

Section 3. Financial markets and financial institutions

3.1. The Russian financial market¹

3.1.1. The stock market

The market for Russian stocks was characterized by growth nearly throughout the whole year 2021; however, starting from November, it began to display a trend towards its downward adjustment. As shown in *Fig. 1*, among the 43 national stock indexes denominated in different currencies around the world, a positive annual return in 2021 was demonstrated by the composite indexes of 33 countries. The highest growth was achieved by the Argentina index (33.5%), followed closely by the S&P 500 (26.9%). The growth of Russia's indexes, the RTS and IMOEX, was almost the same: 15.0% and 15.1%, respectively. However, over the first two months of 2022, the situation changed significantly: in January-February, IMOEX fell by a record 38.4%, and the RTS Index, by 41.3%. Over the same period of 2022, a majority of the 43 national stock indexes moved downward, except only a few of them, which were mainly those of developing countries: Argentina, Brazil, Greece, Malaysia, Norway, Singapore, Turkey, the Philippines, and the RSA. The main reason behind this massive adjustment of national stock indexes was the announcement, in mid-December 2021, of the leaders of the US Federal Reserve System (FRS) that in March 2022 they planned to curtail the current quantitative easing program, and so there was a high probability that the interest rates set by the Central Bank would begin to climb.

On an 11-year time horizon (2010–2021), against the background of a weakening ruble, the indices of geometric mean return on investment in Russian stocks denominated in Russian rubles (MOEX Russia Index) and US

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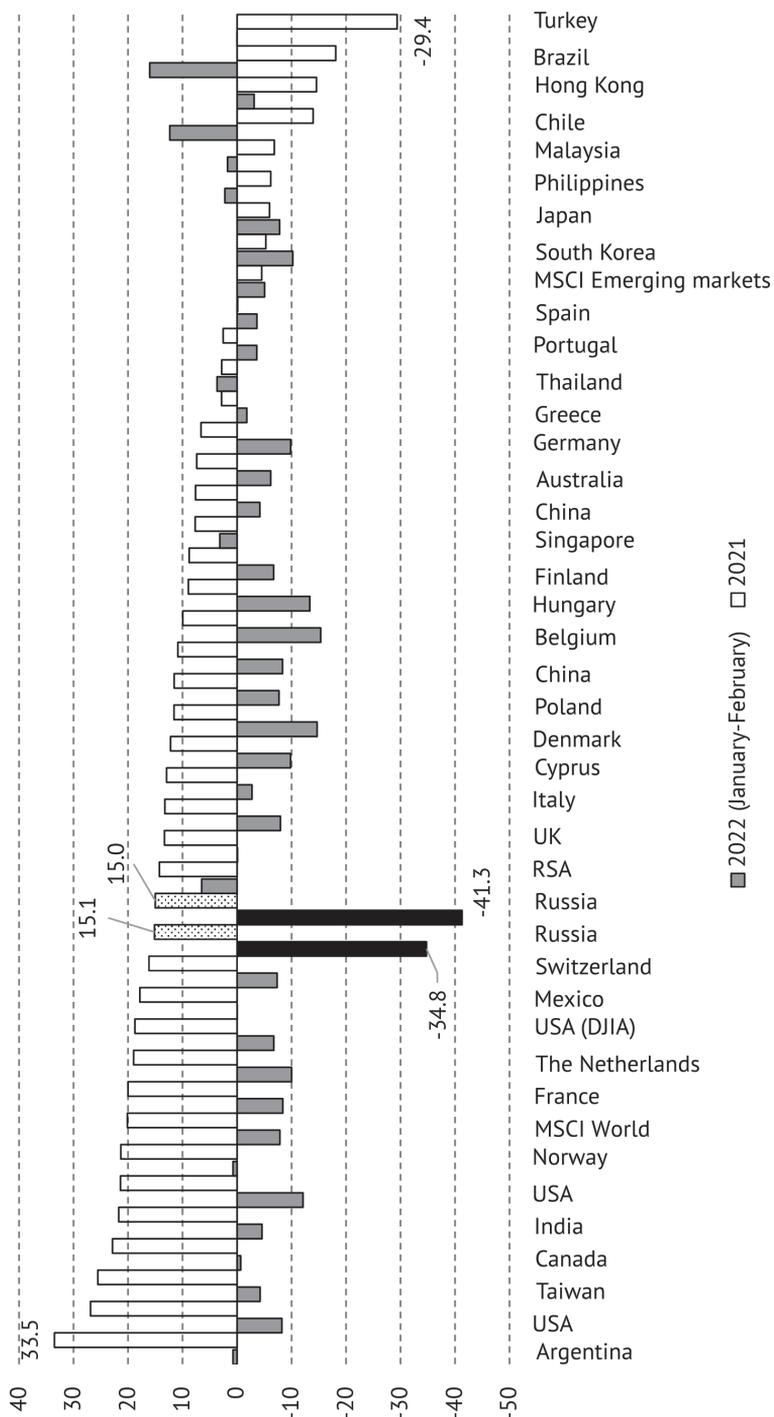


Fig. 1. The returns of 43 world stock indexes on major national exchanges in 2021 and January-February 2022, % per annum

Source: own calculations based on data released by Bloomberg.

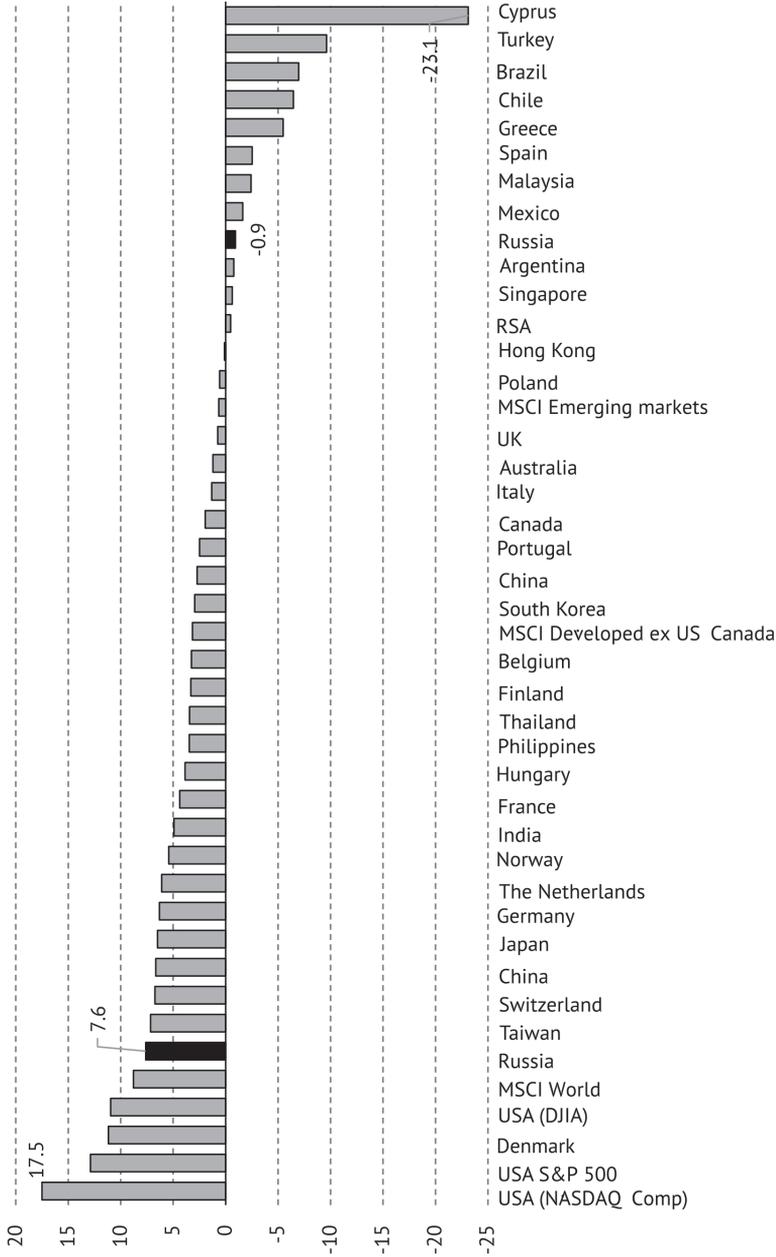


Fig. 2. The geometric mean return of 43 world stock indexes on major stock exchanges denominated in different currencies, over the period 2010–2021, % per annum

Source: own calculations based on data released by *The Wall Street Journal*.

