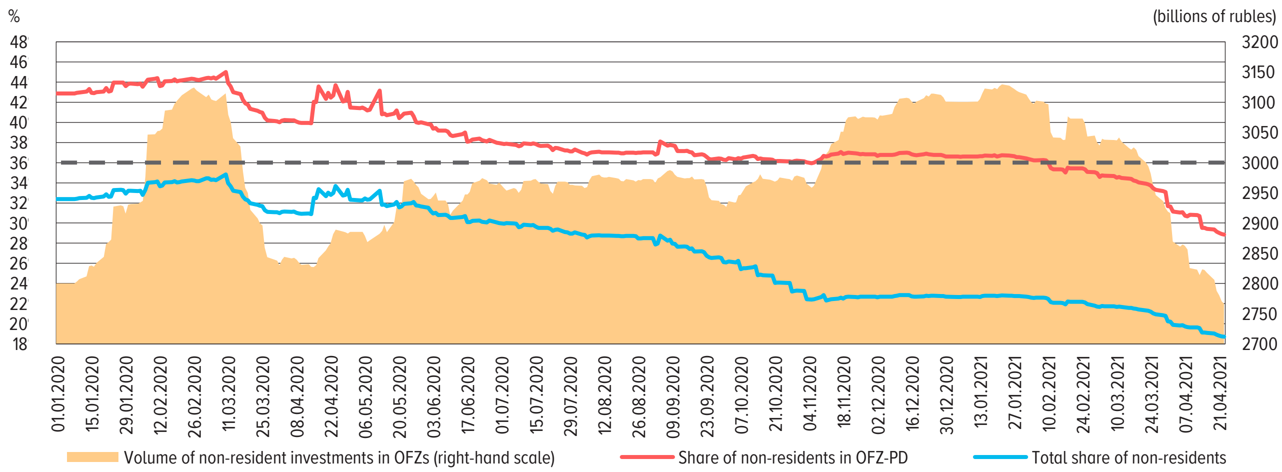
FULFILMENT OF QUARTERLY OFZ PLACEMENT PLANS

Chart 44



Source: Ministry of Finance of the Russian Federation.

DYNAMICS OF THE VOLUME OF OFZS HELD BY NON-RESIDENTS ON FOREIGN DEPOSITORY ACCOUNTS OPENED WITH NSD *Chart 45*



Source: NSD.

structural primary federal budget deficit of about 0.5% of GDP will have a positive effect on long-term interest rates within the economy and help immediately respond to possible sanction risks and challenges associated with the pandemic. Taking such a reduction into account as of 23 April, the Ministry of Finance's borrowing plan has already been fulfilled by 47% of gross volume[5] (₽1.27 trillion has already been raised).

ASSESSMENT OF THE VULNERABILITY OF THE FINANCIAL MARKET IN THE EVENT OF TOUGHER SANCTIONS

Based on the volume of net placements fixed in the Main principles for fiscal, tax and customs-tariff policies for 2021–2023 and the press release of the Ministry of Finance 'On Measures to Strengthen Stability in the Public Debt Market', dated 15 April 2021, the Ministry of Finance plans to place OFZs amounting to ₽1,807 billion[6] (Chart 46). To implement new expenses in connection with the Presidential Address to the Federal Assembly on 21 April, ₽400 billion is needed, and no additional borrowings will be required since the expenses will be covered with the funds available in the budget.[7]

Given the limited opportunities for US non-residents to invest in OFZs in the primary market, it is necessary to assess the ability of domestic companies to finance OFZ placements amounting to ₽1,964 billion, taking into account the remaining net placements amounting to ₽1,080 billion and the remaining redemption volumes worth ₽884 billion in 2021.

As of 1 April 2021, the Russian banking sector owns OFZs in the amount of ₽8,100 billion,[8] which is only 7.5% of the sector's assets. If local banks purchase the total placement volume planned by the Ministry of Finance by the end of the year (inclusive of the part purchased in Q1 2021), such a figure will increase by only 1.8 pp to 9.3%, which is a moderate level compared to similar indicator in other countries. The OFZ purchases are necessary for banks to maintain a balanced level of liquid assets on their balance sheets, in particular, to fulfil the LCR (see Subsection 2.3).

During the reporting period, the investors with the largest shares, from the US and the UK, reduced their investments in OFZs by 1% and 4%, and their shares in the volume of positions of non-residents amounted to 40% and 27%, respectively (Table 8). Investments in OFZs grew among

[5] *Calculated as the sum of net placements (₽1,807 billion) and redemptions in 2021 (₽884 billion).*

[6] *According to Main principals for fiscal, tax and customs-tariff policies for 2021-2023 the volume is ₽2,681.6 billion, according to the press-release the reduction will amount to ₽875 billion.*

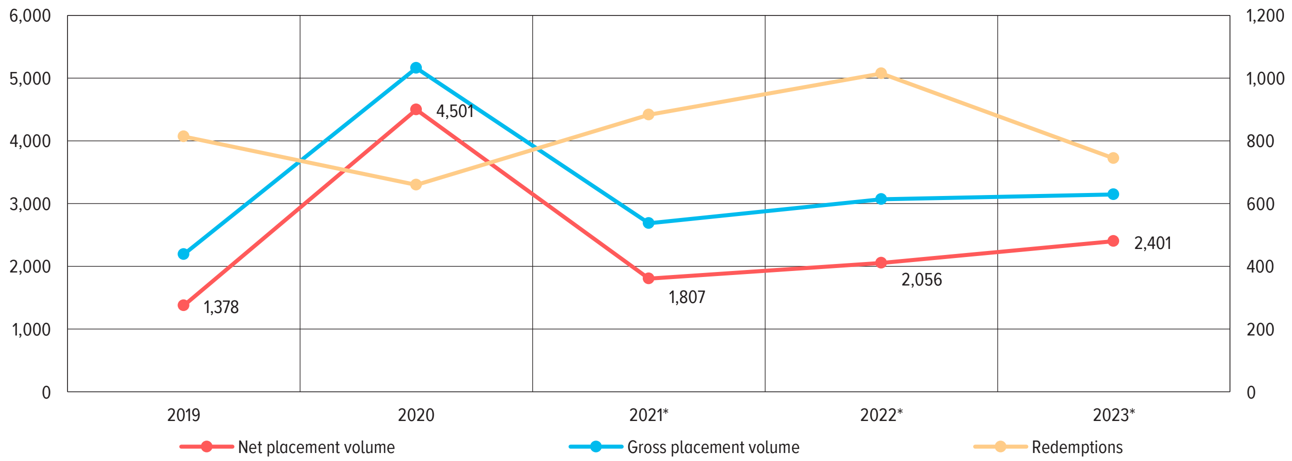
[7] *Interview of the Minister of Finance of the Russian Federation to TASS news agency on 21 April.*

[8] *Based on reporting form 0409711.*

SHARE OF SOVEREIGN BONDS IN BANKING SECTOR ASSETS FOR A SELECTION OF EMES *Table 7*
(%)

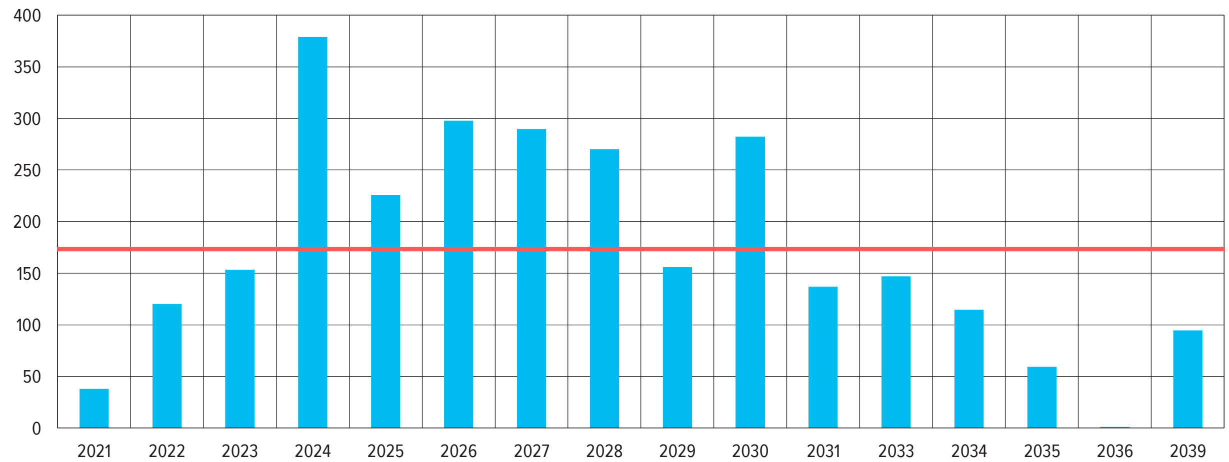
Date	Country	Share
March 2021	Romania	22.3
March 2021	Hungary	19.5
March 2021	Poland	17.7
February 2021	South Africa	9.8
March 2021	Mexico	8.4
April 2021	Russia	7.5

GROWTH OF GOVERNMENT DOMESTIC BORROWINGS BY THE MINISTRY OF FINANCE, DISTRIBUTED BY YEAR *Chart 46*
(BILLIONS OF RUBLES)



Note: placements in 2021 with due regard to the Ministry of Finance's press-release «On Measures to Strengthen Stability in the Public Debt Market», dated 15 April 2021.
Source: Ministry of Finance, NSD.

VOLUME OF REDEMPTIONS FROM THE OFZ PORTFOLIOS OF NON-RESIDENTS *Chart 47*
(BILLIONS OF RUBLES)



Note: red line means average redemption value.
Source: NSD, CBONDS.

DISTRIBUTION OF FOREIGN INVESTORS HOLDINGS *Table 8*

	Countries	Share as of 1 April 2021 (%)	1 April 2021 (billions of rubles)	1 January 2021 (billions of rubles)	1 October 2020 (billions of rubles)	Share as of 1 October 2020 (%)	Change for 2 quarters (billions of rubles)	Change in share for 2 quarters (pp)
1	USA	40	1 113	1 233	1 176	41	-62	-1
2	United Kingdom	27	762	866	910	31	-148	-4
3	Belgium	7	209	220	220	8	-11	0
4	Singapore	7	207	202	174	6	33	1
5	Luxembourg	5	142	177	174	6	-32	-1
6	China	4	120	105	68	2	52	2
7	Germany	2	63	63	43	1	20	1
8	Russia	2	58	11	18	1	40	1
9	France	1	31	68	42	1	-11	0
10	United Arab Emirates	1	23	0	0	0	23	1
Other		3	79	87	77	3	2	0
Total			2 806	3 032	2 901	100	-94	

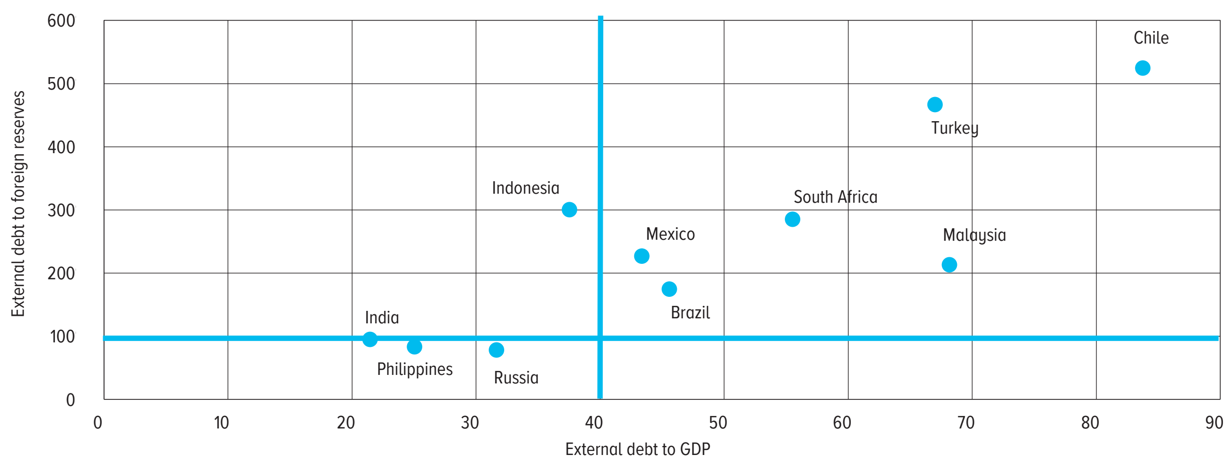
Source: Euroclear depositary reporting.

investors from China, Singapore and the United Arab Emirates (₽52 billion, ₽33 billion and ₽23 billion, respectively) as well as Russian legal entities (₽40 billion) which transfer OFZs to foreign depositories for non-resident customers. In general, this proves that foreign investors from various countries are interested in OFZs, and the OFZ investor base is being diversified by country.

