Analytical survey
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FINANCIAL INDUSTRY IN THE CONTEXT OF GLOBAL INSTABILITY: RUSSIAN AND INTERNATIONAL PRACTICES

XVIII INTERNATIONAL BANKING FORUM
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01

Key global economy development trends

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Global economy in 2021: uneven recovery amid increased risks

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1.1. Global economy in 2021: uneven recovery amid increased risks

- By the middle of 2021, the global economy in general has reached a positive GDP trend, but its V-shaped recovery is largely accounted for by the unprecedented government support for the population and businesses in the leading countries, as well as the "low base" effect;
- The specifics of current circumstances are that nations are facing a time dilemma: to what extent is it possible to sacrifice the long-term interests of maintaining financial stability to solve the current problems of economic and social policy?
- The probability of new coronavirus infection outbreaks and incomplete recovery process do not allow us to ramp down the large-scale monetary and fiscal incentives. However, state support measures are gradually increasing financial vulnerabilities and creating the ground for an increase in inflation expectations.

The globally synchronized decline in business activity in 2020 had no precedent in world history and incurred tremendous economic damage. However, it could have been much worse. According to the International Monetary Fund (IMF), the fall in world production in 2020 was (-) 3.2%. Still, the decrease could have been three times stronger if not for emergency support measures and the start of mass vaccinations. According to the updated outlook (July 2021), the growth of the world economy in 2021 will increase to 6.0%, with a slowdown to 4.9% in 2022. The world economic development prospects are characterized by high uncertainty associated with new pandemic outbreaks, the uneven recovery in various groups of countries, and signs of increasing global instability.

Actual and expected annual GDP growth rates*, %

	2018	2019	2020	2021**	2022**
Global	3.2	2.8	-3.2	6.0	4.9
Advanced economies	2.3	1.6	-4.6	5.4	4.0
EMDE	4.6	3.8	-2.1	6.3	5.2
USA	3.0	2.2	-3.5	7.0	4.9
Eurozone	1.9	1.3	-6.5	4.6	4.3
Japan	0.6	0.0	-4.7	2.8	3.0
China	6.8	6.0	2.3	8.1	5.7
India	6.5	4.0	-7.3	9.5	8.5
Russia	2.8	2.0	-3.0	4.4	3.1

** GDP calculated according to the IMF methodology*
*** forecast*
Source: World Economic Outlook Update, The IMF, July 2021

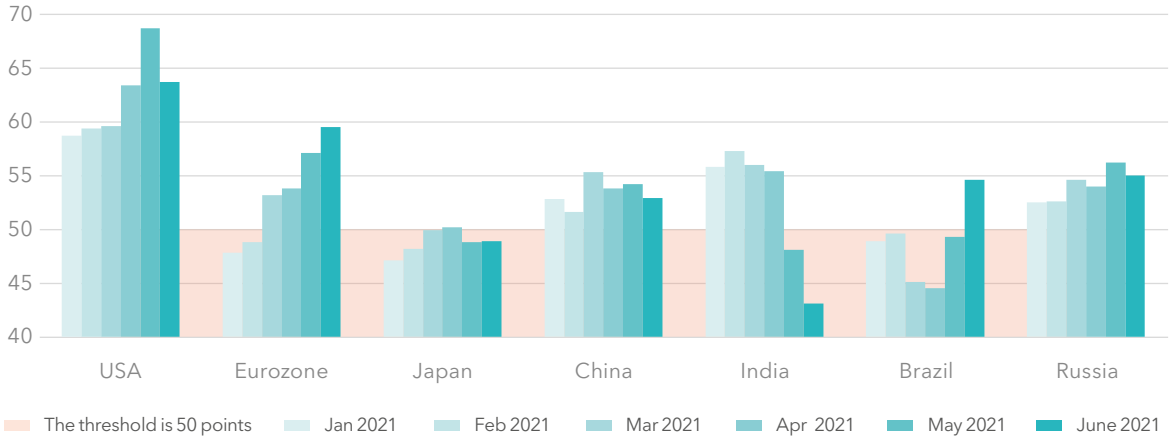
In 2019, the global economy has reached the end of the cyclical recovery phase. In 2020, the pandemic dramatically accelerated this process, which turned into a deep recession in the vast majority of countries. It is expected that after a recovery boom in 2021-2022, the global GDP growth rates will gradually subside close to pre-pandemic levels.

According to H1 2021 results, the PMI trend reflects uneven business recovery in various groups of countries. Businesses are recovering rapidly in the United States and, since Q2 2021 – in the Eurozone countries, which is directly related to the mass vaccination and large-scale state capital injections. Japan is an exception from major economies; despite the cheap money policy, its structural problems and the continuing precarious epidemiological situation do not yet allow the country to get out of the investment-deflationary trap.

In China, which avoided recession in 2020, the PMI index is currently in the range of positive values, but has experienced a slight downward trend since Q2 2021 driven by a noticeable increase in corporate debt and defaults. However, China is expected to maintain high GDP rates. India shows a completely different pattern: increased infection rate for the new variant of coronavirus goes hand in hand with a sharp decline in business activities.

A similar situation may occur in Brazil and other countries. Rising coronavirus infection rates, caused by a new pandemic wave and an insufficient level of collective immunity, will require stronger restrictive measures which, in turn, will impede business recovery. According to OECD estimates, by the end of 2021 the GDP will be higher than in 2019 only in 9 G20 countries (including Russia).

PMI Composite trend (industry + services) in January-June 2021, points[1]



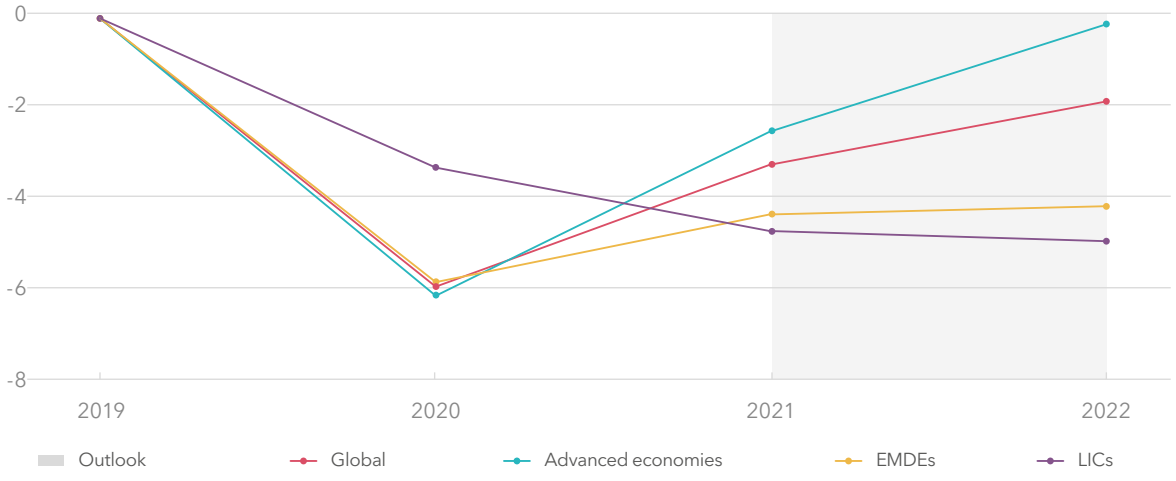
Source: IHS Markit.

[1] *PMI indicators (Purchasing Managers' Indices) result from surveys of purchasing managers in industry and service sector. A composite index is compiled on the basis of these surveys.*
These indicators are calculated in more than 40 countries, which account for about 85% of the global GDP. The change in the composite index to below 50 points reflects a decline in business activity. The lower the value of the indices, the more signs of either stagnation or recession and economic crisis in the country there are.

By the middle of 2021, the global economy in general has reached a positive GDP trend, but its V-shaped recovery is largely accounted for by the unprecedented government support for the population and businesses in the leading countries, as well as the "low base" effect. Based on projections made before the pandemic, the negative output gap in the near future can be eliminated only in developed countries and in certain EMDEs[2].

Divergent recovery trajectories further widen the gap in living standards between different groups of countries than was expected before the pandemic. According to IMF estimates, the cumulative loss of per capita income in 2020-2022 vs pre-COVID-19 projections in EMDEs (except China) corresponds to 20% per capita GDP in 2019, and in developed economies these losses are expected to be relatively less – 11%. At the same time, low-income countries are in a particularly precarious situation.

Output deviation from pre-pandemic forecast,* %



Source: Global Economic Prospects, The World Bank, June 2021
** The figure shows the percentage deviation of the June 2021 value from the baseline projections as of January 2020.*

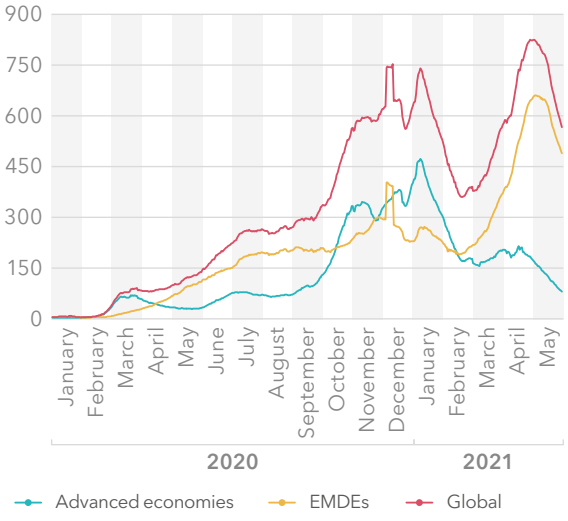
In July 2021, the Moody's Investors Service released its report Coronavirus and the Economy: Alternative Data Monitor assessing pandemic-related losses across national economies. The agency's analysts identified three groups of countries in terms of pre-pandemic vs current real GDP forecast (2020-2023).

The group of the least affected economies included those whose projected GDP was no more than 2% lower than in the pre-crisis outlook. These are developed economies including the United States, most of Western Europe, and China. The agency categorized countries with a 2-8% gap average damage as those that incurred average damage. This group includes Russia along with Mexico, Brazil and Australia. The third group consists of states with a deviation from the previous outlook of more than 8%.

[2] *EMDEs – emerging markets and developing economies.*

The global economic recovery is compounded by the fact that the issue of maintaining strict sanitary control measures and the need to accelerate mass vaccination is still on top of the agenda. In December 2019, after the first reports of COVID-19, no one expected that the pandemic would spread globally and the first wave would be followed not only by new outbreaks, but also by more dangerous strains of the virus. Vaccination brings positive results, but it covers only certain territories and has only local effect. A radical turn in the fight against coronavirus can be achieved only as a result of the collective immunity development on a global scale. But for many developing countries, especially for low-income countries, vaccination remains unaffordable. It is possible that soon humanity may face a new wave of the pandemic.

Pandemic trends: daily number of new cases of COVID-19, thousand people (as at the end of the month)*



The amplitudes of the first and second waves of coronavirus cases differ by country groups. Owing to the introduction of strict sanitary control measures and mass vaccination, the second wave in developed countries and in some EMDEs was less intense than the global average.

WHO estimated that the world is on the verge of the third pandemic wave; this wave can reach its peak in the fall of 2021. The confrontation between vaccination and the virus, therefore, continues.

** The sample covers 36 developed countries and 147 EMDEs.*
Source: Global Economic Prospects, The World Bank, June 2021

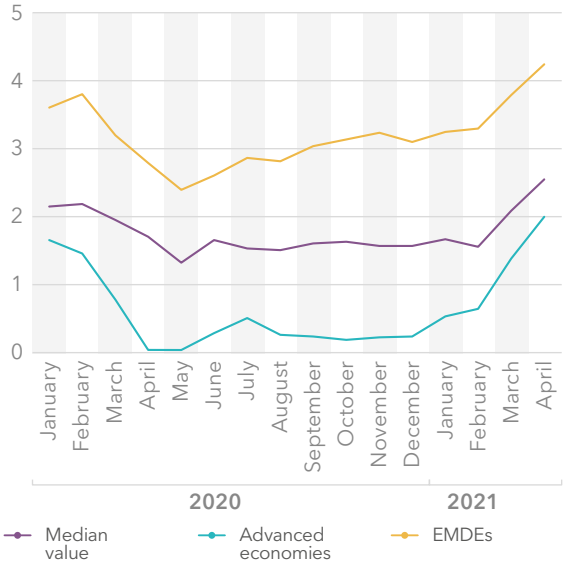
The specifics of current circumstances are that the monetary authorities are facing a time dilemma: to what extent is it possible to sacrifice the long-term interests of maintaining financial stability to solve the current problems of economic and social policy? The probability of new coronavirus infection outbreaks and incomplete recovery process do not allow us to ramp down the large-scale monetary and fiscal support. Many countries are committed to avoiding premature termination of budget support, at least until 2022, to enable economic recovery, giving priority to health and education, as well as investments in digital and green infrastructure.

However, unprecedented state support measures are gradually increasing financial vulnerabilities and creating the ground for an increase in inflation expectations. To date, 10 G20 countries have current inflation above their officially established targets. The inflation outburst has affected the global economy as a whole, including developed countries, among which the United States stands out.

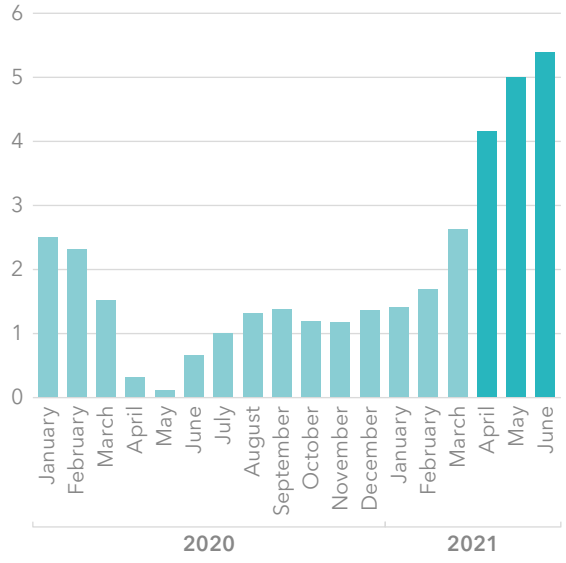
There is a good chance that the increase in prices is temporary and is associated with the peculiarities of the recovery period. However, historical experience shows that everything always started with specific episodes that

turned into periods of chronic inflation. One has only to think about the period of the late 70s and early 80s of the last century, when annual inflation in the United States reached 15-16%, and the federal funds rate in some periods exceeded 19%.

Inflation in groups of countries, % YoY*



US inflation, % YoY



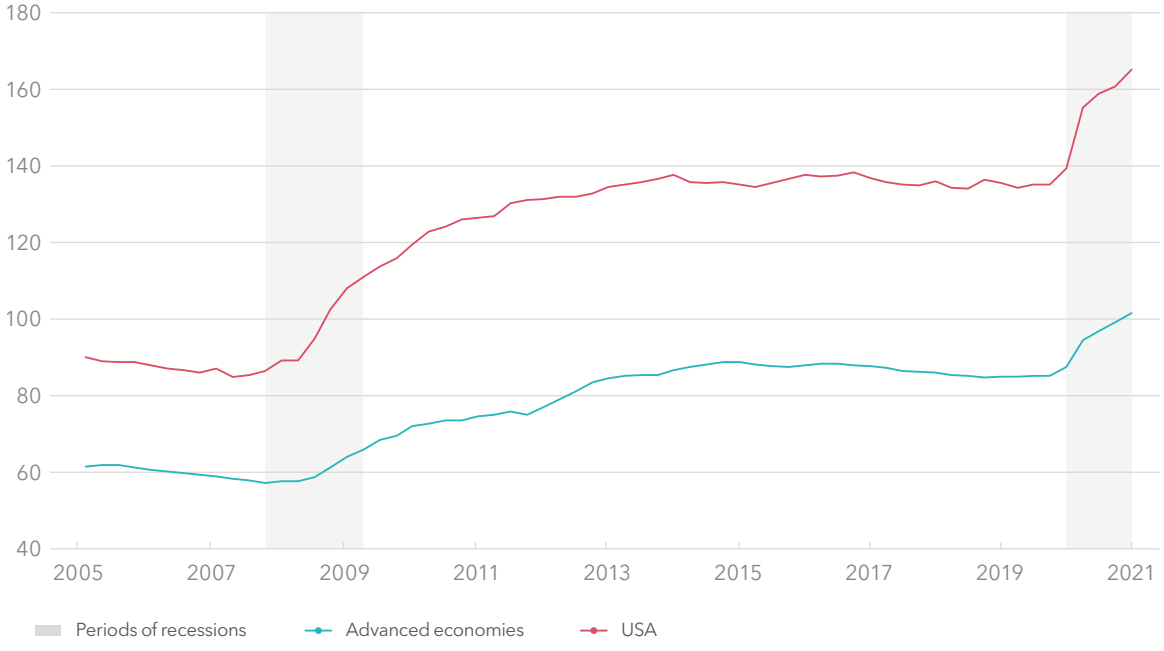
** The median value is calculated for a sample of 81 countries, including 31 developed countries and 50 EMDEs*
Source: The IMF database; Global Economic Prospects, The World Bank, June 2021

By the beginning of July 2021, the US inflation rate in annual terms rose to the highest level since July 2008 and amounted to 5.39%. Core inflation (with the elimination of the energy and food prices impact) rose to 4.47%, the highest value since November 1991. The Chair of the Board of Governors of the Federal Reserve System (the Fed) J. Powell, giving comments on July 14th, 2021 to the text prepared for a speech at the Financial Services Committee of the House of Representatives of the US Congress, used the following wording: "Inflation turned out to be higher than we expected. The Fed will change the policy if inflation remains significantly higher for a certain period and evokes inflation expectations… The Fed is not sure that higher inflation is "perishable", but still believes that it is." Thus, the Fed officially continues to consider the current inflation levels as a temporary phenomenon, and the issue of winding down emergency stimulus is not on the agenda yet.

The strengthening of inflationary processes signals that maintaining the same level of anti-crisis measures leads to overheating and unbalancing the economy. Soft global financial conditions cannot last forever. Budget deficits, near-zero interest rates, and active purchases of government and other securities by central banks only create the appearance of "economic health". The situation is complicated by the fact that the monetary authorities are increasingly being taken hostage by political expediency and populist decisions.

According to expert estimates, the global public debt, a significant part of which is accounted for by developed countries, will approach the level of 110% of global GDP by the beginning of 2022. In the fall of 2021, the government debt ceiling of $28.5 trillion set in the US will be revised upward once again. By July 2021, the balance sheets of the Fed, the ECB, and the Bank of Japan reached $25 trillion – an increase of almost ten times compared to 2007, which has no historical precedents. At first, the policy of quantitative easing was considered as a temporary measure aimed at relieving the negative consequences of the global financial crisis of 2008-2009, reducing unemployment and restoring economic growth. However, it has become a new standard over time, which has been increasingly driving market anomalies.

Gross public debt trends in advanced economies*, in % of GDP

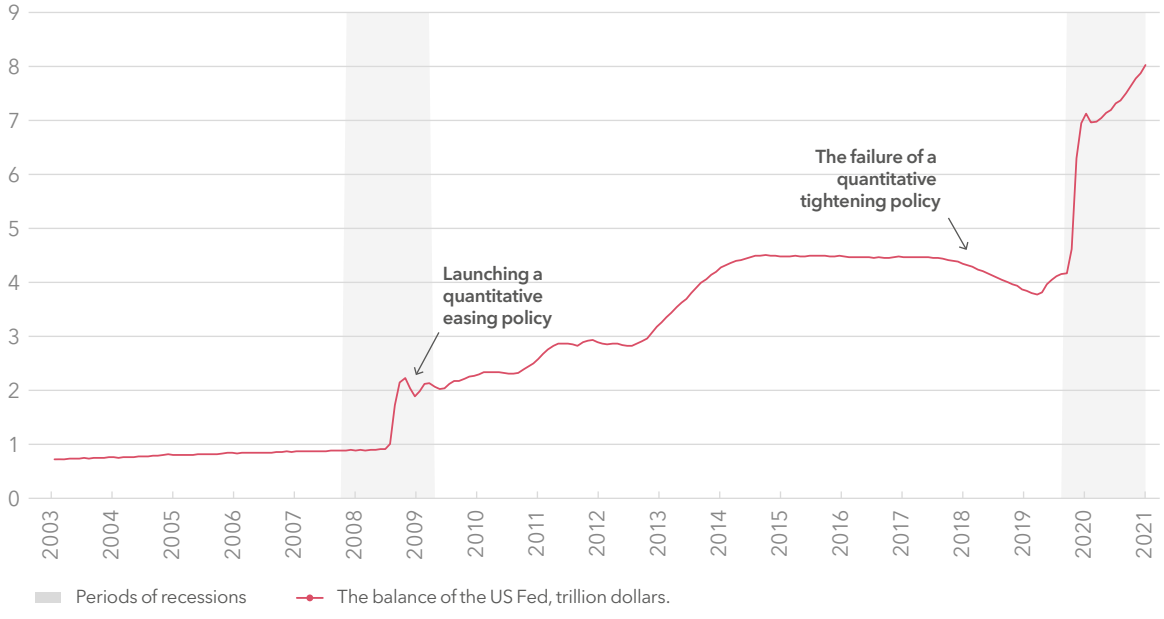


** The value for developed countries is calculated as the arithmetic average of 25 advanced economies*
Source: World Economic Outlook, IMF, April 2021

According to the Institute of International Finance, by the end of 2020, the indicator of total public debt to GDP in the whole world amounted to 105%. The highest level of public debt is observed mainly among advanced economies: Japan – 234%, the United States – 160%, the United Kingdom – 144%, the Eurozone – 120.4%. Their currencies are the main reserve currencies and perform the functions of world money.

Building up public debt exponentially and swelling the central banks' balance sheets, even in developed countries, has its limits. The policy of soft financial conditions will definitely come into conflict with the mandate of central banks to maintain price stability. Against the background of the growing inflation expectations and the associated tightening of monetary policy, the question of the public debt servicing costs and achieved debt level adequacy will arise. Shifting away from quantitative easing will also be difficult to implement. In particular, the Fed already has experience launching a round of quantitative tightening since the fall of 2017, which was quickly wrapped up for political reasons.

Fed's balance development, trillion dollars



Source: The Fed Database

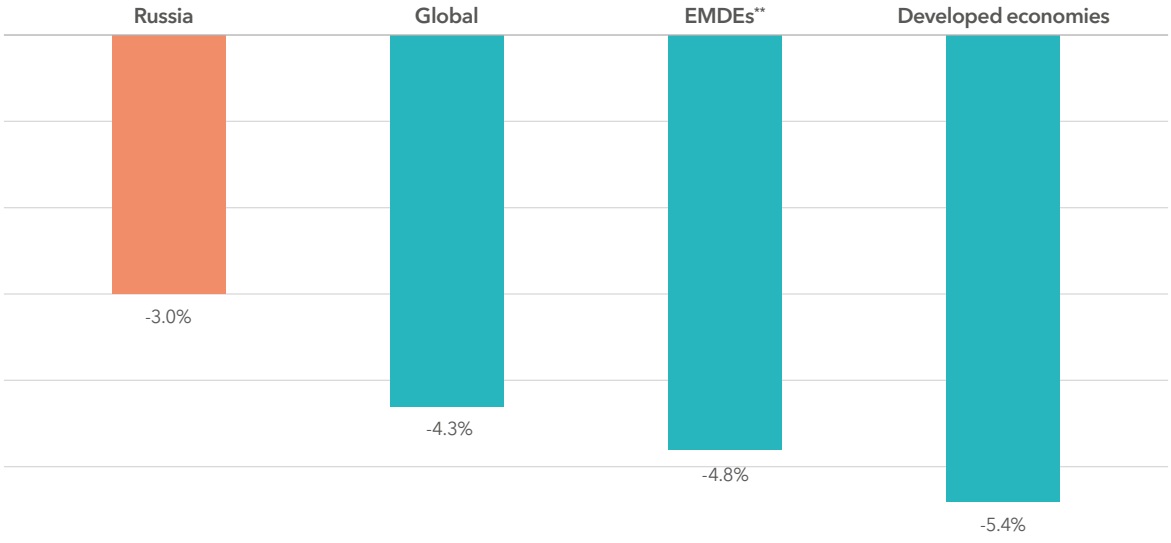
The greatest concern of the expert community is that the financial markets will not be able to adapt to the tightening of monetary conditions in the event of setting off the inflationary spiral. An increase in base rates, followed by market interest rates, will signal to correct stock indices and escape from risks. This may result in mass defaults, an increase in the cost of debt servicing and a slowdown in economic activity.

1.2. Development of the Russian economy in the context of global instability

- Since March-April 2021, the Russian economy has shown rapid recovery across most key indicators, which, as the "low base" effect wears off, is projected to enter the moderate GDP growth phase in the next two years;
- In July 2021, S&P Global Ratings confirmed Russia's sovereign credit rating at BBB–/A-3 for foreign currency liabilities and at BBB/A-2 for liabilities in rubles. S&P believed Russia's long-term rating outlook was stable;
- 2021 GDP growth rate has also been revised upward in the updated macroeconomic outlook of the Bank of Russia and is expected at 4.0-4.5%. Inflation outlook has been revised upward with expected 5.7-6.2% inflation by year-end.

Due to the implemented nationwide package of measures to maintain business activity and social security of citizens, as well as stricter sanitary and epidemiological control and vaccination of the adult population, the economic decline in Russia did not lead to a long-term recession which proved to be less profound than expected. According to the World Bank, by the end of 2020, Russia's GDP decreased less than the global average both total and by groups of countries including exporters of raw materials. Starting from March-April 2021, the Russian economy has already shown rapid recovery across most key indicators, which, as the "low base" effect wears off, is projected to enter the moderate GDP growth phase in the next two years.

GDP trends in 2020 by groups of countries*



*GDP according to the World Bank methodology
**EMDEs = emerging markets and developing economies – exporters of raw materials
Source: World Bank Group, Russia Economic Report, May 2021

As estimated by the Ministry of Economic Development of the Russian Federation, annual GDP growth in Q2 2021 amounted to 10.1%, and in general for H1 2021-4.6%. Manufacturing, construction, oil&gas, metals&mining are key GDP contributors. The freight turnover has been restoring at a high rate. Based on the Federal State Statistics Service's (Rosstat) flash statistics results, the output in these industries exceeded the pre-pandemic level by an average of 3%. As at the end of Q2 2021, the Russian economy reached pre-crisis levels.

Economic output in Russia during the pandemic period, YoY increase (decrease), %

** Estimate*
Source: Ministry of Economic Development of the Russian Federation

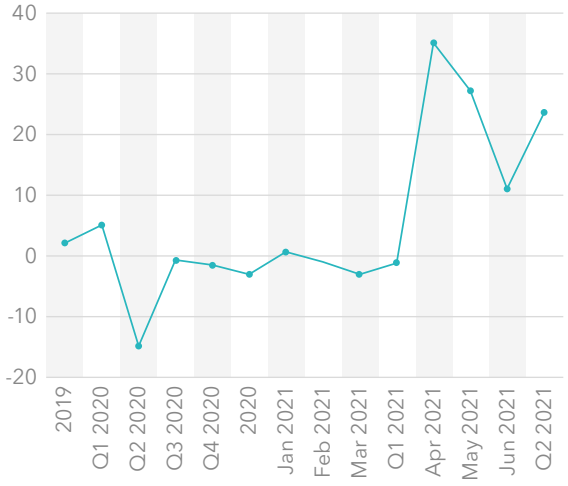
Currently, macroeconomic developments are heavily influenced by the "low base" effect of the corresponding months of 2020, shaped by quarantine restrictions. Accordingly, data on output changes in various industries and economic sectors in the coming months may be adjusted and are not always representative.

In June 2021, industrial production continued to grow at 10.4% rate vs June 2020 (vs 12.3% in May 2021). In general, at the end of H1 2021, industrial production increased by 4.4% YoY. One of the key factors supporting manufacturing is exports driven by recovering physical shipments (e. g., in chemical industry, metals&mining). These industries, along with oil&gas, contributed the most to total production growth in June 2021. A remarkable recovery is observed in construction, where this June 15.7% more work was completed than in June 2020. Q2 2021 showed a 6.4% growth rate vs the pre-pandemic Q2 2019.

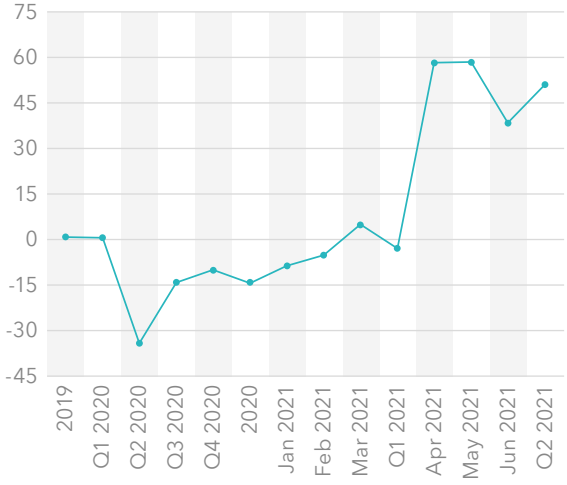
In July 2021, Rosstat analyzed the business activity of 3900 organizations (excluding small enterprises) engaged in mining and manufacturing. 11% of respondents assessed the economic situation as favorable, and 75% of production managers assessed it as satisfactory. The average level of capacity utilization was 60% in mining and 61% in manufacturing. Among the main obstacles to growth, businesses noted economic uncertainty, lack of local demand for local products, and high tax burden.

Trends in key social indicators in Russia during the pandemic, increase (decrease), %, YoY

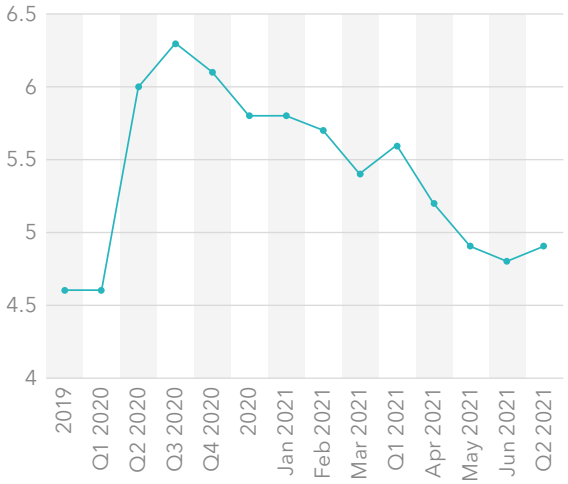
Retail



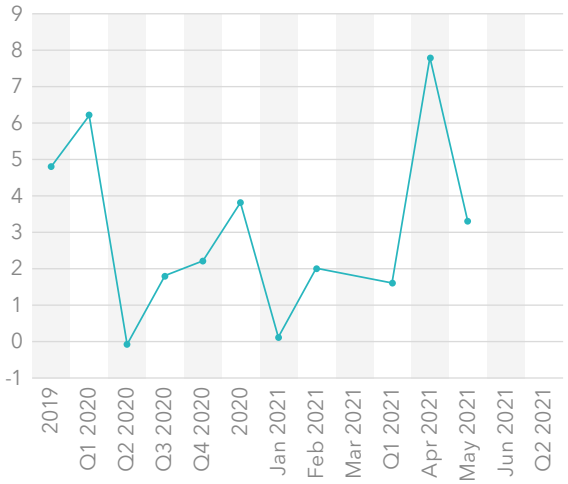
Paid services



Unemployment rate, % of the labor force



Real income



Source: Ministry of Economic Development of the Russian Federation

Consumer activity showed exceptionally high recovery rates largely driven by the "low base" effect. While in Q1 2021, retail growth (decrease) rate was (-) 1.4% YoY, in April, it soared to 35.1%, and in Q2 2021 amounted to 23.5% YoY. The paid services sector showed even higher development: after (-) 5% in Q1 2021, the growth rate rose to 58.5% in May, and in Q2 2021, the recovery growth rate was 51% vs Q2 2020. In July 2021, consumer activity has already exceeded the pre-pandemic levels based on CBR estimates. At the same time, the consumer sentiment index calculated by Rosstat did not reach its pre-crisis values, although noticeably increased in H1 2021.