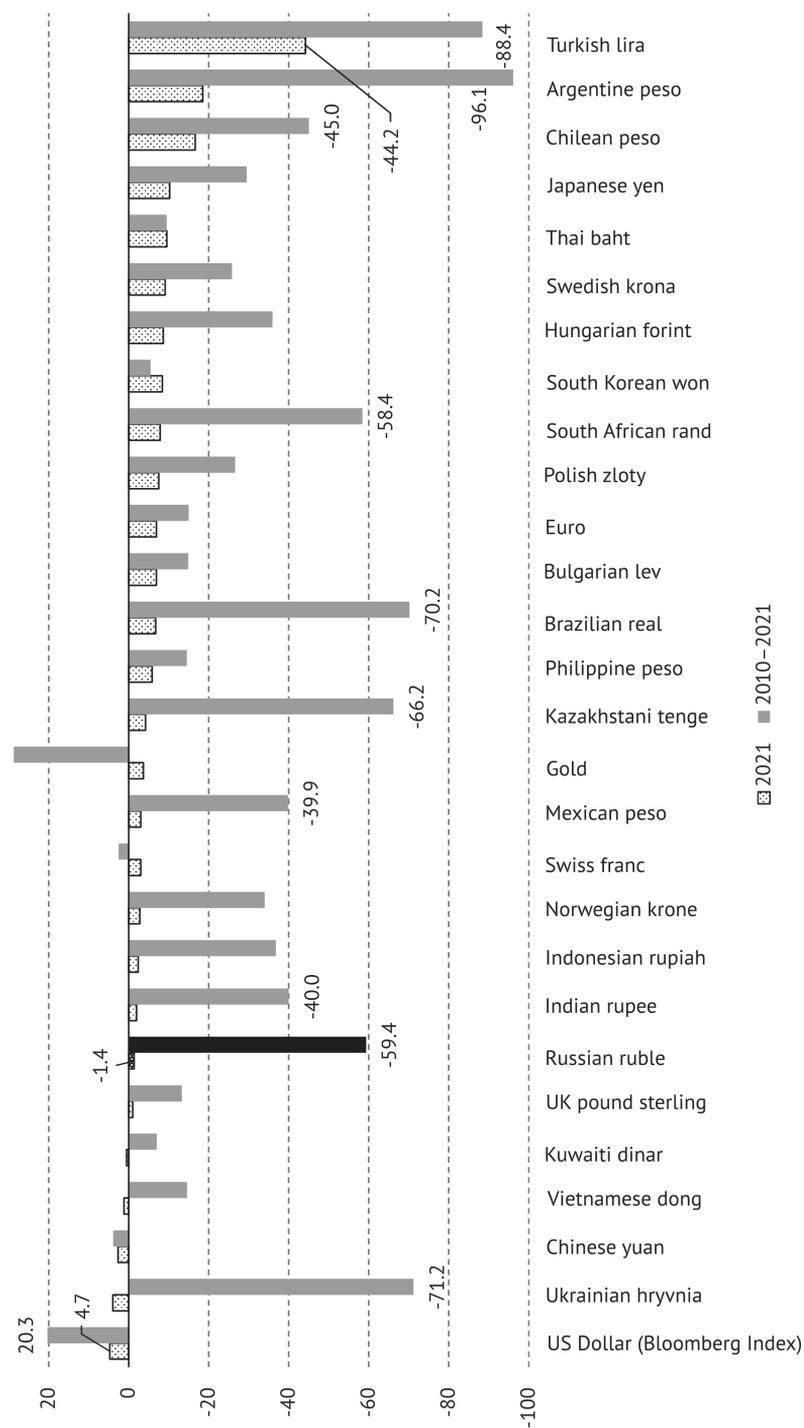


Fig. 3. The downward (-) and upward (+) movement of the value of 42 national currencies and price of gold in US dollar terms, in 2021 and the period 2010-2021, %

Source: own calculations based on data released by Bloomberg and The Wall Street Journal.

dollars (RTS Index) demonstrated different values (*Fig. 2*). The average annual return of the RTS Index amounted to -0.9%, and that of IMOEX, to +7.6%. Out of the 43 national stock indexes, IMOEX was below only three benchmarks, three of which (NASDAQ Comp., S&P 500 and DJIA) reflect the returns on US stocks, while RTS Index was above only 8 national stock indexes, with the lowest average annual returns over the said 11-year period.

The differences in returns on investment in corporate stocks denominated in national currencies and in US dollars observed on the time horizon 2010–2021 can be explained by the devaluation of most of those currencies relative to the US dollar, with the exception of the Chinese yuan and the Swiss franc (*Fig. 3*). Over that period, the value of national currencies in US dollar terms plunged as follows: Argentina, by 96.1%; Turkey, by 88.4%; Ukraine, 71.2%; Brazil, 70.2%; and Kazakhstan, 66.2%; while the Russian ruble lost 59.4%. The downward trend in the value of the majority of national currencies, including the Russian ruble, against the US dollar, continued into 2021. Over that period, the value of the Russian ruble in US dollar terms declined by 1.4%.

On the contrary, the value of gold in US dollar terms over the period 2010–2021 gained 28.7%; to a certain extent, gold played the role of a secure investment in the situation of increased financial market volatility across different economies. However, in 2021, as the economies began to recover after the coronavirus crisis, the price of gold fell by 3.6%.

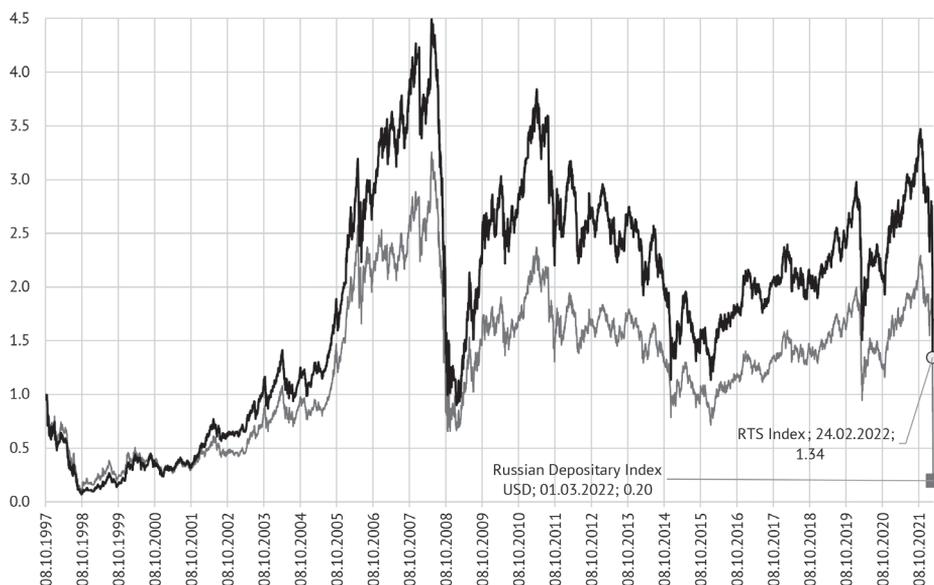
Academic studies have offered a variety of criteria for defining a financial crisis. In this study, we apply the simplest criterion suggested by Barro and Ursua,¹ and Reinhart and Rogoff,² whereby a financial crisis is understood as a fall in stock prices (stock indices) by 25% or more.