The repayment volumes of the OFZ portfolio from non-residents are fairly evenly distributed over time, which smooths out possible risks from tougher sanctions (Chart 47). 2021–2024 will see an increase in the volume of redemptions with a peak of redemptions in 2024 in the amount of ₽379 billion. On average, OFZ repayments from non-residents amount to ₽173 billion per year. Nevertheless, non-residents most often do not hold OFZs until maturity, that is why early sales of OFZs by non-residents may be expected.

In 2020, as in previous periods of increased volatility, the OFZ market demonstrated resistance to shocks and the exit of non-residents due to the low level of government debt and sufficient demand from domestic investors. For 2020, the ratio of public debt to GDP increased by 4.8 pp and was 17.1% at the end of the year (and including regional debt, growth amounted to 5.7 pp to 20.4% at the end of 2020), but even with new placements, it is still the lowest among the G20 countries.

DYNAMICS OF CURRENCY RESERVES TO GDP RATIO IN EMES *Chart 48*
(%)



Source: Bloomberg, Ministry of Finance, NSD.

In terms of macro-financial indicators of external debt sustainability, Russia is also one of the most stable countries in the EME sample: the ratio of external debt burden to international reserves is the smallest, and in terms of external debt to GDP Russia ranks third (Chart 48). The criteria for a country's debt sustainability include the ability to cover its external debt with international reserves (line 100%) and a ratio of external debt to GDP of less than 40%.[9]

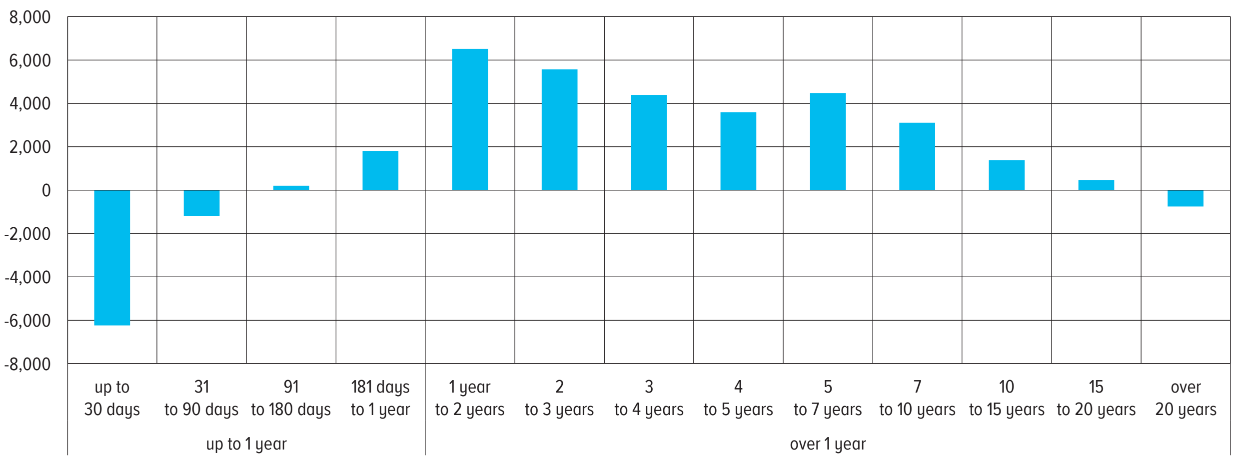
Given the macro-financial indicators of Russia's debt sustainability, the uniformity of OFZ repayment by non-residents over time, their decreased share in OFZs and the actual and potential increase in demand for OFZs from local participants, the Russian debt market has a sufficient margin of stability, including against possible tougher sanctions. At the same time, the Bank of Russia continues to extensively monitor risks in the Russian debt market and, if necessary, is ready to implement a set of measures that have demonstrated their efficiency in previous periods of increased volatility.

3.1.2. Interest rate risk of the banking sector

The banking sector's exposure to interest rate risk remained largely unchanged in the reporting period; however, the potential for risk materialisation increased due to an upward reversal in the rate dynamics. On the back of the negative interest gap, rate growth leads to a decrease in banks' net interest income.

The interest rate risk under the banking portfolio apparently may have a moderately negative impact on the banking sector's NII. During the reporting period from 1 October 2020 to 1 April 2021, the interest rate risk value in ruble terms over a 1-year horizon (assuming an increase in rates of 200 bp[10]) for the banking sector decreased from ₽143 billion[11] to ₽128 billion (equivalent to 3.5% of the banking sector's NII for 2020). This base assessment is calculated without taking into account any behavioural changes in respect of possible early redemptions or claims of assets and liabilities, and does not always account for interest rate risk exposure of paid current accounts.[12] Taking into account the respective amendments, conservative assessment of NII reduction for the mentioned rate increase can

BANKING PORTFOLIO INTEREST GAP IN THE BANKING SECTOR FOR RUBLE TRANSACTIONS AS OF 1 APRIL 2021 (BILLIONS OF RUBLES) *Chart 49*



Source: Reporting form 0409127.

[9] Thresholds proposed by the IMF for analytical purposes: 30 = low, 40 = average and 50 = high risk.

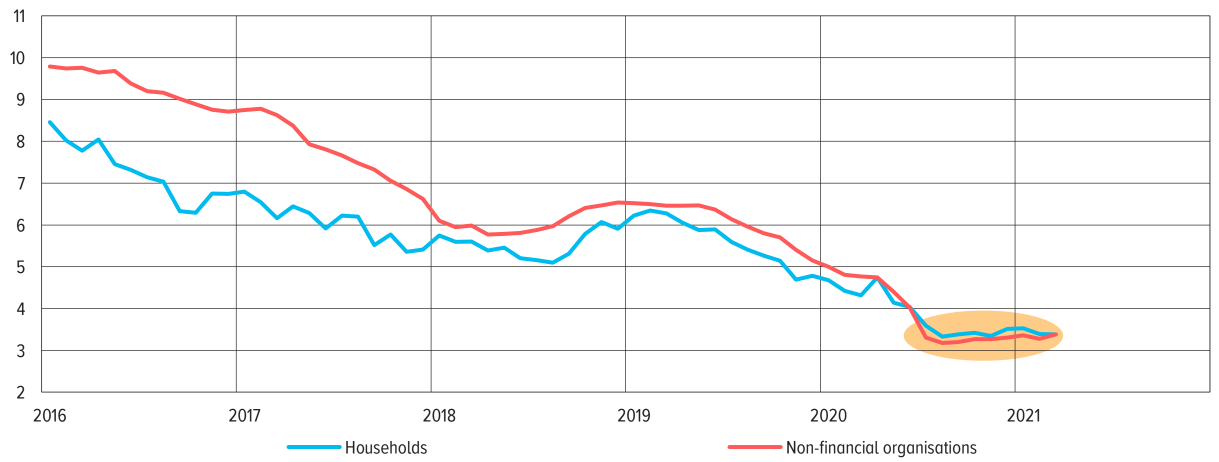
[10] The value of parallel shift of interest rates in accordance with the process of completing reporting form 0409127 (Bank of Russia Ordinance No. 4927-U).

[11] As of 1 October 2020, the volume of interest-bearing assets and, accordingly, the value of the interest gap were adjusted to eliminate the influence of a technical factor on the gap dynamics (in Q4 2020–Q1 2021, certain credit institutions adjusted the method of accounting for floating-rate loans in reporting form 0409127, having reclassified such loans to the 'from 0 to 30 days' category, as provided for by the procedure to prepare reporting form 0409127. Previously, such credit institutions booked floating-rate loans in the categories corresponding to the maturity of such loans).

[12] Due to some special features of reporting form 0409127 (Bank of Russia Ordinance No. 4927-U).

RATES ON NEWLY RAISED DEPOSITS IN THE RUBLE SEGMENT
(%)

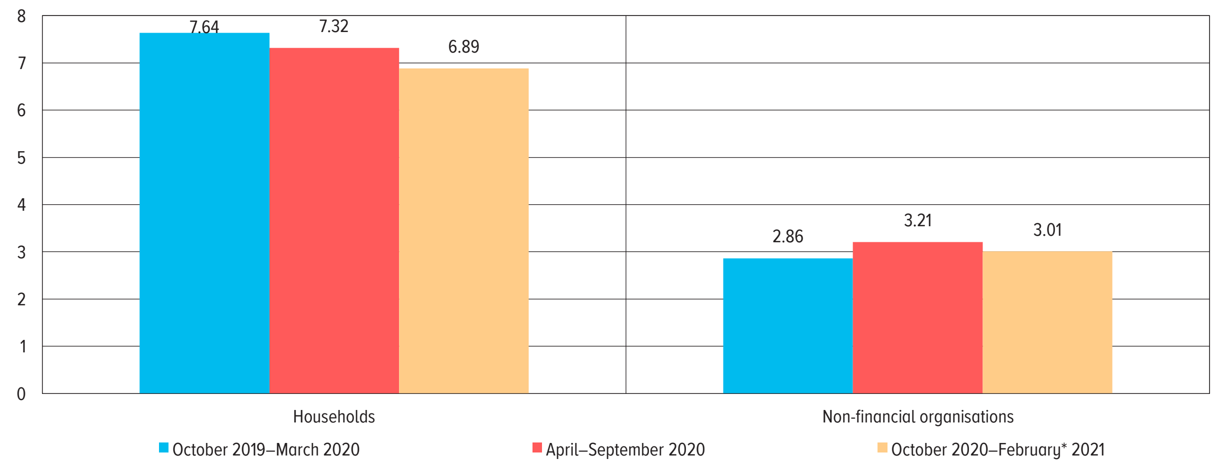
Chart 50



Source: Reporting form 0409129.

INTEREST RATE SPREAD IN THE RUBLE SEGMENT
(PP)

Chart 51



Source: Reporting forms 0409128, 0409129, 0409303.

go up to ₽317 billion over one year horizon (or about 8.8% of NII of the banking sector). At the same time, the main part of interest rate risk[13] is concentrated in Russian[14] SIBs (with 84% of the banking sector's NII changing at the specified rate increase, which exceeds the share of Russian SIBs in the banking sector's total assets of 72%). Moreover, some largest banks have significant short balance-sheet currency positions, which are predominantly hedged with short-term derivatives. This can pose additional pressure on these banks' income due to growing cost of hedging when ruble rates increase.

Starting from H2 2020, the rates on household deposits and deposits of non-financial organisations stopped decreasing and subsequently began to grow at a slow pace (Chart 50). At the same time, the interest spread[15] between the costs of placed and raised funds decreased slightly (Chart 51), partly due to changes in the loan market structure.[16]

---

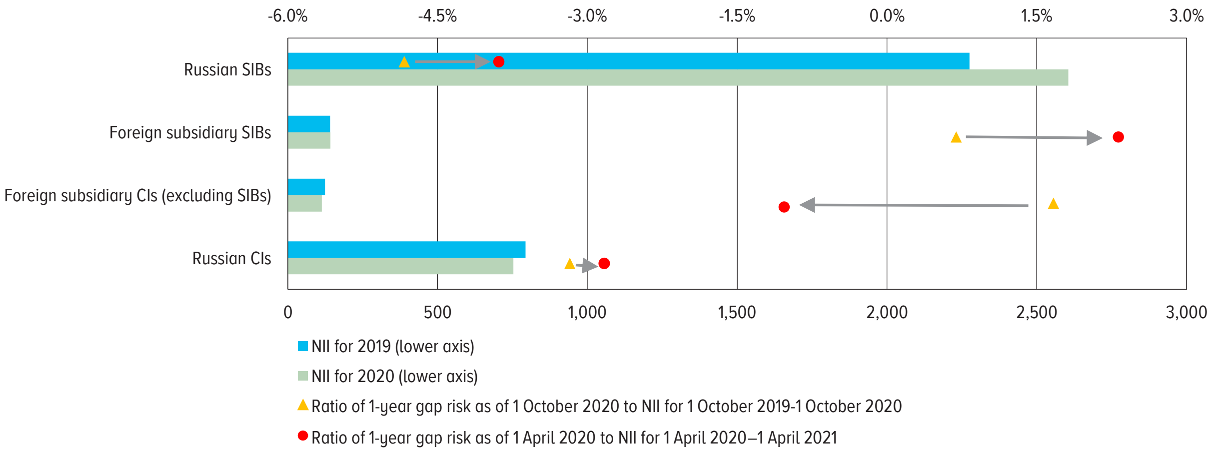
[13] *This refers to the interest rate risk under the banking portfolio in terms of the gap risk calculated using reporting form 0409127. Potential losses from the revaluation of the trading portfolio are not assessed in such a calculation.*