New trends are emerging in the labor market. The demand for labor during the recovery period is growing in a wide range of industries, while the number of workers in the country (approximately 75 million people) remains stable. Unemployment is increasingly becoming concentrated and structural in nature. We can see labor shortage in some sectors partly driven by continuing restrictions on the inflow of foreign workers. The labor market imbalances drive the growth of nominal wages. The Ministry of Economic Development of the Russian Federation estimated that this year's real wages (adjusted for inflation and net of the "low base" effect) will increase by 3.2%.

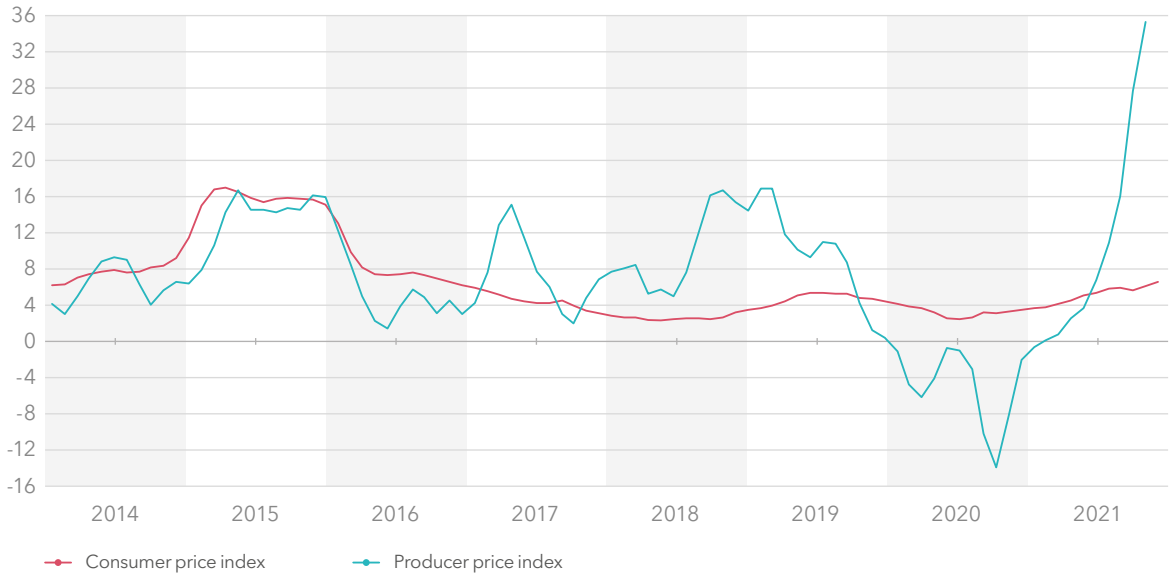
The growth of wages concerns the economically active population. In contrast, the indicator of real disposable income of the population includes disabled people and those who have temporarily lost their jobs. Despite state support measures, real disposable income in the crisis of 2020 fell by 2.8%. In Q2 2021, it grew by 6.8% in annual terms influenced by the "low base" effect. For comparison, in H12021, this indicator increased by 1.7% YoY. By the end of 2021 real disposable income will grow by 3% enabled by recovering economy and ramped-up social spending. This will only compensate their decline last year, but is subject to a decrease in the inflation rate approximating performance targets.

In July 2021, S&P Global Ratings confirmed Russia's sovereign credit rating at BBB – /A-3 for foreign currency liabilities and at BBB/A-2 for liabilities in rubles. S&P believed Russia's long-term rating outlook was stable. The agency upgraded its outlook on Russia's GDP growth in 2021 to 3.7%. According to S&P analysts, the state of Russia's payment balance, balanced budget planning, and floating FOREX regime ensure sufficient economic resilience against potential external shocks.

As for the long-term prospects, estimated at 2%, S&P notes the following: "These growth rates remain slower than in countries with similar income level. We attribute this to negative demographic trends alongside with an only slight increase in productivity. Structural barriers to productivity-driven growth include the dominant role of the state in the economy, relatively low levels of competition and innovation, and broader institutional weaknesses, such as lack of judicial independence and uneven law enforcement. Geopolitical tensions between Russia, the US, and the EU, which led to international sanctions, also remain an impediment to growth."

The macroeconomic performance gives grounds to believe that the return to normal economic conditions and recovery growth will be out of the time frame (December 2021) defined by the "National Action Plan for Restoring Employment and Income of the Population, Economic Growth, and Long-Term Structural Changes in the Economy". It will take time to heal the wounds inflicted by the pandemic. The issue of taking additional measures to stimulate investment demand has become long overdue. We cannot exclude the risk of possible coronavirus mutations resistant to existing vaccines and treatment methods. However, one of the main tasks on the agenda, if not the main one, is decreasing actual inflation to a level approximating the target 4%.

Consumer and producer price trends, %, y/y



Source: Federal State Statistics Service (Rosstat)

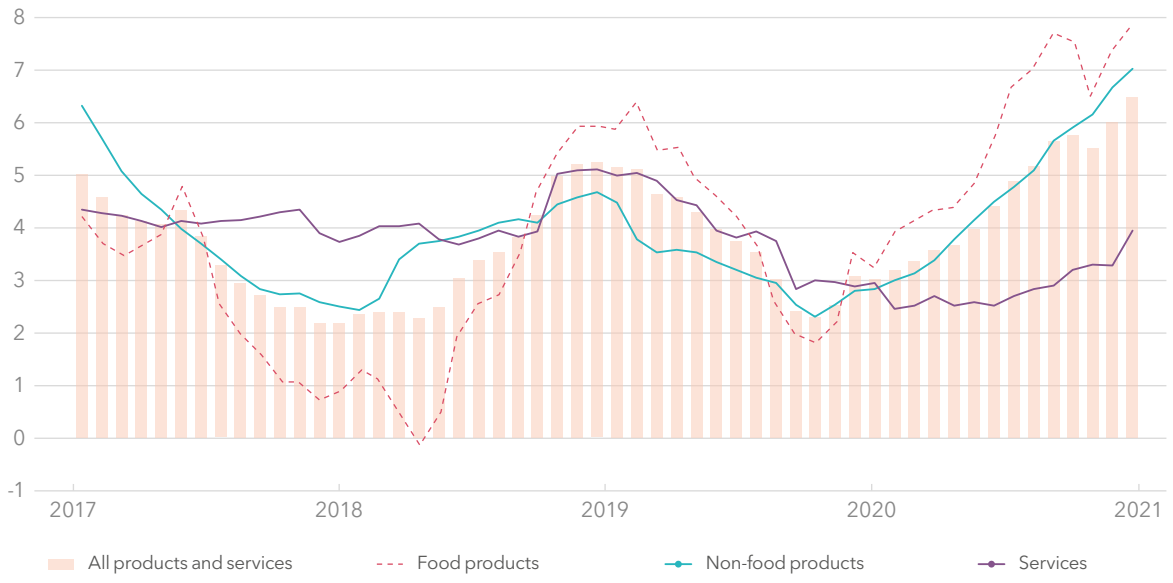
Inflation rate in industrial production holds above 30% and has been breaking records since the beginning of the 21st century. In June 2021, the producer price index increased by 31.1% YoY in line with increased shipment cost of products. Rosstat recorded comparable growth rates of producer prices only in 2004 (+28.8%), and higher levels – only after the default of 1998: 70.7% in 1999 and 31.9% in 2000.

The dramatic drop in economic activity caused by the pandemic had been accompanied by the disruption of production and logistics chains, fundamental imbalances of supply and demand, and the easing of financial conditions as part of anti-crisis government programs. This has resulted in a general increase in prices.

This mostly affected producer prices, which, after deflationary crunch in 2020, went up sharply. This was also facilitated by the recovery of domestic demand in a wide range of industries, which was faster than the expansion of production. An additional and important factor was the high level of monopolization of the Russian economy. This provides enterprises with an opportunity to transfer increased costs to prices.

Since H2 2020, there has been a trend towards accelerating consumer inflation. By the beginning of 2021, signs of inflationary overheating of the economy began to emerge progressively. According to the Bank of Russia, inflation exceeded expectations by 2.9%. The balance of risks was increasingly gravitating towards inflationary risks. Amidst increasing inflation expectations of the population and business, the Bank of Russia has decided to move away from its soft monetary policy. In March, April, June and July 2021, the key interest rate was increased by 225 basis points, reaching 6.5%.

Consumer inflation in Russia and its pillars in 2017-2021



Source: Bank of Russia

The food segment makes the largest contribution to the consumer price index trend. Food prices (excluding vegetables and fruits) without seasonality reached the maximum by the middle of 2021 for the period since 2015. The increase in food prices mostly affects people with low and fixed income. According to surveys, currently more than 60% of Russians spend about half of their monthly income on food.

As life has demonstrated, the measures taken to tighten monetary conditions and attempts to administratively control prices for certain categories of goods have not yielded the expected results. The inflationary spiral kept setting off. Despite the fact that this July, Rosstat recorded weekly deflation for the first time since September 2020, annual inflation exceeded 6.5%. However, growing inflation expectations of the population, which have been near the maximum values for the last four years for more than six months, is gives rise to major concerns. The price expectations of enterprises also remain near multi-year highs.

The survey conducted by INFOM LLC in July 2021 (prior to the Bank of Russia Board of Directors meeting) recorded a noticeable increase in inflation expectations and estimates of observed inflation by the population. The expected inflation median in the next 12 months was 13.4%, and the estimate of observed inflation (for the last 12 months) reached 16.5%. Every sixth respondent (17.1%) believes that prices have risen by 30% or more over the past year.

It was high inflation expectations amidst imbalances of supply and demand that were the principal argument for the decision to raise the key interest rate which was made at the Bank of Russia Board of Directors meeting on July 23rd of this year. It was changed by 100 basis points – from 5.5% to 6.5%. This decision demonstrated the steep increase in the key interest rate since January 2015, although it was noticeably lower than its large-scale change in December 2014 (from 10.5% to 17%). Thus, the key interest rate has exceeded the upper limit of the long-term neutral range (5-6%). On the face of it, monetary policy has acquired a moderately tight character, but in real terms (taking into account inflation, which is approximately at the level of 6.5%), it remains at zero for now, but with a tendency to tighten.

The medium-term macroeconomic outlook of the Bank of Russia, growth rate % (July 2021)

	2020*	2021**	2022**	2023**
Inflation (annual average)	4.9	5.7–6.2	4.0–4.5	4.0
Key interest rate (annual average)	5.1	5.5–5.8	6.0–7.0	5.0–6.0
GDP	–3.0	4.0–4.5	2.0–3.0	2.0–3.0
Final consumption expenditure	–5.2	7.2–8.2	1.2–2.2	1.7–2.7
Gross accumulation	–2.0	3.5–5.5	1.2–3.2	2.7–4.7
Export	–4.3	2.6–4.6	5.0–7.0	1.1–3.1
Import	–12.0	14.1–16.1	2.2–4.2	1.8–3.8
Oil (URALS), $/bbl.	42	65	60	55

In the updated macroeconomic outlook of the Bank of Russia, both the GDP growth rates in 2021 and the inflation indicators have been revised upwards. It is expected that GDP will grow by 4.0-4.5% by the end of this year, which is probably due to the residual "low base" effect. In the next two years, the GDP growth rate will decrease to 2-3%. At the same time, the key macroeconomic variables outlook is based on the assumption that the oil price in 2021 will be at the level of $ 65/bbl, and in subsequent years it will not fall below $ 55/bbl.

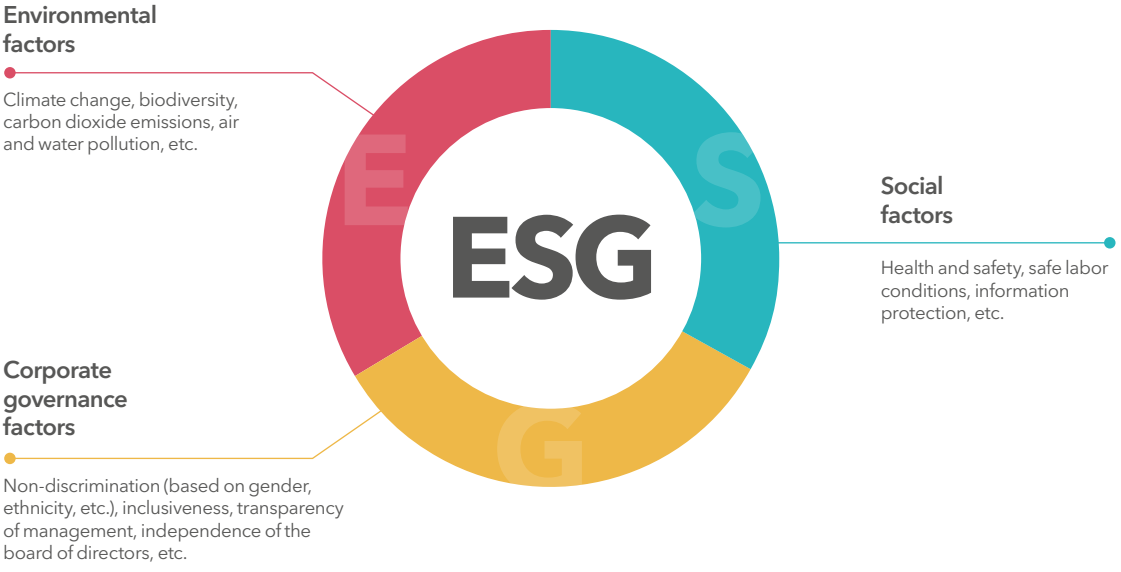
The Bank of Russia has revised the inflation outlook for 2021 upwards: from 4.7-5.2% to 5.7-6.2%. However, already in 2022, inflation is expected to decrease significantly to 4-4.5%. Nevertheless, we do not rule out the possibility that the predominant influence of pro-inflationary factors may persist and lead to a more prolonged deviation of inflation upward from the performance target.

Taking this into account, the Bank of Russia has included several scenarios for changing the key interest rate in the outlook. The Bank of Russia believes both keeping the rate unchanged until the end of the year and continuing its steep increase are plausible scenarios. Projected key interest rate trajectory analysis shows that, with all possible options, the Bank of Russia does not believe it will rise above 8%. According to expert estimates, under the baseline scenario, the key interest rate will peak at 6.5-7%.

1.3. Stimulating Sustainable Development (ESG)

- The need for active development and promotion of sustainable development is inextricably linked with the expected introduction of cross-border carbon regulation in the European Union;
- The global experience of implementing sustainable development projects shows that business support through reducing the tax burden gives quick results and allows to mobilize a significant amount of capital;
- According to the assessment of the banking community, in order to effectively promote the formation of financial instruments, as well as the transition of the business of financial institutions to ESG principles, it is necessary, along with state support measures, to improve regulation in this area;
- Among the priorities of the Bank of Russia is the solution of tasks for the development of instruments and infrastructure of the sustainable development funding market and creation of opportunities for companies for ESG business transformation, as well as taking into account ESG factors in the regulation of the financial market to adapt the market to new types of risks. Special attention will be paid to the issue of stimulating the sustainable funding market and increasing the interest of its participants at the launch stage.

Currently, one of the key trends in the business sphere is the introduction of ESG principles based on environmental, social and governance responsibility into the work of companies. Concern about the protection of the planet, its resources and their rational use is now not just rhetoric, but the basis for making decisions, including financial ones.



International statistics in ESG banking:

In 2020, the volume of investments in ESG funds exceeded 50 billion US dollars which is 2 times more than in 2019. The global volume of ESG assets increases annually. According to expert estimates, it will continue to grow over the next 15 years.

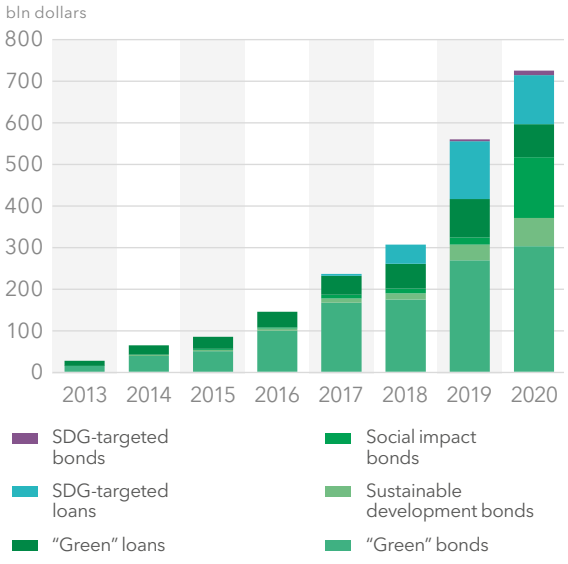
The global ESG lending market (bonds and loans) accounted for **≈730 billion US dollars in 2020.**

The potential of ESG banking in Russia:

The potential volume of the Russian market of "green" funding by the end of 2023 is **≈3 trillion rubles.**

≈1.3 trillion rubles – estimate of the volume of "green" and SDG-oriented loans in Russia by 2030 while maintaining current trends.

ESG lending market



Source: Research on ESG-banking in Russia[1]

The topic of the development of ESG principles is of equally wide interest both among market participants and public authorities. The most active discussion of approaches to the implementation of sustainable development in Russia takes place at the platforms of the Ministry of Economic Development of the Russian Federation and the Bank of Russia.

The need for active development and promotion of sustainable development is inextricably linked with the expected introduction of cross-border carbon regulation in the European Union, which may become one of the next challenges for a number of sectors of the Russian economy, including banks. On July 14, the European Commission published a draft cross-border carbon regulation on its official website.

The mechanism of such regulation assumes that a number of goods can be imported into the European Union only if every ton of carbon emissions generated during their production is paid for. It is estimated that[2] Russia will pay more than a billion euros a year as a duty if the authorities of European countries fully begin to levy this cross-border carbon tax.

Banks provide financial support to the economy: the global trend of reducing the carbon footprint and the desire of countries to create carbon-neutral regions will require additional investments, and it is banks that are most likely to be a source of capital to achieve these goals.

[1] *The research was commissioned by the Association of Banks of Russia in 2021 (https://www2.deloitte.com/ru/ru/pages/research-center/articles/2021/esg-banking-russia.html).*
[2] *Such calculations are given by RBC, basing on the methodology approved by Ministry of Economic Development of the Russian Federation.*

In such a situation, the timely introduction of state support measures is of particular importance for the entire economy.

In addition, state support measures and incentives can contribute to the implementation of ESG principles by a large number of market participants, even those who do not see real benefits in them yet. Raising awareness of the business sector about the benefits of using sustainable development practices will also be important in this regard.

In this respect, the state authorities are already studying the possibilities of stimulating financial support for ESG projects. In 2020, an interdepartmental working group on sustainable development was established under the Ministry of Economic Development of the Russian Federation[3], and the Bank of Russia established a working group on financing sustainable development and formed a number of narrow-profile subgroups.

On the platform of the Bank of Russia, the professional community carried out work on the analysis of the world experience in supporting ESG projects, best practices and recommendations for stimulating the green finance market with non-prudential instruments, and also considered possible options for subsidizing "green" financing and introducing tax benefits using the example of world experience in this area. It is precisely tax incentives that are given increased attention due to their strategic nature and the ability to support infrastructure investments. The accumulated world experience[4] shows that support through reducing the tax burden gives quick results and allows you to mobilize a significant amount of capital. The obtained results were submitted to the Ministry of Economic Development of the Russian Federation for use in the development of incentive measures.

The issue of developing measures to stimulate financial support for market participants in the ESG business transformation is also a priority for the Association. Work in this direction has been carried out since 2020, including within the framework of activity of the ESG-Banking Project Group established in the Association. Representatives of the Association are also members of the working group of the Bank of Russia and a number of its subgroups.

In 2021, Deloitte & Touche CIS, **conducted the ESG Banking in Russia study** initiated by the Association of Banks of Russia[5].

The study showed that government agencies share the position that it is necessary to adhere to an integrated approach to regulation and maintain a balance between the responsibility assigned to business and state support measures. Recommendations on possible measures to stimulate ESG transformation have been formed during the study.

In continuation of this work, the Association conducted a survey of credit institutions on a wide list of possible support measures to identify those that are evaluated by banks as the most effective and in demand.

The survey results showed that in order to effectively promote the formation of financial instruments, as well as the transition of financial institutions' businesses to ESG principles, it is necessary, along with state support measures (guarantees, subsidies, reduction of the tax burden, creation of financing mechanisms for adaptation projects), to improve regulation in this area, including in terms of regulatory requirements and the creation of mechanisms to reduce the burden on capital, the approval of industry ESG criteria for risk assessment.

[3] *Government Executive Order No. 3024-r "On coordinating role of the Ministry of Economic Development of Russia in promoting investment and attracting extra-budgetary funds to sustainable (including green) development projects in the Russian Federation" dated November 18, 2020*
[4] *The experience of tax incentives in the United States, Brazil, Japan, China, and the European Union countries.*
[5] *https://www2.deloitte.com/ru/ru/pages/research-center/articles/2021/esg-banking-russia. html.*

The survey participants were asked to rate the degree of influence of each of the measures on a scale from 1 to 10 points on:

- formation of financial instruments that meet the ESG requirements;
- transition of a financial institution's business to ESG requirements.

31 credit institutions participated in the survey, the share of assets of which is 72.5% of the banking system, including:

- 9 systemically important credit institutions (SICIs);
- 16 banks with universal licenses (BULs);
- 6 banks with basic licenses (BBLs).

The proposed measures can be conditionally grouped into 3 directions:

- regulation;
- state support (subsidies);
- disclosure of information.

For the formation of financial instruments, as well as the transition of a financial institution's business to ESG requirements, **the most important, according to banks, are support measures aimed at:**

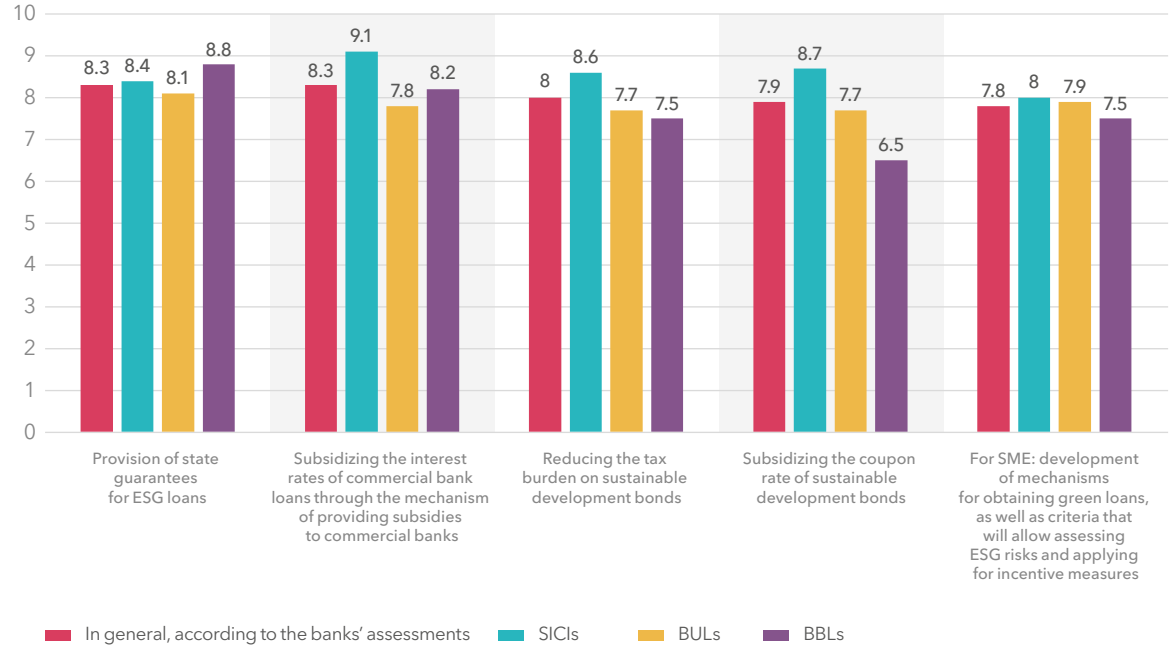
In terms of regulation:	the use of reduced risk coefficients in the calculation of capital adequacy ratios, as well as additional mechanisms to reduce the burden on capital and the application of special conditions for provisioning;
	approval of industry ESG criteria for assessing borrowers' risks;
	simplified procedure for including ESG bonds in the pawnshop list of the Bank of Russia, provided that the issue meets the rating requirements.
The most significant of the additional mechanisms for reducing the burden on capital and the application of special provisioning conditions are	reduction of requirements for creation of provisions for possible losses, taking into account a customer's ESG rating;
	calibration of macro allowances to risk coefficients, taking into account the specifics of the project/customer and its ESG orientation (in terms of reducing the risk assessment for customers with a good ESG rating);
	creation of temporary (3 years and up) incentive measures to support ESG financing (by creating special conditions for reduced capital consumption for such types of financial instruments).
In terms of state support (subsidies):	provision of state guarantees for ESG loans;
	provision of subsidies for lending to projects that meet the criteria of "green", social impact, transitional, loans with profitability linked to indicators of sustainable development, subject to verification of such projects or the bank's approaches to evaluating projects by independent verifiers;
	subsidizing the interest rates of commercial bank loans and the coupon rate of sustainable development bonds;
	support for small and medium-sized enterprises (SME) (development of mechanisms for obtaining green loans, mandatory criteria that will allow assessing ESG risks and applying for subsidies and other incentive measures);
	reducing the tax burden on sustainable development bonds;
	creation of financing mechanisms for adaptation ESG projects.

Support measures **in terms of disclosure of information** were not among the priorities during the survey.

At the same time, according to the estimates of various groups of banks, the significance of the necessary support measures is different. For example, systemically important credit institutions additionally emphasize the importance of creating specialized funds investing in green bonds on the basis of state development institutions and banks, as well as extending support measures to Eurobonds of Russian companies in order to attract funds from a wider range of investors to "green" projects, as well as more active integration of the Russian Federation into the global trend of ESG financing.

At the same time, banks with basic licenses are more interested in reducing the requirements for the formation of provisions for possible losses, taking into account a customer's ESG rating, and developing information support mechanisms, including by creating registers of publicly available information about companies that comply with the ESG principles, their performance, and best practices implemented in this area.

Comparison of the assessment of support measures by different groups of banks



Source: Survey conducted by the Association of Banks of Russia

In accordance with the decision of the Presidium of the Association of Banks of Russia Council, the results of the survey were sent to the Bank of Russia, the Ministry of Economic Development of the Russian Federation and the Ministry of Finance of Russia for possible use in the search for effective mechanisms to support banks in the process of transition to work based on ESG principles.

An analysis of **the international experience**[6] presented by the Association's foreign partners in terms of measures to support credit institutions and businesses to achieve the sustainable development goals implemented in different countries showed that state support measures have already been introduced in certain countries (the Republic of Serbia, the Republic of Kazakhstan). In particular:

[6] *The Portuguese Banking Association, the Japanese Bankers Association, the Asian Financial Cooperation Association (AFCA), the Eurasian Development Bank, the Uzbekistan Banking Association, the Association of Serbian Banks, the Association of Belarusian Banks, the Association of Banks of the Republic of Kazakhstan, the Russia-OECD Center RANEPA (Russian Presidential Academy of National Economy and Public Administration) took part in the survey of the Association of Banks of Russia.*

- The volume of state allocations intended for the implementation of infrastructure development and energy efficiency improvement projects at the local level is growing (the Republic of Serbia);
- The volume of state allocations intended for the implementation of infrastructure development and energy efficiency improvement projects at the local level is growing (the Republic of Serbia);
- In cooperation with local authorities, programs for subsidizing the efficient use of energy intended for individuals are being launched (solar panels and window insulation) (the Republic of Serbia);
- Programs of active support of women's entrepreneurship are being developed (the Republic of Kazakhstan);
- Specialized companies are being created, the main purpose of which is to attract investment in a sustainable economy with the help of trending financial instruments (green and social impact bonds) (the Republic of Kazakhstan).

However, due to the short period of validity of these measures, it is not yet possible to obtain an objective assessment of the effectiveness of their application.

The analysis of the best practices of tax incentives applied in developed countries[7], conducted by the Working Group of the Bank of Russia, showed that, in particular, the following measures are used:

- green energy turnover tax exemption for individuals (Brazil);
- zero tax on gas transportation (European Union, Japan);
- zero tax for the generation of renewable energy sources (RES), reduction of the tax burden for enterprises with renewable energy generation (European Union)
- reduced tax rate and base (Japan), tax deductions (USA);
- additional depreciation measures (Japan)
- tax exemption for companies whose main activity is environmental projects (China)
- zero tax on bonds (China), as well as benefits on CREB bonds (USA);
- reduced income tax (USA).

At the same time, countries embarking on ESG transformation (for example, the Republic of Belarus) are only considering the possibility of forming a system of state economic and social incentives to increase the attractiveness of green finance, namely:

- compensation to banks for the difference between market rates on loans and the lower cost of green loans;
- subsidizing part of the coupon income on green bonds;
- providing tax preferences to companies and individuals implementing green projects;
- development of new financing tools available to market participants who comply with the ESG principles;
- conducting training events on the green economy.

The listed measures implemented or planned to be implemented by foreign countries have also shown their relevance according to the results of a survey conducted by the Association. There is a similar experience in Russia in terms of implementing many initiatives.

Assessing the overall **degree of ESG implementation in Russia**, it should be noted that today Russia is at the beginning of its "green" path, but much has already been done, the proper prerequisites for the development of this direction have been created:

[7] *The countries of the European Union, the USA, Japan, China, Brazil.*

1. All the necessary infrastructure has been formed: there are regulators, a methodologist, an exchange, rating agencies, which also perform the functions of verifiers.
2. Taxonomies of green and adaptation projects, a model methodology for verifying green and transitional instruments, standards for classifying financial instruments as financial instruments aimed at funding sustainable development projects have been developed and should be approved in the near future.

   The authorities, along with stakeholders, have already started developing a taxonomy of social projects.
3. Sustainable development sector has been created and is functioning on the Moscow Exchange, its purpose is funding environmental and socially significant projects.
4. The Bank of Russia has issued a Report for public consultations "Impact of Climate Risks and the Sustainable Development of the Financial Sector of the Russian Federation", recommendations on the implementation of the principles of responsible investment, as well as on the disclosure by public joint-stock companies of non-financial information related to the activities of such companies.
5. The Association has developed Practical Recommendations for banks on the introduction of ESG banking, assessed the readiness of Russian banks to work on the basis of ESG principles, the research "ESG Banking in Russia" initiated by the Association and conducted Deloitte CIS became the first comprehensive document on the study of this area in Russia.
6. Individual banks implement the ESG principles in practice, form reports according to GRI standards, have joined the Principles for Responsible Banking (PRB) developed by the United Nations Environment Programme Finance Initiative (UNEP FI), develop internal strategies for the transition of business to ESG principles, launch new credit products at special rates aimed at achieving sustainable development goals, promote compliance with these principles among customers, including through environmental actions.
7. All key infrastructure players are actively engaged in the development and implementation of ESG initiatives and instruments, largely focusing on the best international standards.
8. Events dedicated to the transition of banks to ESG principles are held, including with the involvement of international organizations that share their experience.
9. There are platforms, including in our Association, where the market and regulators can discuss problems and directions of ESG development.