According to that criterion, the fifth financial crisis (in the history of Russia's modern financial market started in October 2021. Over the period from October 31, 2021 through March 3, 2022, the RTS Index lost 49.2%, while the Russian Depository Index on the Vienna Stock Exchange³ lost 91.0%. The sharp decline phase in the movement of the value of Russia's equity instruments lasted over January–February 2022, when within just two months the RTS Index and the Russian Depository Index fell by 41.3% and 89.8%, respectively (*Fig. 4*). The deeper plunge of the Russian Depository Index relative to the RTS Index happened because from February 28, 2022, trading in Russian stocks on the Moscow Exchange was closed, in contrast to trading in depository receipts on the London Stock Exchange, so the landslide sales of Russian stocks by non-residents only marginally influenced the domestic exchange market, for which the RTS Index is calculated.

1 Barro R., Ursua J.F. Stock Market Crashes and Depressions. NBER Working Paper 14760. National Bureau of Economic Research. Cambridge. Mass. February 2009.

2 Reinhart, C.M., Rogoff, K.S. (2009). *This Time Is Different: Eight Centuries of Financial Folly*. Princeton, NJ, Princeton University Press.

3 The Russian Depository Index is a modified capitalization-weighted index comprised of the most liquid depository receipts on Russian shares that are traded on the London Stock Exchange. The index was developed, with a base value of 1,000 as of October 8, 1997, by the Vienna Stock Exchange.



* On March 3, the market for the bulk of depository receipts on shares in Russian PJSCs on the London Stock Exchange was suspended in response to a sharp drop in their prices.

Fig. 4. The movement of the RTS Index and the Russian Depository Index from October 8, 1997 through March 1, 2022* (index values as of October 8, 1997 = 1)

Source: own calculations based on data released by Bloomberg.

The specific feature of the current financial crisis in Russia is that for the first time it was triggered not by macroeconomic factors and the behavior of global markets, but mostly by a sharp aggravation of geopolitical risks. In spite of the continually mounting tension in response to the situation in Ukraine, the acute phase that the conflict entered on February 24, 2022 and the ensuing tough mutual sanctions imposed by the countries involved in it came as a surprise to many financial market participants, including non-residents. Thus, for example, a team of analysts from BlackRock (US investment management corporation), who arrived in Moscow in late January 2022, upon reviewing the situation in Russia issued a statement on February 16, 2022 that an armed conflict between Russia and Ukraine was unlikely, and so, on the basis of available data, they advised in favor of maintaining long-term investments in Russia.¹ Apparently, other foreign portfolio investors shared such expectations because, according to statistics released by Emerging Portfolio Fund Research, Inc. (EPFR Global), January and February 2022 saw a noticeable inflow of investor funds into foreign investment funds specializing in Russian shares (Russia-EMEA-Equity), in the amount of \$104.6

1 Lauricella T. Autocracy Is a Bad Investment // Morningstar on-line. March 8, 2022. URL: <https://www.morningstar.com/articles/1083334/autocracy-is-a-bad-investment>

mn and \$179.0 mn, respectively, while in 2021 an investment outflow from these funds was the prevalent trend.

The events that followed after February 24, 2022 resulted in the domestic stock market's isolation from non-residents and the imposition of restrictions on transactions in Russian shares with non-residents on the exchange market. According to a publication in the Financial Times citing MarketWatch, at that time foreign portfolio investors owned \$86 bn worth of Russian stocks.¹ In turn, foreign exchange markets for depository receipts on Russian shares became inaccessible to Russian investors, and so these market participants could no longer buy the significantly cheapened receipts and convert them back into shares.

From February 28, trading in shares in Mobile TeleSystems PJSC (MBT) on the New York Stock Exchange was suspended; and trading in shares in Yandex NV (YNDX) and Ozon Holdings Ltd. (OZON) was suspended on the NASDAQ Stock Market. From March 1, trading in Russian stocks was suspended on the German Stock Exchange (Deutsche Börse).² From March 3, the London Stock Exchange suspended trading in more than 50 issues of depository receipts on Russian shares.³

The sanctions imposed from February 24, 2022 on servicing the forex transactions of Russian clients on foreign markets prevented Russian investors from purchasing the cheapening depository receipts. As a result, the depreciated shares began to be massively removed from the world's leading international stock indexes, which in practice meant an indirect ban on investments in these assets by major foreign institutional investors. On March 3, MSCI Inc. reclassified the MSCI Russian Indexes from "emerging markets" to "standalone markets", calling Russia's equity markets "uninvestable".⁴ On the same day, FTSE Russell also removed all Russian stocks from its indexes. Later, a similar decision was made by the administrator of S&P Dow Jones Indices.⁵

From March 4, 2022, the NYSE and CBOE Bzx indefinitely suspended all major Russia ETFs traded in the USA: iShares MSCI Russia ETF (ERUS), Franklin FTSE Russia ETF (FLRU), Direxion Daily Russia 2X Shares ETF (RUSL), VanEck Russia ETF (RSX), and VanEck Russia Small-Cap (RSXJ).⁶ Meanwhile, only one of these funds, Direxion Daily Russia 2X Shares ETF, announced its liquidation in March of this year. As of December 31, 2021, according to Morningstar Direct, there existed 150 ETFs and mutual funds with at least 0.5% of their portfolio value invested in Russian equities. The total value of Russian shares in the portfolios of these ETFs

1 *Goldstein S.* More than \$500 billion of Russian securities at risk as banks and clearinghouses react to sanctions // MarketWatch online. March 1, 2022.

2 *Dummett B.* Germany's Stock Exchange Closes Door on Trading Russian Securities // The Wall Street Journal on-line. March 1, 2022.

3 *Dummett B.* London Stock Exchange Shuts Down Trading of Russia Securities // The Wall Street Journal on-line. 3 March 2022.

4 *DeCambre M.* Ukraine crisis creates cracks in the ETF complex // MarketWatch on-line. 4 March 2022.

5 *Yun Li* S&P Dow Jones is removing Russia stocks from indexes, stripping country of emerging market status // CNBC. March 4, 2022.

6 *Kilgore T.* All these Russia ETFs were halted indefinitely for «regulatory concern» // MarketWatch on-line, 5 March 2022. URL: <https://www.marketwatch.com/story/nyse-arca-halts-trading-in-3-russia-etfs-for-regulatory-concern-11646421313?mod=home-page>

was nearly \$17.5 bn or, on average, 1.9% of the total value of their assets. As of the end of February 2022, the value of their investments in Russian shares shrank by more than 77% to \$4 bn, or 0.5% of the value of their assets.¹

The sanctions imposed by the USA prohibited US individuals and entities from purchasing new shares in 14 major Russian companies after May 25, 2022. The de facto removal, from March 1, of Russian shares from the MSCI, S&P Dow Jones Indices, and FTSE Russell made it impossible for non-residents to buy any Russian stocks. At the same time, US institutional investors were not obliged to urgently liquidate their investments in Russian shares, if this did not contradict the requirements stipulated in legislation (for example, if the limit on holding stocks in the amount of more than 10% of the value of a mutual fund portfolios was not exceeded).