[14] *Hereinafter, 'Russian' SIBs mean SIBs that are not subsidiaries of foreign financial institutions.*

[15] *Calculated on the basis of data published on the Bank of Russia website.*

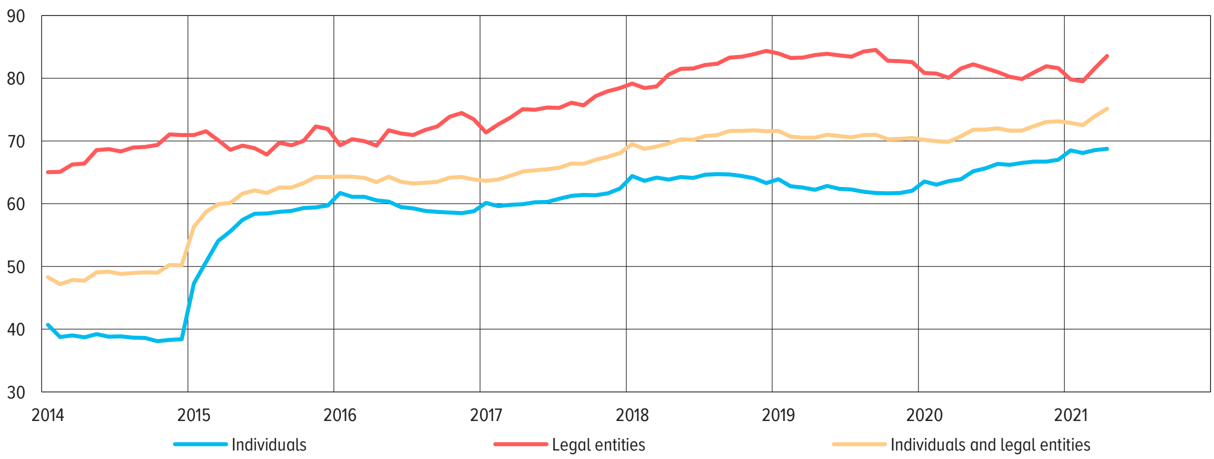
[16] *Including under the influence of an increased share of mortgages issued at a subsidised rate. At the same time, the real rate received by the bank under such loans is higher due to the state subsidy (which is not reflected in the rate reporting data).*

DYNAMICS OF NII AND 1-YEAR GAP RISK TO NII RATIO *Chart 52*



Source: Reporting forms 0409102, 0409127.

SHARE OF RUBLE DEPOSITS WITH UP TO 1-YEAR MATURITY IN TOTAL RUBLE DEPOSITS *Chart 53*
(%)



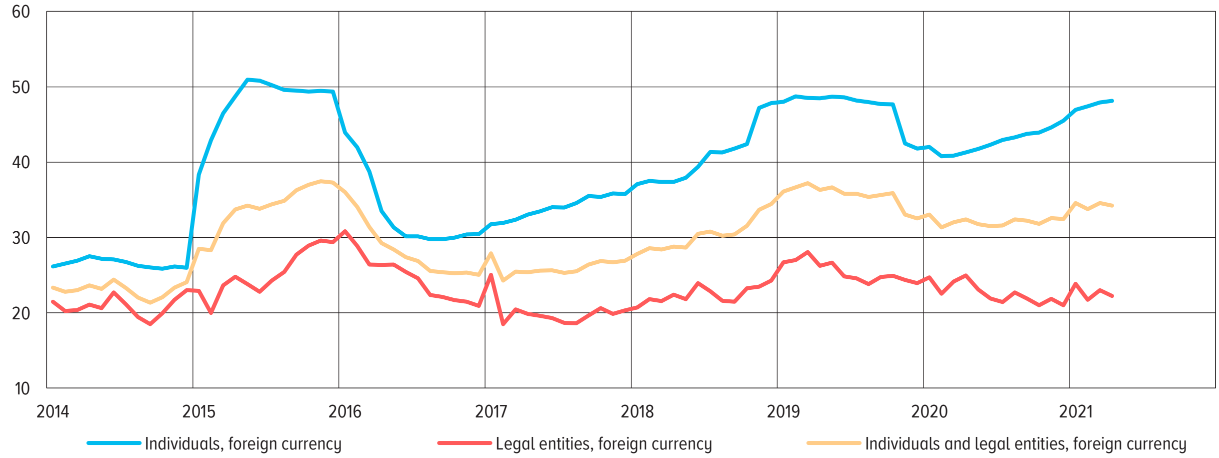
Source: Reporting form 0409101.

Despite the narrowing of the interest spread, NII increased at the end of 2020, mainly due to portfolio growth. At the same time, Russian SIBs' gap risk to NII ratio for 12 months remained higher than that for other banks (Chart 52) and was about 4.0% as of 1 April 2021. In foreign subsidiary banks, including SIBs, the interest gap is positive (as of 1 April 2021, gap-risk amounts to about 1.8% of their NII for the period between 1 April 2020 and 1 April 2021), meaning that an increase in interest rates will contribute to their NII growth in contrast to Russian banks.

The continuing reduction in the maturity of bank liabilities contributed to the increased exposure of credit institutions to interest rate risk. The share of household funds raised for a period of up to 1 year[17] increased in the total volume of household funds raised between 1 October 2020 and 1 April 2021 by 2.6 pp to 64.4% (including from 66.7% to 68.8% on ruble deposits and from 43.9% to 48.1% on FX deposits, Chart 53, Chart 54). From 1 October 2020 through 1 April 2021, growth in short-term liabilities was mainly observed in SIBs. In other banks, the volume of short-term liabilities did not change significantly.

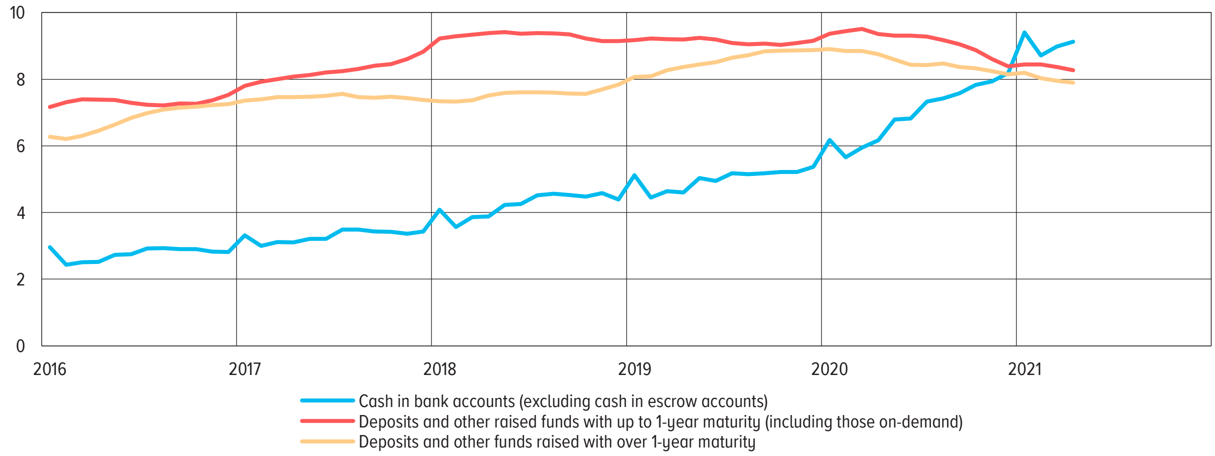
[17] *Including cash balances on current accounts other than escrow accounts.*

SHARE OF FOREIGN CURRENCY DEPOSITS WITH UP TO 1-YEAR MATURITY IN TOTAL FOREIGN CURRENCY DEPOSITS *Chart 54*
(%)



Source: Reporting form 0409101.

HOUSEHOLD RUBLE FUNDS *Chart 55*
(TRILLIONS OF RUBLES)



Source: Reporting form 0409101.

The increased dependence of banks on short-term funding also affects the credit institutions' exposure to liquidity risk. In 2020, amid growing customer cash balances in accounts and short-term deposits, the liquid coverage shortage increased by 6.0 pp to 31.6% by 1 January 2020.[18]

On the one hand, this was one of the consequences of changing household preferences amid growing uncertainty during the pandemic. On the other hand, this was due to the pricing policy of credit institutions. Thus, in recent years, there has been an increase in the supply of savings accounts on the deposit market, while their profitability was often comparable to that of term deposits, despite their great attractiveness for depositors in terms of replenishment and demand options. During the 12 months before March 2021, the average maximum rate on household ruble deposits[19] placed for a period exceeding 1 year decreased by 2.0 pp, while the average maximum rate on funds raised with on-demand deposits decreased by 1.0 pp only (Chart 56). Amid such conditions, the household preferences shifted from term deposits to current accounts,[20] which was one of the factors- that increased maturity mismatch between the assets and liabilities of credit institutions.

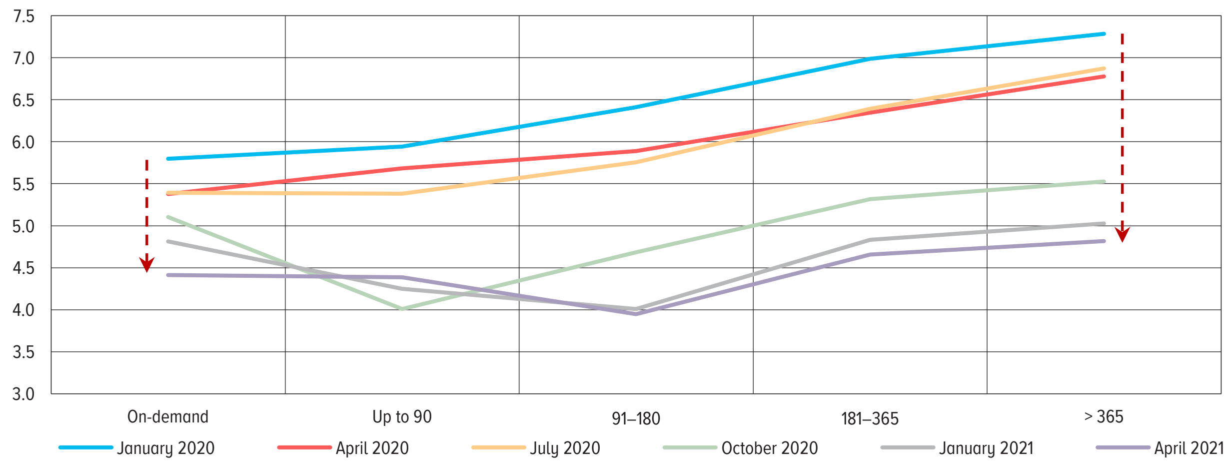
[18] *The ratio of the liabilities with up to 30-day maturity in excess of liquid assets with a similar maturity to the value of the short-term liabilities specified. Source: Russian banking sector overview.*

[19] *Source: Data on the basic level of return on deposits published on the Bank of Russia's website.*

[20] *Excluding cash balances in escrow accounts.*

BASIC RATE OF RETURN UNDER RUBLE AGREEMENTS WITH HOUSEHOLDS
(%)

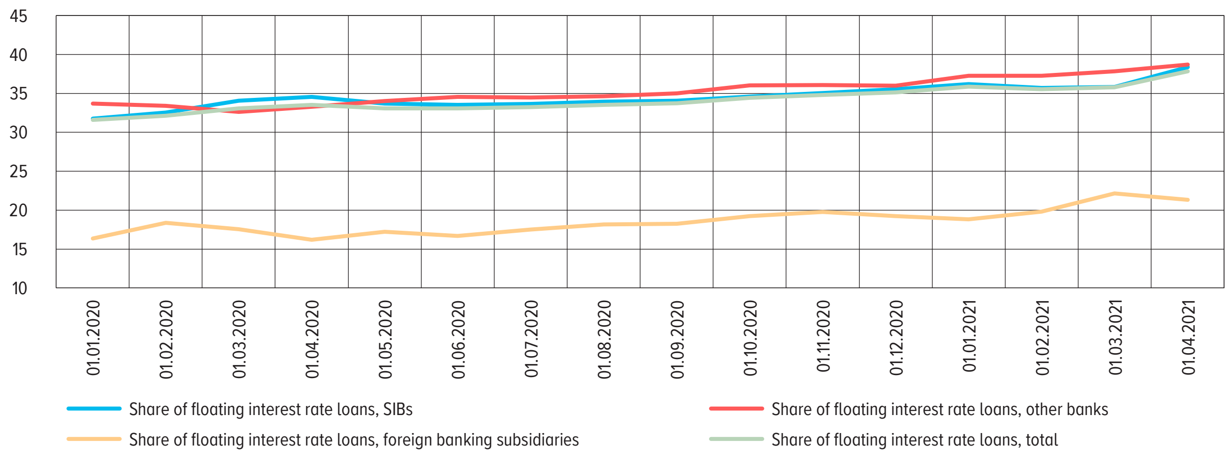
Chart 56



Source: data published on the Bank of Russia's website.