In the draft **Guidelines for the Development of the Russian Financial Market in 2022-2024** a special place is given to expanding the contribution of the financial market to achieving the Sustainable Development Goals.

While, the Bank of Russia sees as a priority the solution of tasks on (1) the development of instruments and infrastructure of the sustainable development funding market and the creation of opportunities for companies to ESG-transform their business in response to the demand of investors, labor collectives and external challenges, as well as (2) taking into account ESG factors in the regulation of the financial market in order to adapt the market to new types of risks.

In order to create the necessary infrastructure and instruments for the functioning of the

sustainable development market in Russia, the Bank of Russia, along with the Government of the Russian Federation, will focus its efforts to implement the following key measures:

Key measures for the development of the sustainable development market

- Development of a taxonomy of sustainable development projects and national standards for sustainable development funding instruments
- Creation of standards for "green", social impact, transitional climate instruments and instruments linked to the Sustainable Development Goals, as well as "green" project funding and "green" mortgages
- Defining the rules for disclosing information about issued instruments, requirements for such instruments, creating an infrastructure for channeling funds into sustainable assets, primarily creating a system for independent external evaluation (verification) of sustainable development funding instruments
- Development of rating services in the field of sustainable development, specialized sectors and segments by trade organizers, information support of trades, creation of market indicators on sustainable development instruments and other steps aimed at supporting the placement and circulation of sustainable financial instruments
- Promoting the consideration of sustainable development factors in the corporate governance of financial and non-financial institutions
- Development of recommendations on taking into account ESG factors when providing investment consulting services
- Introduction of requirements for disclosure of information on the accounting of ESG factors in the activities of companies in the corporate sector

Source: Draft Guidelines for the Development of the Russian Financial Market in 2022–2024

Among the priority measures, the Bank of Russia has highlighted the issue of **stimulating the sustainable funding market and increasing the interest of its participants** at the launch stage.

As part of the solution of the task of taking into account ESG factors in the regulation of the financial market to adapt the market to new types of risks, the Bank of Russia plans to develop approaches to stress testing of climate risks, accounting for ESG risks in regulation and supervision, including taxonomy and requirements in climate reporting and accounting for ESG risks for financial and non-financial institutions.

The solution of these tasks will contribute to the formation of conditions for directing capital flows to projects that contribute to the achievement of sustainable development goals, will create prerequisites for the adaptation of financial market participants and real sector companies in the transition to a sustainable development economy.

Taking into account the interest of the Russian financial sector and the economy as a whole in creating instruments to support ESG transformation, the Association will continue to work on finding and promoting the most effective measures to stimulate ESG banking in cooperation with credit institutions, authorities and foreign partners. The next stage of such work may be a discussion with specific agencies of the measures within their competence, which, taking into account the position of banks, are the most important for the development of ESG.

02

Development trends in the Russian banking system in the context of the ongoing coronavirus pandemic

2.1.
Description of the current situation

2.2.
Trends and structure of bank lending

2.3.
Securities transactions

2.4.
Banking sector funding

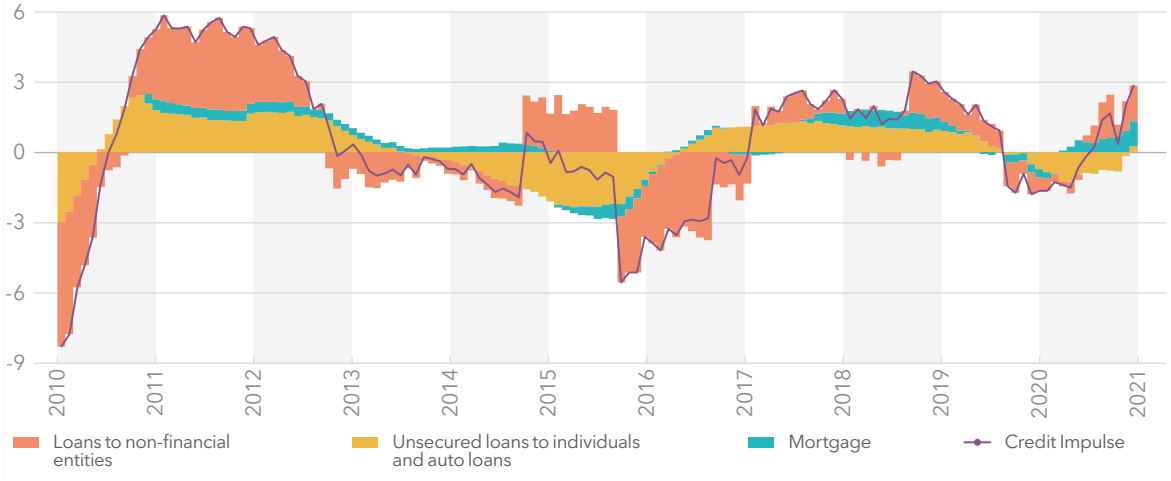
2.5.
Capital and financial result

2.1. Description of the current situation

- One of the key distinguishing features of the current situation is that the credit impulse quickly turned positive. The continuing positive impulse from credit growth supports domestic demand in the economy;
- Among the important characteristics of the current situation is also the continued growth in the levels of restructured loan debt. The aggregate volume of this kind of debt, a significant part of which may be attributed to troubled and overdue loans, reached more than RUB 8 trillion by mid-2021, which is about twice as high as of June 30, 2020;
- The current situation is characterized by a moderate tightening of bank lending conditions and an increase in the cost of funding. In Russia, a rather rare variant of simultaneous tightening of both monetary policy and macroprudential regulation is being implemented;
- In the short term, the transition of the Russian banking system to an even more tight type of oligopoly market can be expected. This is due to a high rate of promotion of the ecosystem business model.

The banking system entered the recovery growth period of the Russian economy with a stock of capital and liquid assets, which allowed lending to reach the upward cycle trajectory in a short term. Trends in the key macroeconomic indicators demonstrate the continued system stability of the banking sector. By 2021, the ratio of bank assets to GDP reached 97.1% versus 81.3%, the ratio of capital to GDP was 10.7% versus 10.1%, and the ratio of loans to the economy to GDP increased from 51.9% to 60.6%.

Credit Impulse, % to GDP



Source: Bank of Russia

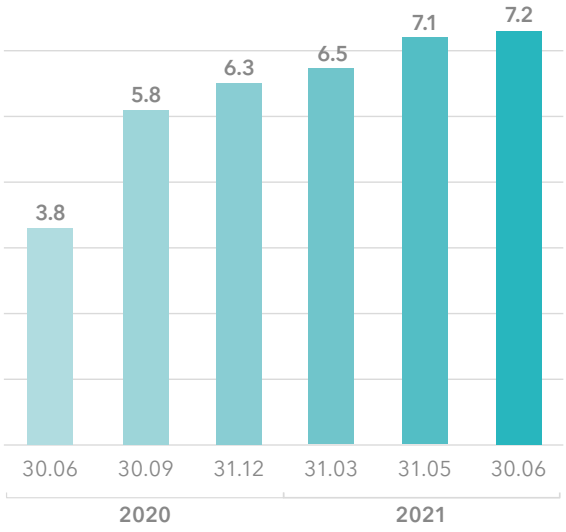
One of the key distinguishing features of the current situation is that the credit impulse quickly turned positive. In Q1 2021, this was mainly due to mortgages and corporate lending, and in Q2 the impact of unsecured consumer lending and auto loans increased. The current credit impulse increase energy is inferior to the period of 2010-2012, but it is also not marked by an equally strong crunch. What is important is that the continuing positive impulse from credit growth supports domestic demand in the economy.

At the same time, the credit impulse reflects only the flow of new loans, leaving out the outstanding loans that relate to stock. Herewith, the higher the share of loans of IV and V quality categories in the structure of outstanding loans, the more restrictions there are for the flow of new loans. Currently, the problem of non-performing portfolios is partially solved by rescheduling loan debt, but this cannot continue indefinitely.

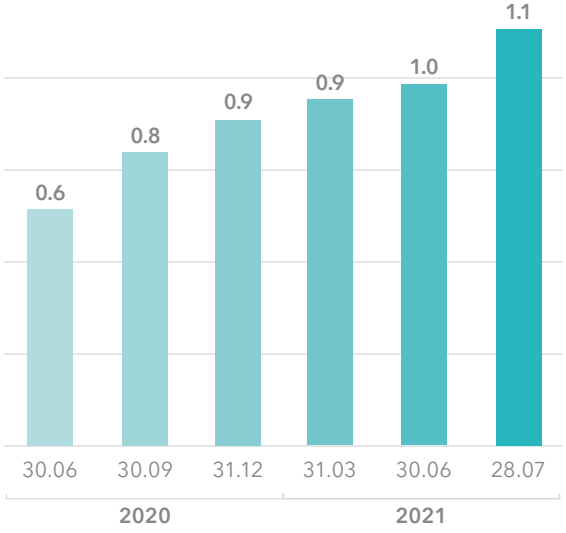
Among the important characteristics of the current situation is the continued growth in the levels of rescheduled debt. According to the Bank of Russia's estimates made on the basis of sample surveys of commercial banks, as of July 28, 2021, the volume of loan debt under rescheduled loans to individuals reached RUB 978 billion, and taking into account the mortgage holidays (RUB 48.1 billion) it exceeded RUB 1 trillion. The increase in the number of household debt rescheduling carried out in July 2021 compared to June 2021 indicators is caused by updating the information provided earlier.

Trends in loan debt rescheduling volumes of non-financial entities and individuals, trillion rubles

Loans to legal entities*, trillion rubles



Loans to individuals, trillion rubles**



*including SMEs
**including mortgage holidays
Source: Bank of Russia data

Continued growth in the volume of rescheduled debt of legal entities (without SMEs), which as of June 30, 2021 exceeded RUB 6.1 trillion, or 16.5% of surveyed banks' total portfolio, is alarming. If the rescheduled debt of SMEs (RUB 944.4 billion) is added to this volume, it will amount to RUB 7.2 trillion. Thus, the aggregate volume of the rescheduled debt of individuals and non-financial entities, a significant part of which may be attributed to non-performing and overdue loans, reached more than RUB 8 trillion[1] by mid-2021, which is about twice as much as of June 30, 2020.

The current situation is characterized by a moderate tightening of bank lending conditions and an increase in the cost of funding. This is caused by change of the monetary policy regime. The Bank of Russia's transition from easing to neutral monetary policy[2] with the probability of tightening in the event of an increase in inflation expectations already has the effect of raising market interest rates.

The 6.5% key rate increase mainly concerns active rates, especially for bank loans with high credit risk. There is also an increase in passive rates but at a more restrained pace amid structural liquidity surplus. Short-term trends in bank lending conditions will largely be determined by the trends in inflationary processes and the nature of the monetary policy pursued by the Bank of Russia. In particular, the regulator has changed the procedure for determining the interest rate within the framework of lending support mechanisms for small and medium-sized businesses. From July 26, it will be equal to the key rate reduced by 1.5%. Previously, the fixed level for this rate was at 4% per annum.

In addition, the Bank of Russia is tightening the terms for granting certain categories of loans to individuals. In April 2021, the surcharges for newly granted unsecured loans were already at the level at which they were at the beginning of the coronavirus pandemic. Since August 2021, the regulation of granting mortgages with a down payment in the range of 15-20% of the property value has been tightened. The surcharges to the risk coefficients for the granted mortgage have also been increased to 50-100 percentage points, depending on the debt load of the borrower.

Starting from October 1, 2021, macroprudential surcharges for loans granted to borrowers with a high level of debt load index will be increased. For loans for borrowers with a debt load index above 80%, the surcharges will be increased by 40-90 p. p. (will depend on the amount of interest payments). For example, for loans up to 10% per annum, the surcharge for the bank will increase from 110% to 150%. For loans with a rate from 30% to 35% – from 250% to 340%. For loans for borrowers with a low debt load index, surcharges will remain at the same level.

In addition, since July 1, 2021, the program of preferential mortgages for housing in new buildings at 6.5% has been reformatted and extended. In accordance with the updated parameters, the preferential rate was increased to 7%, and the maximum loan amount was reduced to 3 million rubles for all regions of Russia. Previously, in Moscow, the Moscow region, St. Petersburg, and the Leningrad Region, it was possible to take out a mortgage loan in the amount of up to RUB 12 million, in all other constituent regions of the Russian Federation – up to RUB 6 million.

[1] *For details, see Trends in Rescheduling Household and Business Loans, Bank of Russia, Newsletter No. 21/August 3, 2021*
[2] *With annual inflation rate of 6.2-6.7% and key rate of 6.5%, the real interest rate of the Bank of Russia is in the near-zero range.*

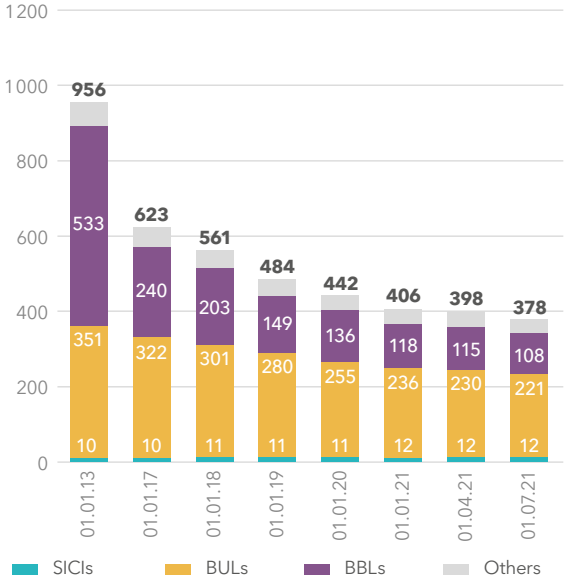
Thus, in Russia, a rather rare variant of simultaneous tightening of both monetary policy and macroprudential regulation is being implemented. At the same time, there is a tightening of state support programs for SMEs. The issue of additional loan loss provisions accrual under rescheduled loans in case of quality deterioration will also be included in the agenda. In these conditions, well-capitalized banks will feel quite comfortable, while most credit institutions, especially small and medium-sized ones, will face pressure on capital and financial results.

The picture of the current situation would remain incomplete without an assessment of the changes in the institutional structure of the banking sector and their impact on the competitive environment.

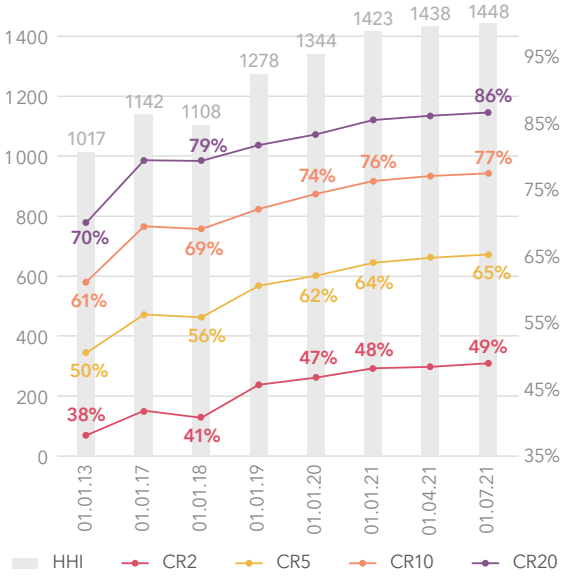
The rate of reduction in the number of operating credit institutions has significantly increased this year. It is noteworthy that the number of banks that hand over licenses either voluntarily or as a result of consolidation procedures is growing.

In 2021 (as of August 1), a total of 30 credit institutions exited the banking market: 5 banks had their licenses revoked, 4 credit institutions were reorganized, and 21 banks and non-bank deposit-taking institutions had their licenses forcibly revoked.

Number of operating credit institutions*



Concentration of banking sector assets



Source: data of the Bank of Russia

** SICIs – systemically important credit institutions;*
BULs – banks with universal license (excluding SICIs);
BBLs – banks with basic license;
Others – NCOs and non-disclosing credit institutions.

Over the past two years, there has been an increase in the concentration of assets of the banking sector as a whole and in key segments of the financial services market. According to the Herfindahl-Hirschman Index (HHI), which takes into account both the number of credit institutions and the inequality of their position in the market, the Russian banking sector is included in the category of moderately concentrated markets with values in the range of 1000 < HHI < 1800. However, according to the level of concentration in the market of lending to individuals and attracting deposits from individuals, it has already passed into the category of highly concentrated markets. The indicators of asset concentration by bank groups have increased. During the period from January 2020 to July 2021, the share of the top 20 banks rose from 83.8% to 86.9% and the top 5 share rose from 62% to 65%.

In the short term, the transition of the Russian banking system to an even more tight type of oligopoly market can be expected. This is due to a high rate of promotion of the ecosystem business model. Due to the use of network effects and economy of scale, banking ecosystems will create a kind of "magnetic fields" for mass customer attraction. In this regard, the development of ecosystems raises questions about the adoption of a set of measures to prevent the monopolization of the cyberfinancial space and protect fair competition not only in financial markets, but also in goods and services markets. The tasks of organizing supervision and forming an adequate regulatory environment for financial ecosystems are also becoming more urgent.

2.2. Trends and structure of bank lending

- The transition of the Russian economy to recovery growth goes hand in hand with a general increase in demand for borrowed funds. Currently, there is an increase in the volume of lending for all types of bank loans;
- Lending to large enterprises is characterized by moderate, albeit uneven, rates. Higher SME lending growth rates are ensured through various forms of state support;
- Mortgage remains the most dynamic segment. In Q2 2021, unsecured consumer loan issuance significantly intensified;
- In the short term, the energy of the credit impulse and the degree of its impact on business and consumer activities will largely be determined by the conditions of bank lending. Currently, the general trend in bank lending conditions changes is mainly driven by the tightening of both monetary and macroprudential policies pursued by the Bank of Russia;
- Cleaning up the balance sheets of commercial banks from the burden of non-performing and overdue loans, including a significant part of the restructured loan debt which exceeded RUB 8.3 trillion, remains relevant.

The transition of the Russian economy to recovery growth goes hand in hand with a general increase in demand for borrowed funds. Currently, the credit process is in the upward phase of the cycle. There is an increase in the volume of lending for all types of bank loans granted to non-financial entities and individuals[1]. At the same time, in lending to individuals, the demand from some borrowers exceeds their potential ability to service the debt load. A certain concern is also caused by the fact that along with the increase in the volume of preferential mortgages, there is an increase in the cost of housing. A positive trend is a decrease in the share of overdue loans in all loan categories. However, part of the volume of restructured debt, which may be assigned to the V quality category in the future, is not yet taken into account in the calculation of this indicator.

2.2.1. Corporate lending

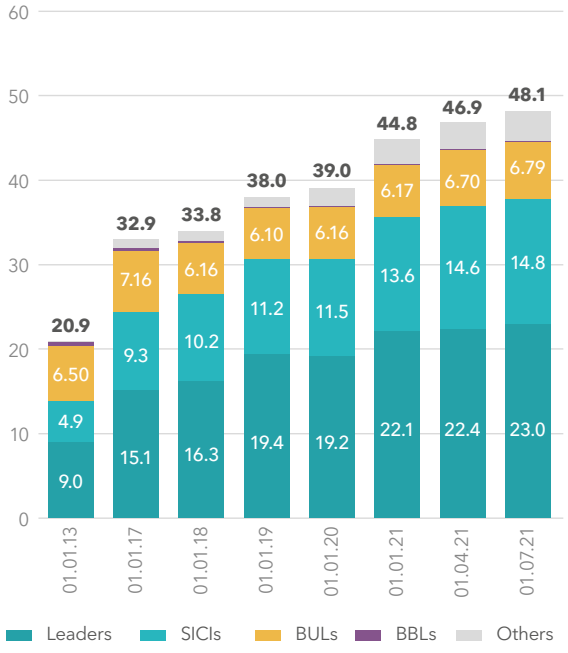
In the first half of 2021, lending to legal entities was characterized by generally moderate, albeit uneven from month to month, rates which amounted to 7.4% in nominal terms. On a rolling 12-month period, as of July 1, 2021 the increase in lending to legal entities was at the level of 11.2%.

The main borrowers of Russian banks are large enterprises and organizations which account for almost 87% of the corporate loan debt. In H1 2021, the volume of loan debt of this client group increased by RUB 2.7 trillion, by 6.9%. Due to various forms of state support, as well as the "low base" effect, SME loan portfolio increased at a faster pace (17.2%). In absolute terms, it increased by RUB 1 trillion.

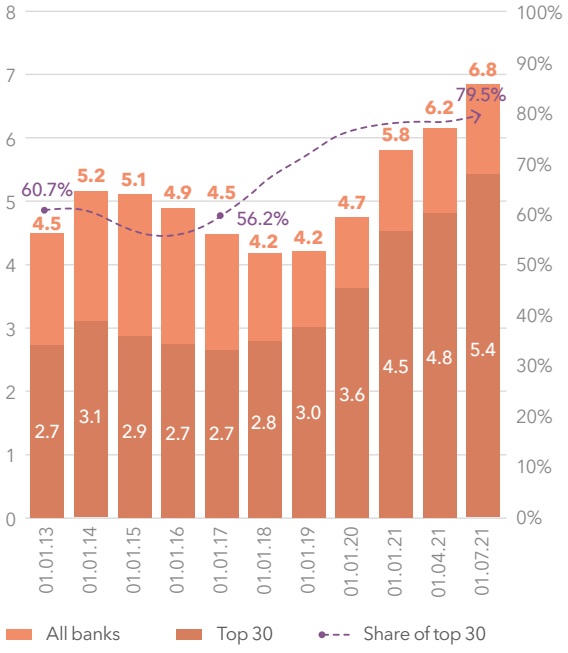
All segments of lending to legal entities are dominated by the largest and major banks. The group of systemic credit institutions which includes 12 banks accounts for more than 85% of loans granted to large borrowers. SME segment is characterized by a lower level of credit concentration, but even here it is high by global benchmarks. 79.5% of loans are granted to the top 30 Russian banks, which reflects not only the high level of concentration of loan portfolios of legal entities, but also insufficient SME maturity in Russia.

[1] *When publishing operational information, the Bank of Russia takes into account that the formation of relative indicators of the banking sector is influenced by the trends in the ruble exchange rate, as well as the revocation and cancellation of licenses from a number of credit institutions, except in cases of license cancellation due to reorganization. Therefore, for a more correct capture of the actual trends in the main indicators of the banking sector, the growth rates are given with the exception of the impact of the exchange rate on credit institutions that were active at the last reporting date (including previously reorganized banks). Trends in the indicators in absolute terms are given by the Bank of Russia without excluding the influence of the exchange rate. In some cases, the Bank of Russia provides data on loans in absolute terms, taking into account the revaluation and adjustment of the value of the funds provided (invested).*

Corporate loans (including SMEs), trillion rubles



SME loans, trillion rubles



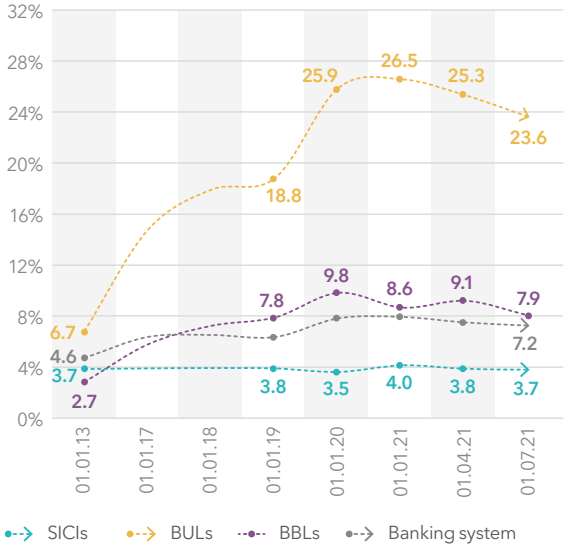
Source: calculated based on Bank of Russia's data and reports of commercial banks

In the coming years, the trends in corporate lending will most likely be shaped by two groups of factors. Firstly, by insufficient demand from high-quality borrowers, who, pressured by increasing market interest rates (following the key rate of the Bank of Russia with a lag), can actively use self-financing and/or issue securities. However, the circle of such borrowers is quite narrow. In addition, with a slight increase in market rates, the demand for loans, especially in the context of expanding production volumes and increased inflation expectations, may persist or even increase.

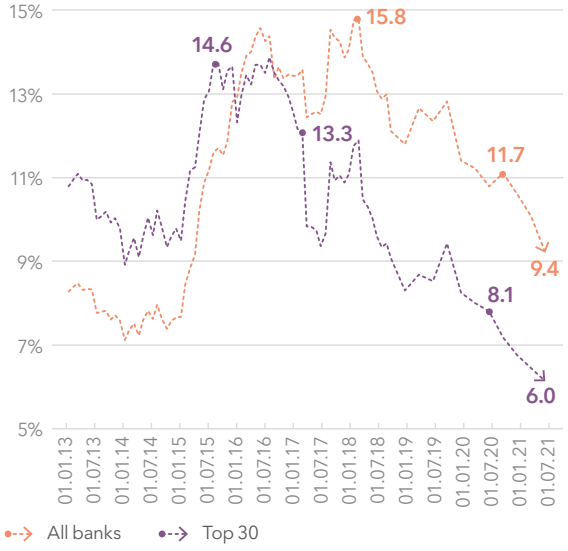
Secondly, the difficult financial situation of a large part of borrowers is more significant. In this case, accrual of reserves puts a heavy burden on capital and affects the financial result of banks. And in this case, the main limiting factor is the quality of loan portfolios. In the medium term, the trends in lending will be more sensitive to the quality of loan debt than to the price and non-price conditions of bank lending. In a recession of bank balance sheets, even with the easing of monetary and budgetary restrictions, the positive effects will not fully manifest themselves until the proportion of non-performing assets decreases to an acceptable level.

Share of overdue corporate debt by bank groups

Share of overdue debt of non-financial entities



Share of overdue debt of SMEs



Source: calculated Bank of Russia's data and reports of commercial banks

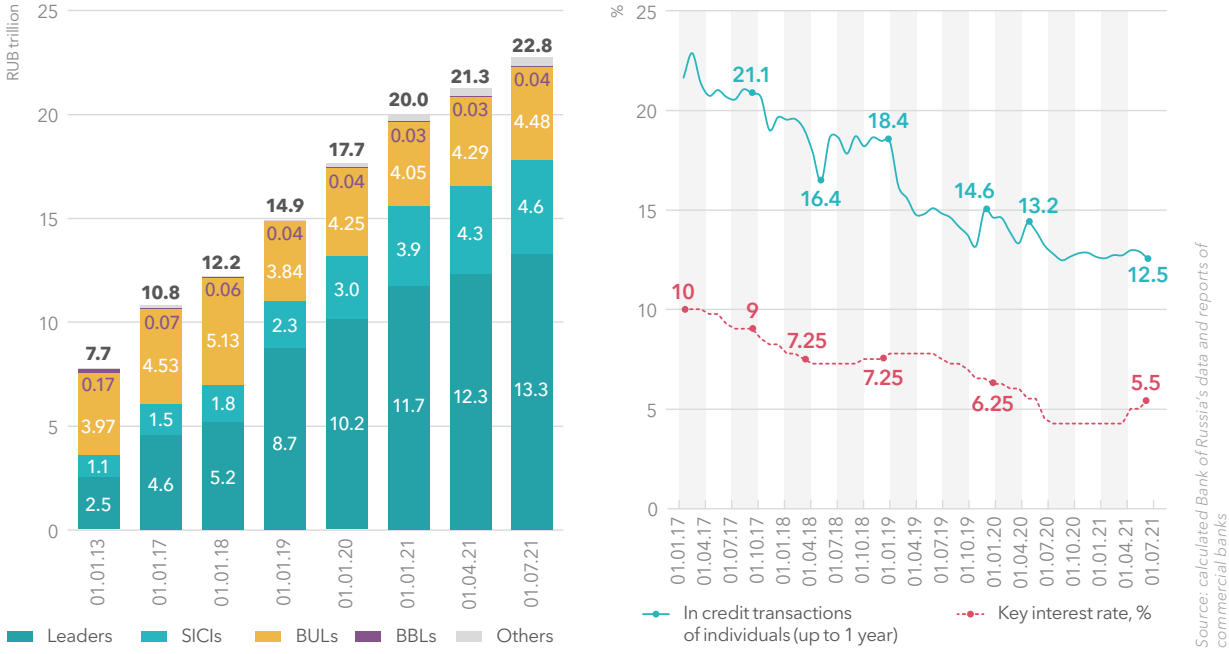
In January – June 2021, all groups of banks saw a decrease in overdue corporate debt vs a surge in the same period last year. By global benchmarks, it (with the exception of systemic credit institutions) still remains in the zone of increased credit risk, but the general trend in the share of overdue debt indicates the consolidation of positive changes. However, it shall be taken into account that when calculating the quality of loan portfolios, the regulator does not yet take into account the restructured debt. By mid-2021, rescheduled corporate debt (including SMEs) amounted to RUB 7.2 trillion.

Part of the restructured debt will be attributed to non-performing and overdue loans (IV and V quality categories). According to the Bank of Russia, almost all loans (excluding the rescheduled debt) to legal entities are covered by reserves. The share of corporate loans (without SME loans) that belong to IV and V quality categories is approximately 8-9%, which in itself indicates increased credit risks. Add restructured debt and the share increases to 25%. The share of IV and V quality categories loans to SMEs currently reaches 15%. Taking into account the restructured debt, this indicator may increase to about 28%.In this regard, the cost of credit risk, which now is indeed at record low levels for corporate loans, may acquire other values with the inclusion of the part of the restructured debt in the calculation.

2.2.2. Lending to individuals

In H1 2021, the volumes and growth rates of lending to individuals significantly increased accelerating to 11.8% versus 4.1% in H1 2020. Housing mortgage lending (HML)[2] developed most dynamically (13.9% in the H1 2021 and 33.2% over the past 12 months, taking into account securitization). Since Q2 2021, the growth rate of consumer lending increased tremendously[3]. In general, in January – June 2021, it amounted to 9.8%, and in annual terms – to 17.1%. Along with the explosive expansion of demand for loans, there is a decrease in the share of overdue debt under all types of bank loans to individuals. However, at the same time, the growth of restructured debt is still continuing exceeding RUB 1.1 trillion under loans to individuals to date.