By way of counter sanctions, from February 28, 2022, the Bank of Russia imposed a temporary ban on sales of securities by brokers on behalf of foreign clients. It was also forbidden to transfer dividends to non-residents from those countries that had introduced anti-Russia sanctions. Besides, from February 28 through March 24, the Bank of Russia suspended trading in Russian shares on the Moscow Exchange. When trading had been resumed, this market segment functioned in the main thanks to the transactions carried on by domestic private investors. In the future, the domestic stock market may rely on moderate support from government structures.² The narrowed circle of market participants somewhat brought down its liquidity level.³

From a historical point of view, a protracted period of suspended trading in the securities issued by a certain country is by no means a unique phenomenon. According to data published by US economists William Goetzmann and Philippe Jorion, over the course of the 20th century, trading in some stock markets outside the USA was suspended for months or years no less than 25 times⁴ (in Argentina, Chile, Egypt, Germany, Greece, Japan, Portugal and Spain).

3.1.2. Financial crises in modern Russia

Investors frequently perceive the risks of changes in the prices of financial assets as the probability of a rare and suddenly occurring event called “a black swan”.⁵ However, we believe that on long horizons starting from 1997, the

1 *Johnson B.* Index Providers React to Russian Market Turmoil // Morningstar on-line. 7 March 2022. URL: <https://www.morningstar.com/articles/1083060/index-providers-react-to-russian-market-turmoil>

2 In order to support the domestic stock market, Russian Prime Minister Mikhail Mishustin instructed the RF Ministry of Finance to allocate, in 2022, Rb1 trillion from the National Wealth Fund for purchasing shares in Russian companies on the terms to be determined by the RF Ministry of Finance. As follows from RF Government Edict No. 335-r dated February 26, 2022, the RF Ministry of Finance is granted the right to involve VEB.RF and specialized financial organizations in these transactions.

3 According to data released by the Moscow Exchange as of March 24, the share of individuals in the total volume of trading in shares on that day amounted to 58.2%.

4 *Jorion P., Goetzmann W.* Global Stock Markets in the Twentieth Century // *Journal of Finance*. January 1999. Vol. 54. № 3. P. 953–980.

5 For more details, see Nassim Nicholas Taleb. *The Black Swan: The Impact of the Highly Improbable*. Random House, 2007.

movement of the Russian stock market can be more accurately described by the “black turkey” metaphor used in the alternative hypothesis suggested by Lawrence Siegel¹ and Paul Kaplan.² In their theory, financial crises are viewed as events lasting over time, from the moment when stock prices begin to plunge until their full recovery to the pre-crisis levels. In this sense, financial crises are by no means rare and sudden, because many capital markets exist permanently in such a crisis throughout their existence.

As can be seen in *Table 1*, over the 25-year time horizon from 1997 through February 2022, the market for shares in Russian companies lived through five waves of financial crises that happened in 1997, 2008, 2014, 2020, and 2021. The first crisis broke out in August 1997 and lasted until August 2003. Thereafter, one crisis would soon be followed by another one, and quite often, a new crisis would start even before the previous one was over. Thus, for example, after the stock market decline in June 2008, the value of the RTS Index had not yet recovered by February 28, 2022, amounting to only 38.1% of its pre-crisis level in May 2008. Meanwhile, two more financial crises occurred, lasting from March 2014 through December 2019 and from January 2020 through May 2021; and then from November 2021 yet another crisis began to evolve, where the decline phase is still underway.

In the entire 26-year history of the Russian stock market (between September 1995 and March 2022), there was only one 5-year period (from August 2003 through May 2008) when the market was functioning not in conditions of a financial crisis, that is, it was not experiencing black turkey events.

The RTS Index, having experienced five financial crises, by February 2022 had not yet recovered after its two latest decline periods, the first of which started in June 2008, and the second, in November 2021 (*Fig. 5, Table 1*). From June 2008, the RTS Index had been climbing for 165 months, or 13.7 years, and its value as of February 28, 2022 stood at just 38.1% of its peak in May 2008. The plunge of the RTS Index from November 2021 amounted to 49.2% relative to the October 2021 level, and so far, it has lasted only for 4 months.

Compared to the four previous crises, the current fall of the RTS Index since November 2021 is 49.2% less deep than the stock market downfalls during the 1997 (by 91.3%) and 2008 (by 78.2%) recession. In terms of its duration, so far, the current crisis has been the shortest one. However, if we take into account the decline depth, since November 2021, not of the RTS Index, but that of the Russian Depository Index on foreign exchanges, which amounted to 91.0% over 4 months, the current crisis would match the crisis that erupted in July 1997, after which the RTS Index lost 91.3% within 14 months.

Out of the five financial crises, as of the end of February 2022, the ruble-denominated MOEX Index had not recovered only from the shock of November 2021, the effects of which had lasted 4 months (*Fig. 6, Table 1*). Compared to the

1 Siegel L.B. Black Swan or Black Turkey? The State of Economic Knowledge and the Crash of 2007–2009. // *Financial Analysts Journal*. July/August 2010. Vol. 66. Iss. 4. P. 6–10.

2 Kaplan P.D. What Prior Market Crashes Taught Us in 2020 // *Morningstar on-line*. 23 July 2020. URL: <https://www.morningstar.com/features/what-prior-market-crashes-can-teach-us-in-2020>

Table 1

The parameters of financial crises in Russia over the period from July 1997 through February 2022

Index, month and year of peak value	Depth of index decline, %	Period of index decline and recovery		Index as of February 28, 2022 (peak = 100%)
		timeline	months	
RTS Index:				
July 1997	-91.3	August 1997 – August 2003	73	
May 2008	-78.2	Recovery not completed	165	38.1
February 2014	-48.9	March 2014 – December 2019	72	
December 2019	-34.5	January 2020 – May 2021	17	
October 2021	-49.2*	Recovery not completed	4	50.8*
IMOEX:				
August 1997	-79.1	September 1997 – May 1999	21	
May 2008	-68.2	June 2008 – April 2016	95	
December 2013	-13.2	January 2014 – January 2015	13	
December 2019	-17.6	January – November 2020	11	
October 2021	-40.5	Recovery not completed	4	59.5
Brent oil price:				
December 1996	-58.3	January 1997 – November 1999	35	
July 2008	-67.7	Recovery not completed	163	69.0
June 2014	-72.6	Recovery not completed	92	82.6
December 2019	-61.5	January 2020 – May 2021	17	
October 2021	-14.5	November 2021 – January 2022	3	

* The depth of decline of the Russian Depository Index on the Vienna Stock Exchange over the same period was 91.0%, and its current value (as of March 3, 2022) amounts to only 9.0% of its October 2021 peak value (as of October 31, 2021).

Source: own calculations based on data released by the Moscow Exchange and the Bank of Russia; and data available at URL: <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=rbrte&f=m>

four previous crises, the current plunge by IMOEX by 40.5% is less deep than the stock market declines in 1997, by 79.1%, and in 2008, by 68.2%.

In 2020, the accelerated recovery of stock markets compared with that of the economy was typical of many countries. US economist Paul Kaplan¹ demonstrates that out of the 18 most serious financial crises in the USA over the 150-year period from 1870 to 2020, in terms of the depth of decline in stock prices and duration, the 2020 COVID-19 crisis was the shortest and shallowest one. After declining by 20% (in real terms) from December 2019 through March 2020, the US stock market fully recovered in just four months, and returned to its previous level in July 2020. The expert concluded that after each of the 18 crises, the US stock market always recovered to its original level, but the speed of the market recovery could not be predicted.

1 Kaplan P. In Long History of Market Crashes, Coronavirus Crash Was the Shortest // Morningstar on-line. 9 March 2021. URL: <https://www.morningstar.com/articles/1028407/in-long-history-of-market-crashes-coronavirus-crash-is-short>.