SHARES OF NON-FIXED INTEREST RATE LOANS IN RUBLE-DENOMINATED LOAN PORTFOLIOS OF NON-FINANCIAL ORGANISATIONS
(%)

Chart 57



Source: Bank of Russia calculations based on reporting form 0409303.

During the reporting period, factors that reduce the credit institutions' exposure to interest rate risk included the growth of floating-rate lending, increased volume of investments in variable coupon bonds and extended use of derivatives to hedge interest rate risk.

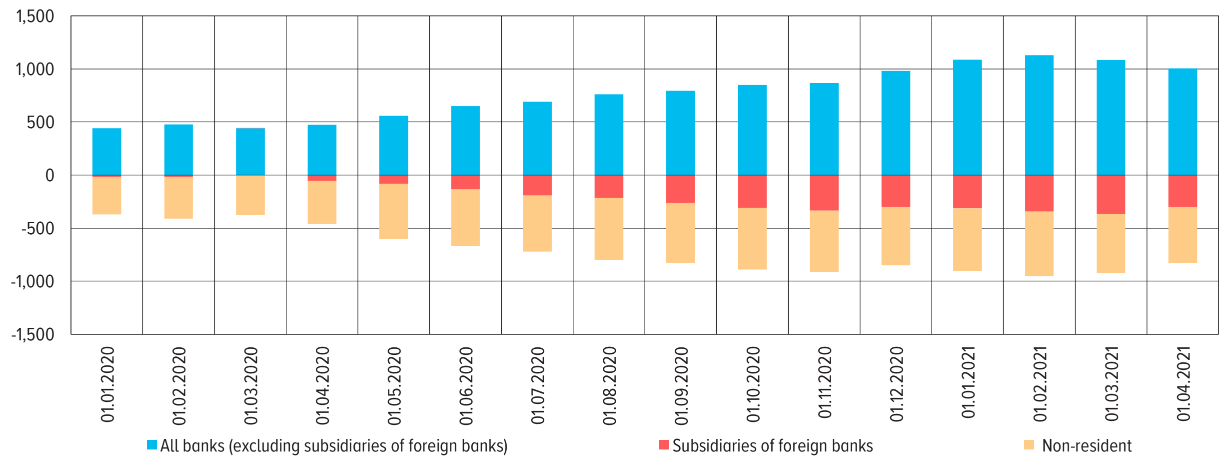
The decline of the interest rate to historic lows for the Russian market in recent years contributed to the formation of incentives for banks and borrowers to use financial instruments with floating interest rates. The volume of floating-rate corporate ruble loans[21] increased by 35.5% as of 1 April 2021 compared to 1 January 2020 – that is, to ₽12.5 trillion, while the share of such loans increased from 31.6% to 37.9% (Chart 57). The key rate remains the most common among the floating rate indicators.[22] In the total ruble loan portfolio, its share increased from 24.5% (as of 1 January 2020) to 27.8% (as of 1 April 2021), and the volume of such loans amounted to ₽9.2 trillion. The share of loans referencing the key rate in the total volume of floating-rate loans is 73.4% as of 1 April 2021.

In the bond market, companies are also actively borrowing at floating rates. As of 1 April 2021, the volume of corporate ruble bonds with a floating coupon exceeded ₽5.1 trillion in circulation (of

[21] *The Bank of Russia calculations based on reporting form 0409303, including loans issued to residents and non-residents. As of 1 April 2021, the share of floating-rate corporate ruble loans to residents only is 37.5%, amounting to ₽12 trillion.*

[22] *Including loans with the rate depending on several components, one of which is the key rate.*

GAINING(+)/PAYMENT(-) OF FLOATING INTEREST RATE PAYMENTS UNDER ORDINARY INTEREST RATE RUBLE SWAPS (BILLIONS OF RUBLES) *Chart 58*



Source: NSD.

which ₽3.7 trillion was linked to the key rate[23]). At the same time, the volume of corporate bonds with a floating rate in the banks' portfolio was ₽1.2 trillion on 1 April 2021.

The volume of OFZ-PK on the banks' balance sheets increased from ₽1.3 trillion to ₽4.1 trillion between 1 January 2020 and 1 April 2021. The share of bonds on Russian banks' balance sheets in the total volume of issued OFZ-PK was 87% as of 1 April 2021.

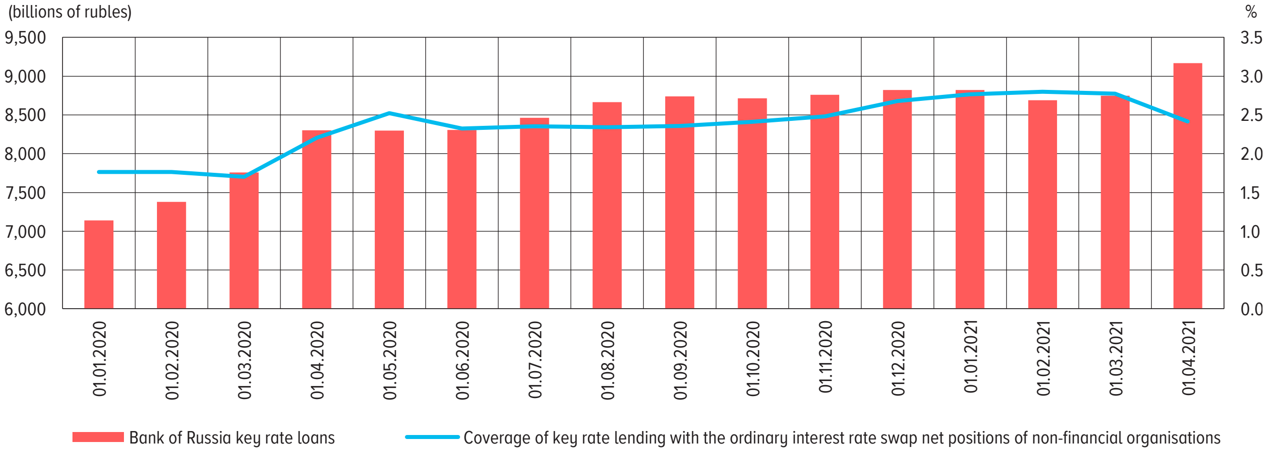
The extensive use of floating-rate financial instruments helps banks reduce their exposure to interest rate risk since higher interest rates result in both increased costs for short-term borrowed funds and growing income from investments in floating-rate instruments. At the same time, banks' credit risk may arise due to the greater debt burden on borrowers with floating-rate loans.

Another factor that allows banks to reduce their exposure to interest rate risk is the increased use of interest rate derivatives. Since 1 January 2020, the nominal volume of open positions on interest rate ruble swaps has grown from ₽3.3 trillion to ₽6.9 trillion as of 1 April 2021. The net positions of the main market participant groups grew as well. Thus, non-financial organisations increased their net position on receiving floating rates by 74% from ₽126 billion (as of 1 January 2020) to ₽221 billion (as of 1 April 2021). Such contracts were concluded with SIBs (the share of such contracts is 94%). At the same time, Russian SIBs and other banks that are not foreign banking subsidiaries also have a net position on receiving floating interest rates, which has increased 2.3 times since 1 January 2020 and is worth ₽1 trillion as of 1 April 2021. The main counterparties for such swaps included subsidiaries of foreign banks and non-residents (Chart 58).

As a result, interest rate risks are transferred from non-financial organisations to SIBs and from Russian SIBs to subsidiaries of foreign banks and non-residents in the interest rate swap market. Through such contracts, the Russian financial system can somewhat mitigate the risks arising from the transition to a neutral monetary policy. However, the volume of net positions in ruble interest rate swaps of both non-financial organisations and banks (except for the subsidiaries of foreign banks) is still relatively small. In particular, legal entities have raised loans at the Bank of Russia key rate in the amount of ₽9.2 trillion as of 1 April 2021. Accordingly, non-financial institutions' net position on obtaining a floating rate on interest rate swaps only hedges 2.4% of the lending volume at the key rate (Chart 59). In the banking sector (excluding subsidiaries of foreign banks), the net position coverage is noticeably higher. Nevertheless, interest rate swaps hedge only 5.1% of loans at fixed rates (Chart 60).

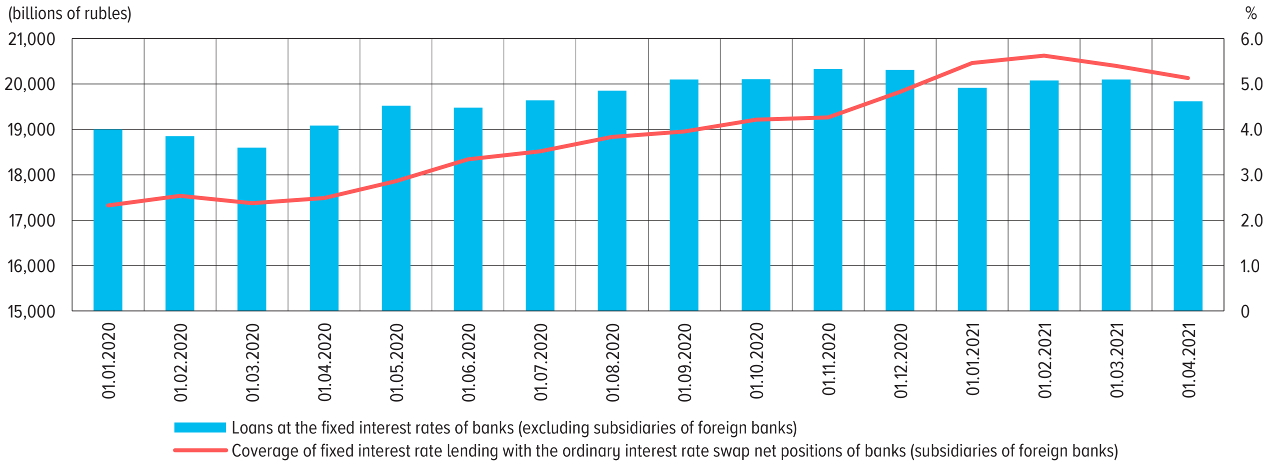
[23] *According to cbonds.ru.*

VOLUME OF LOANS AT THE BANK OF RUSSIA'S KEY RATE AND THE COVERAGE OF KEY RATE LENDING WITH THE ORDINARY INTEREST RATE SWAP NET POSITIONS OF NON-FINANCIAL ORGANISATIONS *Chart 59*



Source: Bank of Russia calculations based on reporting form 0409303, NSD.

VOLUME OF LOANS AT THE FIXED INTEREST RATES OF BANKS (EXCLUDING SUBSIDIARIES OF FOREIGN BANKS) AND COVERAGE OF FIXED INTEREST RATE LENDING WITH ORDINARY INTEREST RATE SWAP NET POSITIONS *Chart 60*



Source: Bank of Russia calculations based on reporting form 0409303, NSD.

Thus, the market for ruble vanilla interest rate swaps is still insufficient to hedge the interest rate risks of the entire banking system but has been extensively developing in recent years. However, further market development may be somewhat constrained by increased interest rates in the economy since this brings losses to counterparties (non-residents and subsidiaries of foreign banks) paying interest at floating rates.

Growth of market for interest rate risk hedging instruments to relevant volumes can take time due to lack of potential counterparties: the majority of banks that are active in Russia have negative gap risk on the one-year horizon, and the list of possible foreign counterparties that are ready to offer hedging against growth of ruble rates is limited.

To limit the potential to reduce NII in the context of a gradual transition to the Bank of Russia's neutral monetary policy, banks must, first of all, increase the share of long-term funding, increase the share of floating-rate assets (primarily through loans to legal entities[24] and purchases of variable coupon bonds) and expand the use of derivatives to hedge interest rate risk.