Trends in bank lending to individuals by bank groups and short-term market active rates



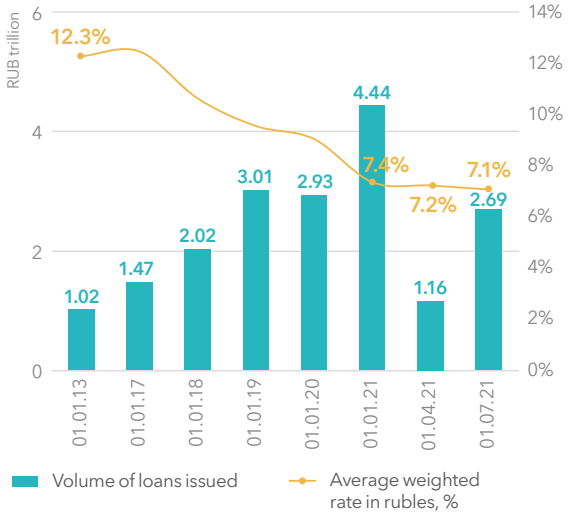
Source: calculated Bank of Russia's data and reports of commercial banks

HML continues to be the driver of the credit process. The annual growth rate is the highest since February 2015. In absolute terms, the mortgage portfolio has grown by RUB 2.4 trillion over the past 12 months reaching RUB 10.6 trillion. The average term of a mortgage loan already exceeds 20 years (in June 2020, it was 18 years), and its size exceeded RUB 3 million. In May – June, the demand for mortgages significantly accelerated, including due to the announcement of a change in its terms from July 1, 2021. In the future, we can expect a slight slowdown in the pace of HML, but the reduction in demand for the new program, which replaced the preferential mortgage at 6.5%, will be partially offset by an increase in demand for market mortgages and other preferential programs.

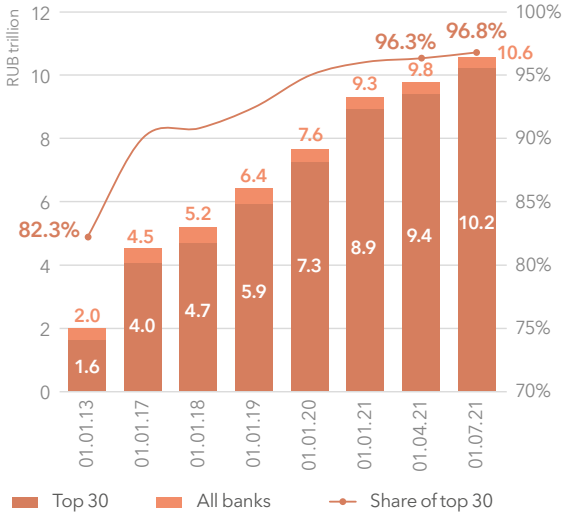
[2] *Hereinafter the terms "housing mortgage lending" (HML) and "mortgage lending" ("mortgage") are used as synonyms.*
[3] *Consumer loans include unsecured consumer loans (UCL) less auto loans, the share of which is about 5% of individual loan portfolio.*

Trends in housing mortgage lending, trillion rubles

Volume of loans granted during the year



Loan debt at the reporting date



Source: calculated based on Bank of Russia's data and reports of commercial banks

The demand for mortgages will also be supported by high inflation expectations of the population and the projected increase in average market rates (excluding preferential programs), which by the end of this year may approach 11% per annum. Another important factor is the high growth rates of housing costs. In particular, in the primary market, the increase in national average prices for residential real estate exceeded the psychologically important mark of 20%, reaching 20.6% (24% in Moscow) in Q2 2021.

The increase in the cost of housing attracts investors to this segment of the market who take out a mortgage in order to make a profit by subsequently reselling housing at higher prices. Along with this, the need to improve housing conditions and the increase in its cost lead to the fact that low-income citizens come to submit loan applications.

According to the Bank of Russia, in Q2 2021, the share of mortgages with a low-down payment (10-20%) in the primary market was 46% compared to 40% a year earlier. For comparison, let us point out that this share was at the level of 27% in Q1 2020.

Despite the fact that the level of approval of mortgage applications declined to a four-year low by the beginning of July 2021 (it is currently in the range of 64% to 66%, compared to 75% in 2020), in August, the Bank of Russia tightened the regulation mortgages with a down payment in the range of 15-20% of the cost of housing by increasing the surcharges to the risk coefficients depending on the debt load of the borrower. In addition, the Bank of Russia is considering two options for tightening requirements: the risk ratio will either be increased for all categories of loans regardless of the debt load indicator, or progressively, that is, the growth will be more significant for loans with a high debt load indicator.

Along with the growth of mortgages in 2021, the volumes and growth rates of unsecured consumer loans (UCL) sharply increased, which may, given the decline in real monetary incomes of the population, result in increased non-performing and overdue debt. The high growth rates in the H1 2021 are associated with an increase in the key rate and, accordingly, with the expectation by borrowers of an increase in market interest rates. The growth of UCL may exceed 20% this year.

In H1 2021, Russian banks sharply increased credit card issuance, issuing 6.9 million units, which is 50% more than in the same period last year. Banks issued the maximum number of credit cards in H1 2019. Currently, banks have returned to this level with the only difference: they issue more credit cards with a limit of up to 50 thousand rubles, but less with a limit of over 90 thousand rubles. Thus, the average size of the approved credit limit has decreased. According to the United Credit Bureau, the volume of credit card limits in H1 2021 exceeded RUB 480 billion, which is 59% more than in H1 2020.

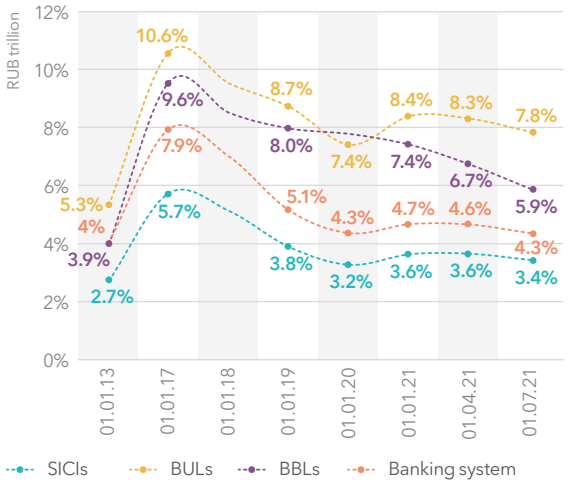
It is alarming that the activation of consumer lending is a crucial consumer spending driver. The pre-crisis increase in consumer spending was also largely driven borrowed funds. In a situation where people's real disposable income is stagnating and even declining, the use of credit as a source of income for household budgets carries risks not only for banks and the economy due to the compression of demand, but also for those citizens who are at risk of becoming bankrupt.

The peculiarity of the current moment is that amid overheating of the consumer lending market, the situation with overdue debts looks even better than in corporate lending. According to H1 2021 results, there is a decrease in the share of uncollectible individual debt under all types of loans and across all groups of banks.

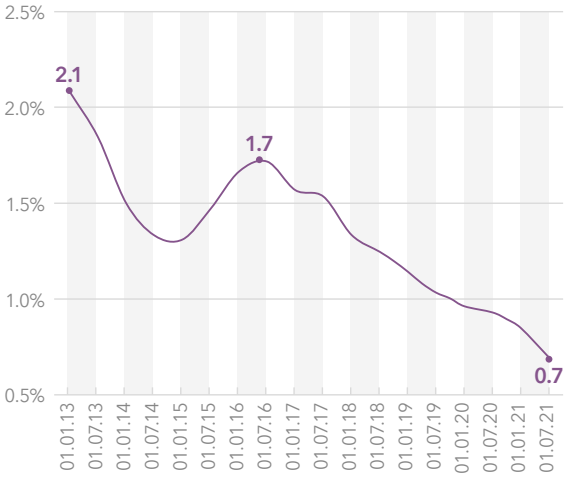
For systemic credit institutions, it fell below 3.5%, which indicates a low level of credit risks. Other groups of banks have increased, but moderate credit risks according to this indicator. A pronounced decrease in overdue debt under HML is even more expressive, its share (0.7%) can be attributed to record low values.

Trends in the share of outstanding individual debt by various groups of banks, %

Share of outstanding debt



Share of outstanding debt under mortgage



Source: calculated based on Bank of Russia's data and reports of commercial banks

This kind of trends could, though only partially, be attributed to the well-established collection procedures in banks, the sale of debts to collectors and the tightening of the supervisory response from the regulator. The phase of the credit cycle has a more significant impact on the changes of this indicator. If it is rising, then with a high demand for borrowed funds, the actual share of non-performing loans is masked by an increase in new loans issuance, which dilute and formally reduce the share of overdue debt. In many respects, this explains the fact that with increased debt burden and stagnating people's real disposable income, the share of V quality category loans to individuals decreases.

The portfolio of rescheduled individual debt currently reaches about RUB 1.1 trillion. Part of this amount in the HML segment is covered by collateral, and in the UCL segment it is covered by reserves. If we attribute the remaining part of the restructured debt to IV and V quality category loans, then, according to the Bank of Russia, the share of non-performing and uncollectible loans in the HML segment will rise to about 5%, and in the UCL segment – to 12-13%. Therefore, the cost of credit risk will also increase.

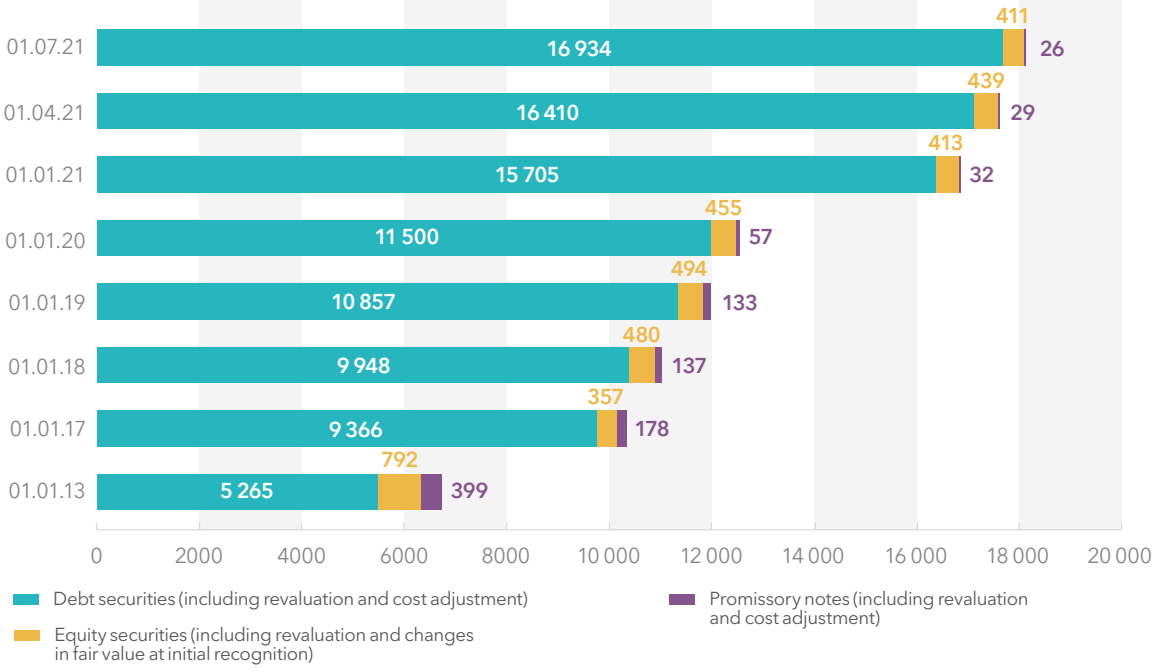
To date, the share of loans with a high debt load indicator (DLI) has exceeded the pre-pandemic level. In Q1 2021, the share of loans with DLI of more than 100% was 23.5% compared to 17.5% in Q1 2020. In Q2 2021, the situation deteriorated. The reality is that more than 30% of loans are issued to borrowers whose monthly loan payments exceed 80% of their official income. To prevent the worst-case scenario, the Bank of Russia tightened the regulation of unsecured consumer loans on July 1 2021, returning to pre-pandemic values.

2.3. Securities transactions

- Compared to 2020, which resulted in a record increase in banks' investments in securities (the portfolio grew by RUB 4 trillion, or by 34.2%), the current indicators (an increase of 7.9%) can be described as moderate.
- Banks are the largest operators in the domestic bond market. They buy on average about 60% of Federal Loan Bonds (OFZ) placed for auctions. In the event of an increase in the issuance activity of the Ministry of Finance of the Russian Federation, Russian banks have sufficient liquidity to maintain a balance between supply and demand in this segment of the stock market.
- Banks' operations with securities are characterized by high rates of concentration. By the beginning of July 2021, the share of systemically important credit institutions (SICIs) shot up to 68.4%.

According to H1 2021 results, the securities portfolio of the banking sector increased by 7.9% (in absolute terms, by almost RUB 1.3 trillion) solely due to an increase in investments in debt market instruments. Since 2019, there has been a reduction in banks' investments in equity securities: from RUB 494 billion to RUB 411 billion as of July 1, 2021. The decline in the interest of credit institutions in investments in promissory notes became even more pronounced: during the specified period, they decreased from RUB 133 billion to RUB 26 billion.

Investments of credit institutions in securities, billion rubles

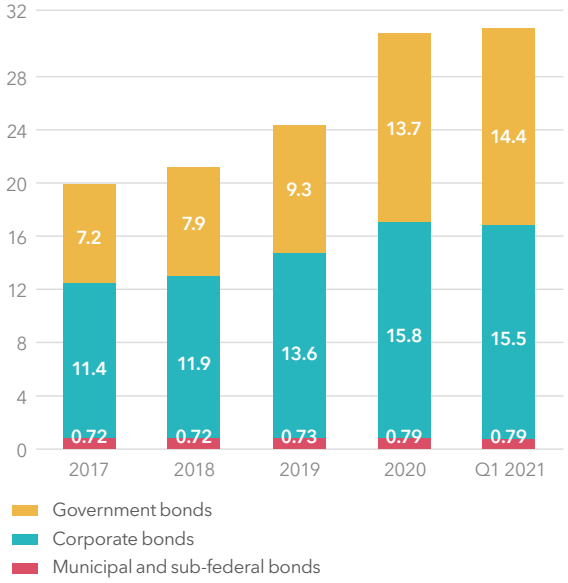


Source: Bank of Russia

Compared to 2020, which resulted in a historically high increase in banks' investments in securities (the portfolio grew by RUB 4 trillion, or by 34.2%), the current indicators can be described as moderate. Accordingly, there has been a stabilization of the share of investments in securities in the total assets of the banking sector. While in 2020 it increased from 13.2% to 15.1%, in H1 2021 it rose only to 15.4%.

The decline in the rate of banks' investments in securities has several reasons. First, this year, the Ministry of Finance of the Russian Federation placed fewer new OFZ (Federal Loan Obligations) issues, which is associated with the normalization of federal budget revenues and expenditures. Secondly, in the first months of 2021, there was a cooling of the domestic corporate bond market. In 2020, this segment of the debt securities market experienced a period of rapid growth, since the decline in returns under the conditions of the Bank of Russia's easing monetary policy stimulated issuers to place more corporate bonds, but at present the situation is changed significantly. With the growth of inflation expectations and an increase in the key rate, the placement of corporate bonds becomes less profitable for issuers. In addition, along with growing returns, increased market risks become more significant for investors, which makes investments in corporate bonds less attractive than purchase of OFZ. Third, we see inverse relationship between the credit policy of banks and their operations with securities. The more aggressively loan portfolios are being built up, the less, all other things being equal, investments in financial market securities are.

The domestic bond market (at face value), trillion rubles



Source: NAUFOR (National Association of Securities Market Participants)

- According to Q1 2021 results, the segment of government bonds grew by 5.5%.
- The volumes of the municipal and sub-federal bonds segment remained almost unchanged.
- Corporate bonds, accounting for 50% of the internal market, are in a "frozen" state.
- 359 bond issuers trade at the Moscow Exchange.

Banks are the largest operators in the domestic bond market. They buy on average about 60% of government securities placed at auctions of the Ministry of Finance of the Russian Federation, and in some periods this share reaches 80%. Along with this, banks are actively acquiring corporate bonds mainly from first class issuers. Investments in government and corporate bonds in the total securities portfolio are divided approximately equally, although in each particular bank this proportion may differ from the average value.

Share of government bonds in the assets of the banking sector in emerging market countries, %

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

Source: Euroclear depository reporting

In the event of an increase in the issuance activity of the Ministry of Finance of the Russian Federation, Russian banks have sufficient liquidity to maintain a balance between supply and demand in this segment of the stock market. When comparing a number of emerging market countries in terms of the share of government securities in the assets of the banking sector, it is clearly visible that Russian banks have significant growth potential, especially taking into account the long-term repo with the Bank of Russia, which was already well-established in 2020.

A notable feature of recent years is the increasingly growing securitization market in Russia, although its volumes and the range of structured financial instruments remain limited for the time being. The only segment of this market that shows exceptionally high trends is the issuance and placement of mortgage securities, which is inextricably linked with the rapid increase in mortgage loan portfolios. In 2020, the volume of bonds issued under securitization transactions exceeded RUB 380 billion, or 0.36% of GDP (compared to RUB 297 billion, or 0.27% of GDP in 2019), and the number of bond issues and the number of issuers exceeded similar indicators of 2019. It is important to note that the main volume (more than RUB 370 billion, or almost 97%) were mortgage securities of DOM.RF JSC.

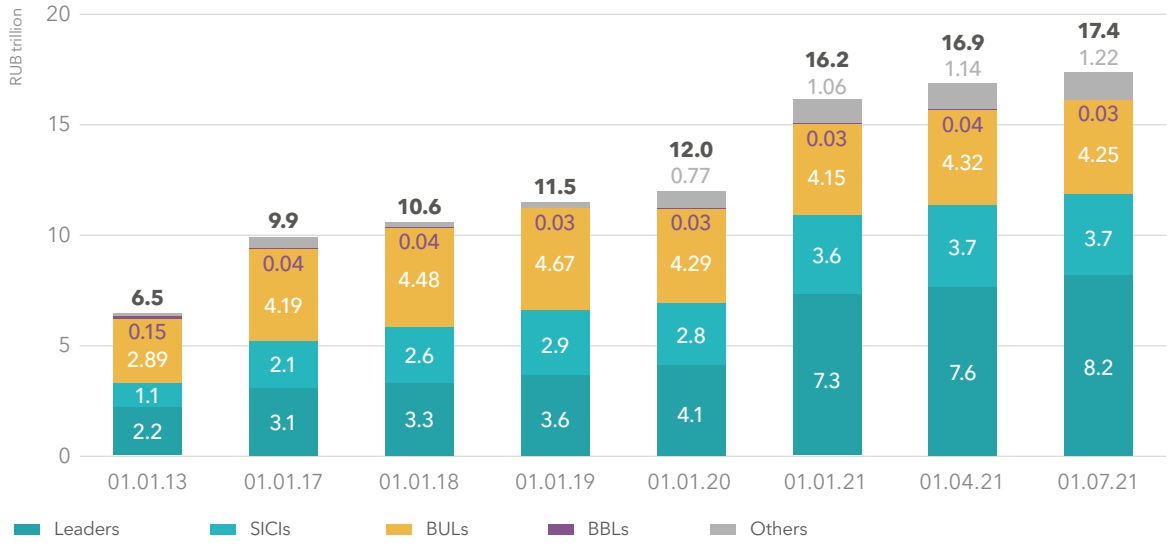
As of May 31, 2021, the volume of mortgage bonds in circulation has already reached RUB 601.6 billion with DOM.RF's share of 90%. At the same time, as noted in the draft Guidelines for the Development of the Russian Financial Market in 2022-2024, "there is no significant development of securitization of other types of loans (such placements are calculated in units), which is quite common abroad, including auto, education and other consumer loans, loans to non-financial entities and leasing claims. This may be due to the lack of need for credit institutions to securitize assets due to high capital adequacy and restrictions on demand from eligible borrowers[1]."

[1] *Bank of Russia, Guidelines for the Development of the Russian Financial Market in 2022–2024, p. 25.*

In credit institutions' obligations structure, debt obligations account an extremely insignificant share – 2.6%, although in absolute terms they make a certain contribution to bank liquidity. Recent years have been marked by a noticeable increase in the pace and volume bank bonds placement. While by the beginning of 2019, banks have placed bonds in the amount of RUB 1.3 trillion, by the beginning of July 2021, the volume of bonds issued by banks has doubled and reached RUB 2.6 trillion. Taking into account the increased volatility of balances in customers' accounts, bonds are becoming a more popular source of liquidity regulation. But this applies only to a very limited number of banks. Top 10 banks account for almost the entire issue of bonds.

Banks' operations with securities are characterized by high rates of concentration. While at the beginning of 2013 the share of SICIs in the total volume of the banking sector's investments in securities was 50.8%, by 2020 it had risen to 58.5%, which was generally on par with the processes of concentration of assets, loan portfolios and customer balances with banks. However, during the coronavirus pandemic, the rate of concentration of investments in securities increased sharply; by the beginning of July, the share of SICIs soared to 68.4%. Within the SICIs group, the leaders (Sberbank PJSC and VTB Bank PJSC) increased their investments in securities at the highest rates. During the period from January 2020 to July 2021, leaders' portfolios increased from RUB 4.1 trillion to RUB 8.2 trillion, and their share rose from 34.2% to 47.1%.

Investments in securities by bank groups, trillion rubles



This is largely due to the high volumes of OFZ placement by the Ministry of Finance of the Russian Federation during the acute phase of the COVID-19 pandemic. However, it is interesting to note that in the structure of assets, the share of investments in securities is higher in the group of banks with a general license (excluding SICIs), which as of July 1, 2021 was 18.8% versus 13.9% for SICIs and 10.7% for banks with a basic license.

2.4. Banking sector funding

- The coronavirus pandemic has not significantly affected sources of funding, although new trends have emerged in the structure of the banking sector's liabilities. One part of them has a temporary, transitory nature, and the other can have a long-term impact on the trends in individual balance sheet items.
- The trends in borrowed funds have multiple drivers including economic recovery, structural liquidity surplus and starting upward adjustment of interest rates driven by Bank of Russia's tightening monetary policy.
- According to H1 2021 results, corporate clients' funds have become the main source of funding for banks, which, however, largely results from individuals' deposits negative growth rates.

Sustainable development of various groups of credit institutions and the banking system as a whole is largely determined by operations sustainability and cost of funding. In Russia, client funds are the traditional main source of funding, which (as of July 1, 2021) account for 74.2% of the total liabilities and capital in the banking sector.

The coronavirus pandemic has not significantly affected sources of funding, although new trends have emerged in the structure of the banking sector's liabilities. One part of them has a temporary, transitory nature, and the other can have a long-term impact on the trends in individual balance sheet items.

Currently, the trends in borrowed funds have multiple drivers including economic recovery, structural liquidity surplus and starting upward adjustment of interest rates driven by Bank of Russia's tightening monetary policy. As part of the ongoing digitalization process, the conditions of interbank competition for client funds are changing. Along with this, the increasing transition of households from a savings behavior pattern to a savings and investment behavior pattern is becoming increasingly important.

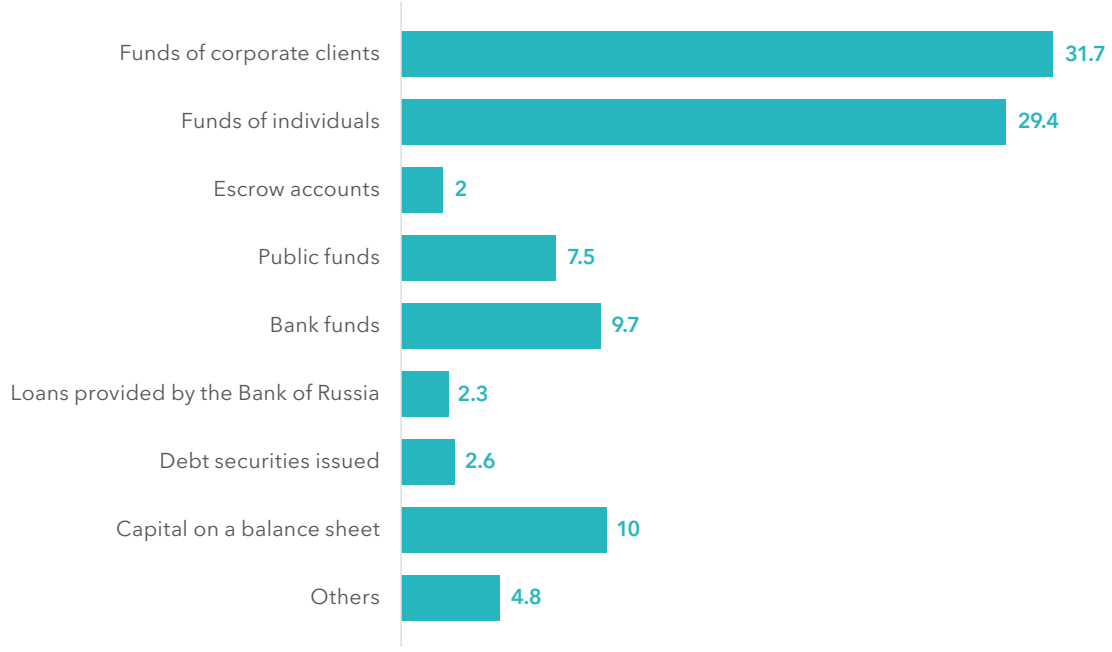
In the borrowed funds structure, the largest share, by a wide margin over other sources of the funding base, is occupied by balances on the accounts of corporate clients (excluding credit institutions and the Bank of Russia) and on the accounts of individuals (excluding escrow accounts). These sources provide more than 60% (RUB 67.3 trillion) of the total funding volume and make a significant contribution to credit institutions' ability to maintain balance sheet liquidity and expand the scale of ongoing operations.

At the same time, borrowings on the interbank market and loans provided by the Bank of Russia play an important role, primarily for the purpose of regulating current liquidity. They account for 9.7% (RUB

10.7 trillion) and 2.3% (RUB 2.5 trillion) of all liabilities and capital in the banking sector, respectively. An insignificant share (2.6%) in the funding of banks is occupied by debt securities issued by them.

Attention is drawn to the sharp growth of public funds in the structure of liabilities of the banking sector in H1 2021: from RUB 4.0 trillion to RUB 8.3 trillion. Such jumps in the trends in public funds balances on bank accounts have not been observed before, including the COVID-dominated 2020. Depositing federal funds occurs during periods when temporarily available funds of the Ministry of Finance of the Russian Federation are accumulated for their subsequent distribution in the country's budget system. This mechanism is transparent and legally regulated.

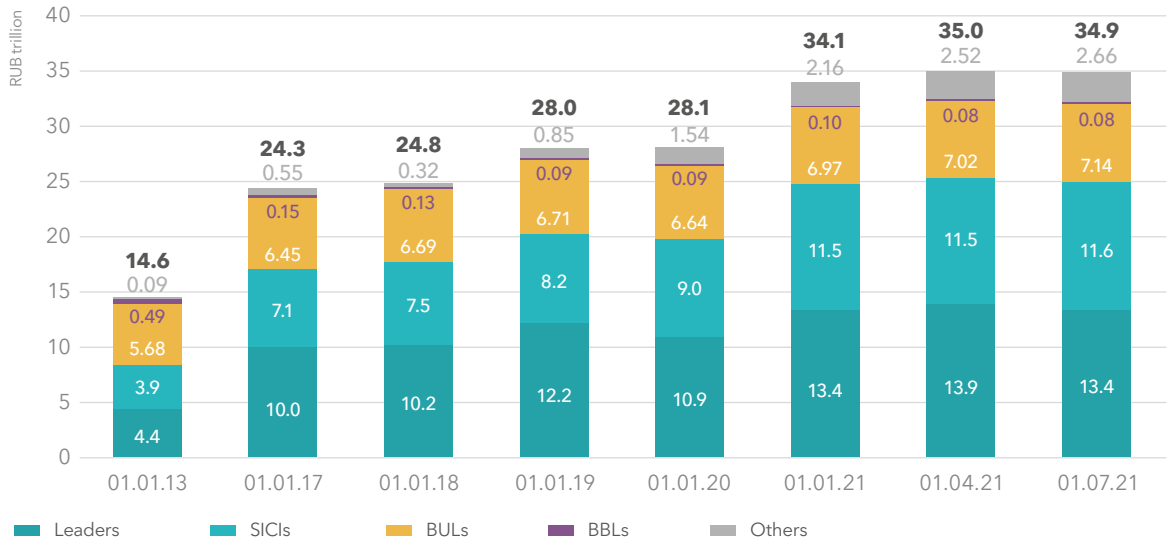
Structure of liabilities and capital of the banking sector, % (as of July 1, 2021)



Source: Bank of Russia

According to H1 2021 results, corporate clients' funds have become the main source of funding for banks, which, however, largely results from individuals' deposits negative growth rates. Compared with the high growth trends in funds on corporate clients' accounts in H1 2020, the growth is currently noticeably slowing down. While on a rolling 12 – month period, as of July 1, they reached 16.2%, in January – June 2021, the balances on corporate clients' accounts increased by about 3%.

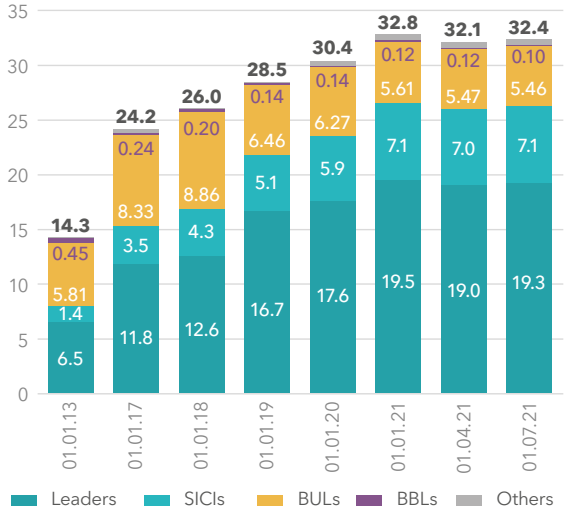
Trends in corporate clients' funds by bank groups, RUB trillion



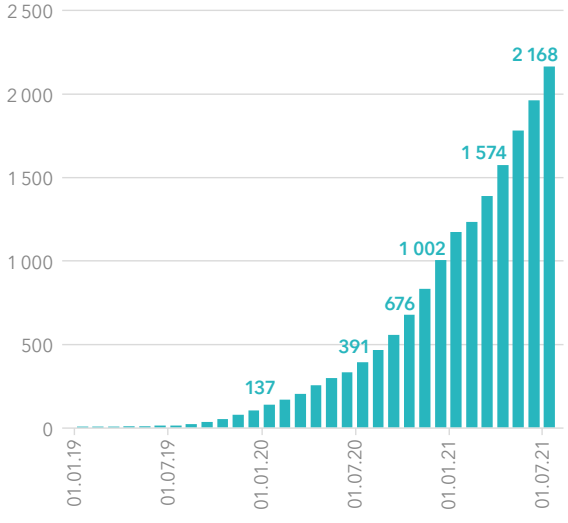
Source: calculated based on Bank of Russia's data and commercial banks' reports

One of the reasons for the low growth rates of funds balances on corporate clients' accounts (and even their decline in absolute terms in Q2) could be the increased need of enterprises to use their funds on bank accounts to finance investment decisions during the recovery period. And there is nothing unusual about it. Self-financing has always been the main source of investment for the majority of Russian enterprises. Other possible reasons for the weak growth of corporate clients' funds may be a decrease in the financial result or an increase in various additional expenses (repayment of loans and other liabilities).

Deposits of individuals by groups of banks, RUB trillion



Balances on escrow accounts of individuals, RUB trillion



Source: calculated based on Bank of Russia's data and commercial banks' reports

For the second consecutive year, there is a decrease in the growth rate of individuals' deposits up to their transition to the negative values zone. According to Q1 and Q2 2021 results, they decreased in absolute terms by (-) 0.8%, and, compared to the same period last year, they increased by only 2.9%, which is noticeably lower than the previously observed trends.