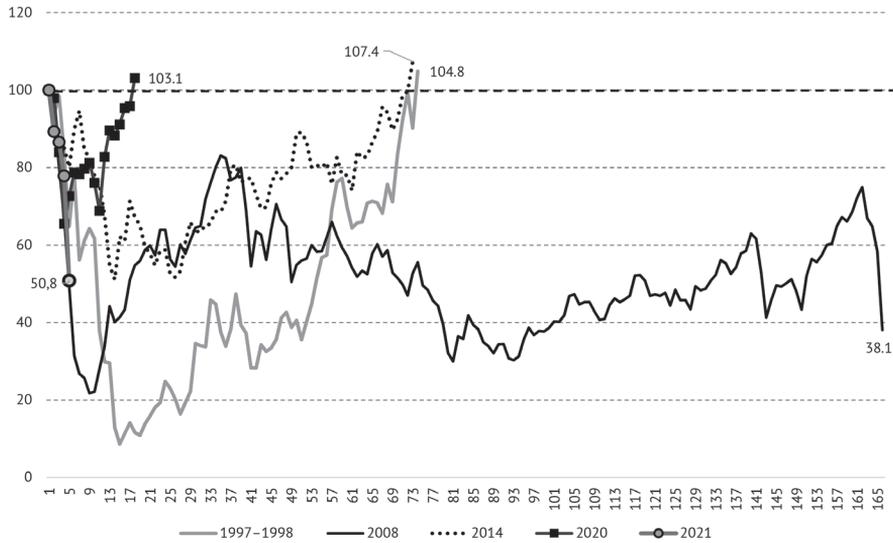


Fig. 5. The movement of the RTS Index relative to its peaks of July 1997, May 2008, February 2014, December 2019, and October 2021, over a time horizon measured in months, as of February 28, 2022, % (peak value = 100%)

Source: own calculations based on data released by the Moscow Exchange.

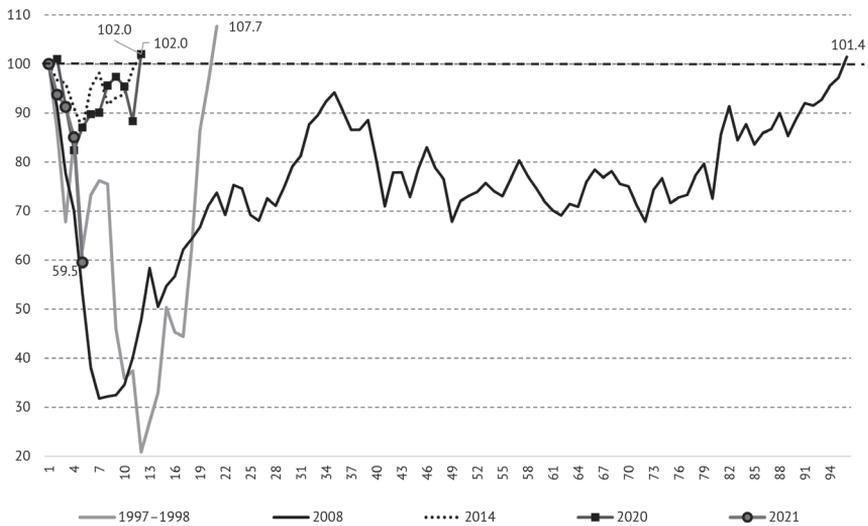


Fig. 6. The movement of IMOEX relative to its peaks of August 1997, May 2008, December 2013, December 2019, and October 2021, over a time horizon measured in months, as of February 28, 2022, % (peak value = 100%)

Source: own calculations based on data released by the Moscow Exchange.

Crises in the market for Russian shares have always coincided with a significant decline in the global oil market, which is one of the key factors that affect this country's forex earnings (*Fig. 7, Table 1*). At the same time, after the two deepest plunges in Brent oil price from August 2008, by 67.7%, and from July 2014, by 72.6%, it has not yet climbed to its previous level over 163 and 92 months, respectively. In the current structure of the economy, over the period 2010–2021, the long-term downward trend in oil prices significantly translated into the negative average annual return of the RTS Index of 0.9% per annum (*Fig. 2*) and the ruble depreciation by 59.4% (*Fig. 3*).

The specific feature of the stock market crisis that began in November 2021 is that, for the first time, a slight decline in oil prices by 14.5% at year end 2021 had almost no significant impact on the decline in stock indices. Within just the first three months of 2022, price of oil fully recovered, and then continued to rise. However, this did not prevent the stock market from a sharp plunge, due in the main to geopolitical factors and mutual sanctions imposed by countries.

Over the period from July 1998 through February 2022, there were five periods of the ruble's weakening, which happened, as a rule, in response to the downward movement of oil prices and the stock market (*Fig. 8, Table 2*). Between July 1998 and May 2008, the USD-to-ruble exchange rate gained 281.8%. Later on, it rose by 55.6% from May 2008 through August 2014, by 89.9% from August 2014

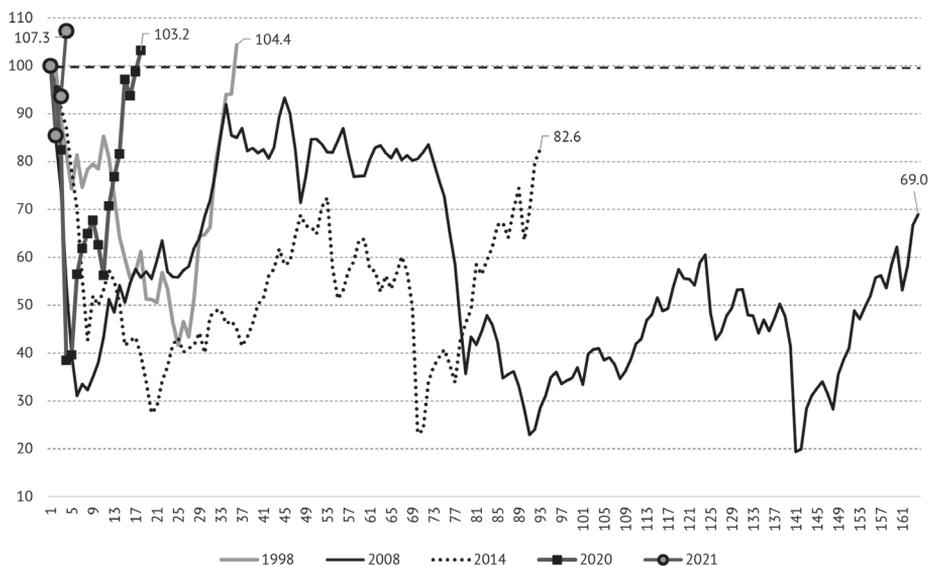


Fig. 7. The movement of Brent crude oil price relative to its peaks of December 1996, July 2008, June 2014, December 2019, and October 2021, over a time horizon measured in months, as of February 28, 2022, % (peak value = 100%)

Source: own calculations based on data available at URL: <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=p&t=s&s=rbrte&f=m>



Fig. 8. The monthly movement of the USD-to-ruble exchange rate relative to its base values of July 1998, May 2008, August 2014, December 2019, and October 2021, over a time horizon measured in months, as of February 28, 2022, % (peak value = 100%)

Source: own calculations based on data released by the Bank of Russia.

through December 2019, and by 13.9% from December 2019 through October 2021. Between October 2021 and February 2022, the US dollar climbed by another 18.5%. In total, over 283 months from July 1998 through February 2022, the US dollar exchange rate against the Russian ruble jumped 13.6 times. The ruble's instability and its propensity for a regular weakening against the US dollar has been a significant obstacle per se to the formation of a long-term domestic savings system.