[24] *Taking into account the financial position of the borrower, so that the borrower's interest rate risk is not subsequently transformed into a credit risk for the bank.*

3.1.3. Risks of price 'bubbles' in the residential real estate market

Preferential mortgage lending programmes helped support the residential real estate market at the start of the pandemic. As economic activities recover, expanding demand amid the lack of supply of housing has become one of the main factors behind the accelerated prices in 2020 in both the primary and secondary real estate markets. Some regions with an insufficient volume of housing construction witnessed price increase by more than 20% even in the context of decreased household real incomes. In addition, the share of loans with a down payment of less than 20% with higher credit risk has significantly increased (from 33% in Q1 2020 to 45% in Q1 2021) in the primary mortgage market. According to indirect signs, the number of mortgaged apartments purchased for investment purposes is growing. Further large-scale stimulation of mortgage lending not supported by the corresponding growth in housing construction and household income may create risks of price 'bubbles' and an increase in the household debt burden. Due to accelerated growth in real estate prices and the deterioration of lending standards, the Bank of Russia decided to tighten the macroprudential policy on mortgage loans with down payments from 15 to 20%.

PRICE DYNAMICS IN THE REAL ESTATE MARKET

In Q4 2020, prices in the Russian primary real estate market grew at a faster pace than in the previous year and in Q1 2021 growth rate accelerated and reached record high value in the last 10 years – 17.6% YoY (Table 9). Such dynamics were due to the insufficient level of supply from the construction sector against the background of increased household demand caused by lower mortgage rates. The greater cost of apartments in the primary market also led to an increased cost of finished housing. By Q1 2021, price growth accelerated in the secondary market – 13.6% YoY. The expectation of further price growth is fuelling demand, and there are indirect signs that there is an increase in the number of investment transactions in the housing market.

At the same time, a double-digit price increase in 2020 resulted in decreased purchasing power of salaries in terms of residential real estate. On 1 January 2020, 0.76 sq. m of residential real estate could be purchased for 1 average salary. As of 1 January 2021, such indicator decreased to 0.67 sq. m. The decrease was recorded in the vast majority of regions.

Nevertheless, 2020 saw the number of square metres of housing that can be purchased with a mortgage at an average rate, spending half of the average salary on loan repayment, increase from 40 sq. m to 40.3 sq. m (affordability of housing with a mortgage).[25] The increase was achieved due to the easing of monetary conditions for mortgage loans (financial leverage): extended loan maturities from 216 months to 223 months and decreased interest rates from 9.24% to 7.37% in the context of government preferential mortgage programmes and the transition to a loose monetary policy. In Q2 2019, a monthly mortgage payment of ₽1,000 helped repay a loan of ₽96,000. In Q4 2020, this indicator reached ₽121,000 and thus, over 1.5 years, showed an increase exceeding the accumulated change for the entire period from 2010.

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

Table 9

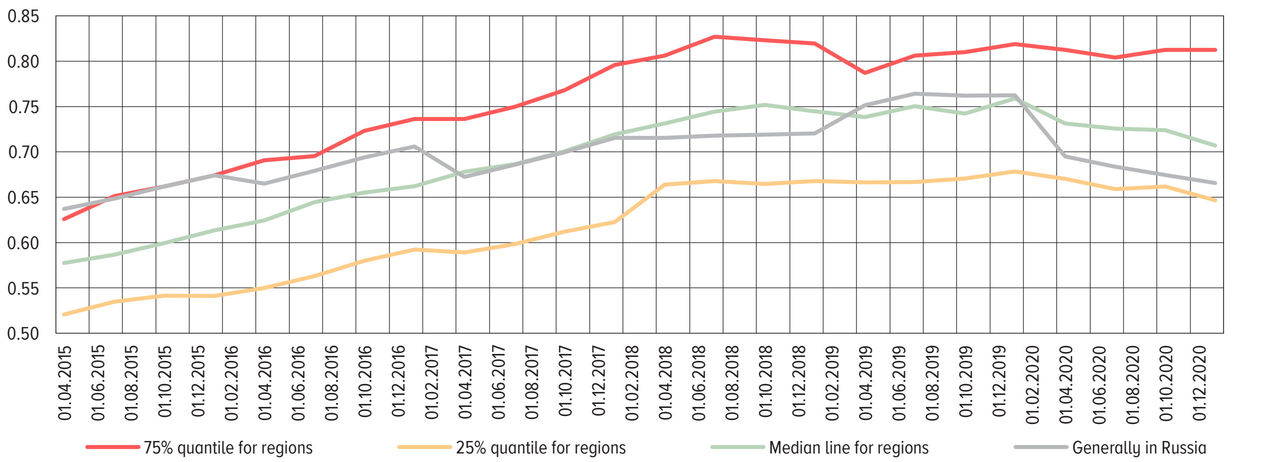
	Housing market	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1
Russian Federation	Primary	107.0	107.2	107.9	108.0	106.7	108.3	109.4	112.0	117.6
	Secondary	104.4	104.0	105.0	103.8	102.7	103.6	104.8	109.5	113.6
Moscow	Primary	107.2	107.6	108.1	113.3	108.2	104.1	106.6	106.0	117.9
	Secondary	103.5	101.6	107.9	100.1	95.7	101.7	105.0	121.8	124.3

Source: Rosstat.

[25] *The affordability of a housing mortgage may be represented by the product of the purchasing power of salaries (the ratio of the salary to the price for one square metre) and the financial leverage on a mortgage loan.*

PURCHASING POWER OF AVERAGE SALARY
(HOUSING SQ. M)

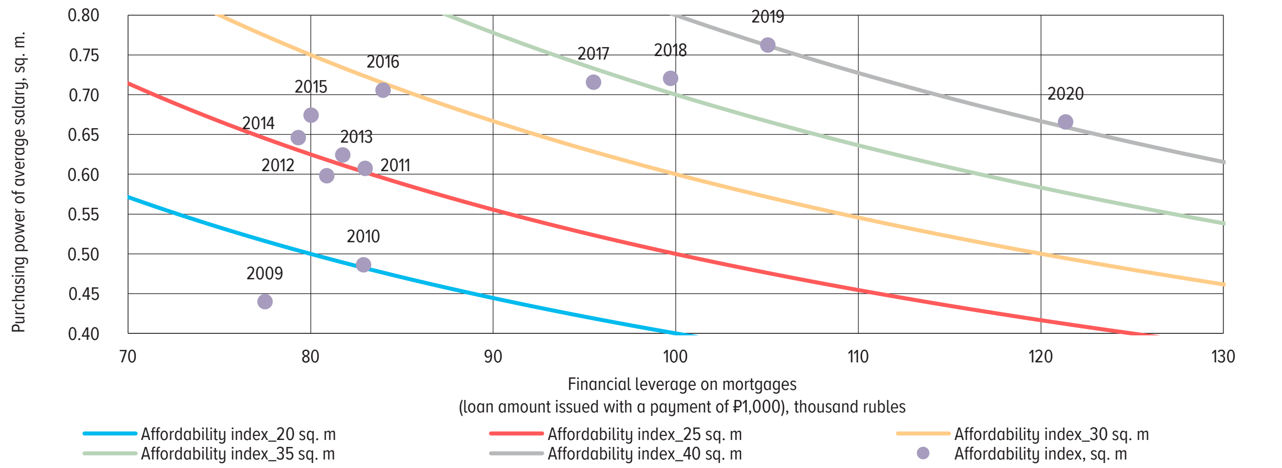
Chart 61



Source: Bank of Russia calculations based on Rosstat data

DYNAMICS OF MORTGAGED HOUSING AFFORDABILITY IN THE RUSSIAN FEDERATION IN 2009–2020
(SQ. M)

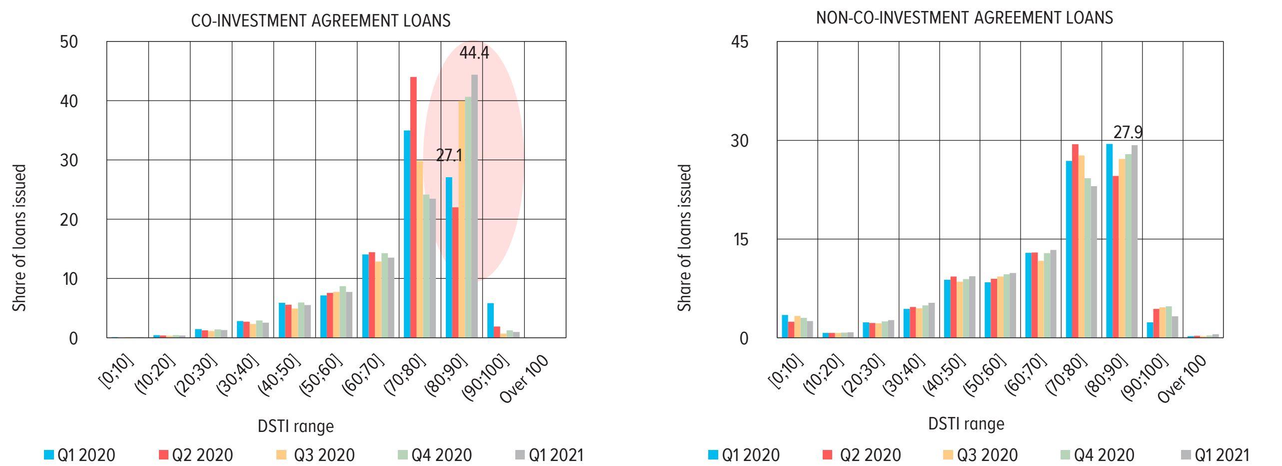
Chart 62



Source: Rosstat, reporting form 0409316.

DISTRIBUTION OF ISSUED MORTGAGES BY DOWN PAYMENT LEVEL

Chart 63



Source: Rosstat, reporting form 0409704.

The potential for further growth in housing affordability for households due to increased financial leverage has largely been exhausted. Even with an extension of new loan average maturities to 240 months and a decrease in the rate to 7%, its value will not exceed ₽130,000 and will be levelled out by a 6% rise in prices for residential real estate, which, if prices remain at the level of 2020, will occur within two quarters. Growing demand for housing and greater housing affordability without threats to financial stability are only possible if household incomes go up at a rate that outstrips the increase in real estate prices.

In the primary mortgage lending market (loans secured by co-investment agreements, CIAs), the share of loans with LTV over 80% has already reached 45% in bank loans, which is almost twice as high as before the pandemic (Chart 63). A further rise in the share of loans with high LTV poses a threat to financial stability since such loans are characterised by a higher level of credit risk. The down payment reflects the borrower's ability to save funds.

The potential for a further increase in demand due to cheaper lending has largely been exhausted. On the back of such conditions, the dynamics of housing prices and household nominal income will be a key factor in the development of the residential real estate and mortgage market in 2021.

Due to continued accelerated pace of growth of housing prices in Q1 2021 and deterioration of lending standards the Bank of Russia decided to tighten requirements on mortgage loans with down payment from 15 to 20%. New macroprudential add-ons are higher than currently effective add-ons by 20-30 pp, they will apply to loans issued after 1 August 2021. If real estate prices continue to grow at an accelerated pace and lending standards deteriorate further, the Bank of Russia will consider further tightening of macroprudential policy on mortgage loans issued to borrowers with high debt burden.

3.2. Potential financial sector vulnerabilities in the medium and long term

3.2.1. Risks of outflow of households' investments into foreign financial instruments

Russian investors began to invest extensively in securities market instruments, including foreign stocks and bonds, amid falling interest rates, rising stock indices in the leading countries and the development of Russia's financial infrastructure, which made it easy for the households to enter various trading platforms (including foreign ones). An increase in the volume of household investments in non-resident securities resulted in greater diversification of household securities portfolios, including those in currency and industry. However, if such a trend continues and materially strengthens, systemic risks may arise associated with the negative consequences of the dollarization of savings. At the moment, such risks are moderate.

Since the beginning of the pandemic, given the lower interest rates in Russia and other countries, in search of greater profitability, households began to invest extensively in securities (stocks and bonds) and instruments in the collective investment market. At the same time, foreign stocks and bonds were in great demand. Their value was growing steadily[26] due to large-scale monetary and fiscal measures undertaken by the advanced economies. The upward trend in Russian individuals[27] investing in stock market instruments continued throughout Q4 2020 and Q1 2021, with individuals largely interested in non-resident stocks and resident bonds.

In the stock market, the growth of investments in resident and non-resident stocks amounted to ₽341 billion and ₽346 billion, respectively, in 2020 (Chart 64). In Q1 2021, household investments in non-resident stocks continued to grow at an accelerated pace compared to 2020 (+₽220 billion in Q1 2021) but dropped in resident shares. In 2020 and Q1 2021, the aggregate share of non-resident stocks in household stock portfolios rose by 12 pp to 16% (Chart 65), and in absolute terms investments amounted to ₽836 billion as of 1 April 2021.