In the COVID-dominated 2020, the outflow of deposits (RUB 1.6 trillion) was more than compensated by the inflow to current and savings accounts (RUB 3.3 trillion). Since the beginning of 2021, however, these processes have ceased to balance each other. As a result, for the first time since 2014, the banking system loses its balances on ruble accounts of individuals. In January – June 2021, term ruble deposits decreased by RUB 867 billion, and current accounts increased by RUB 502 billion. As a result, the total volume of ruble savings in banks decreased by RUB 365 billion down to RUB 25.6 trillion (taking into account the fact that the Bank of Russia does not include escrow accounts in individuals' deposits and keeps separate records of them).

Therefore, part of individuals' organized savings in the light of decreasing real disposable income goes to current consumption. However, among the reasons for changes in the savings behavior of bank clients, the impact of the pandemic is an important, but not a determining factor. The rapid growth of unsecured (including card) and housing mortgage lending has a noticeable impact on the trends in organized savings. Repayment of the growing volumes of the principal amount of debt and interest under loans will make adjustments to the structure of citizens' expenses.

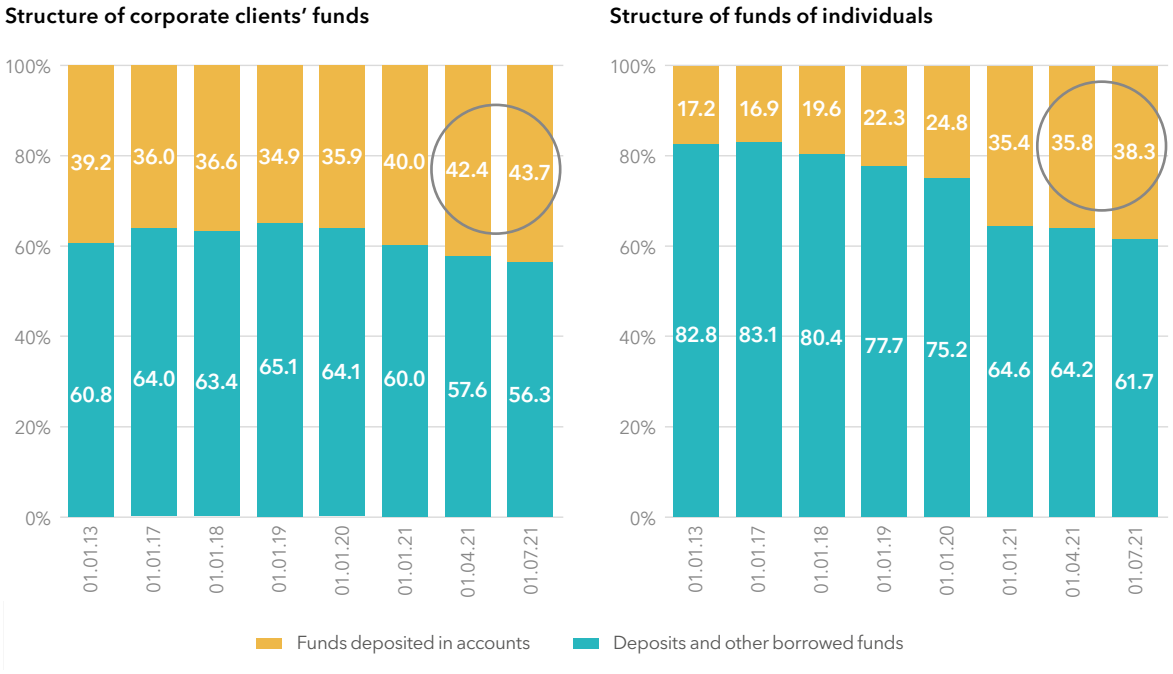
A significant role in changing the psychology of depositors was played by the reduction in 2020 (with the establishment of the key rate of the Bank of Russia at the level of 4.25%) of the maximum passive interest rates to the level below actual inflation. This is what triggered some bank clients to search for alternative investment solutions that bring higher returns. There has been a massive transition of households from a savings behavior pattern to a savings and investment behavior pattern.

According to the Bank of Russia, by the end of Q1 2021, the number of brokerage accounts opened by citizens has reached 12.7 million, but about 60% of them have a zero balance. Another 18% of accounts have an average amount of about RUB 10,000 on the balance sheet. 2.7 million accounts can be deemed as active. The inflow of funds from private investors is about RUB 200 billion per month. During the year, the inflow of money from individuals amounted to RUB 1.1 trillion. In June 2021 alone, the number of personal brokerage accounts at the Moscow Exchange increased by almost half a million.

On July 23, 2021, the Bank of Russia raised the key rate to 6.5%. According to the forecast published by the Bank of Russia, the key rate may be raised to 8% if inflation expectations remain elevated. Enabled by the completion of the key rate reduction cycle and the transition to a neutral monetary policy, there has already been a tendency to increase market rates on household deposits and deposits of legal entities.

A survey of the top 20 banks conducted by the RBC Group (RosBiznesConsulting JSC) this August in terms of the volume of borrowed funds from individuals showed that some market participants are ready to offer clients a return of 7.5-8%, not under standard deposits, however, but under bundling arrangements or if certain conditions are met. Therefore, there is already a steady trend towards increasing the cost of funding the banks, which will mainly affect the financial result of the small and medium-sized banks. In order to retain clients, they are forced to set increased interest rates on deposits. Moreover, the increase of banks' insurance contributions to the compulsory deposit insurance fund from the Q3 2021 should be taken into account, which will affect the funding costs of all groups of banks, but especially those paying the contributions at the additional and increased additional rates.

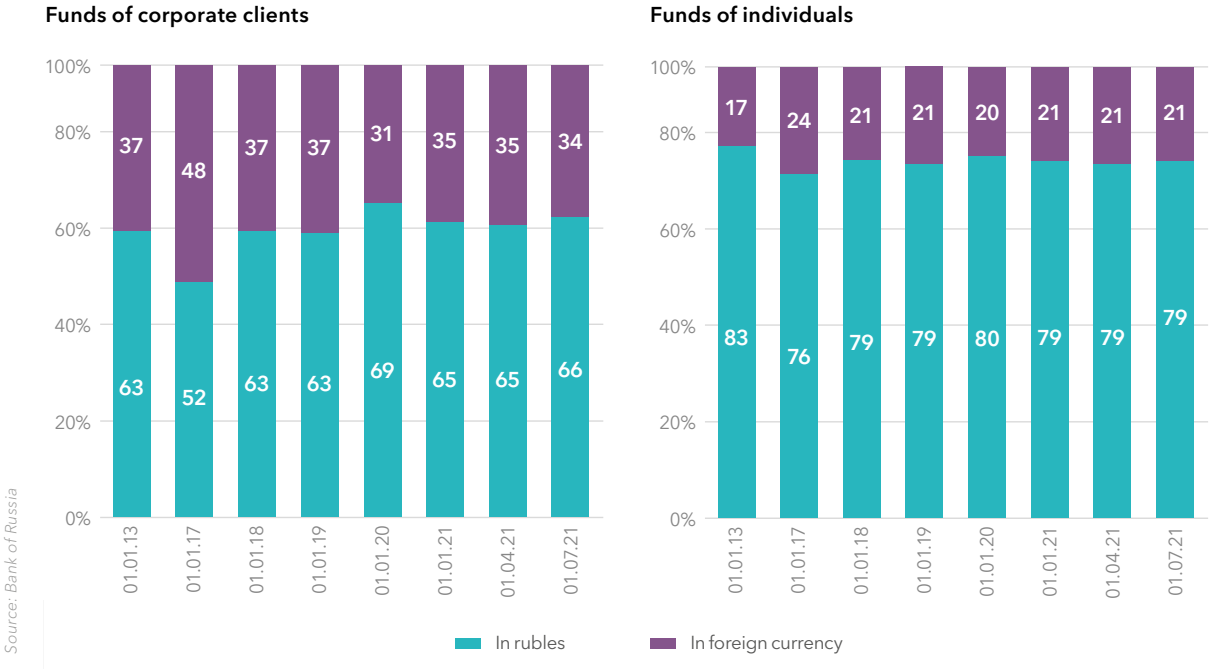
Trends in the structure of client funds in the context of the terms of raising, %



Source: Bank of Russia

A notable trend of the last two years is a significant flow of funds from both corporate clients and individuals from deposit accounts to current accounts. This can be partly explained by the decrease in the differential of passive interest rates observed before the beginning of Q2 2021. Along with the reduction of market rates for term accounts, a number of banks, in addition to cashback programs, set interest rates for current accounts in order to expand their client base. Another explanation is that current accounts, as digital forms of payments are promoted, increasingly acquire the properties of a turnover cash account.

Trends in the structure of client funds in the context of the terms of raising, %



Source: Bank of Russia

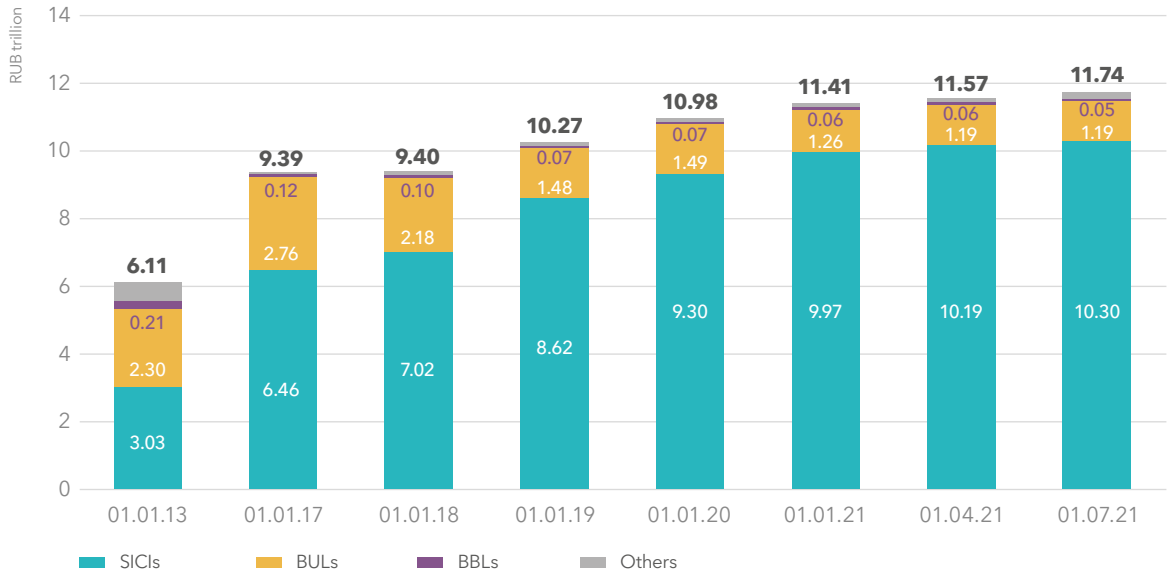
The coronavirus pandemic did not have a significant impact on the structure of both deposits and funds of legal entities, as well as deposits of individuals by used foreign currency. There was a slight increase in the share of balances on corporate clients' accounts (from 31% to 35%), while the ratio of individuals' account balances denominated in rubles and in foreign currency remained at the same levels. Therefore, despite the strengthening of inflationary processes and the volatility of the ruble exchange rate, there was practically no trend of foreign currency predominance (dollarization) in the Russian economy.

2.5. Capital and financial result

- According to H12021 results, despite the general macroeconomic instability, banking sector capital has maintained its upward trend increasing by 2.9% to RUB 11.7 trillion. The N1.0 adequacy ratio has increased from 12.5% to 12.6%, the N1.1 ratio has increased from 8.7% to 9.2%, the N1.2 has increased from 9.7% to 10.3%.
- There have been positive changes in the trends in macroprudential indicators of banking efficiency. There has been an upward trend in the movement of return indicators of banking activities for all groups of banks including banks with a basic license.
- The H1 2021 net profit of the Russian banking sector amounted to almost RUB 1.2 trillion, which is a record in the history of the indicator for this period.High profitability of the banking sector is driven by interest income stabilization, banks' commission income growth amid economic recovery and the reserves writeback.

According to H1 2021 results, despite the general macroeconomic instability, banking sector capital has maintained its upward trend increasing by 2.9% to RUB 11.7 trillion. The entire uplift was achieved by systemically important credit institutions while all groups of credit institutions met the capital adequacy ratios. The N1.0 adequacy ratio has increased from 12.5% to 12.6%, the N1.1 ratio has increased from 8.7% to 9.2%, the N1.2 has increased from 9.7% to 10.3%. According to the Bank of Russia's calculation[1], the capital stock has also recovered to RUB 6.0 trillion (about 10% of the loan portfolio, but it should be noted that it is distributed unevenly among banks).

Capital trends by credit institution groups, trillion rubles

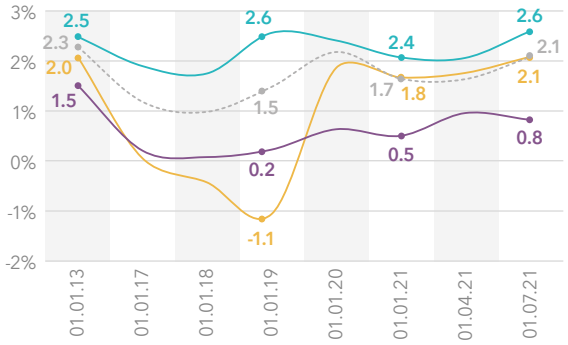


Source: calculated based on Bank of Russia's data and credit institutions' reports

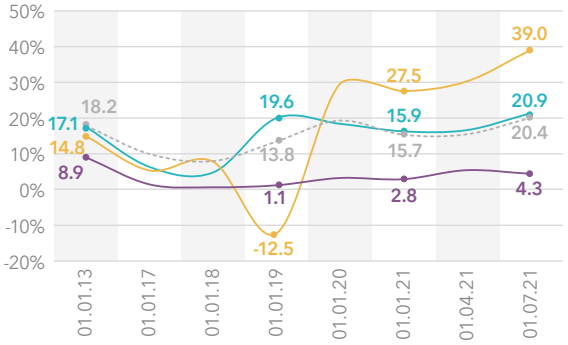
[1] *The calculation was made on June 30, 2021 as the minimum of the loss absorption stocks calculated according to three ratios adjusted for unaudited profit reclassified to Tier 1 capital and the positive effect of the loss on risk-weighted assets.*

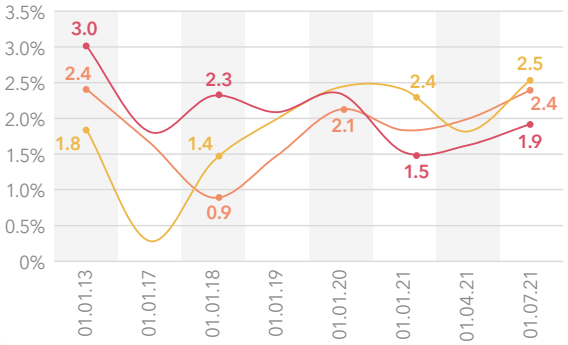
There have been positive changes in the trends in macroprudential indicators of banking efficiency. While in 2020 the indicators of return on capital and assets decreased not only for the banking system as a whole, but also for all groups of banks (including SICIs), January – June 2021 results show a completely different picture. There has been an upward trend in the movement of return indicators of banking activities for all groups of banks, including banks with a basic license[2].

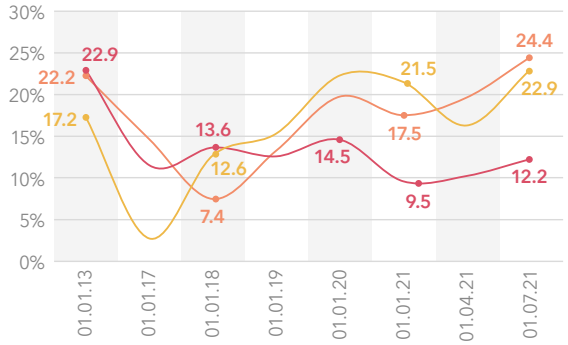
Return on assets by bank groups



Return on capital by bank groups







Source: calculated based on Bank of Russia's data and credit institutions' reports

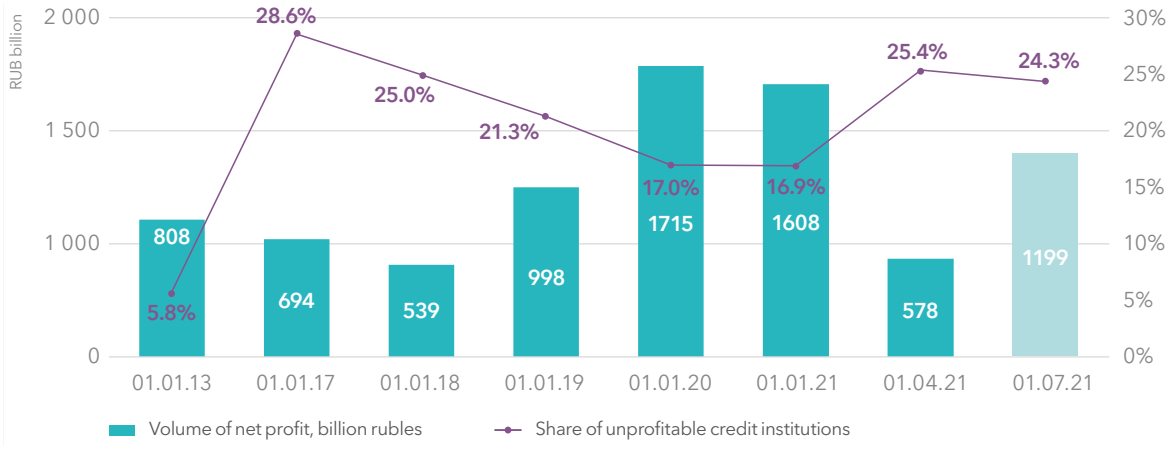
In all classifications, systemic credit institutions and banks with state participation are (with a few exceptions) included in the leading group, which reflects their higher operational efficiency and competitiveness, as well as their use of "non-copyable privileges". It is also noteworthy that the positive trends in the return on assets and capital have been shown by banks with a basic license, although their activities are limited not only by the size of capital, but also by the legally fixed limitations of their functionality. The data provided indicate that banks with foreign participation were more guided by conservative estimates of the risks assumed, in contrast to state-owned and private banks.

[2] *Return indicators are calculated as the ratio of the financial result (before tax) for the 12 months preceding the reporting date to the average historical value of assets (capital) for the same period. The calculation takes into account data on credit institutions that disclose financial statements during the period under review.*

The H1 2021 net profit of the Russian banking sector amounted to almost RUB 1.2 trillion, which is a record in the history of the indicator for this period. In Q1 2021, banks made a profit of RUB 578 billion, and in Q2 – RUB 621 billion.

H1 2021 profit is almost twice as high as the result of H1 2020, when banks earned RUB 630 billion. According to Bank of Russia's estimates, "provided there are no unforeseen events, year-end profit may reach RUB 2 trillion or more".

Financial result



Source: Bank of Russia

High profitability of the banking sector is driven by interest income stabilization, banks' commission income growth amid economic recovery and the reserves writeback. At the same time, the financial result was distributed very unevenly across various groups of banks. Systemic credit institutions accounted for more than 80% of the profit. In general, 72% of credit institutions, which account for 93% of the total assets of the banking sector, received profit.

The main sources of profit increase/decrease in January – June 2021

The largest contribution to profit increase (+ RUB 431 billion) was made by a reduction in contributions to loan loss provisions (up to RUB 298 billion instead of RUB 729 billion last year). The second most important source was the growth of net interest income (+ RUB 223 billion), which was driven not only by an increase in operational efficiency, but also by an increase in the differential between the active and passive rates in the conditions of an increase in the key rate of the Bank of Russia. Special attention should be paid to the growth of the financial result from commissions (+ RUB 150 billion), which is due to the receipt of income from cash and settlement services and from the provision of brokerage services. Among the negative factors, the main role was played by an increase in operating expenses (+ RUB 110 billion) and a twofold decrease in income from revaluation and foreign currency transactions (from RUB 122 billion to RUB 56 billion).

03

Financial industry digital transformation

3.1. Financial industry development models and trends: shifting the paradigm

- The digital revolution paved the way for disruptive technology to penetrate many aspects of our lives including financial industry. The integration of FinTech into all financial market segments has revolutionized its architecture. Standard financial services models are superseded by hybrid (symbiotic) emerging structures blurring and nominalizing their boundaries;
- Clients are increasingly focusing on remote services across the whole range of financial services and payments. Enabled by open interfaces and marketplace technology, they can now choose preferred bank and options to receive required financial and other services;
- The pandemic has accelerated financial services digitalization driving sharp increase in online payments and transfers, demand for loans and other financial services. Accordingly, remote services requirements have been raised as well. This generation is witnessing a shift in the historical customer service paradigm, with digital user interaction with banks and other entities no longer being an exception to the normal but rather the new normal.

Financial industry has entered a radical business approach disruption phase. Explosive development pattern of digital technology drives qualitative change in the industry's architecture and servicing operations environment. Standard financial services models are superseded by hybrid (symbiotic) emerging structures blurring and nominalizing their boundaries.

Historically, finance services meant a body of lending institutions (banks), non-lending financial institutions and regulators forming an economic sector generating and providing financial services. Despite existing multiple diverse national financial services models, they can be aggregated and presented in two standard models: the bank-based model and the market-based model. These two models are distinguished by the share of the country's banking system in financial sector's total assets.

Standard models in financial industry

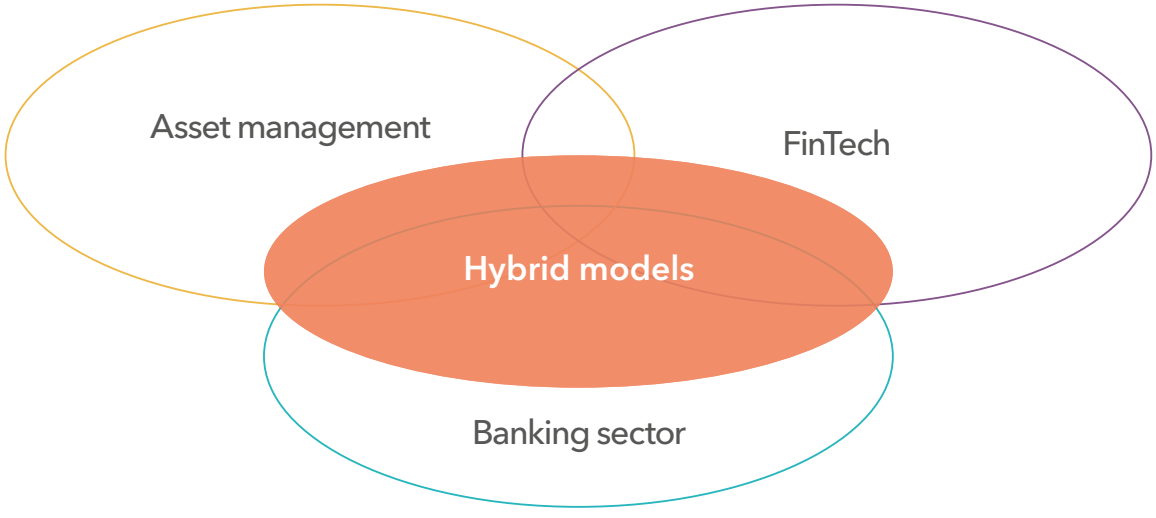
Bank-based model	Market-based model

If the share is more than 50%, the country is included in the bank-based category, and vice versa. This metric demonstrates that the market-based model is mainly typical of developed countries where stock markets are highly saturated with debt and equity financial instruments. However, the distinction between these two models had always been notional to a certain degree as banks had not only acted as loan intermediaries, but had also been heavy professional securities market participants. Nevertheless, supervisory frameworks in the banking sector and the financial markets remained largely autonomous from each other.

Powered by evolving securitization, transition to structured financial products, and extended scope of consolidation procedures, a financial services model hybridization (symbiosis) trend emerged. This produced the non-bank financial intermediation model* which, although being quite nuanced, still remained within the traditional financial services paradigm. This model affected financial stability which gave authorities additional incentives to implement cross-sector regulation and supervision.

The digital revolution paved the way for disruptive technology to penetrate many aspects of our lives, including financial industry. FinTech integration into all financial market segments has revolutionized its architecture. Driven by the transition to digital platforms, the nature of relations between financial service providers and consumers has been transforming. As platform-based economy emerges, the real and financial sectors will increasingly digitally merge rather than merely interact.

Hybridization of the financial industry



* *The term "non-bank financial intermediation" was officially adopted by the Financial Stability Board in 2018 and defined as "loan intermediation including organizations and activities outside the regulated banking framework (in full or in part)". Prior to this, the term "shadow banking" had been used since 2010.*

Information technology development has reached a level facilitating collection, processing, storage and provision of large amounts of data about both producers and consumers of products and services while building efficient communications via digital channels. In the foreseeable future, financial services as we know them will be no more. Disruptive technology (IoT, Big Data analytics, artificial intelligence, distributed ledgers, RPA, etc.) has moved beyond creating the right conditions for financial ecosystems towards actually building them.

Cutting-edge remote access technology is the key advantage of digital banking. While the traditional banking client interactions took place at bank offices, now mobile devices are taking its place. Clients are increasingly focusing on remote services across the whole range of financial services and payments. Enabled by open interfaces and marketplace technology, they can now choose preferred bank and options to receive required financial and other services.

Traditional vs digital banking

Traditional banking	Digital banking
• All client experience and knowledge are focused on the single touchpoint: the bank office; • The bank office is the starting point for client interactions; • Physical proximity of the bank office matters; the customer should be able to easily get there; • Digital services are complimentary to the bank office services; • Products and service are standardized rather than tailored; • Client experience and knowledge may vary depending on the selected service channel.	• The focus of client experience and knowledge is the client itself; • The client chooses preferred channel to communicate with the bank and does not have to go to the bank office to initiate interaction; • The client may be located anywhere physically as all services are provided remotely; • The client service model revolves around digital services independently from the bank office network; • Products and services are customized to suit client needs; • Omnichannel-enabled client knowledge and experience are accumulated in a single point regardless of the selected service channel.

Now, consumers of financial services focus on the simplicity, security and speed of transactions, and the ability to receive not only banking, but also other services through a common interface. The marketing strategies of banks and other financial institutions in the digital era focus on customizing services for different customer groups based on Big Data analysis and the increasing use of artificial intelligence.

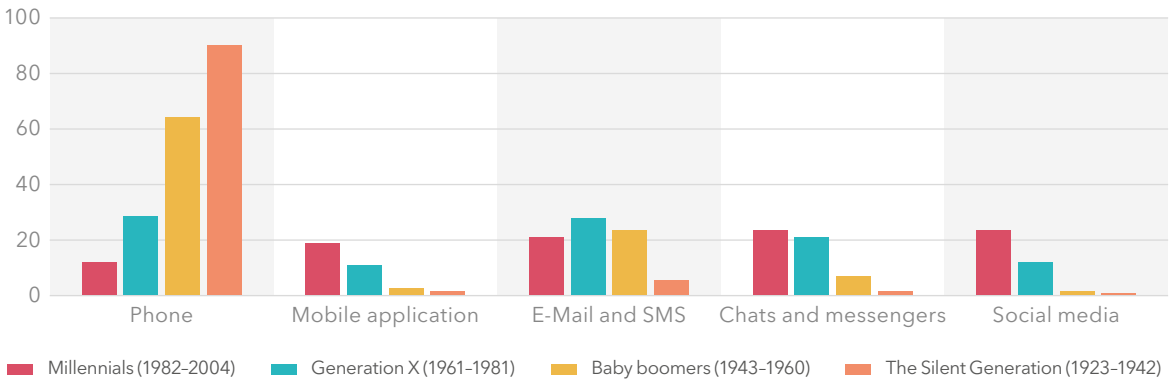
Key financial services customization metrics

Focus area	Description
Product personalization	Developing highly customized offerings enabled by deep client data analysis (financial standing, consumer behavior, etc.). For instance, designing co-branded credit cards with custom privileges based on client preferences, etc.
Website content personalization	Harnessing artificial intelligence to tailor content to the client and create dynamic content. For instance, if the client starts applying for a financial product remotely but has not completed all necessary steps, the system would notice it and send a reminder or help make an in-person appointment with the manager at the bank office.
Targeted messages and advertisements	Sending individually relevant mobile messages to clients. For instance, the bank has come to know that the client is a fan of gaming, but hardly ever travels. In this case the client will receive a message about a new credit card for gamers or about game discounts rather than about a new mileage accrual service. Granular client base segmentation facilitates increasingly effective advertising.
Engagement strategy	Messages with a straightforward product/service offering are being succeeded by strategies seeking to engage the client to cooperate with the financial institution driven by feedback loops and client expectations from the new product.
Channel personalization	• Building an integrated multichannel client interaction environment. Each new operator joining the conversation with the client for the first time should have all available information about the client's issue and preferences; • Tailoring channels to client's needs.
Lifestyle banking	Offering the so-called financial life guide for mass clients. The guide is a digital ecosystem which should be able to fully satisfy all financial needs of the client: from mortgage and insurance policies to travel and restaurant booking.

Source: I.A. Sedykh, Innovative Financial Technology and Services Market, HSE University, HSE Centre of Development Institute, Moscow, 2019

New consumer generations drive digital channels development. There are different classifications of generation timeframes but regardless of the variations each new generation is psychologically and technically better equipped to communicate via social media and chats, to be a prolific user of digital solutions. Many studies have shown that the consumer generation – centennials (Generation Z, born 2005 – present) and subsequent generations will almost fully focus on digital and mobile technology.

Communication preferences by consumer generation, %

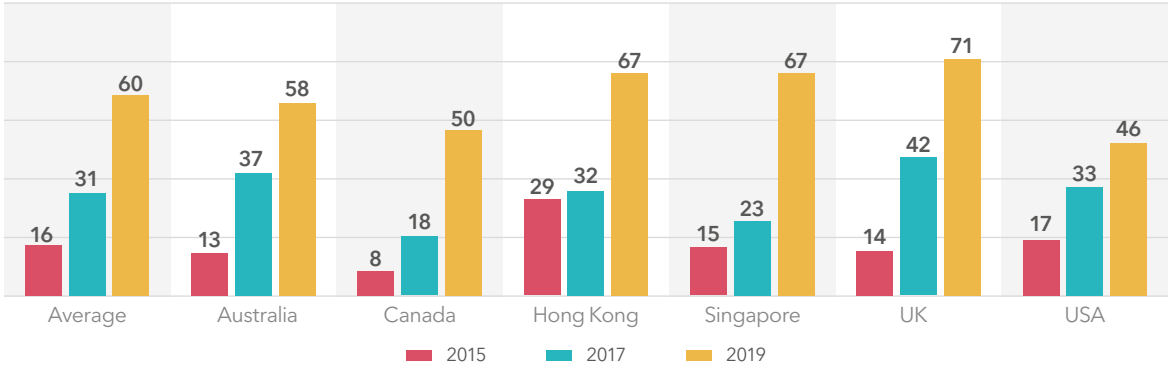


Source: I.A. Sedykh, Innovative Financial Technology and Services Market, HSE University, HSE Centre of Development Institute, Moscow, 2019

Daring beyond conservative transactional skills and ways of doing things, or overcoming the "fear of innovation", is an important digital financial services driver. In this context, it is useful to look at Global FinTech Adoption Index 2019, the third survey conducted by Ernst & Young Global Limited. The first two surveys were conducted in 2015 and in 2017.

The 2019 survey had a very telling lead: "As FinTech becomes the norm, you need to stand out from the crowd". The FinTech Adoption Index was calculated based on a survey of more than 27,000 financial services consumers across 27 countries. The survey was based on five financial services categories: money transfer and payments, budgeting and financial planning, savings and investment, borrowing and insurance.