Table 2

Periods of growth of the USD-to-ruble exchange rate on the time horizon from July 1998 through February 2022

Time period = 100%	Period length, months	Growth over period (starting month value = 100%), %
July 1998 – May 2008	118	281.8
May 2008 – August 2014	75	55.6
August 2014 – December 2019	64	89.9
December 2019 – October 2021	22	13.9
October 2021 – February 2022	4	18.5
Total: July 1998 – February 2022	283	13.6 times

Source: own calculations based on data released by the Bank of Russia.

After a sharp decline, in 2008, of stock indices in the five BRICS countries, they have not yet recovered only in Russia and Brazil (Fig. 9, Table 3). Over the 165 months that had passed since May 2008, the RTS Index recovered to only 38.1% of its pre-crisis level, and the MSCI Brazil Index, to only 36.3%. The RTS Index, calculated with due regard for reinvestment of dividends, had recovered to its pre-crisis level within 140 months, but as of February 28, 2022, it stood only at 70.1% of its pre-crisis level.

The MSCI indexes for India, the RSA and China recovered more rapidly to their pre-crisis values: over the periods of 22, 28, and 82 months after May 2008, respectively.

The different recovery rates of the national stock indices across the two groups of BRICS countries observed after the 2008 and 2020 crises can be explained by the higher diversification of the economies of India, China and, to some extent, the RSA compared to the structure of Russia and Brazil's economies, as well as some other specific features of those countries. The slow recovery rate of the stock market in Russia was associated with the recovery of oil prices only by 69.0% after the 2008 crisis, while in Brazil, the stock market recovery was complicated by a high level of macroeconomic instability, which only intensified during the COVID-19 epidemic.

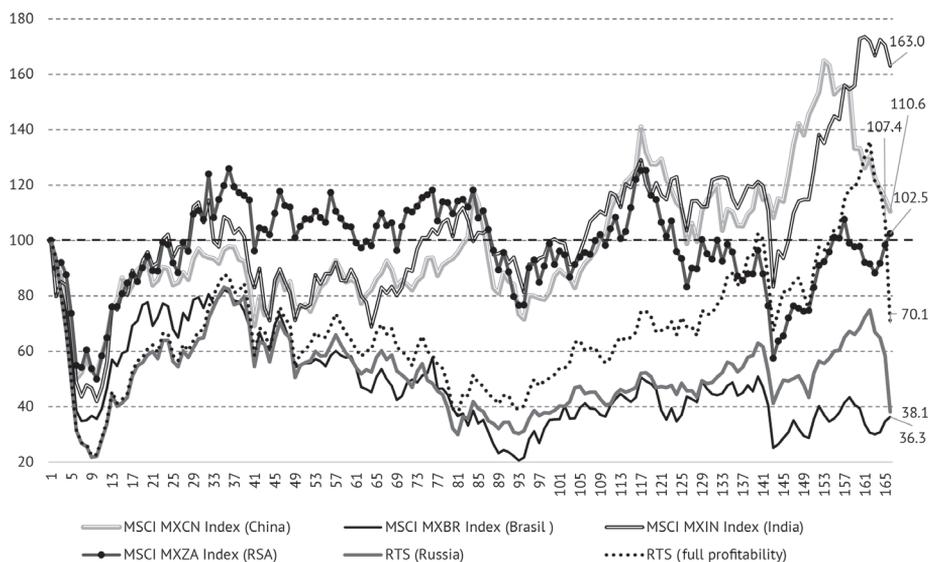


Fig. 9. The depth and duration of the impact of the 2008 financial crisis on BRICS stock indices denominated in US dollars, as of February 28, 2022 (peak in May 2008 = 100%)

Source: own calculations based on data released by the Moscow Exchange and Bloomberg.

Table 3

The recovery of BRICS stock indices denominated in US dollars after the 2008 crisis, as of February 28, 2022

Indexes	Index recovery period from May 2008, months	Full recovery	Current index value, % (May 2008 = 100%)
RTS	165	No	38.1
RTS Total Return	139	Yes	70.1
MSCI Brazil	165	No	36.3
MSCI South Africa	28	Yes	102.5
MSCI India	22	Yes	163.0
MSCI China	82	Yes	110.6

Source: own calculations based on data released by the Moscow Exchange and Bloomberg.

The most protracted crises in the modern history of stock markets are believed to be the recession in the US stock market during the Great Depression of 1929–1933 and the downfall of the Japanese stock market after 1989. The recovery of Dow Jones Industrial Average (DJIA) in the USA after the Great Depression lasted 303 months, or 25.3 years (Fig. 10, Table 4). In 2015, this record was broken by the Japanese NIKKEI-225 index, which as of February 28, 2022, had failed to recover in 386 months, or more than 32 years. Its value in February 2022 amounted to only 68.2% of its peak achieved in 1989.

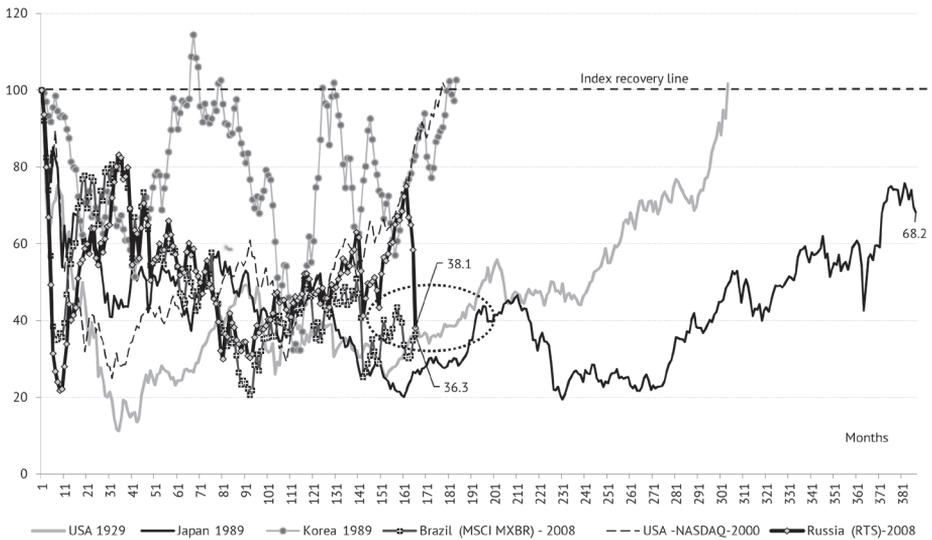


Fig. 10. The depth and duration of the lengthiest recoveries of stock indexes, as of February 28, 2022 (pre-crisis peak = 100%)

Source: own calculations based on data released by the Moscow Exchange and Bloomberg.

Table 4

The longest recovery periods of national stock indexes, as of February 28, 2022

Country (index - year of crisis onset)	Period of index recovery from its peak value, months	Full recovery	Current value of unrecovered index, % (peak = 100%)
Japan (Nikkei – 1989)	386	No	68.2
USA (DJIA – 1929)	303	Yes	
South Korea (KOSPI – 1989)	183	Yes	
USA (NASDAQ – 2000)	177	Yes	
Russia (RTS (USD) – 2008)	165	No	38.1
Brazil (MSCI (USD) – 2008)	165	No	36.3
China (MSCI-Shanghai (USD) – 1997)	122	Yes	
China (MSCI-Shanghai (USD) – 2008)	82	Yes	

Source: own calculations based on data released by the Moscow Exchange and Bloomberg.

Against the backdrop of these crises, the recovery of the Russian RTS Index and MSCI Brazil to the levels of 38.1% and 36.3%, respectively, which has lasted 165 months, so far has been closer to the market recovery trajectory of a typical medium-term crisis.