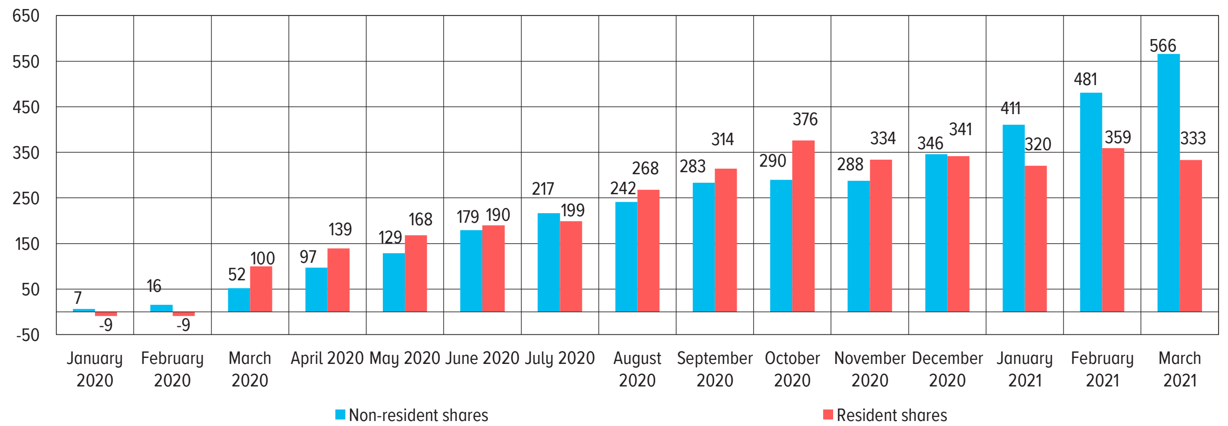
---

[26] In 2020, the S&P 500 and NASDAQ increased by 16% and 44%, and in Q1 2021, by another 6% and 2%, respectively.

[27] The investor category 'Individuals and non-profit organisations serving individuals' from sub-section 1.2 of reports 0409711 and 0420415, accounts of securities holders.

NET INFLOW* OF HOUSEHOLD FUNDS ACCRUED INTO SHARES BY ISSUER TYPE
(BILLIONS OF RUBLES)

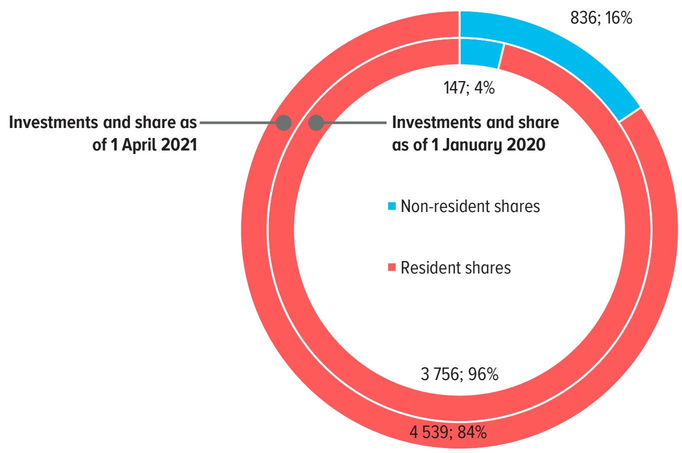
Chart 64



** Inflows in securities were calculated as the product of average monthly price and number of securities, provided that there has been a change in number of securities in the month. Inflows for the period is the sum of monthly inflows.*
Source: Reporting forms 0409711 Securities Report, 0420415 Securities Report of Professional Securities Market Participant.

HOUSEHOLD INVESTMENTS* IN SHARES BY TYPE AND SHARE
(BILLIONS OF RUBLES)

Chart 65



** Household investments were calculated as the sum of investments as of the last date of month at the exchange rate on the reporting date.*
Source: Reporting forms 0409711 Securities Report, 0420415 Securities Report of Professional Securities Market Participant.

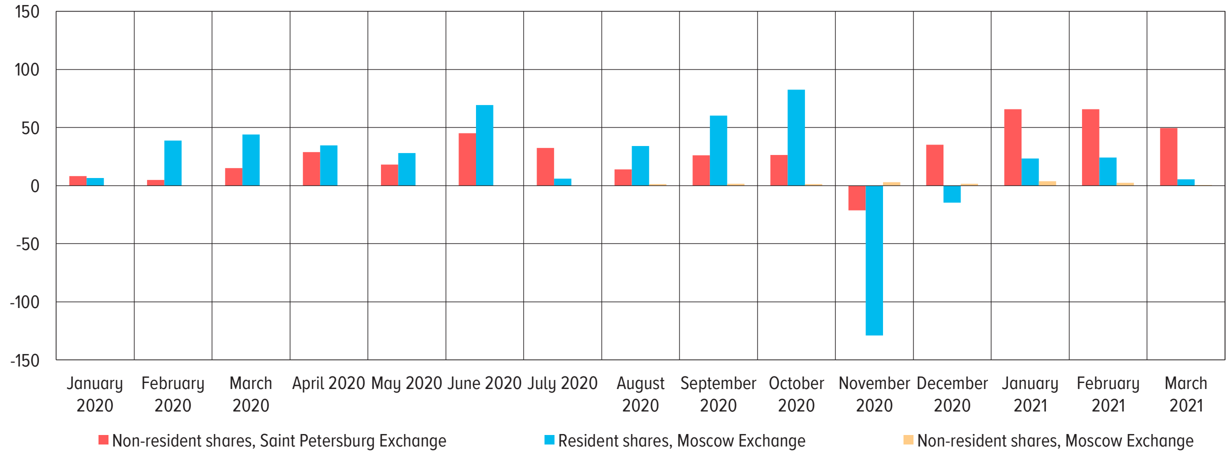
PRECONDITIONS FOR THE GROWTH OF INVESTMENTS IN FOREIGN SECURITIES

A number of preconditions have contributed to the new strategy in household behaviour, including the purchase of foreign financial assets. These preconditions also included both the historically low rates on ruble deposits, the weakening of the ruble against a background of the outstripping growth of indices on the leading foreign stock exchanges and the development of Russia's financial infrastructure, which made it possible for households to enter foreign exchanges easily. In 2021, these factors have somewhat weakened, but the growth of investments in foreign markets continues, partly as citizens who previously entered this market by placing a certain share of their savings in these instruments.

Foreign issuer stocks were mainly purchased by households through brokerage services in the exchange segment of the market (Chart 66). It should be noted that inQ1 2021 net purchases of non-resident stocks on the Saint Petersburg Stock Exchange by households increased significantly and began to exceed the net purchases of resident stocks on the Moscow Exchange. The bulk of investments in stocks are accounted for by individuals who made investments worth ₽2 million to ₽5 million over the year (Chart 67, Chart 68).

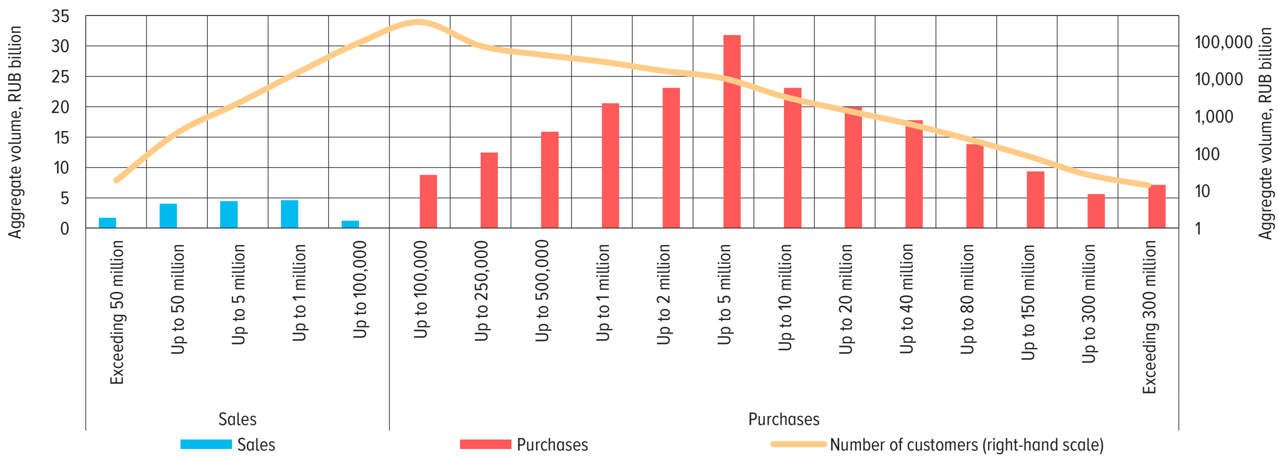
In addition to the high foreign exchange yield, the attractiveness of foreign stocks was due to the opportunity to diversify investments both by currency/country and by industry. In foreign stocks, the

NET VOLUME OF SHARES PURCHASED BY HOUSEHOLDS *Chart 66*
(BILLIONS OF RUBLES)



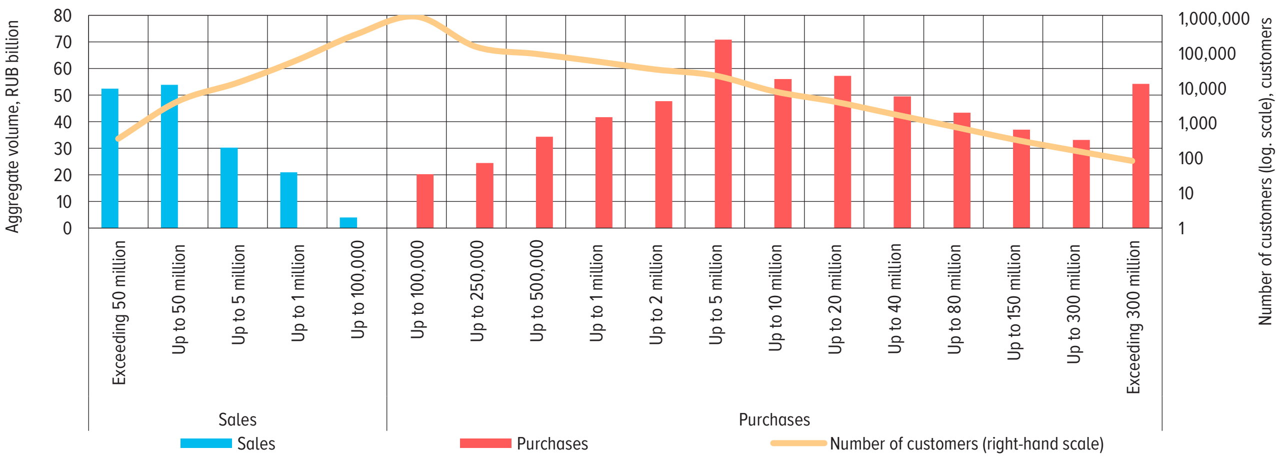
Source: Moscow Exchange, Saint Petersburg Exchange data, Bank of Russia calculations.

NET VOLUME OF NON-RESIDENT SHARES PURCHASED BY HOUSEHOLDS THROUGH SAINT PETERSBURG EXCHANGE, DISTRIBUTED BY PURCHASED SHARE VOLUME FOR 9 MONTHS OF 2020 *Chart 67*



Source: Saint Petersburg Exchange data, Bank of Russia calculations.

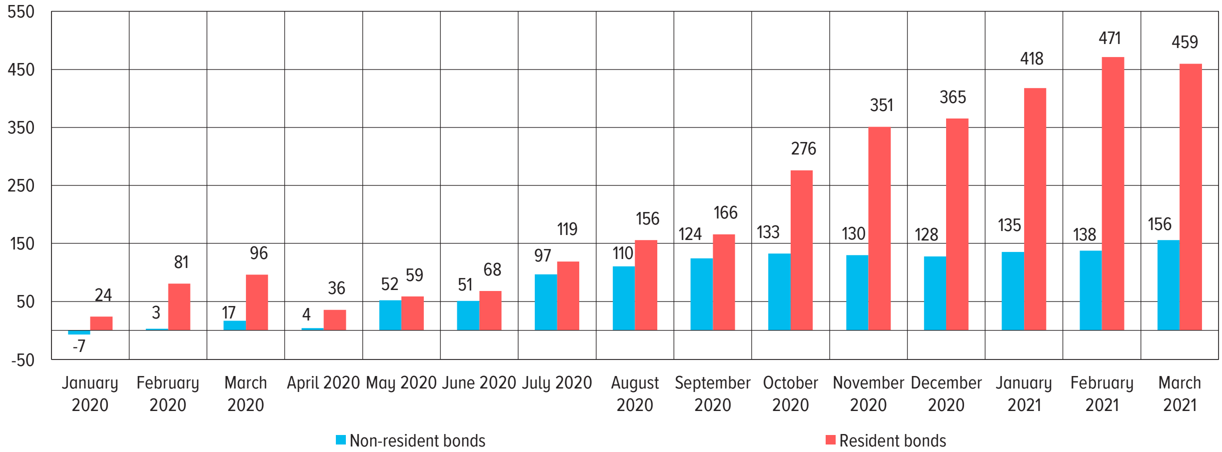
NET VOLUME OF SHARES PURCHASED BY HOUSEHOLDS THROUGH MOSCOW EXCHANGE, DISTRIBUTED BY PURCHASED SHARE VOLUME FOR 10 MONTHS OF 2020 *Chart 68*



Source: Moscow Stock Exchange data, Bank of Russia calculations.