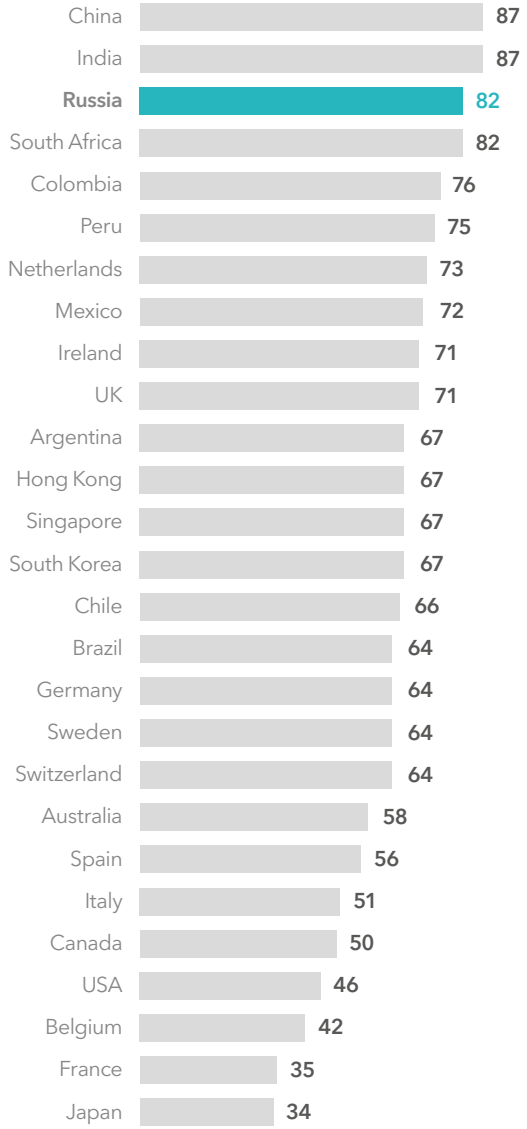
Comparison of FinTech adoption in six markets from 2015 to 2019



Source: Global FinTech Adoption Index 2019, Ernst & Young Global Limited, June 2019

The survey results show a significantly more positive change in financial services consumers' evaluation of the FinTech potential in 2019 vs 2015. To assess this change, EY looked at comparative FinTech use trends for financial transactions in developed countries and territories. EY notes that when they published their first global EY FinTech Adoption Index in 2015, a clear minority of respondents were interested in FinTech. However, the 2019 survey revealed that FinTech services had achieved initial mass adoption.

Consumer FinTech adoption across 27 markets, % of respondents



FinTech adoption leaders in terms of the share of FinTech-enabled services users of the total active digital users in the country are China (87%), India (87%), and Russia (82%).

Compared to 2017 survey results, the top 3 countries are the same. However, in China FinTech adoption has increased by 18 p. p., in India – by 35 p. p., in Russia – by 39 p. p.

Russia is the global leader in terms of FinTech adoption in the money transfer and payments category – 100% Russian respondents are familiar with such services (global – 96%).

The main reasons behind going to FinTech providers in Russia in 2019 are more attractive rates and fees (27%), the ease of setting up an account (26%), access to different and more innovative products and services (24%), better experiences (9%).

Source: Global FinTech Adoption Index 2019, Ernst & Young Global Limited, June 2019

The most notable (except for the US, where it failed to rise over the psychologically important 50% threshold) FinTech Adoption Index increase was noted in 2019. On average across the reviewed countries and territories, it reached 60%. Results of the 2019 survey covering 27 countries were even more impressive. FinTech has become mainstream in all the surveyed markets. Only 4% of global consumers are not aware of money transfer and payment FinTech services. The adoption rate is growing faster than anticipated. The actual global adoption rate of 64% in 2019 exceeds by 12 points the future adoption rate predicted by the 2017 survey. On the one hand, this trend indicates improved FinTech literacy of the population; on the other hand, it indicates the competition arena is gravitating towards digital finance.

The coronavirus pandemic has accelerated financial industry digitalization driving sharp increase in online payments and transfers, demand for loans and other financial services. Accordingly, remote services requirements have been raised as well. This generation is witnessing a shift in the historical customer service paradigm, with digital user interaction with banks and other entities no longer being an exception to the normal but rather the new normal.

In the near future, an overwhelming majority of customers will be choosing to download a mobile application while visiting the offices of banks and other financial institutions only in case of extreme necessity. Embedded finance tools will be squeezing out banking applications enabling integration of payments, debit cards, loans, insurance and even investment assets into almost any non-financial product. This will stimulate continued ecosystem banks' penetration into third-party services. The banks as such may become "invisible". Users will be increasingly choosing not the bank, but the offering in a specific context.

Mass transition to remote services drives the digital infrastructure simplification trend. Low-code (minimum coding requirements) platform developers will soon start offering practical solutions. Artificial intelligence and machine learning will facilitate unmanned technology: virtual assistants (voice consultants, chatbots, robo-advisors and service robots), document and image recognition systems based on computer vision, smart credit scoring solutions powered by neural networks, etc. Platform solutions will be one of the most in-demand FinTech segments: omnichannel front office solutions, analytics platforms, banking applications builders, customer experience analytics platforms, digital and personalized marketing platforms, blockchain platforms.

Transition to extended use of artificial intelligence and machine learning is a major game changer in financial industry. Today many large banks already issue loans to customers and SMEs based AI assessment. Machine learning in credit risk management is being actively promoted. AI helps detect fraud in banks tracking anomalous client and their own employee behavior patterns. Robots toil away at stock exchanges and FOREX markets. Major financial institutions use artificial intelligence to detect stock trading malpractices. In the next 3 to 5 years, artificial intelligence will become an indispensable assistant in current and applied tasks execution and strategic decision-making alike.

Experts believe a consistent AI-enabled system validation toolkit will be a key enabler for transparent consumer-producer-regulator interactions. This toolkit will satisfy the regulator's needs while providing an adequate degree of freedom to protect software manufacturers' and teaching model owners' intellectual property.

Currently, mass use of AI is limited by its high cost, security standards and lack of competency in the market. Another important aspect is that a robot is an actor at work but not a person at law. Hence, there is a need for a regulatory regime determining the parts of an AI-based framework that should be visible to all stakeholders.

Another key trend in digital economy development are IoT-enabled asset and right tokenization options with potential to cover all aspects of society. Not only financial but also tangible and even intangible assets may soon be tokenized. For the first time in human history, valuable properties and financial assets will be transfigured into connected, digital form. However, to widely use tokenized assets, we need comprehensive software solutions enabling transfer of assets to digital media. To date, most software solutions capable of asset tokenization remain concepts or prototypes. As these mature, the digital merger of finance and non-finance sector will continue to solidify.

3.2. Marketplaces and ecosystems in financial intermediation

- The digital revolution has laid the foundation for the transition to a platform economy, the base of which is formed by marketplaces and ecosystems. Any ecosystem model forms a dynamic network, which, primarily due to network effects, cost sharing and economy of scale, serves as one of the key sources of competitive advantage and market dominance.
- Digital ecosystems are created in various industries and spheres, but the common thing that connects them is making settlements between participants, mutual lending, and attracting investment. The functioning of a full-fledged ecosystem is impossible without the integration of financial services into it, which can take various forms: from partnership to positioning a bank as a parent organization of a specific ecosystem.
- The peculiarity of the Russian model of transition to digital ecosystems is that it simultaneously moves in two directions: on the one hand, on the basis of and within the banking sector, and on the other hand, within the framework of those search engine, telecommunications and other companies that actively use innovative technologies to become more competitive.

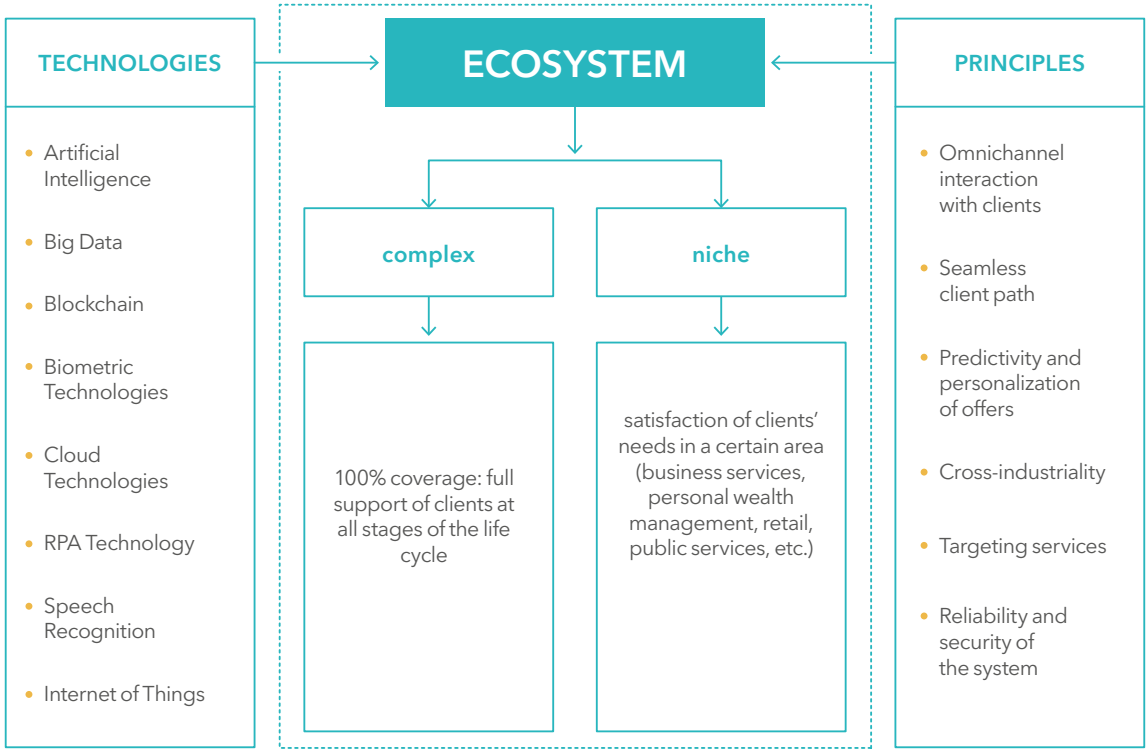
The digital revolution has laid the foundation for the transition to a platform economy in which marketplaces and ecosystems play a systematically important role. Eight companies of the top 10 Biggest Companies in the World by Market Capitalization are already implementing an ecosystem business model. Digital platforms offer various seamlessly integrated products and services that cover the widest possible range of customer needs of various profiles. The main feature of ecosystems is that a client through one of participating companies can get access to all other companies included in the ecosystem through related services.

"Ecosystem (digital ecosystem) means a set of services, including platform solutions, of one group of companies or a company and partners allowing users to obtain a wide range of goods and services within a single seamless integrated process. An ecosystem may include open and closed platforms. The range of services offered by the ecosystem satisfies most of the daily clients' needs or is built around one or more of their essential needs (ecosystems at the initial stage of their formation or niche ecosystems)"[1]

[1] *Consultation paper 'Ecosystems: regulatory approaches', Bank of Russia, Moscow, April 2021, p. 46*

The basis that unites organizations and companies is technological platforms with different access modes for all participants. They allow you to form offers for the most complete satisfaction of clients' needs in various areas, taking into account their consumer preferences. The technical capabilities that the created ecosystem provides to its participants include a customer identification system, fast data exchange, unified software interfaces, and other services. Ecosystems, being multilateral markets (platforms), can be internal, being part of the production process or part of the supply chain (ensuring coordination between customers and suppliers) or external, where the platform leader combines the external capabilities of participating companies.

Technological foundations and principles of building a digital ecosystem



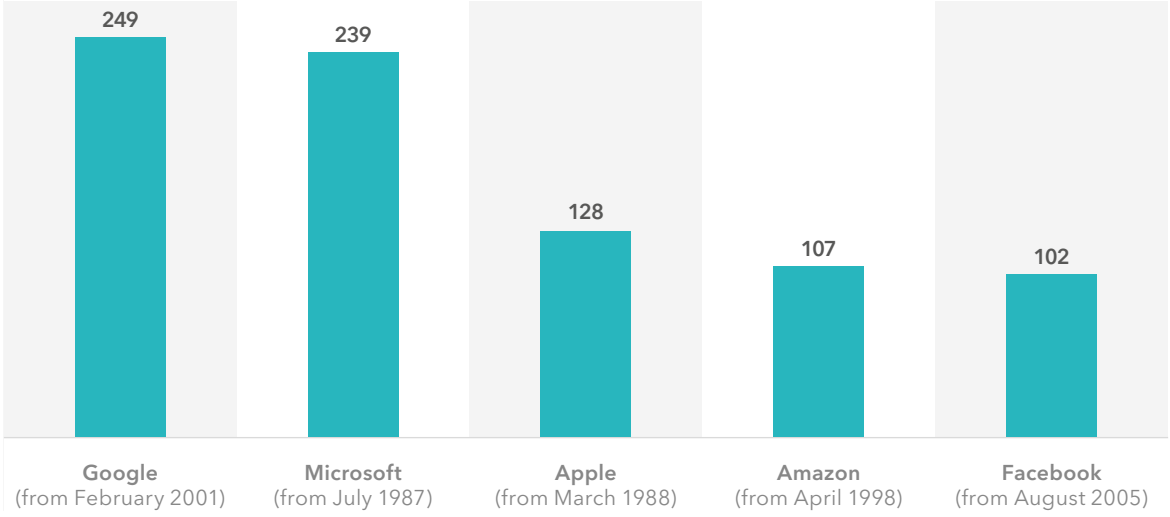
An ecosystem is arranged according to the principle of microservices, where each of the elements represents a separate business direction (for micro-level ecosystems) or an organization (for macro-level ecosystems). Each element of an ecosystem (microservice) develops independently of the others, so its installation, update or other change does not affect the overall state of the ecosystem. While, each element may potentially be replaced by another. Thus, the basis of any ecosystem model is formed by a dynamic network, which, primarily due to network effects, economy of scale and cost sharing, serves as one of the key sources of competitive advantage and market dominance.

The network effect is a phenomenon of the growth of the consumer value of a network as the number of units of this network increases. In economics, this is an effect in which the value of a product or service for one user depends on the number of other consumers of this product (service). The nature of the positive network effect is expressed by Metcalfe's law, which states that the value of a network is proportional to the square of the number of its users.

Metcalfe's law states that the utility of a network is proportional to half the square of the number of users of this network $\approx n^2/2$. In practice, this means that if one connection in the network brings 1 conditional unit of benefit to a person, then with a group of 10 people, this benefit represents 45 conditional units, 2.000 people – more than 199 million conditional units, and so on, it grows in a quadratic dependence.

Historically, the largest ecosystems have emerged on the basis of large technology companies (Big Tech), which have significant data sets and a wide customer bases, which allows them to use network effects, as well as economy of scale, to strengthen their market power. Along with establishing partnerships, Big Tech companies are actively conducting mergers and acquisitions (M&A) to solve their strategic tasks.

GAFAM mergers and acquisitions from 1987 to 2020



Source: Parker G., Petropoulos G., Van Alstyne M., (2021) 'Platform mergers and antitrust, Working Paper 01/2021, Bruegel

Over time, ecosystems began to be created in other types of activities, primarily in those that had the potential for network effect and established partnerships with FinTech companies. Currently, the types and organizational forms of ecosystems are in the process of formation, which makes it difficult to classify them. In particular, according to the criterion of a parent company, the following three key models of digital ecosystems can be distinguished:

1. The American-Chinese model or Big Tech FinTech. This model is dominated by solutions offered by large technology companies (for example, GAFAM (Google, Apple, Facebook, Amazon, Microsoft) in US and BAT (Baidu, Ant Financial, Tencent) in China. Big Tech companies are the center of such ecosystems.
2. The European model or startup FinTech. This variant of FinTech development is dominated by solutions offered by startups and new companies, which usually specialize in one or more niche offers. In other words, FinTech startups are the center of ecosystems.
3. The Russian model or traditional FinTech. This model assumes the development of FinTech within the traditional participants of the financial services market (banks, payment systems, etc.). In other words, the center of ecosystems is the traditional intermediaries in the financial services market[2].

In the presented classification, not only the geographical division of the models is conditional, but also the fact that they are presented as alternative scenarios for market development. In reality, this approach reflects the institutional features of the formation of ecosystems in different countries, but it does not fully take into account the hybrid nature inherent in all models. Its essence is in the fusion of digital technologies of FinTech and banking. Economy of scale, cost sharing, and network effects are just a means for ecosystems to strengthen market power, while the goal is to monetize it.

Digital ecosystems are created in various industries and spheres, but the common thing that connects them is making settlements between participants, mutual lending, and attracting investment. The functioning of a full-fledged ecosystem is impossible without the integration of financial services into it, which can take various forms: from partnership to positioning a bank as a parent organization of a specific ecosystem.

The choice of the form of merging (hybridization) of FinTech and banking is largely determined by the peculiarities of the regulatory environment, but not by them only. Global American Ecosystems (GAFAM) can get any license, but this would mean a departure from pragmatism as a business philosophy. Given the global scale of their activities and the priority nature of their promotion to foreign markets, the creation of their own platform for the provision of the entire range of financial services would require the formation of megabank groups. For that very reason, it is more profitable for American Big Tech companies to establish partnerships with third-party banks rather than incur disproportionately high costs to create their own full-scale financial service, while also falling under strict regulatory pressure. The exception is the payment service, which involves obtaining only a limited license that allows Big Tech companies to form a "full cycle" client path within the ecosystem services.

[2] *See Digital transformation of financial services: development models and strategies for industry participants, Center for Research in Financial Technologies and Digital Economy Skolkovo-NES (New Economic School). 2019.*

Unlike American global ecosystems which use the partnership model for all financial services (with the exception of the payment service), Chinese Big Tech companies have taken the path of creating relatively autonomous financial institutions within ecosystems. To a certain extent, the reasons for this are rooted in the fact that, despite the importance of promoting to foreign markets, priority was given to the development of services within the country. Despite the fact that Chinese banks occupy leading positions in the world in terms of assets, the main functionality of retail financial services is concentrated in products of Ant Financial (AliPay) and Tencent (WePay/WeChat). In particular, WeChat, integrating the functions of WePay, has taken the place of one of the key apps for the population, which keeps everything from government identification documents (a digital copy of a passport) to a messenger and a taxi order service.

Therefore, currently, there are two fundamentally different ways to incorporate payment services into present-day platform solutions: as an add-on to an existing retail payment system (Apple Pay, Google Pay) or within proprietary payment and settlement system (Alipay, Tenpay, well-known for its WeChat Pay service)[3].

The peculiarity of the Russian model of transition to digital ecosystems is that it simultaneously moves in two directions: on the one hand, on the basis of and within the banking sector, and on the other hand, within the framework of those search engine, telecommunications and other companies that actively use network effects and innovative technologies to become more competitive. The common thing that unites them is the merging of banking, FinTech and startups, or, in other words, the creation of digital ecosystems whose services provide a "full cycle" of user service.

The difference between these approaches to creating an ecosystem business model is in the ways to achieve this goal. Banks achieve it by going beyond the perimeter of providing financial services through either procedures for joining non-financial companies, or establishing partnerships with them. Unlike banks, most large search engine, telecommunications, and other network companies in Russia either create banks (MTS Bank), or buy them (Yandex acquired Acropolis commercial bank, Wildberries bought Standard Credit commercial bank and renamed it Wildberries Bank). Mail.ru Group is creating a specific model of a digital ecosystem. It describes itself as an "ecosystem of ecosystems", but it has actually established a partnership with SberPJSC.

In Russia, the concept of "ecosystem of the digital economy" was first introduced at the legislative level in 2017 as "a partnership of organizations ensuring the continuous interaction of their technological platforms, applied Internet services, analytical systems, information systems of public authorities of the Russian Federation, organizations and citizens"[4].

[3] *Consultation paper 'Ecosystems: regulatory approaches', Bank of Russia, Moscow, April 2021, p. 11.*
[4] *Decree of the President of the Russian Federation of May 9, 2017 No. 203 'On the Strategy of the Information Society Development in the Russian Federation for 2017–2030'.*

At the initial stage of creating digital ecosystems, Russian leading banks had a number of undeniable advantages: huge customer bases, recognizable brands and extensive financing opportunities, either through lending, or at the expense of own and attracted funds. However, in the event of a transition to the application of strict regulatory standards, banks may face problems of capital adequacy and risk management, which will limit the expansion of the ecosystems they create.

The ecosystems competing with them, where non-financial companies are the main ones, are in a different position. Due to the multiplication of network effects and the use of embedded finance technology, even within the framework of strict regulation, they can successfully compete with ecosystems led by banks. However, their business expansion opportunities are constrained by the limited investment resources needed both for the development (acquisition) of fundamentally new technological solutions and for conducting M&A transactions.

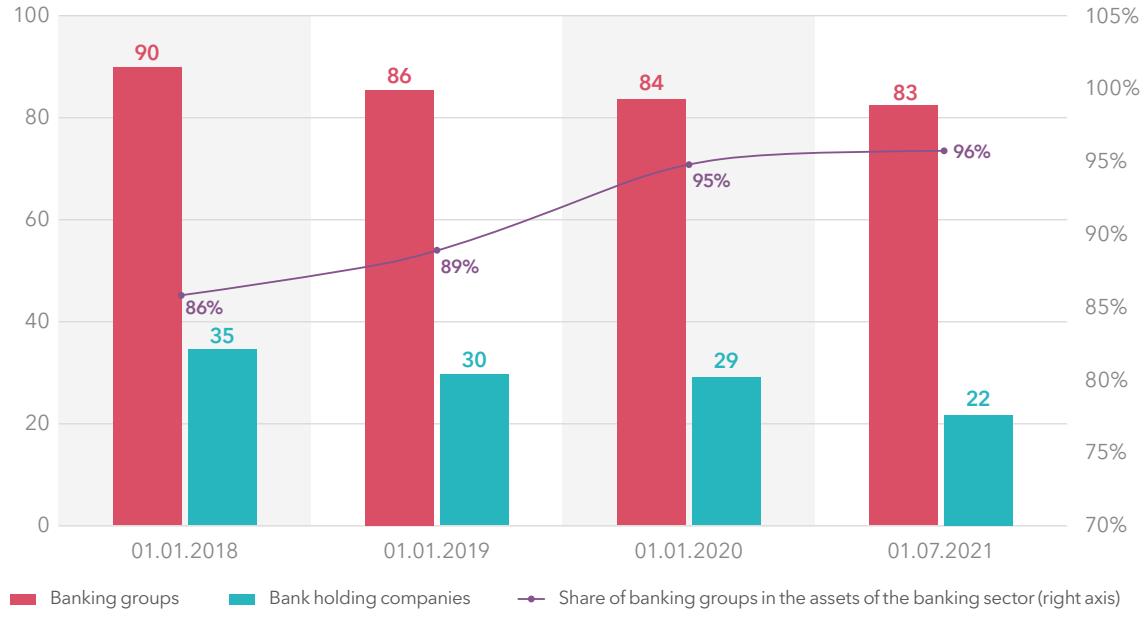
It is also necessary to take into account that in the near future the configuration of the competitive field of digital ecosystems will increasingly be determined by the access modes of participants, which can be either open and closed, or hybrid. World practice shows that the main trend is moving towards a hybrid access model that combines open and closed segments. Through the possibility of creating many sets of these combinations, conditions are being created for the formation of the most unexpected alliances and partnerships, including those that will be able to successfully adapt to any regulatory environment, including antitrust policy.

The scenarios for the development of ecosystem business may be different, but the reality is that today in Russia the main initiator of the transition to an innovative path of development is the banking sector, which is among the leading industries in terms of the level and pace of digitalization promotion. Banks, and above all those that are the main ones in the banking groups, play the role of key drivers of digitalization of the entire economy and social sphere. It is the banking sector that has made the most progress in creating digital ecosystems.

The need to switch to digital formats is not determined for banks only by the desire to increase the operational efficiency and profitability of business. It is facilitated by the active process of moving sales of banking services from offices to social networks, messengers, and mobile apps. An equally significant factor is the competition for clients with non-financial companies, which, in alliance with FinTech companies and startups, take on part of the functions of banking services. This mainly concerns making payments, lending, and investment consulting.

In these conditions, banks are faced with the task of not just countering the "cutting out the middlemen" (disintermediation), but of developing and implementing strategies for advanced digital development. The options for solving these tasks are determined by a set of factors, among which the size of capital and the scale of activity are of particular importance, the choice of a business model and priority areas of positioning in the financial services market, the willingness to establish and develop partnerships with FinTech companies.

Banking groups and bank holding companies in the Russian financial industry



Source: data of the Bank of Russia

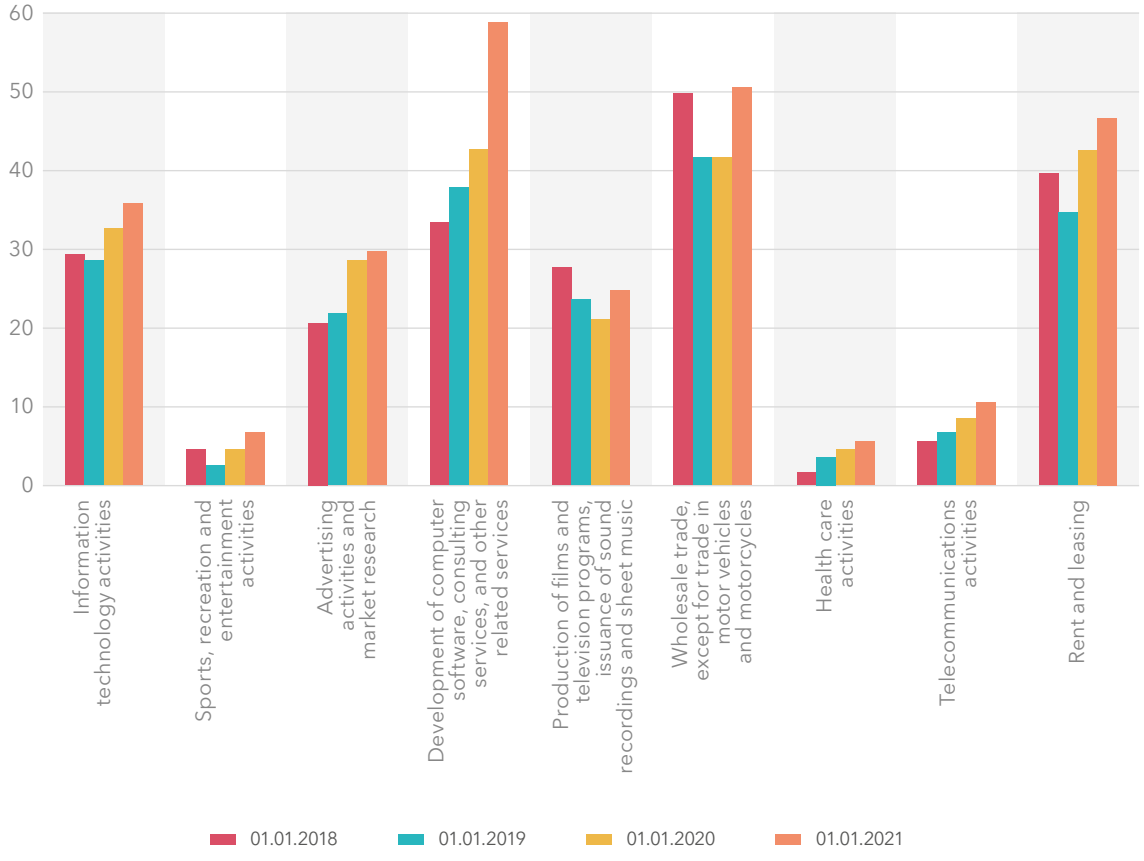
It is also of great importance that the Russian banking system to a large extent is already providing financial services to customers on a consolidated basis. As of July 1, 2021, there are 83 banking groups and 22 bank holding companies in Russia, which include all types of financial intermediaries. They account for 96% of the total assets of the banking sector.

The largest Russian banks, primarily systematically important ones, are actively moving towards becoming digital service organizations that provide a wide range of financial products and services. They invest heavily in FinTech and actively implement innovative pilot projects. By implementing a full-scale digital transformation, they will be able to provide customers with a wide range of services within their own financial, as well as non-financial ecosystems. However, only the leaders of the banking sector are able to build common or complex (so-called lifestyle banking) ecosystems. Other major Russian banks are focused on creating niche ecosystems. It is important to emphasize that the formation of ecosystems can occur on the basis of partnership relations between banks and companies offering certain services, as well as by including a bank in ecosystems where non-financial enterprises act as the main ones.

According to the data of the Bank of Russia, the largest banking groups have been steadily expanding the scope of their activities in recent years: a significant part of the groups have increased the number of organizations belonging to them and the set of activities, which is a characteristic of the formation of ecosystems by parent organizations of banking groups. Another fact that indicates the development of banking ecosystems is the increase in the number of participants in banking groups engaged in information technologies and telecommunications activities.

The dynamics of organizations engaged in the development of computer software and the provision of consulting services has been characterized by particularly high rates in recent years. The international review of the digitalization of commercial banks, prepared by Deloitte in September 2020, concluded that there is a high level of digitalization of Russian banks. The focus of the M&A procedures carried out by banks is on companies engaged in cloud technologies and media technologies. Many banking groups are seeking to integrate with the telecommunications industry by acquiring or establishing mobile operator companies. Thus, the emphasis is on joining (or establishing partnerships) high-tech companies from the field of high technologies and those areas that can give significant network effects.

Dynamics of the number of organizations engaged in "ecosystem" activities in groups headed by systemically important credit institutions



Source: Overview of the Russian financial sector and financial instruments. Analytics, Bank of Russia, 2020.

However, for the vast majority of banks, especially small and medium-sized ones, the implementation of such projects is out of their depth. Large-scale financial investments in digital projects are very risky for them. Resources and competencies may not be enough, and losses from an unsuccessful transformation threaten with bankruptcy. At the same time, on the basis of traditional technologies, it is increasingly difficult to maintain their already insignificant market shares in key segments of the financial services market. Customers will go to large banks offering a comprehensive digital service. The main portion of the banks will become players serving segments that are not covered by the ecosystems of large banks. Many of them will need to find a niche segment where they can be competitive. It will be very difficult, if not impossible, to do this even in narrow niche segments without transitioning to digital service technologies.

The limited funds for digital transformation are partially compensated by the creation of nationwide platforms with a set of technological services. The Bank of Russia includes the following main elements in the financial infrastructure being created that meets the needs of the digital age: express payments platform; financial marketplace; Unified System of Identification and Authentication (ESIA), including with biometrics; platform based on distributed ledger technology (blockchain), which helps to accelerate document flow between financial institutions. The link in the new infrastructure will be an open interface (Open API), which provides information interaction between all participants of the financial market. Due to the formation of a nationwide financial infrastructure, there may be a partial alignment of the competitive capabilities of various groups of banks.

Optimal structure of the Russian market

"The optimal target structure of the Russian market would include at least several major national ecosystems competing with each other and foreign actors. At the same time, niche providers will meet the demand of customers outside ecosystems, if the quality or price of a particular product or service offered by the ecosystem does not suit consumers… Smaller, niche or new platforms in the market will maintain competition with leading ecosystems, replacing them in those segments where they can offer the consumer innovative technology or services of a different quality level."