The longest declines in stock prices in history were typically driven by underlying economic factors. Thus, for example, in Japan and South Korea, these are the significant imbalances in the financial assets and liabilities of households and businesses, the transformation of the economy from an export model towards domestic demand, and some other long-term economic and social problems. In this sense, the factors that have served as obstacles to a sustainable recovery of Russia's stock market after the 2008 crisis are the outdated structure of the economy coupled with long-term downward trends in the growth rates of prices for raw materials, the low level of development of institutional investors, and the domestic investment climate instability. Quite recently, these factors have been augmented by geopolitical risks.

3.1.3. Equity risk premium

Risk premiums serve as the most important indicator of the effectiveness of investment in stocks. However, this indicator can be assessed by a variety of methods. We have attempted to systematize the various risk indicators and work out our own estimates of these risks, based on the methods suggested by the most reputable economists and information resources.

For the purpose of estimating investments in Russian stocks, two types of indicators are applied, which are called "risk premiums". One group of risk indicators (*equity risk premiums*) show the difference between the estimated real or future return on stocks and the estimated real return on safe (government) bonds. The use of these indicators involves comparing the discounted cash flows generated by stocks and bonds. The lower the premium compared to that of bonds, the more conservatively investors view the benefits of investing in stocks over bonds. A low equity risk premium has become a typical problem in the Russian stock market.

Another set of risk premiums (*discount rates*) determine the present value of future cash flows generated by a company in order to assess the fair value of its shares. Thus, the lower the discount rate, the higher the fair value of the shares, all other conditions being equal. The low value of shares in Russian PJSCs by comparison with their foreign competitors is usually associated with the high risk premium applied in estimating their fair value.

The category of risk premiums also includes the interest rate spreads released in the reports published by Credit Suisse and Bloomberg.

Dimson, Marsh and Staunton, in their book 'Triumph of the Optimists'¹ and the subsequent investment return reports published by the Credit Suisse Research Institute², calculate the *historical risk premiums* for different countries, Russia including, as the difference between the estimated real return on stocks and the estimated real return on safe (government) securities on a long-term horizon. According to their methodology, the equity risk premium is calculated as a geometric mean³ of the return on stocks and the return on a risk-free asset. To calculate the latter, the authors apply two benchmarks: short-term government bonds and 10-year government bonds. In each year, the authors average the premiums on stocks over a long-term period starting from 1900, and on a medium-term horizon covering the last 40–50 years. Data for Russia are available only for the period 2014–2018 (*Fig. 11*).

In this study, we calculate the historical risk premiums (HRP) on a longer time horizon relative to the long- and short-term yields of RF eurobond portfolios, constructed and reviewed on a monthly basis.⁴ Fig. 11 presents long-term premiums as the difference between the geometric means of the returns of the main asset classes. The resulting premium values are compared with the values from the Credit Suisse reports, where a similar technique was used. When calculating our indicators, we managed to obtain similar results. The stock return is compared with that of short-term eurobonds (the most 'correct' proxy for the

1 Dimson E., Marsh P., Staunton M., Garthwaite A. Triumph of the Optimists: 101 Years of Global Investment Returns. Princeton University Press, 2002.

2 Credit Suisse Global Investment Returns Yearbooks for 2009–2021. Credit Suisse Research Institute, Switzerland.

3 $(1 + \text{Premium}) = (1 + \text{Return on stocks}) / (1 + \text{Return on bonds})$ in annual terms.

4 The risk premium on stocks is calculated as the difference (cleared of inflation) between the return of a stock index and the return of bonds. This estimate is historical, and not predictive. The stock returns on long historical horizons are calculated taking into account the exchange rate and dividend yield of a given country's stock market index denominated in the base currency, and thus it becomes possible to compare the indices across different countries, for example, in US dollar terms. One example of such an index is MSCI Russia, which has been followed since December 1994. As a proxy for the risk-free rate, Dimson et al. used both short-term and long-term government bonds. Short-term bonds, according to the authors, are more consistent with the concept of a risk-free asset, and their volatility is lower. However, during the periods of a sudden surge in inflation or other extreme conditions, their cost varies significantly. On the other hand, long-term bonds are often used as a benchmark for calculating equity risk premiums. The benchmark should be the yield of the national eurobond price index denominated in US dollars. In Russia, there is no eurobond index denominated in US dollars with a sufficient historical depth. All the available indexes, as a rule, are compiled either by Cbonds or by foreign agencies (for example, Bloomberg), and have been followed from the mid-2000s. We applied our own calculated indexes for RF eurobonds, and thus also calculated our own values of historical risk premium for Russian stocks (HRP1 and HRP2).

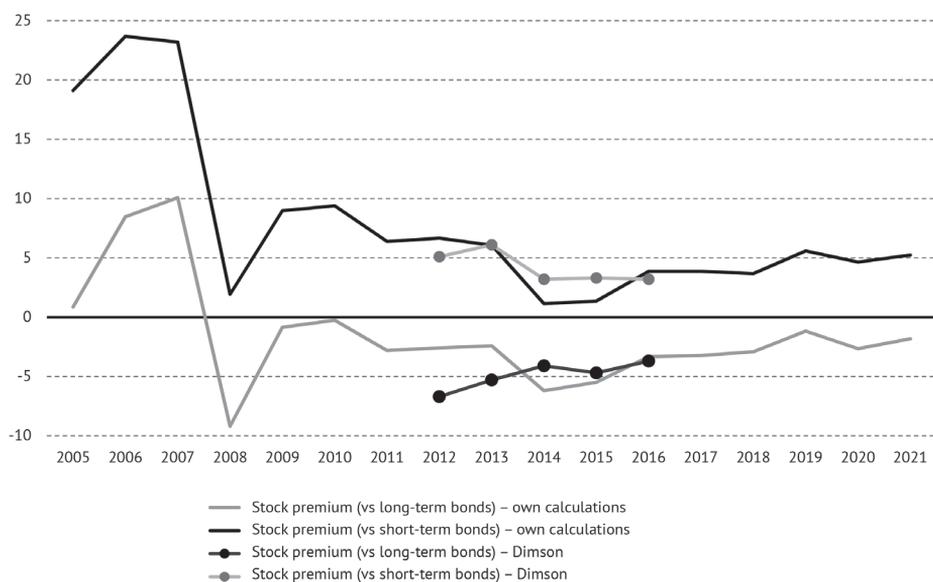


Fig. 11. The long-term historical equity risk premiums vs short-and long-term eurobonds (in US dollars), 2005–2021

Source: own calculations based on data released by Bloomberg.

risk-free rate) and long-term eurobonds (the most commonly used proxy for the risk-free rate). The equity risk premium on Russian stocks relative to long-term bonds has been negative since 2008, while having slightly improved, from -2.7% in 2020 to -1.8% in 2021. The amount of premium relative to short-term bonds has remained positive, and in 2021, it rose on the previous year, from 4.6% to 5.2%.

The negative premium on stocks calculated relative to long-term bonds indicates that foreign investors were cautious in their assessment of the cash flow growth sustainability, and primarily the factors like net profits and corporate governance quality of Russian companies, as well as the general investment climate in this country.

As has been shown by Credit Suisse’s reports over several years, most of the major stock markets are characterized, on a long-term horizon, by positive equity risk premiums on stocks relative not only to short-term government bonds, but also to long-term ones, and so the negative premium on stocks in our study, calculated relative to long-term debt instruments on the domestic stock market, points to the existence of some problems in Russia’s stock market compared with the stock markets of other countries.