NET INFLOW OF HOUSEHOLD FUNDS ACCRUED INTO BONDS BY ISSUER TYPE
(BILLIONS OF RUBLES)

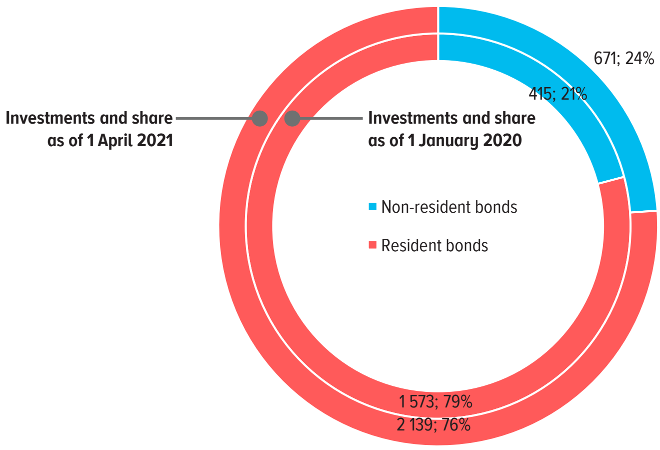
Chart 69



Source: Reporting forms 0409711 Securities Report, 0420415 Securities Report of Professional Securities Market Participant.

HOUSEHOLD INVESTMENTS IN BONDS BY TYPE
(BILLIONS OF RUBLES)

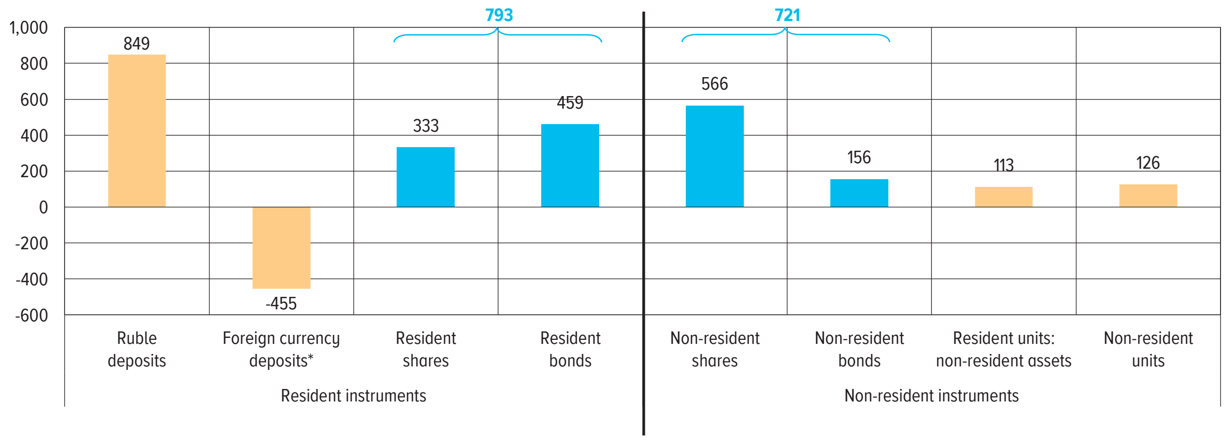
Chart 70



Source: Reporting forms 0409711 Securities Report, 0420415 Securities Report of Professional Securities Market Participant.

NET HOUSEHOLD INFLOWS IN FINANCIAL INSTRUMENTS (FLOWS) DURING 1 JANUARY 2020–1 APRIL 2021
(BILLIONS OF RUBLES)

Chart 71



** Calculated as the volume of foreign currency investments converted in rubles at exchange rate on 1 April 2021.*
Source: Reporting forms 0409711, 0420415, Bank of Russia's banking sector review.

largest volumes of investments are accounted for by issuers from such sectors as information and high technologies (31%) and transport (10%); in Russian stocks, in oil and gas (33%) and mining (10%).

The growth in household investments in resident bonds in 2020 outpaced the growth in their investments in non-resident bonds (₽365 billion and ₽128 billion, respectively, Chart 69). In 2021 the growth of investment in resident bonds continued. The share of individuals' investments in non-resident bonds was 24% as of 1 April 2021 (+3 pp since the beginning of 2020), which, in absolute terms, amounts to ₽671 billion (Chart 70).

As a result, in 2020 and Q1 2021, direct inflows of individuals' funds into non-resident securities amounted to ₽721 billion (Chart 71), which is less than the inflows into resident securities (₽793 billion).[28] Household investments in unit investment funds increased by ₽530 billion in 2020. In particular, significant growth was observed in the market for exchange-traded unit investment funds. The increase in investments in foreign securities is largely associated with a decrease in rates on FX deposits.

POTENTIAL RISKS AND ADVANTAGES OF INVESTING IN NON-RESIDENT INSTRUMENTS

An increase in the share of household investments in non-resident securities has a number of advantages; at the same time, it can lead to a build-up of a number of risks:

Risks of a negative impact on household financial position. The transition to a more active model to manage household savings increases the dependence of their financial position on fluctuations in the Russian and foreign stock markets, the dynamics of the exchange rate and the decisions made. Due to a significant growth of investments in securities over the last year, risk assessment algorithms for individuals may not be fully developed. Misselling risks are also rising (the large-scale market entry of inexperienced investors can lead to their being explicitly or implicitly misled about the profitability of investments in non-resident securities). Risks may be associated with a high concentration of investments in certain popular stocks.

The favourable outcomes of the increased household interest in financial assets, including foreign ones, include growing sectoral and country diversification of individual savings and a greater potential return on savings due to the use of more active investment strategies.

The balance of such factors largely depends on the households' knowledge and experience in investment sphere. Investment in non-residents' securities were primarily made by individuals with security portfolios exceeding ₽2 million. The availability of sufficient financial resources makes this household group less sensitive to potential risks. At the same time, there is a large number of unprepared individuals entering the securities market who are not qualified enough, do not possess sufficient financial resources and may face material risks. Therefore, the role of the regulator to protect the interests of this household group is gaining more importance.

Macro-effects. The growth of individuals' investments in non-resident securities may contribute to growth in the dollarization of household savings. In this sense, it carries the same macroeconomic risks as the growth of investments in foreign currencies in cash or foreign currency deposits: a decrease in the efficiency of monetary policy, an increase in the volatility of the exchange rate and higher currency risks of the financial system. It is also worth mentioning that a noticeable reduction in the volume of household FX deposits may affect the foreign exchange liquidity situation in the Russian market. Instead of foreign currency lending to Russian exporters, the household foreign exchange investment potential may be used to finance non-resident projects. Risks may materialise if the process specified becomes permanent.

One of the favourable outcomes is that household investments in non-resident securities may compensate for the drop in the purchasing power of individuals in the event of a ruble exchange rate depreciation.

---

[28] Residents also included foreign legal entities affiliated with Russian companies, including subsidiaries and companies that issued shares on foreign exchanges.

If such a trend continues for a long time, the risks of increased dollarization of savings are significant. When the share of foreign assets in household savings remains high, the economic balance is likely to be suboptimal. In the short term, on the contrary, positive aspects prevail due to the increased diversification of economic agents' financial assets.

Risks of greater stock market volatility. The growth in the volume of household transactions involving securities is global and largely associated with the digitalisation and globalisation witnessed within the financial system. A bigger share of household investments in financial instruments increases the dependence of financial markets on the actions of this group of participants. A significant segment of these individuals is unqualified investors who do not have a sufficient level of qualifications or skills for the stock market. The said investors can make decisions influenced by other market participants or popular trends. As a result, a large number of individuals can pursue similar strategies and take similar actions, which lead to larger volumes of purchases/sales of financial instruments that are difficult to predict. This creates preconditions to increased market volatility.

The growth in the number of participants and the variety of strategies used by investors, on the contrary, will have a positive impact on the stock market's development. 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. However, based on the experience of other countries, difficult situations may require additional measures on the part of the central bank to stabilise the situation.

Brokers' systemic risks. The growth in the volume of transactions with securities significantly extends the customer base of brokers and the volume of customer assets. In the event of a shock in the stock market, customers may return back to deposits, thereby creating a significant outflow of customer funds from the industry. The liquidity risks of brokers are increasing. The volumes of margin transactions used by customers are also growing in terms of foreign securities. In the event of increased volatility in foreign stock markets, brokers may face non-compliance with requirements for such operations (the emergence of margin calls), which leads to a greater number of risks for the industry, including market risk, liquidity risk and operational risk.

At the same time, the mass inflow of new customers creates the potential for growth in the financial performance of brokers (as well as non-bank financial institutions and credit institutions with brokerage licences). An extensive customer base results in incentives to introduce new products, improve the quality of the services provided and compete for new customers. In this regard, the development of a risk management system within the activities of such organisations becomes vitally important. Improving the quality of risk management in the industry and a more thorough approach to supervision and monitoring over such organisations by the regulator will largely help mitigate emerging risks.

RISK MONITORING BENCHMARKS AND POSSIBLE MEASURES

During the monitoring of systemic risk in financial markets, the Bank of Russia monitors the dynamics of private investors' behaviour, including in terms of investments in foreign stock assets. Monitoring includes but is not limited to the following:

- the share of foreign exchange savings in the aggregate household savings, which remained practically unchanged in 2020 and Q1 2021 and was 22% as of 1 April 2021
- the share of investments in non-resident stocks in the aggregate household investments in stocks, which increased from 4% to 16% between 1 January 2020 and 1 April 2021
- the share of investments in non-resident bonds in the aggregate household investments in bonds, which increased from 21% to 24% from the beginning of 2020 to 1 April 2021
- the share of investments in non-resident instruments on Individual Investment Accounts (IIAs), which increased from 6% to 16% in from the beginning of 2020 to 1 April 2021. At the same time, the share of investments in non-resident stocks and bonds within the IIAs was only 3%

of the aggregate household investments in non-resident stocks and bonds on 1 April 2021. However, tax incentives for such investments are inexpedient. The Bank of Russia considers it necessary to exclude tax incentives for investments in foreign instruments and is negotiating this issue with the Government of the Russian Federation.

In general, the current risk balance suggests that additional measures to discourage investment in foreign instruments are not necessary at present (excluding measures on IIAs). The indicators have not yet reached significant levels, and the risks are moderate and manageable. The Bank of Russia has highlighted the need to minimise the misselling risks faced by private investors and the relevance of increasing their qualifications.

3.2.2. Climate risks

During the last decades, a structural change in energy consumption is taking place, which takes form of a shift from direct consumption of fuel to the usage of most universal (and the only possible for some processes) and effective source of energy – electricity. Active electrification of all sectors of consumption is ongoing. Prospects of liquid hydrocarbon to a large extend will be determined by the decisions taken by leading economies to maintain balance between energy availability to consumers and mitigation of negative environmental impact.

During the previous year, global attention on the climate agenda, and, as a consequence, on the negative impact companies have on the environment, sharply increased. The realisation of physical risks may directly impact the activities of companies and lead to increased costs, depreciation of assets and bankruptcies. Transition risks in the form of tougher carbon laws and changes in consumer and investor preferences will affect the cost of funding and alter the structure of costs and global markets. This will result in decreased demand for goods with a high carbon footprint, such as coal, oil and gas,[29] which are key Russian exported goods.

Russian companies in carbon-intensive sectors of the economy are exposed to climate risks, in particular, the transition risk that will arise with the introduction of cross-border carbon regulation (which will primarily be implemented by the EU). The results of the stress test performed by the Bank of Russia prove that the creditor banks of such companies are able to withstand the increased credit risk of their borrowers. However, 'brown' companies may have problems with external debt refinancing, which will probably be difficult to solve at the expense of Russian banks alone. Refinancing by banks will make their portfolios more 'brown', which in the medium term may bear higher risks. Measures to reduce the potential materialisation of such risks include a strategy and tools to 'green' the economy and financial market, involving actions from both companies and the government.