/Consultation paper 'Ecosystems: regulatory approaches', Bank of Russia, April 2021/

3.3. Central bank digital currencies: possible use scenarios

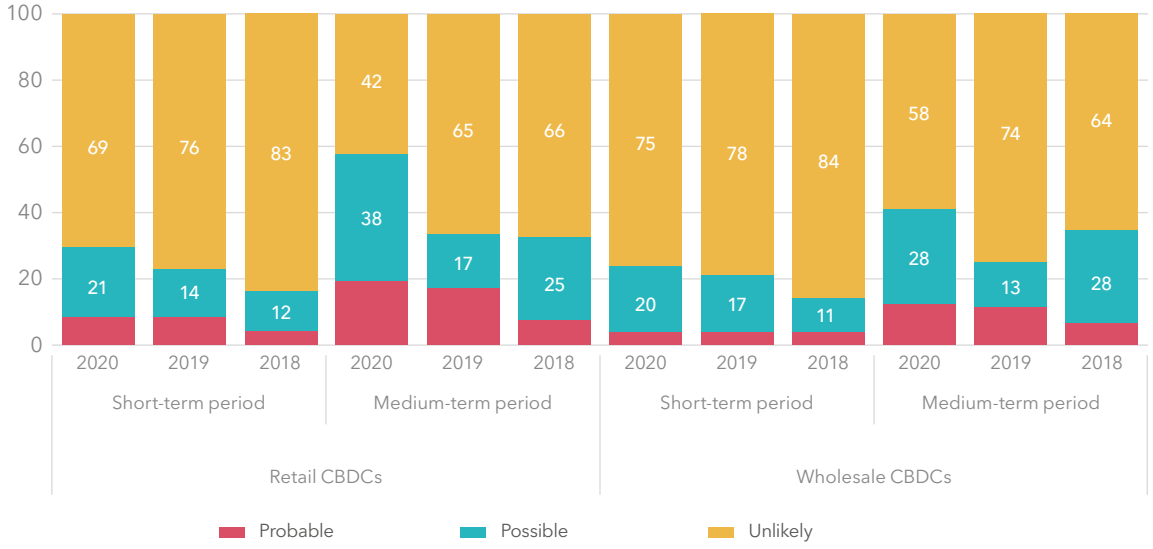
- Currently, the focus of attention of central banks has shifted to detailed discussions related to the selection of the model, ways of its implementation, and testing of CBDC (central bank digital currencies) launch options. However, the majority of central banks have not made their mind as to the design of the national digital currency yet;
- When selecting the model, each country (jurisdiction) proceeds from its priority national interests, degree of development of its financial sector and payment systems, and innovation technology capabilities;
- A special feature of the current moment is that in developed countries, efforts to create and launch CBDC projects are increasingly focused on creating digital platforms for conducting cross-border payments;
- The Bank of Russia has identified the main stages of the pilot project implementation, within the framework of which, based on the results of testing the prototype of the digital ruble platform, a roadmap for the transition to the use of the digital ruble will be developed.

Over the recent years, efforts have been intensified to create central bank digital currencies (CBDCs). The interest of central banks in the issuance of CBDCs which sharply increased in 2018 was motivated by risk of falling behind, under conditions of growing digitalization, from society needs in new payment instruments and resistance to massive use of alternative payment means in the form of cryptocurriencies, stablecoins, and other payment substitutes. The COVID-19 pandemic accelerated developments in this field, giving additional arguments in favor of money digitalization.

Currently, the focus of attention of central banks has shifted to detailed discussions related to the selection of the model, ways of its implementation, and testing of CBDC launch options. However, the majority of central banks have not made their mind as to the design of the national digital currency yet. It is important to note that only some countries moved from development of the concept to the implementation of pilot projects and even smaller number thereof to the issuance of CBDCs. Therefore, it is important to underline that there are discussions regarding central bank digital currencies ongoing across the world. They will continue based on the results of selection of relevant models and their piloting.

65 central banks representing more than 70% of the planet population and 90% of the global GDP participated in the last regular survey (Q4 of 2020) conducted by the Bank for International Settlements (BIS), devoted to developments of frameworks, models and design of CBDCs. Respondents from central banks were asked how likely it is that their countries will continue their work on CBDC in the short term (1 to 3 years) and the medium term (1 to 6 years).

Likelihood that CBDC will be issued in the short- or medium-term periods (share of respondents)



Source: C. Boar and A. Wehrli, "Ready, steady, go? – Results of the third BIS survey on central bank digital currency", BIS Paper, No. 114, 2021

In general, we may note that over the last three years the number of countries considering the CBDC issuance likely or possible within the next 1 to 6 years has grown. In the short-term forecast on the issuance of retail CBDCs, the share of conditionally optimistic estimations grew from 17% in 2018 to 31% in 2020. Within the framework of the medium-term forecast, answers look even more optimistic. Their share increased from 34% to 58%, becoming predominant.

Forecasts regarding the likelihood of transition to the wholesale CBDC model were less optimistic. In the short-term period, the number of respondents considering it probable and possible was 25% in 2020 against 16% two years before. As to the probability of transition to the issuance of wholesale CBDCs in the medium-term period, the answer in the affirmative in 2018 was given by 26% of respondents to the survey and 42% in 2020.

The analysis of answers of respondents showed that EMDE countries are more active in the CBDC project promotion. Advanced economies (AEs) have been very careful with regard to the issuance of CBDCs, some of them have slowed down the implementation of their CBDC projects.

Despite the fact that most central banks are engaged in the preparation of CBDC projects, there is no uniform understanding as to the economic nature and functions of such money form. CBDC sometimes has different meanings for central banks and analysts. There is no agreement as to how the transition to the use of CBDCs will affect the demand for money, bank deposits, credit provision and structure of financial markets. This is largely because the CBDC definition remains blurred and is subject to varying interpretations. There is still no generally accepted definition of CBDC in the literature. It is noteworthy that in the "Digital Ruble" report of the Bank of Russia (October, 2020) this term was not included in the glossary.

The definition of CBDC is a matter of not only academic, but also purely practical interest. In publications of some central banks and a number of analytical research papers, it is stated that CBDC is not only a digital substitute but also a new form of money in circulation (even new money essence) along with cash and balances held in customers' accounts with commercial banks. However, in the vast majority of official publications of central banks, CBDC is considered as a digital substitute for cash and reserves, which represent the obligations of the central bank.

This is the position taken in the joint report of the BIS and the group of leading central banks. For the purposes of this document, CBDC is defined as "a digital payment instrument denominated in the national currency, which is a direct liability of the central bank"[1]. One more specific definition of a CBDC is contained in the report made by the European Central Bank (ECB) in which the term digital euro denotes"[2] a liability of the Eurosystem represented in digital form as a complement to cash and central bank deposits" [17, p. 6]. People's Bank of China in its report on the digital yuan (July 2021) assumes that "the digital yuan (e-CNY) is mainly a substitute for cash in circulation (M0), and will coexist with physical yuan"[3].

Thus, the above-mentioned publications substantiate the thesis according to which CBDC shall coexist with other forms of money, complement, but not replace or displace them. This is the reason why CBDC cannot be legally interpreted as a completely new form (new essence) of money which, being a risk-free digital liability of the central bank may potentially become monopolistic, gradually replacing all the other money forms.

When selecting the model, each country (jurisdiction) proceeds from its priority national interests, degree of development of its financial sector and payment systems, as well as innovation technology capabilities. However, finally, the CBDC model choice largely depends on the goals set before the central bank during the pilot project implementation. During the early stages of research, the most common motivations for launching CBDCs were to reduce a cash money share, to improve financial inclusion, to ensure digitalization of settlements, and to maintain stability and security of payment systems. Furthermore, central banks of emerging market economies in general considered the large-scale transition to the use of a CBDC more likely as compared to monetary authorities in developed countries.

CBDC models are divided into two key groups: wholesale CBDCs and retail CBDCs (the latter models are also called the "general purpose" CBDC models). However, this is only the top level which is then divided by each country depending on the architecture, type of access, infrastructure, level of interlinkages and many other particular features selected by it. Regular surveys conducted by the Bank for International Settlements show that EMDEs basically prefer "general purposes" CBDCs while AEs favor "wholesale" models.

[1] *Group of central banks, "Central bank digital currencies: foundational principles and core features," BIS Joint report, No. 1, pp. 1-26, October 2020, p. 3*
[2] *ECB, "Report on a digital euro," ECB Report, pp. 1-55, October 2020, p. 6*
[3] *Progress of Research & Development of E-CNY in China, Working Group on E-CNY Research and Development of the People's Bank of China, July, 2021, p. 3*

In general, the introduction of a wholesale CBDC is likely to make the smallest impact on the monetary policy (MP), financial stability and banking sphere. In view of limitations of the wholesale CBDC model caused by the national and international framework of wholesale settlement systems, the scenario of launching a wholesale CBDC for optimization of functioning of interbank systems of settlements seems to be connected with the smallest risks.

The key risks inherent in the "general purpose" CBDC are risks of outflow of customer funds from commercial banks and "fading" of their "money creation" function with their subsequent move to the category of payment agents. An impact made by the issuance of a "general purpose" CBDC on the monetary policy implementation, financial stability and the economy in general may be extremely high. However, the nature and extent of such impact is likely to largely depend on specifics of the CBDC design selected by the country.

An important aspect of the CBDC project promotion is that countries often change terms for preparation of concepts and pilot projects. While in 2019 approximately half of central banks participating in the survey said that they were "probable" to issue a CBDC in the short term have downgraded their likelihood to "possible" or "unlikely". In some jurisdictions, the relevant plans were pushed further into the future[4].

Therefore, by now there is not enough accumulated empiric materials sufficient for making general conclusions on benefits and vulnerabilities of some or other CBDC model. We may only discuss preferences of various groups of countries with regard to the selection of the model and its configuration. It is also necessary to take into account that CBDC model development motivations may change over the course of time and enthusiasm may make way for skepticism and a wait-and-see attitude. This is evidenced by experience of CBDC project development in a number of countries.

A special feature of the current moment is that in developed countries, efforts to create and launch CBDC projects are increasingly focused on creating digital platforms for conducting cross-border payments. To a great extent, this is contributed by the growth of private transnational digital payment systems which are able to successfully compete with reserve currencies in domestic and international settlements. For some central banks, this was a trigger for activating the CBDC project promotion work.

It is important to take into account that particular models for cross-border payments selected by countries being issuers of reserve currencies (world money) will determine the future architecture of the global monetary and financial system. The Bank for International Settlements together with the Financial Stability Board (FSB) and central banks of the leading countries have already issued a number of publications determining specific actions to create digital platforms for cross-border payments. The roadmap for enhancing cross-border payments merits special attention. It was prepared by the FSB within the framework of agreements reached on the G20 Summit in Riyadh in 2020[5].

[4] *See R. Auer, G. Cornelli and J. Frost, "Rise of the central bank digital currencies: drivers, approaches and technologies" BIS Working paper, No. 880, 2020; C. Boar, H. Holden and A. Wadsworth, "Impending arrival – a sequel to the survey on central bank digital currency" BIS Paper, No. 107, January 2020; C. Boar and A. Wehrli, "Ready, steady, go? – Results of the third BIS survey on central bank digital currency" BIS Paper, No. 114, 2021*

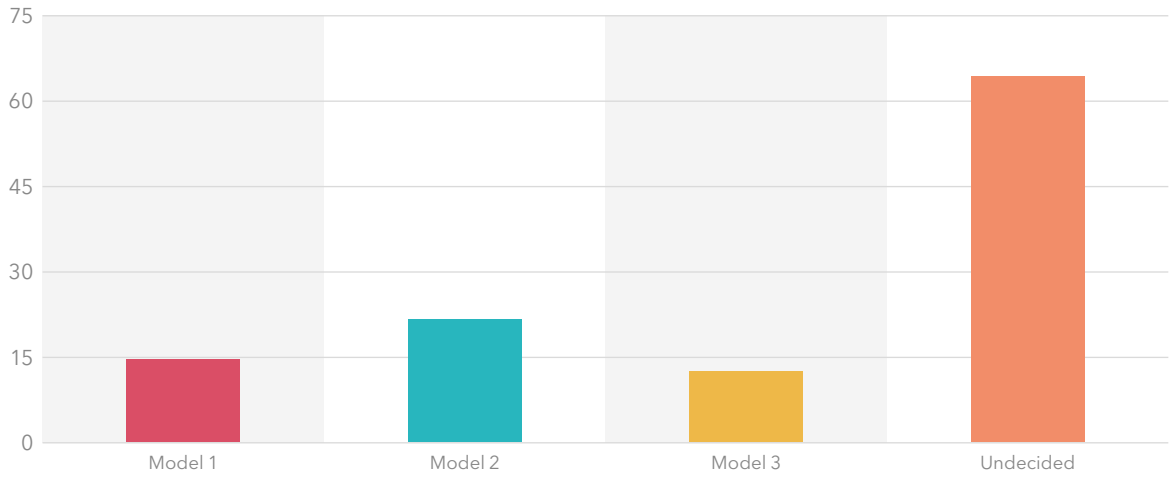
[5] *See Financial stability board, "Enhancing Cross-border Payments. Stage 3 roadmap," FSB Report, October 2020*

Currently, three potential models are considered for making cross-border payments using CBDCs[6]:

- Model 1 (Enhanced compatibility): based on compatible CBDC systems with compatible standards (similar regulatory standards, market practice, message formats and data requirements);
- Model 2 (Interlinking CBDCs): based on CBDC systems interlinking through shared technical interfaces, common clearing mechanisms or similar schemes;
- Model 3 (Integrating CBDCs): creation of a unified multiple CBDC on a single multi-currency payment system.

The survey conducted by the Bank for International Settlements early in 2021 in which central banks of all the groups of countries took part showed that 65% of respondents have not made their final decision yet. Model 2 gained particular traction among respondents (22%). Model 3 received the smallest number of votes (13%). We may assume that central banks representing EMDEs (emerging market and developing economies) have selected either Model 1 and Model 2 whereas respondents from AEs (advanced economies) have favored Model 2 and Model 3.

Results of the survey of central banks, %*



* The sum of answers exceeds 100% since respondents could give more than one answer.
Source: A. Carstens, "Central bank digital currencies: putting a big idea into practice," BIS Speech, pp. 1-14, March 2021, p. 12

Finally, the selection of a model for conducting cross-border payments depends on the complicated totality of macroeconomic and geopolitical factors, extent of the economy openness, depth of financial markets and level of technological basis development required for cross-border payments. However, in any case, the digital transformation opens

[6] A. Auer, P. Haene and H. Holden, 'Multi-CBDC arrangements and the future of cross-border payments' BIS Paper, March 2021

"windows of opportunities" for creating digital currency areas[7]. Even within the framework of Model 1, payment alliances may be formed, whereas Model 3 hypothetically allows the use of a synthetic hegemonic currency supported by the basket of CBDCs.

The use of CBDCs in cross-border payments is likely to strengthen, especially at early stages, competition between domestic CBDCs and private digital payment instruments and central bank digital money. All failures, omissions, errors of any party or country will be used by another party and other countries. The speed and cost of settlements, safety and robustness of digital payment platforms, availability of convenient interface and a wide range of applications will come to the forefront in the competitive struggle. Benefits of the use of CBDCs as compared to private cryptocurrencies will be determined by the capability of central banks to deliver liquidity in emergency and stressful situations.

All participants will have new opportunities, however, they will also face new challenges. In particular, the omnichannel (communication seamlessness) of transactions would not only dramatically accelerate settlements and cut their costs, but it would also increase the risk of uncontrolled flows of gigantic capital amounts what may enhance an impact made by effects of external shocks and cause the outflow of the currency liquidity. "Digital dollarization" will be more pronounced in countries with fundamental indicators.

The transition to the use of multicurrency CBDCs (mCBDCs) may significantly affect the configuration of the demand for reserve currencies due to powerful network effects. We may expect that countries holding and issuing reserve currencies will have new motivations and incentives. Creation of digital currency alliances and areas will prompt holding countries to quickly respond to market risks and diversify the structure of the international reserves more actively. Issuers of reserve assets used as the payment currency will have to meet higher requirements to the fiscal and monetary policies pursued by them.

Multi-currency cross-border payments are more complicated than domestic ones. Settlements in different currency increase risks and costs. Any central bank issuing a CBDCs will do so in accordance with its internal mandate and subject to the governmental policy goal. For many countries, a move to the digital format of cross-border payments will mean a partial or complete loss of their money sovereignty. Due to this, the movement towards digital currency zones will be associated with the need to unify the basic rules of currency regulation and currency control, coordinate efforts on AML/CFT/FP and KYC.

It is quite likely that this may cause the "paradox of digitalization" meaning that digitalization of cross-border payments has the ability to break barriers and cross borders, however, because of its many inseparable dimensions, it may ultimately lead to an increased fragmentation of the international financial system. However, irrespective of the realized scenario of digitalization of cross-border payments, it is likely to become a starting point for transition for many countries, primarily, advanced economies, to the practical use of CBDCs.

Russia is among the countries to first move to the stage of piloting CBDCs. In October 2020, the Bank of Russia published the "Digital Ruble" report for public consultations in which it considered the possibility and variants of digital ruble introduction, raising a number of important and pivotal questions. The report was actively discussed at various professional forums. The Association of Banks of Russia arranged a number of discussions with banks, the Bank of Russia, and experts, conducted a survey with the participation of banks and sent its results to the Bank of Russia.

[7] *M. Brunnermeier, H. James and J. Landau, "The digitalization of money," BIS Working paper, May 2021, p. 19*

The surveys conducted by the Association of Banks of Russia showed that the vast majority of respondents positively assessed the presentation of the digital ruble problem made by the Bank of Russia. At the same time, respondents to the surveys raised concerns that the issuance of the digital ruble and the massive transition of customers' accounts from balance sheets of banks to the balance sheet of the central bank might create conditions under which the Bank of Russia would become the regulator and, at the same time, the platform operator and the holder of customers' wallets, directly competing with banks forbalances held in customers' accounts. According to the banking community, as of today, the existing system of cashless settlements has proved to be efficient and consistent with customers' needs. Tough rebuilding of the market infrastructure is not allowed without understanding of clear objectives of such massive transformation. Banks also agree that technological innovations, first of all, should be tested as to the safety and security of their application. Special attention should be paid to the development of efficient methods of protection of digital rubles against theft from socially vulnerable categories of the population (pensioners, children, persons with disabilities).

In April 2021, the Bank of Russia published the "Digital Ruble Concept" prepared based on the generalization of feedback from 196 respondents[8]. The results of the analysis of feedback and subsequent meetings at various venues showed that the overwhelming majority of respondents (84%) preferred the two-tier retail model of the digital ruble (Model D)[9].

The Bank of Russia has identified the main stages of the pilot project implementation, within the framework of which, based on the results of testing the prototype of the digital ruble platform, a roadmap for the transition to the use of the digital ruble will be developed. The Bank of Russia has established the following deadlines[10]:

- **December 2021** – creation of the digital ruble platform prototype.
- **January 2022** – development of draft amendments to the legislation of the Russian Federation.
- **Q1 of 2022** – launch of tests of the digital ruble platform prototype.

[8] *For comparison's sake, we would like to note that, along (in April 2021) with the Bank of Russia, the ECB also published its report on results of public consultations on a digital euro. The feedback was provided by 8,221 respondents, 94% of which identified themselves as individuals and 6% – as professionals.*

[9] *Model D assumes that the Central Bank opens and maintains wallets to banks/financial intermediaries in CBDC. Banks/financial intermediaries open and maintain customer wallets on the CBDC platform and make payments on them (for more detail see "Digital Ruble Concept" Bank of Russia Publications, April 2021, p. 8).*

[10] *The Bank of Russia, "Digital Ruble Concept" Bank of Russia Publications, April 2021, p. 29*

It is assumed that the testing of the digital ruble platform prototype will be carried out jointly with financial market participants during 2022. Based on the results of testing, a roadmap for the transition to the use of the digital ruble will be formed.

It is planned to gradually develop the digital ruble platform:

- **the first stage** is the involvement of credit institutions and the Federal Treasury, the implementation of C2C, C2B, B2C, B2B, G2B, B2G, C2G, G2C operations;

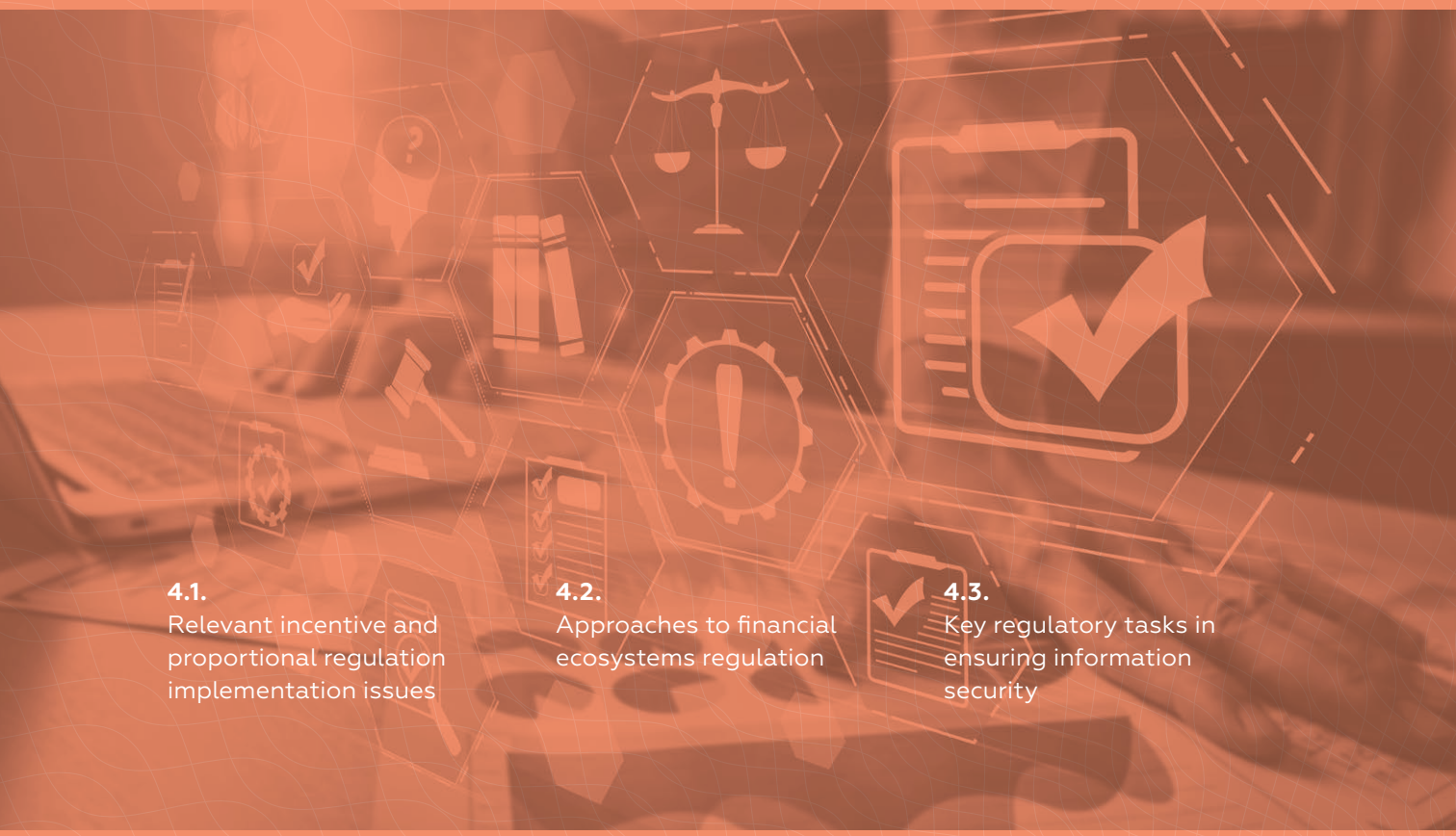
- **the second stage** is the involvement of financial intermediaries, the introduction of an offline mode, ensuring the exchange of the digital ruble for foreign currency and the possibility of opening wallets to non-resident customers.

In July this year, the Bank of Russia selected a pilot group of 12 banks to test the new technology. This list includes Sberbank PJSC, VTB Bank (PJSC), AK BARS BANK PJSC, ALFA-BANK JSC, Bank DOM.RF JSC, Gazprombank JSC (GPB Bank JSC), Tinkoff Bank JSC, Promsvyazbank PJSC, Rosbank PJSC, SKB-Bank PJSC, SOYUZ Bank (JSC), and TKB BANK PJSC.

The results of the piloting will serve as a starting point for a new round of discussions on issues related to the transition to the practical use of the digital ruble in the national monetary system. At the same time, it is advisable to continue a broad public discussion on the introduction of the digital ruble, involving authoritative scientists, experts and representatives of civil society. Proposals for conducting regular public opinion polls on the topic of the digital ruble also deserve support.

04

Regulation in the context of financial industry digital transformation



4.1.
Relevant incentive and proportional regulation implementation issues

4.2.
Approaches to financial ecosystems regulation

4.3.
Key regulatory tasks in ensuring information security

4.1. Relevant incentive and proportional regulation implementation issues

- The consistent implementation of the proportional regulation principles and optimization of the regulatory burden on financial market players has created the basis for effective actions of the regulator during the most difficult period of the coronavirus pandemic.
- In 2020-2021, it was important for the banking sector to implement a phased exit from regulatory easing without stopping the credit process, and to adapt to the "wave-like" nature of overcoming the consequences of the pandemic.
- One of the most relevant areas in promoting proportional regulation is systemic banks' IRB approach transition. IRB is a risk and capital assessment model based on internal ratings of borrowers assigned by the banks themselves.
- In the framework of the proportionality principle implementation, there is renewed discussion about small and medium-sized banks activities regulation issues, including banks with a basic license.
- Regulatory changes continue to focus on the protection of the weak party – the retail customer.

Careful attention to proportionality principles, their development and risk-based approach is the main vector in improving international standards of regulation and supervision. The survey jointly conducted by the World Bank and the Basel Committee on Banking Supervision notes that more than 80% of respondent jurisdictions currently implement proportionality approaches to at least one subset of their financial systems with over 80% using "the systemic relevance and the complexity or risk profile of supervised entities as tiering criteria[1]."

The Bank of Russia's policy in supervision and regulation follows global trends. The first steps towards practical implementation of proportional regulation in the banking sector were taken in 2014-2015, when the institute of systemically important credit institutions (SICIs) was established. In 2016, the Bank of Russia put forward the proportional regulation concept for financial institutions, which assumes their division within a certain sector into three groups: systemically important institutions, small institutions, and other entities. An important step in proportional treatment was the division of banks into two groups in 2018: those with a universal license, including systemically important credit institutions, and those with a basic license. Regulatory requirements for these groups were differentiated while maintaining common prudential and supervisory approaches.

To date, Russia has accumulated extensive experience in applying proportional regulation and optimizing the regulatory burden on financial market players, including the regulator's actions during the most difficult period of the coronavirus pandemic.

[1] *World Bank & Basel Committee on Banking Supervision, Proportionality in bank regulation and supervision – a joint global survey, July 2021, p. 3*

In the draft Guidelines for the Development of the Russian Financial Market in 2022-2024, the Bank of Russia confirmed its policy of optimizing the regulatory burden by eliminating excessive regulation. The document sets the key tasks for the near future: (1) development of proportional and risk-based regulation; (2) development of the deposit insurance system and (3) development of supervisory stress testing of banks under risk-based approach in banking supervision.

> "The Bank of Russia will continue to **introduce the proportionality approach to banking regulation** in order to ensure a balance of the regulatory burden on banks with different scale, nature and complexity of operations. This should also facilitate the equalization of the competitive environment, creating prerequisites for the emergence of a variety of business models, including those that can bring sufficient return on capital in the absence of economy of scale. The proportionality approach will be applied by the Bank of Russia to regulate credit institutions' cyber risks".
>
> /Guidelines for the Development of the Russian Financial Market in 2022-2024, Draft for public discussion, the Bank of Russia, July 2021, p. 66/

In the context of the tasks set, the efforts of the Bank of Russia to reduce the regulatory and administrative burden on the financial sector, especially during the period of restrictive measures to combat the pandemic, deserve high praise. The practice of increasing the terms for submitting certain reporting forms and disclosing information or canceling them, a release approach to making changes to it, can be the basis for reducing the administrative burden. In particular, this applies to:

- canceling the submission by banks of both separate reporting forms, taking into account the scale of their activities, and statistical reporting forms: sending requests to them in order to study financial stability issues, transition to a data-centric approach when collecting information;
- canceling mandatory preparation of IFRS reporting and its audit, especially for universal banks whose scale of operations is not significant;
- harmonizing and simplifying regulatory requirements for making loan provisions under Russian Accounting Standards (RAS) with IFRS requirements, and accelerating their convergence in order to simplify the procedures for evaluating and supporting loan applications, including for SMEs.

In 2020-2021, it was important for the banking sector to implement a phased exit from regulatory easing without stopping the credit process, and to adapt to the "wave-like" nature of overcoming the consequences of the pandemic. Given that in the conditions of post-pandemic development, real losses in banks' portfolios may increasingly emerge, when canceling the easing, it is important to remember that loans restructuring allowed us to postpone, but not avoid the materialization of the risks associated with decreased borrowers' solvency in 2020. After canceling the easing, it was necessary to conduct individual assessments (on a quarterly basis in accordance with the requirements of the Bank of Russia

Regulations) of previously rescheduled loans with a worse-than-average financial situation of borrowers, which is a large additional operational burden on banks.

One of the important topics that banks have repeatedly drawn attention to is the need to change approaches to credit risk assessment of troubled borrowers within the insolvency procedure. In the majority of cases, despite the presence of real sources of repayment and confirmed prospects for debt recovery, banks, following the standards of the Bank of Russia Regulation No. 590-P, dated June 28, 2017, 'On the Procedure for Credit Institutions to Make Loss Provisions for Loans, Loan and Similar Debts', are forced to make loss provisions for loan and similar debt in the amount of 100%. According to credit institutions, this regulation on a complete ban on the use of pledgers' property in case of bankruptcy in order to create a provision is excessively conservative and does not contribute to reflecting the real and adequate level of potential losses.

In October 2021, Bank of Russia's new operational risk measurement requirements implementation begins. This is driven by adoption of the Bank of Russia Regulation No. 716-P, dated April 8, 2020, 'On the Operational Risk Management System Requirements for Credit Institutions or Banking Groups' and No. 744-P, dated December 7, 2020, 'On the Procedure for Measuring Operational Risk (Basel III) and Supervising Compliance Therewith by the Bank of Russia'. A draft regulation of the Bank of Russia 'On the Procedure for Measuring Operational Risk (Basel III) for Banking Groups' is also currently under discussion.

When discussing the procedure and adoption timing for the new regulation calculating operational risk, it was possible to implement a phased approach and to differentiate individual requirements for different groups of banks. For banks with a universal license, the new rules for measuring operational risk will become mandatory on January 1, 2023. Banks with a basic license and non-bank deposit-taking institutions will be able, at their discretion, either to continue to apply the current rules, or to switch to calculation standards under the new regulation upon informing the regulator about this. Calculating operational risk using the internal loss ratio can be carried out by all credit institutions earlier than January 1, 2023, which shall be reported to the Bank of Russia. Herewith, banks with a universal license will be able to use a simplified approach (without measuring the internal loss ratio).

The full implementation of the new operational risk management requirements, including information security and information systems risks, in accordance with the requirements of the Bank of Russia Regulation No. 716-P, is associated with additional costs and raises a lot of questions, especially from small banks.