STRESS TESTING THE INTRODUCTION OF A CARBON TAX IN THE EU AND ASIA: SECTORAL RESULTS

In early 2021, the Bank of Russia performed a stress test to assess the direct and indirect impact of potential introduction of the cross-border carbon tax[30] in Europe and Asia and the growth of capital expenditures on climate projects on debt burden of the largest exporting companies in Russia and the capital adequacy requirements of their creditor banks. The stress testing sample included companies from the oil and gas, mining and chemical industries (production of fertilizers) covering 92% of Russian exports and reporting under IFRS.

[29] Gas itself is not a significant carbon footprint commodity; however, due to the considerable additional emissions during its transportation, the overall intensity of Russian gas is material.

[30] In December 2019, the EU announced the European green deal, which is intended to make the EU economy climate neutral by 2050. To that end, carbon emissions need to be radically reduced. One of the measures involved in this will be the introduction of a carbon tax on imports to the EU (EU carbon border tax). Its calculation method has not yet been exactly determined, but, theoretically, its size will depend on the amount of emissions produced in the manufacturing of a particular product. For details see Q2–Q3 2020 Financial Stability Review.

CHANGE IN DEBT BURDEN OF LARGEST EXPORTERS AS A RESULT OF CARBON TAX INTRODUCTION AND INCREASED CAPITAL EXPENDITURES ON ENVIRONMENTAL PROJECTS *Table 10*
(%)

Industry	Net debt/EBITDA					Interest coverage ratio				
	2021	2022	2023	2024	2025	2021	2022	2023	2024	2025
Oil and gas	9	31	48	63	78	-3	-19	-25	-32	-37
Mining	13	48	> 100	> 100	> 100	-7	-27	-45	-54	-58
Chemical	18	55	> 100	> 100	> 100	-14	-35	-51	-61	-67

Source: Bank of Russia estimates.

COMPARISON OF YIELDS ON CORPORATE SECTOR SECURITIES AND SOVEREIGN DEBT *Table 11*

		Yields as of early 2020	Yields as of 30 March 2021	Change
Russia	Vulnerable companies	2.95	2.24	-71
	Yields on corporate eurobonds	3.13	3.09	-4
	Yields on sovereign eurobonds	3.43	3.62	+19
Developing countries	Yields on corporate eurobonds *(broad sample of countries – JP Morgan CEMBI Broad Composite Blended Yield index)*	4.92	4.57	-34
	Yields on sovereign eurobonds *(broad sample of countries – JP Morgan EMBI Diversified Sovereign Yield index)*	4.90	5.31	+41
	Yields on sovereign eurobonds *(average for Brazil, Mexico, South Africa, Turkey, Philippines, Indonesia, India, China)*	3.99	4.25	+27

To calculate the tax, a tax rate of €30 per tonne[31] was multiplied by the amount of greenhouse gas emissions of goods exported to Europe and Asia. The scenario provided for the introduction of the tax in Europe in 2022 and in Asia in 2023. To assess capital investments in projects to reduce greenhouse gas emissions, the required amount of emission reductions to achieve possible EU benchmarks was calculated, and the cost of reducing CO2 emissions was determined based on the data in respect of the largest foreign companies.

As part of stress testing for the abovementioned Russian companies in various sectors of the economy, key forecast debt burden indicators were determined, with due regard to the scenario involving the introduction of the carbon tax and increased capital expenditures. The implementation of a carbon border tax may decrease the positive impact on companies produced by the recovery of the global economy after COVID-19. This will have the most negative impact on mining companies and certain organisations in the chemical sector (Table 10), most of which are characterised by a high level of debt burden. Such companies are also most likely to default on their credit obligations. The rest of the exporters selected to perform the stress testing are not expected to face a significantly increased probability of default by 2025. Creditor banks did not violate capital adequacy requirements under the stress testing conditions.

[31] *This assumption is based on the price level per 1 tonne of CO2 in the EU ETS market during 2020 (averaged about €25 per tonne). Taking into account that the level of permitted emissions is to be reduced by 40% by 2030, Refinitiv analysts expect the price per 1 tonne of CO2 to rise to €89 by 2030. In this regard, when the tax is introduced, the value of the carbon border tax may be higher than the current level, but this will primarily depend on the methodology used to calculate the tax, which is to be published in June 2021.*

RISKS OF EXTERNAL DEBT REFINANCING BY RUSSIAN EXPORTERS AMID INVESTORS' TRANSITION TO GREEN ASSETS

IF ESG factors are more extensively introduced into the portfolio management principles of foreign investors, we may see their large-scale exit from the securities of Russian 'brown' companies, whereas Russian 'brown' companies (coal production companies) and companies developing offshore and Arctic projects may need to refinance their external debt in the domestic Russian financial market (see Box 7). Such events may, among other factors, lead to growth of volatility in financial markets.

Box 7. Investor strategies for investing in brown and green assets

Many of the largest investors have already begun to adapt their strategies to meet the goals of the Paris Agreement on climate change and the Sustainable Development Goals (SDGs). Sustainable strategies have been pursued by both sovereign investors and private companies. A number of investors have already completely abandoned or are planning to abandon investments in coal production and coal generation in the next few years. Further on, investments in non-environmentally friendly oil projects will be excluded, such as shelf projects, development of oil and gas fields in the Arctic and the extraction of oil from tar sands. Such trends may make Russian companies, primarily in the oil and gas and mining sectors, face difficulties in raising debt financing and a significant increase in the cost of lending. At the same time, a rise is seen in investments in green assets, meaning clean energy, green bonds and other green projects.

Among central banks, the Bank of France and the Bank of Norway have made the greatest progress. The **Bank of France** implemented a responsible investment strategy for its equity and retirement savings portfolio in 2018. In accordance with the new strategy, the regulator planned to invest €1.7 billion in green bonds and funds, which finance green projects, by the end of 2021. The goal has almost been achieved. By 2019, the Bank of France excluded more than 20% of issuers that do not meet ESG criteria from its portfolio. From 2021, the regulator is going to clean its portfolio and remove securities of companies with revenues of more than 2% from the use and production of coal (from 2024, the plan is to completely exclude such securities from the portfolio) and securities of companies with revenues of more than 10% from oil and shale gas production, the extraction of oil from tar sands, deep-sea exploration and exploration in the Arctic. The plan is to exclude companies from the portfolio by 2024, if more than 10% of their revenue stems from oil development and production and more than 50% from gas production.

The **Bank of Norway** has applied the principles of responsible investment to its foreign exchange reserves portfolio. Companies' securities are eligible to be included in the portfolio if at least 20% of their revenue comes from activities in one of the following sectors: energy with low emissions and alternative fuel sources; efficient use of energy; the rational use of natural resources. Since 2017, a ban has been introduced on investments in oil and gas production companies, mining companies and coal mining and production companies.

The **Dutch pension fund for employees in the government and education sectors** (ABP) and the state-owned **New Zealand pension fund** plan to reduce the aggregate carbon emissions of their investment portfolios by 40% by 2040. ABP also intends to phase out investments in companies with a significant share of revenues from oil and coal production and gradually increase the share of sustainable investments in the portfolio.

Private investors are also extensively demonstrating their commitment to green investments. Major **investment banks** (such as JPMorgan Chase, Goldman Sachs, and Mizuho Group) have stopped lending to coal mining or production companies. An increasing number of banks are cutting back on lending to the oil and gas sector. Goldman Sachs plans to increase investment in clean energy to $150 billion by 2025. Leading **insurance companies** are cutting back on 'brown' asset investments. For example, Italian insurer Assicurazioni Generali has completely ended investment in the coal sector and oil production from tar sands since 2018, and Germany's Allianz plans to abandon investing its own funds and insurance portfolio in the coal industry by 2040. Many of the largest **investment funds and asset management companies** (such as Amundi, BNP Paribas IM, AXA IM, Robeco) have excluded 'brown' stocks from their portfolios. Some companies (Amundi) have set goals for investing in environmental initiatives, while others (Robeco) have opted for portfolio decarbonisation. Members of the **Net-Zero Asset Owner Alliance**, which includes the largest insurance and reinsurance companies, large pension funds and a number of other institutional investors, have undertaken to achieve carbon-neutral investment portfolios by 2050.

Situation in Russia

The Bank of Russia conducted a survey among the largest Russian and foreign institutional investors in respect of ESG investment strategies and ESG risk assessment for the Russian corporate sector.

According to the survey results, almost all respondents consider ESG factors in their current investment strategy, but the majority have not yet formulated a specific ESG investment goal. According to some investors, they have **excluded or plan to exclude investments in companies involved in the development or production of fossil fuels**. At the same time, a number of respondents do not plan to completely abandon investments in 'brown' assets. They believe **it is still unrealistic to achieve a completely green portfolio in emerging market economies**. In the future, most investors plan to increase the share of ESG securities in their portfolios and improve approaches to assess ESG factors

The survey participants emphasised the high-risk intensity of factor E (Environmental) for the Russian corporate sector as a whole. **The highest environmental risks are recorded in the mining and oil and gas industries**; for retail and telecommunications, such risks are low. In turn, the risks of financial companies depend on the structure of their portfolios. Many investors have noted progress in accounting for ESG factors among Russian public companies, but lots of work is still to be done. According to the respondents, the government can play a significant role in stimulating the implementation of the ESG strategy by economic actors, for example, by setting specific goals for the transition to the green economy and participating in international initiatives. The strategy of impact investing is another successful way to stimulate corporate sector accounting for ESG factors. Investors can both purchase securities and work with the corporate sector to become more environmentally friendly.

At present, the largest Russian carbon-intensive companies have a significant amount of external debt financing, while current yields of public borrowings does not take climate risks into account (the average yields for potentially vulnerable companies is below the benchmark for Eurobonds of the entire corporate sector, the spread is 0.7 pp, Table 11).

A large share of loans from non-residents has been observed among Russian companies in the chemical (50%) and mining (52%) industries. Thus, if foreign investors implement aggressive transition strategies, the Russian financial sector will have to refinance a significant part of the companies' external borrowings. This, in turn, may impose pressure on the capital of Russian banks, on the one hand, and will lead to increased yields on liabilities and pressure on the debt burden indicators of these companies, on the other hand.

Companies classified as 'brown' by investors may face lower demand for new bonds during their issue. The external debt refinancing of such companies by Russian banks may impose pressure on their capital, increase concentration risks and banks' exposure to climate risks. This will subsequently create additional risks for Russian banks due to an increase in the share of 'brown' assets in their portfolio.

The cost of funding carbon-intensive companies will go up, which may be another driver of increased debt burden and credit risk for such borrowers. The risk of restricted access to external debt can be mitigated by various approaches towards making companies greener, including those implemented both by the companies themselves and with the assistance of the government by creating market infrastructure for green bonds and emission trading.

COMPARING ESG RATINGS AND THEIR IMPACT ON FINANCING

ESG ratings/rankings are important indicators of the level of environmental, social and governance responsibility for investors. Such indicators help assess companies' activities and the efficiency of policies aimed at sustainable development and reducing negative impacts on the environment.

At present, there are several agencies that assign ESG ratings to Russian companies: Raex-Europe, MSCI, Sustainalytics, CDP,[32] S&P Global CSA[33] and Expert RA. It should be borne in mind

[32] *Assessing by Environmental (E) factor only.*

[33] *The agency assesses companies free of charge as the rating collects data that S&P uses to calculate ESG indicators by industry and country and to form the DJSI Sustainability Index. The agency does not publish its ratings of companies in the public domain. The ratings are only available through a personal account.*

that rating agencies assign different ratings to the same companies due to possible differences in their methodologies and expert assessments. Three ratings[34] placed Russian banks below carbon-intensive industrial companies, which may partially be explained by the high proportion of 'brown' companies in their loan portfolio.

Companies note the importance of ESG ratings, the differences in their assignment and the difficulty of comparing them with each other. In most cases, to obtain a fair assessment, companies have to provide additional information to rating agencies and work in cooperation with their analysts. Some rating agencies do not disclose their methodology, which makes it difficult for stakeholders to analyse the rating assigned.

The problem of significant differences among ESG rating methodologies is also considered at the global level,[35] including as part of the activities of the G20 Sustainable Finance Working Group. The Bank of Russia fully supports the efforts taken by international organisations, associations and standards-setting bodies to unify approaches to ESG ratings and plans to hold thematic meetings with rating agencies.

[34] *Raex-Europe, MSCI and Sustainalytics.*

[35] *For example, the issue is addressed in the OECD report 'ESG Investing: Practices, Progress and Challenges'.*

LIST OF CHARTS

LIST OF TABLES