One of the most relevant directions of promoting proportional regulation is the transition of systemically important banks to the IRB approach is a risk and capital assessment model based on internal ratings of borrowers assigned by the banks themselves. The report 'On the Transition

of Systemically Important Credit Institutions to an Internal Ratings-Based Approach for Credit Risk Assessment' published by the Bank of Russia in June 2021 proposes to discuss the conditions and terms of the transition of systemically important credit institutions to the IRB approach, examines the advantages and problems of their mandatory transition to the IRB approach, as well as potential changes in the regulatory regime and processes of interaction of systemically important credit institutions with the Bank of Russia.

The ability of banks to objectively assess the amount of accepted credit risk for the purpose of inclusion in capital adequacy ratio is of particular importance in the conditions of actively developing competition in the banking services market and stricter requirements for banks from regulators. The standardized approach to assessing the amount of credit risk for systemically important credit institutions does not have sufficient flexibility. For that reason, an internal ratings-based (IRB) approach for assessing the amount of credit risk was implemented within the framework of the provisions of Basel II. Its main advantage is the ability of a bank to use its own models for quantifying the main parameters of credit risk, based on the analysis of the statistics of borrowers' defaults.

When implementing the IRB, banks not only receive a more accurate assessment of the capital required to cover credit risk in order to measure capital adequacy ratios, but also generally transfer their risk management systems to a higher level of development. Currently, only three banks among the Russian systemically significant ones have already transitioned to the use of the IRB, while most of the Russian systemically important banks continue to use a standardized approach. Despite the fact that the measures for the introduction of the IRB are quite expensive for banks, the transition of all systemically important credit institutions to the IRB, according to the Bank of Russia, will lead to the creation of a single competitive environment for them. It is for these purposes that the regulator is set to expand the use of the IRB beyond the group of systemically important credit institutions. The possibility of reducing the minimum threshold for the amount of assets for the voluntary transition to the IRB from RUB 500 billion to RUB 150 billion is already being discussed.

Banks assess the transition to the IRB as a time-consuming procedure. An important problem is the sensitivity of capital requirements to risk during the transition to the IRB and, as a result, the possible risks of a shortage of capital and violations of adequacy standards in the event of a deterioration in the macroeconomic situation. In the worst-case scenarios, a bank that has transitioned to the IRB may be less competitive compared to banks using a standardized approach. In order to maintain competition and prevent regulatory arbitrage, it is advisable to provide the same incentives to banks that voluntarily transition to the IRB as for systemically important credit institutions. The need for the Bank of Russia to provide "online" methodological and consulting support, to hold meetings to explain approaches to the validation of methods and models is noteworthy.

In 2022, the Bank of Russia plans to return to the study of the issue of differentiated capital adequacy markups for systemically important credit institutions, as well as of the introduction of a new group ratio for them: the credit risk concentration per borrower (group of affiliated borrowers) ratio of a banking group

(hereinafter – N30), which will differ from the current N6 and N21 concentration ratios of banks in that the assets of a banking group will be included in measuring without weighing by the level of risk and will be related to the main, and not to the total capital of a bank.

The Association of Banks of Russia conducted a survey to assess readiness to meet the requirements of the N30 starting in January 2022. According to the majority of systemically important credit institutions, in the absence of easing for measuring, it will be difficult to fulfill the requirements for maintaining the value of this ratio below the established threshold. It should also be borne in mind that the difficulties will mainly be faced by highly concentrated industries that require capital-intensive projects and have limited access to international capital markets. Systemically important credit institutions are concerned about the extent to which the position of the largest lenders and borrowers will be taken into account by the Bank of Russia when discussing N30 introduction.

Within the framework of the proportionality principle implementation, there is renewed discussion about small and medium-sized banks activities regulation issues, including banks with a basic license. Herewith, it should be borne in mind that the problems of choosing ways of further development for small regional banks and banks with a basic license, most of which are regional, are similar. More than four years have passed since the banking reform started and banks with a basic license were established, and it is not surprising that the implementation of the requirements established for them in practice allows to draw certain conclusions about the need for their further modification and extension to small banks with a universal license.

The Association of Banks of Russia together with the Bank of Russia have created a working group to discuss regional banks' operations development and business model design for banks with a basic license. The working group seeks to generalize domestic and foreign small banks regulation practice in order to form proposals for optimizing the regulatory burden on this group of banks and developing approaches to solving the most urgent operational problems, which include:

- developing instruments and mechanisms for financial support of banks, including SMEs;
- enhancing proportional regulation, including optimization of the regulation burden and opportunities for expanding ongoing operations;
- improving the rating methodology and changing approaches to the use of ratings to obtain the right to work with clients;
- building competition and trust in the banking sector;
- designing services and technologies necessary for banks with a basic license to ensure fair competition and equal access to information or resources;
- introducing base rate differentiation of deposit insurance fund contributions.

Regulatory changes continue to focus on the protection of the weak party – the retail customer. Over the past few years, a whole set of steps in this direction has been implemented. One of the draft laws on amendments to the Federal Law 'On Consumer Credit (Loan)' provides for the establishment at the legislative level of the obligation for credit institutions to measure the debt load indicator (DLI) in specific cases, as well as to notify borrowers in writing when granting a consumer credit (loan) about possible risks driven by their high DLI score. The greatest resonance was caused by the proposed procedure for imposing on credit institutions and other creditors the obligation to notify potential borrowers about their DLI score and associated risks.

Another initiative is aimed at developing macroprudential regulation. The Bank of Russia proposes to add a new instrument to the arsenal of macroprudential measures: direct quantitative restrictions (DQR), which are supposed to set a restriction on the maximum share of high risk unsecured consumer credits (loans) in the total volume of these types of credits (loans) issued during the quarter. DQR do not suggest a ban on lending, but a restriction on the share of risky loans in the volume of new issued loans.

A draft law has been prepared that gives the Bank of Russia the authority to establish a DQR, the ability to differentiate it depending on the characteristics of a loan (DLI, loan term), the type and license of a credit institution or microfinance organization (MFO), the application of which will be carried out within the framework of the new regulation based on decisions of the Bank of Russia Board of Directors.

Strengthening the protection of the retail customer is really overdue. This issue has not only an economic, but also a social dimension. According to the banking community, the above regulatory innovations deserve careful study, including redundancy check.

In spring 2021, the Bank of Russia published a consultation paper 'Regulation of Risks Related to Potential Wide Use of Variable Interest Rates in Mortgage Lending'. That document noted an increase in banks' interest rate risk related to a higher proportion of short-term borrowings and growing asset maturities. In the view of the regulator, with interest rates at their historic lows in Russia, variable-rate instruments are becoming increasingly beneficial for banks.

International experience shows that lending at variable rates is riskier on average. This is explained by the fact that the quality of such loans substantially depends on market interest rates fluctuations. Currently, banks are authorized by law to offer variable interest rates to any individuals. This creates opportunity for misselling and other misconduct.

The Bank of Russia concerns that banks may provide borrowers with a lower variable rate without providing full information about the risks of such lending. Not all retail borrowers would be able to sufficiently estimate risks of this product even if they had complete information because of insufficient financial literacy. The Bank of Russia considers it

necessary to determine the acceptable boundaries of this practice before the variable-rate mortgage market increases substantially in size and conditions for social and financial stability risks appear.

If variable-rate mortgages were widely used, an increase in interest rates might lead to excessive growth of debt burden of a significant share of borrowers and their insolvency. This would entail substantial social and macroeconomic risks as individuals' debt problems would inevitably cause a decline in consumption, a crisis in the real estate market, and loss of housing.

The banks supported the timely publication of this report. Despite the low share of such loans in Russia (<0.1%), it is advisable to prepare the regulatory framework in advance. In the near future, banks do not plan to introduce variable-rate mortgages to the market in the absence of potential customer demand for such a product. The issue will become relevant for banks if the current and future regulation, product design are determined and the demand for such loans from potential borrowers is formed.

Given the relation between increase in credit risk and decrease in interest rate risk, it is possible to manage such risks within the framework of standard risk management procedures (for example, with certain settings for measuring the DLI). The use of variable mortgage rate to reduce the bank's interest rate risk enables loans at favorable rates for borrowers (including due to the cheaper cost of embedded options). The EIR (effective interest rate) indicator will also make it more difficult for unscrupulous creditors to missell.

Variable rates are allowed in the absolute majority of jurisdictions. Herewith, variable rates with short fixation periods prevail. Globally, short-term fluctuations in interest rates will not lead to systemic risks either in the banking system or for individuals. With a long-term increase in interest rates, accompanied by a decrease in real incomes of individuals, the systemic risks of increasing the debt burden of individual borrowers during the transition to variable rates will increase. At the same time, maintaining fixed rates against the long-term trend towards their increase transfers all credit and interest rate risk (especially when providing loans for long periods) to banks, which may need support in a much larger volume than the possible targeted support to individual borrowers with variable lending rates. The discussion of approaches to regulation will continue; an important aspect when making a decision on the application of certain regulatory measures is to take into account the share of loans with variable mortgage rates in the market and the consequences of taking appropriate measures.

4.2. Approaches to financial ecosystems regulation

- Extensive banks engagement in building ecosystems is a distinctive feature of the Russian market.
- In all countries, the purpose of regulation is to protect the interests of local suppliers and consumers.
- The Bank of Russia is considering proactive approach as the main one that gives credit institutions opportunities for ecosystem development with adequate capital at risk coverage.
- Non-banking ecosystems already are in a more favorable regulatory environment.

In 2019-2021, accelerated digitalization and ecosystem transformation, the trends that would largely determine its development in the coming years, intensified in the Russian financial market. Ecosystems strive to combine various financial and non-financial services for consumers based on platform solutions, which leads to blurring the boundaries between financial and non-financial services.

Currently, ecosystem terminology is in its nascent stage. The General Regulation Framework for the Activities of Groups of Companies Developing Digital Services on the Basis of a Single "Ecosystem" published by the Ministry of Economic Development of the Russian Federation defines the term "digital ecosystem" as follows: a client-centered business model that combines two or more groups of products, services, and information (own production and/or produced by other players) to meet the final needs of customers (safety, housing, entertainment, etc.). The Bank of Russia, in its consultation paper on Risk Regulation of Banks Participating in Ecosystems and Investments in Immobilized Assets, gives its definition of an ecosystem as a set of services, including platform solutions, provided by one group of companies or a company and partners allowing users to obtain a wide range of goods and services within a single process.

Credit institutions are significantly changing their business models and expanding the range of services offered, including in a remote format, entering related areas in the real sector of the economy. Extensive banks engagement in building ecosystems is a distinctive feature of the Russian market. Significant competition for banks in the ecosystem business is represented by Russian technology and other Internet companies that are beginning to integrate selected financial services into their systems. Competition from global BigTech companies is also increasing, which is a global trend.

Despite the fact that ecosystems can provide better and more personalized services, the formation of ecosystems and the blurring of the boundaries between financial and

non-financial services has a significant impact on the competitive environment, creating risks of monopolization, discrimination of ecosystem participants, restrictions on access to technologies and data for other financial market participants, create information security risks. Ecosystems activities, especially for global ecosystems, are also often associated with tax and regulatory arbitration.

In the view of the Bank of Russia, uncontrolled development of ecosystems with banks' participation can lead to the actualization of risks for creditors and depositors, financial stability in general, as well as to an increase in the volume of banks assets with limited liquidity and no repayment requirements, exposed to an increased risk of impairment. The regulator also highlights additional risks associated with the participation of banks in ecosystems. They are typical not only for situations when banks act as architects of ecosystems, but also when they participate in them as partners or subsidiaries of technology companies. Such risks include business risks (including strategic ones), operational risks, as well as the risks of forced support. Based on the guidelines stated by the regulator and the advisory materials presented for discussion, the Bank of Russia is considering the possibility of implementing a proactive approach to the regulation of banks' participation in ecosystems in the Russian Federation.

Accelerated ecosystems development, associated opportunities and risks, as well as the need to develop new approaches to regulation challenge regulators around the world.

Currently, the requirements of foreign regulators imposed on ecosystems focus on customers' personal data protection, posted content control, equal access to monetized behavioral information (requests, audience preferences, data on purchases and transactions, customers' socio-demographic profile), and antitrust legislation.

Financial regulators, with the exception of China, often have no reason to interfere in the activities of such ecosystems, since they do not explicitly enter the relevant markets. China has a number of macroprudential regulation measures and requirements for BigTech companies aimed at reducing systemic financial risks. Measures on supervision and regulation of financial holdings and tightening of antitrust regulation in the market of non-bank payments are being considered.

In all countries, the purpose of regulation is to protect the interests of local suppliers and consumers. At the same time, USA and China's main goal of regulation is to protect the national market from being penetrated by foreign ecosystems and platforms.

Protection of citizens and suppliers, technological sovereignty, and sustainable socio-economic development in the digital economy are also Russian proactive regulation priorities.

The purpose of digital ecosystems and platforms regulation at this stage of their formation is to maintain fair competition in the Russian market for all players, regardless of the ecosystem they belong to, to develop national ecosystems/platforms in the Russian Federation under pressure from foreign ecosystems/platforms, to protect the interests of suppliers and consumers of goods and services of ecosystems/platforms, which will contribute to the economic growth, digitalization and technological development of the Russian Federation[1].

The Bank of Russia and the Government of the Russian Federation are planning to actively develop approaches to ecosystems regulation and supervision.

According to the draft Guidelines for the Development of the Russian Financial Market in 2022-2044[2], it is necessary to adjust the regulation in order to minimize the risks and possible negative effects while preserving the potential of the opportunities that ecosystems can give to consumers and suppliers, as well as eliminating the existing regulatory arbitration. Given that ecosystems cover various spheres of activity and their development leads to the blurring of markets boundaries, it is necessary to revise the definitions, the perimeter and the assessment of the antitrust legislation subjects' influence. It is important to define the market segments (products), their boundaries, as well as the shares of the dominant ecosystem and/or its elements in individual market segments. Regulation instruments shall also be formed taking into account ecosystem economy specifics.

Regarding the Risk Regulation of Banks Participating in Ecosystems, the Bank of Russia is considering as the main approach the one that gives credit institutions opportunities to develop ecosystems with adequate capital at risk coverage, so that possible losses are borne by shareholders, and not creditors and depositors. According to the consultation paper Risk Regulation of Banks Participating in Ecosystems and Investments in Immobilized Assets, there are two areas of improvement for capital at risk coverage: introduction of a risk-sensitive limit for immobilized assets and development of approaches to assessing the quality of the Internal Capital Adequacy Assessment Process (ICAAP).

Therefore, the key role in ecosystems regulation shall be played by antitrust legislation, as well as by the prudential standards of the Bank of Russia in terms of limiting the risks associated with the involvement of credit institutions in the ecosystem business. An important element of the regulatory system shall be the modernization of legislation and access and use of data obtained by ecosystems in the course of their activities.

In order to minimize the negative implications of ecosystems development, the Bank of Russia, together with the Government, plans to develop ecosystem regulation aimed at maintaining fair competition, including in terms of providing non-discriminatory access to ecosystem services and innovative technologies.

At the same time, gradually blurred boundaries between financial market and e-commerce, increasingly cross-sectoral nature of financial intermediaries activities, emerging ecosystems require additional regulatory adjustments for both the financial market as a whole and for individual types of activities (products).

[1] *The General Regulation Framework for the Activities of Groups of Companies Developing Digital Services on the Basis of one "Ecosystem", May 2021, p. 13*
[2] *Draft of July 23, 2021 Guidelines for the Development of the Russian Financial Market in 2022-2024*

In particular, the Bank of Russia plans to assess the feasibility of using banking regulation instruments to limit the debt burden of citizens who pay for goods and services in installments, which option is provided by the seller with an underlying bank loan.

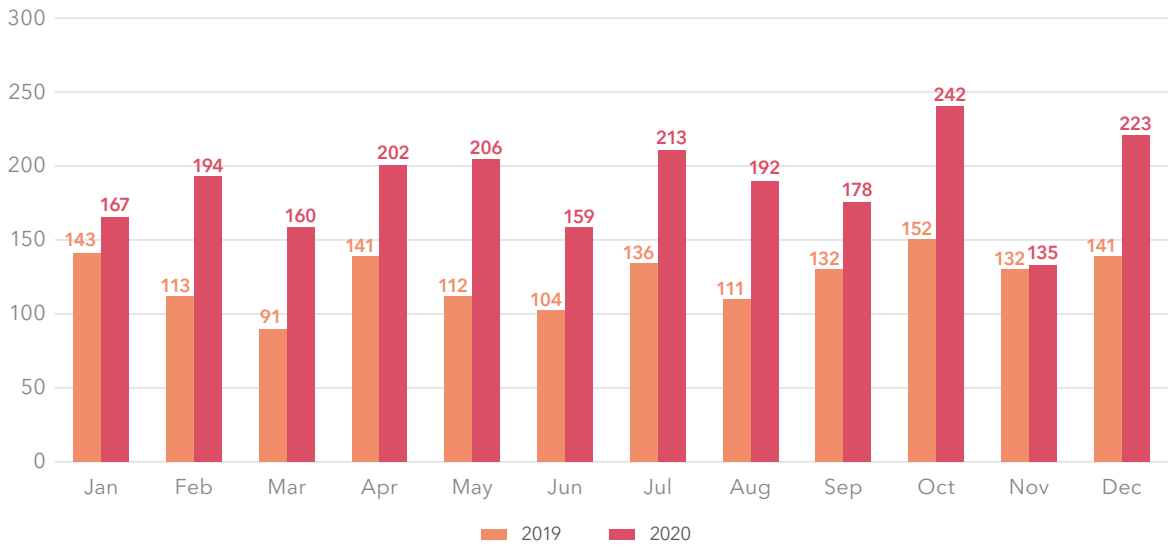
The banking community draws attention to the fact that non-banking ecosystems are already in a more favorable regulatory environment. Banking regulation is much tighter and multi-factor than regulation for technology companies. In addition, federal legislation assigns a significant number of public functions to banks. In the regulation of financial ecosystems, it is necessary to adhere to a risk-oriented and proportionality approach balancing the goals of preventing regulatory arbitration. A relevant challenge, especially in the light of competition with global players, is a combination of positive and negative regulatory incentives, for example, the removal of barriers specific to Russia for creating effective tools for intra-group data processing and analytics.

4.3. Key regulatory tasks in ensuring information security

- Cybercrime is becoming a global threat: amid the coronavirus pandemic, the number of incidents increased by 51% in 2020. In Russia, transfers of funds without a client's consent are growing both in quantity and in volume: in 2020, the damage was 9.8 billion rubles, in Q1 2021, it was already 2.9 billion rubles.
- To successfully implement measures to counter cyber fraud, it is necessary to establish effective interdepartmental cooperation on information security issues.
- In order to increase the share of returned funds, it is advisable to develop mechanisms for blocking stolen money on a fraudster's account and improve the tools of interbank interaction.
- Small banks are experiencing difficulties with meeting the requirements of regulators in information security and need support. One of the possible solutions may be the development of a single infrastructure solution in cybersecurity.

Information security in the context of digitalization of all spheres of human activity and, in particular, the financial sector is becoming increasingly relevant. The global scale of the problem of cyber threats is highlighted by the concerns of major international organizations, such as the World Economic Forum (WEF) or the United Nations (UN). Special attention of analysts and practitioners is focused on the management of cyber risks, as the probability of their occurrence and possible damage from the consequences are becoming increasingly significant.

The number of incidents in 2019 and 2020



Source: Positive Technologies

The coronavirus pandemic has caused an increase in the number of incidents, and has also affected the cyber threat landscape around the world. Active transfer of company employees to remote work, the growth of the number and volume of financial Internet transactions, more active inclusion in the non-cash turnover of those categories of citizens who previously had no such experience – all this has created new opportunities for attackers to commit cybercrimes. According to Positive Technologies, in 2020, the number of unique cyber incidents increased by 51% compared to 2019.

The Russian Federation, like most developed countries of the world, is also experiencing the impact of cyber threats. According to the Bank of Russia, the number of transactions without a client's consent increased by 34% or by 196,000 last year, and the volume of such transactions increased by 52% and reached 9.78 billion rubles. The greatest majority is made up of transactions performed using social engineering methods (61.8%), this indicates, among other things, the need to increase the level of cyber literacy among the population. In 2020 the average amount of a transaction without a client's consent was 11,400 rubles for individuals and 347,800 rubles for legal entities. In Q1 2021, an even larger volume of such transaction was observed: 2.9 billion rubles (compared to 1.8 billion in Q1 2020), the share of social engineering decreased to 56.2%.

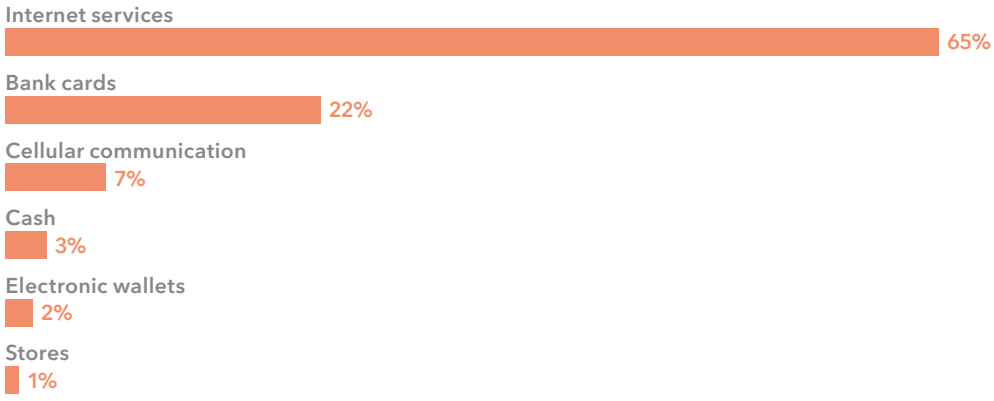
Currently, there are technical and organizational ways to ensure cybersecurity, however, a constant exchange of experience and full-fledged cooperation is necessary for their most successful implementation. The most effective strategy, without a doubt, should

be the organization of interdepartmental cooperation on countering cybercrime. Within the framework of such cooperation, the interaction of state authorities with the competence to counter and investigate fraud (Ministry of Internal Affairs of the Russian Federation, Federal Security Service (FSS) of the Russian Federation, Prosecutor General's Office of the Russian Federation, Investigative Committee of the Russian Federation), industry regulators (Bank of Russia, Federal Service for Supervision of Communications, Information Technology and Mass Media (Roskomnadzor), Federal Financial Monitoring Service of the Russian Federation (Rosfinmonitoring)), credit and financial institutions, mobile operators, as well as, potentially, judicial authorities shall be ensured. The creation of a legal framework for the interaction of all stakeholders will significantly reduce the response time to cybercrime and allow to quickly make the necessary decisions to ensure the most effective measures to reduce damage, search and punish fraudsters. And given the increasingly cross-border nature of illegal activities, it is also necessary to consolidate efforts with foreign regulators and law enforcement agencies.

The study by the Government of the Russian Federation of the issue of organizing federal statistical monitoring of cybercrime can be considered as the first step in this direction. This work is being carried out on the initiative of the Association of Banks of Russia due to the lack of complete and detailed statistics of cybercrime in the country, including in the financial sector. Currently, the issues of developing common criteria for classifying crimes and ensuring the convergence of statistical data are being worked out by state authorities with the participation of the Bank of Russia.

Another area that requires regulatory regulation is the improvement of the mechanism for challenging transactions made without a client's consent. In 2020, according to the Bank of Russia, the share of return (recovery) of stolen funds to victims was 11.3% compared to 14.6% in 2019. In Q1 2021, this value decreased to 7.3%. According to credit institutions, 50% of the stolen funds are withdrawn by fraudsters within the first hour. According to BI.ZONE company, most often, fraudsters withdraw funds through Internet services and bank cards.

Withdrawal facilities for stolen funds



Source: BI.ZONE

In this regard, there is a need for instant response mechanisms to incidents that can increase the likelihood of saving funds. The most effective mechanism seems to be the blocking of funds on the account of a potential fraudster when receiving a corresponding notification from the affected party. The period of blocking shall be sufficiently long (approximately 25 business days) to provide an opportunity for the victim to apply to the court for the seizure for the period of the trial. These amendments to the Federal Law No. 161-FZ "On the National Payment System" dated June 27, 2011, according to practitioners, will increase the share of returned funds to 15-30%. Currently, similar proposals are being worked out by the Bank of Russia.

Despite the obvious effectiveness of measures to block funds on a recipient's account, the proposed changes will allow achieving results only in the case of a proper level of automation of interbank interaction processes. The most convenient tool for this is the Automated Incident Processing System (AIPS) of the Bank of Russia. However, the functionality of the (AIPS) personal account requires improvement, first of all, in terms of enhancing the convenience of working with messages and organizing direct exchange of them between credit institutions. It is also necessary to improve the formats of interaction between the Bank of Russia and law enforcement agencies on identified offenses in the financial market.

Measures aimed at increasing cyber literacy and awareness of cybercrime operation are required in order to reduce the volume of unauthorized transactions in addition to legal and organizational and technical measures These could be special state programs, social advertising and other information and educational activities aimed at the financial educational needs of the population.

A major unit of information security regulation is related to the operation of the Critical Information Infrastructure (CII) and the implementation of the requirements of Federal Law No. 187-FZ "On the Security of the Critical Information Infrastructure of the Russian Federation" dated July 26, 2017. The relevance of work in this direction is obvious: according to the Security Council of the Russian Federation, the number of hacker attacks on critical infrastructure increased by 3.5 times in 2020. However, the current regulation often creates an excessive burden on credit institutions—the CII entities. In this regard, the Association of Banks of Russia proposes to improve the procedures for ensuring security at CII objects, including regarding:

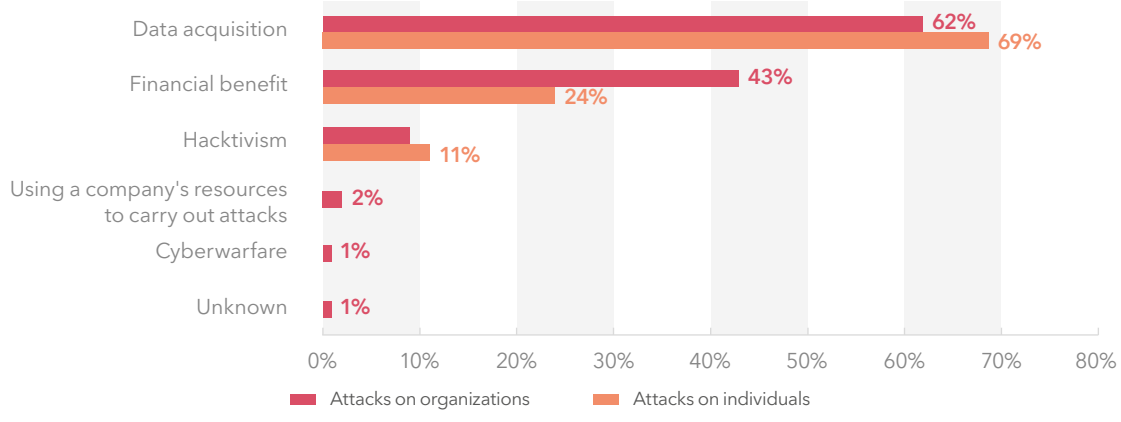
- development of industry-specific categorization rules that prevent obtaining incorrect (including overestimated) indicators of the significance criterion;
- development of methodological recommendations for the implementation of information security measures at CII objects;
- finalizing the order of the Federal Service for Technical and Export Control (FSTEC) of Russia No. 239 dated December 25, 2017 "On Approval of the Safety Requirements of Significant Objects of Critical Information Infrastructure of the Russian Federation", in particular:

  - creation of design and operational documentation for significant CII objects, taking into account the implementation of Agile practices;
  - differentiation of measures to ensure the safety of significant CII objects depending on the type of significant CII object;
  - use of a risk-based approach in the implementation of procedures for ensuring the safety of significant CII objects.
- parameterization and differentiation of computer incidents in order to inform the National Computer Incident Response and Coordination Center (NCIRCC) only about significant computer incidents.

The implementation of these changes in regulation will make it possible to more effectively ensure information security at CII objects, improve approaches to cybersecurity, and also reduce the excessive regulatory burden on CII entities.

In addition, an important component of ensuring information security and uninterrupted functioning of CII objects is the ability to use all available information security tools. In the presence of a cyber threat, response time plays a key role in repelling an attack, and cybersecurity specialists should choose the most effective solution from the arsenal of all existing security tools on the market. In connection with the development of projects of regulatory legal regulation, involving the transition to the preferential use of Russian software and IT equipment, CII entities may face problems when using software of their own development (or an affiliated company), freely distributed software, foreign software, since they are not included in the register of domestic software. Thus, there is a need for legal mechanisms that allow credit institutions – CII entities to use such software, including for the purpose of ensuring information security.

The motivation of cybercriminals to launch an attack



Source: Positive Technologies

Data acquisition is the main reason for committing a cyberattack. Personal data, trade secrets, credentials – all this is of particular interest to cybercriminals. Therefore, it is important to work out the issues of assessing the risk of possible leakage of confidential information in the course of improving regulation in operational risk management.

Attention should also be paid to the methodology and procedure for ensuring data quality and integrating the results of scenario analysis when assessing capital for information security risk. Assessing the impact of cyber risks on the financial resilience and operational robustness of credit institutions is one of the most important tasks for the near future.

The Bank of Russia, recognizing the need for intensive counteraction to cyber threats, plans to develop measures aimed at improving the quality and security of services provided by financial institutions. The regulator will provide a comprehensive approach: from improving the methodology for analyzing the security of services and testing them to implementing security procedures at the stage of putting the services into operation or at the stage of their modernization. The Bank of Russia also plans to create a cyber-polygon, on the basis of which an assessment of the security and ability of financial institutions to resist attacks will be carried out. In the future, the process of conducting cyber exercises will be integrated into the verification activities of the Bank of Russia in order to develop risk-based supervision and a proportional approach to regulation.

The growth of cyber incidents and the increase in the activity of cyber fraudsters equally poses danger to large, medium-sized, and small credit institutions, including banks with basic licenses (BBL). Recognizing the general threat and assessing the negative dynamics of cybercrime, the Bank of Russia is finalizing the regulation of information security in order to increase the security of supervised credit institutions. However, the need to comply with the new regulatory requirements of the Bank of Russia entails a significant increase in the costs of ensuring information security. Such expenses are often unbearable for small regional banks and BBL due to the specifics of their business model and operational performance indicators.

In this regard, the Association is considering the possibility of creating a single infrastructure solution that will provide the level of information security required by regulators, easily integrate with existing automated banking systems, and also become available financially due to simple replication. This initiative is supported by the Bank of Russia, representatives of the regulator participate in the discussion of the concept of creating this solution.

The introduction of mandatory compliance with the principles of secure software development for development companies can become an additional measure that increases the level of information security of small banks. This approach will guarantee the use of secure products and applications by credit institutions. At the same time, alternative approaches to ensuring secure development are possible, for example, certification of applications at the expense of the developer company. The regulator therefore needs to choose the right requirements for the software of credit institutions, which will not lead to an increase in the cost of purchasing products and at the same time will increase the cybersecurity of banks.

Taking into account the increasing penetration of technologies into everyday life, the introduction of artificial intelligence, biometric systems and complex management algorithms in banks, the information security and customer data protection will become one of the leading tasks of the banking sector for a long time.

In this regard, it is necessary to improve the regulation of cybersecurity issues in a constant dialogue with regulators in order to create a convenient, understandable and secure environment for the functioning of credit institutions.

Note

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