An example of another approach to estimating equity risk premiums is the Bloomberg methodology based on expected stock returns. In particular, risk premiums are calculated as the difference between the expected market rate of return of stocks and the risk-free rate, which is understood to be the yield

to maturity of zero-coupon 10-year government bonds denominated in the local currency. For Russia, the MICEX Russia Zero Cpn 10 Year index is applied as the risk-free rate. The market yield is determined using the dividend discount model (DDM), which is calculated as a capitalization-weighted ex ante internal rate of return for each stock. The model is evaluated on the basis of a 5-year consensus forecast for earnings-per-share growth rates.

Companies usually try to offset the low equity risk premiums by increased dividend payments, so the country risk premium data are posted by the Bloomberg Terminal to the specially assigned information pages together with data on dividend yields and dividend payout ratios. All these indicators are the weighted averages for all the stocks and stock issuers included in MOEX Russia Index.¹

The long-term and short-term trends in the movement of equity risk premiums, dividend payments and dividend yields on Russian stocks for the most part followed very similar patterns (*Fig. 12*). Over the entire period under review from December 14, 2012 through March 25, 2022, the growth of equity risk premiums from 8.71% to 11.37% was sustained by the rising mean dividend payout rates, from 20.5% to 56.1%, and the dividend yields of the MOEX Index constituent companies, from 2.9% to 9.9%. Over a shorter term, the decline in the equity risk premiums, from 15.60% in June 2020 to 4.64% in February 2021, occurred alongside the downward movement of dividend payout rates, from 58.7% in May 2020 to 45.2% in January 2021, and that of dividend yields, from 8.1% in April 2020 to 5.0% in June 2021. And conversely, when equity risk premiums increased, from 4.64% in February 2021 to 17.68% in February 2022, as the economy was recovering, their upward movement was sustained by that of dividend payouts, which increased from 45.2% in January 2021 to 57.1% in February 2022, and dividend yields, from 5.0% in June 2021 to 7.2% in February 2022.

Equity risk premiums sharply declined, from 16.70% on February 25, 2022 to 11.30% on March 25, in response to the key rate increase from 9.5% to 20.0% per annum announced by the Bank of Russia on February 28, 2022. As a result, over that period, the market stocks return calculated according to Bloomberg's discounted cash flow model plunged from 30.0% to 21.6% per annum, while the yield on long-term government bonds stayed at 12.5%, having been affected very little by the Bank of Russia's decision due to a freeze on revaluation of bonds in the portfolios of financial institutions. All these developments pushed down the equity risks calculated on the basis of yield spreads of stocks and long-term bonds, even while the dividend payout rate remained high, at 56.2%. It can be assumed that alongside a switchover back to market methods of bond valuation, their yield index will increase sharply, while their value will decline. This will push down the equity risk premium (calculated on the basis of the Bloomberg methodology) even further. This trend suggests that in the medium term, the equity risk premiums on stocks issued by Russian PJSCs may become negative, which will increase the investment attractiveness of government securities.

1 The historical data for all three indices are smoothed using a 21-day moving average (approximately 1 month).

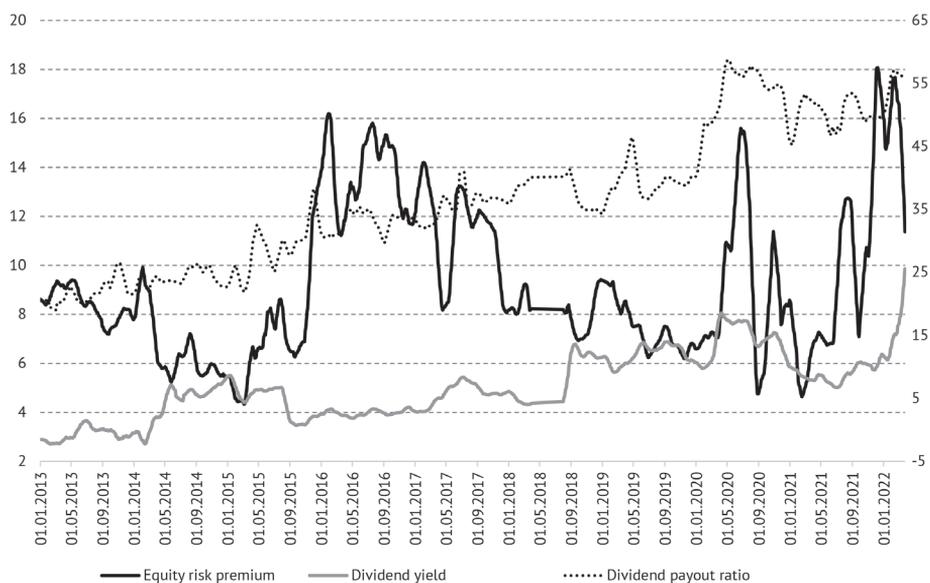


Fig. 12. The equity risk premiums on Russian stocks (left-hand side axis) and additional parameters: dividend yield (left-hand side axis) and dividend payout ratio (right-hand side axis), as %, 21-day moving average

Source: own calculations based on data released by the Bloomberg Terminal.

Discount rate indicators include the equity risk premiums published by a group of Spanish researchers led by Pablo Fernandez and US economist Aswath Damodaran. An increase in the equity risk indicators applied in calculating the discount rate for cash payments to shareholders in the form of dividends brings down the value of stocks and the return on investment. All other conditions being equal, a low equity risk premium is a positive signal for foreign investors to buy Russian stocks.

Fernandez estimates the average equity risk premium based on opinion polls of scientists and business communities across different countries, who were asked about the particular equity risk premiums and risk-free rates that they had applied in their studies over the past year.¹ According to the latest survey by Fernandez

¹ Fernandez P., Aguirreamalloa J., Corres L. Market Risk Premium Used in 56 Countries in 2011: A Survey with 6,014 Answers. URL: <http://ssrn.com/abstract=1822182>; Fernandez P., Aguirreamalloa J., Corres L. Market Risk Premium Used in 82 Countries in 2012: A Survey. URL: <http://ssrn.com/abstract=2084213>; Fernandez P., Aguirreamalloa J., Linares P. Market Risk Premium and Risk Free Rate Used for 51 Countries in 2013: A Survey with 6,237 Answers. URL: <http://ssrn.com/abstract=914160>; Fernandez P., Linares P., Fernandez A.I. Market Risk Premium Used in 88 Countries in 2014: A Survey with 8,228 Answers. URL: <http://ssrn.com/abstract=2450452>; Fernandez P., Pershin V., Fernandez A.I. Discount Rate (Risk-Free Rate and Market Risk Premium) Used for 41 Countries in 2015: A Survey. URL: <https://ssrn.com/abstract=2598104>; Fernandez P., Ortiz A., Fernandez A.I. Market Risk Premium Used in 71 Countries in 2016: A Survey with 6,932 Answers. URL: <https://ssrn.com/abstract=2776636>; Fernandez P., Pershin V., Fernandez A.I. Discount Rate (Risk-Free Rate and Market Risk Premium) Used for 41 Countries in 2017: A Survey. URL: <https://ssrn.com/abstract=2954142>; Fernandez P., Pershin V., Fernandez A.I. Market Risk Premium and

published in 2021, the risk premium on Russian stocks rose from 7.8% in 2020 to 8.1% in 2021 (Fig. 13). The data summary released by Fernandez offers a sociological picture of how different specialists perceive the equity risk premiums in one or other country, but his data can hardly be applied efficiently in predicting risks and, consequently, the fair value of stocks.

A more sophisticated approach is used by Damodaran, who estimates country risk premiums (CRP) by adding country premiums to a risk-free rate calculated using the indicators of return on government securities and the volatility of shares issued by local companies.¹ Based on the methodology suggested by Damodaran, we calculated *project risk premiums* (PRPs)². It is these indicators that have been most frequently used by investors to calculate the cost of capital and the expected effectiveness of future investment projects. The equity risk premium according to Damodaran consists of the “premium in a base developed market” plus the

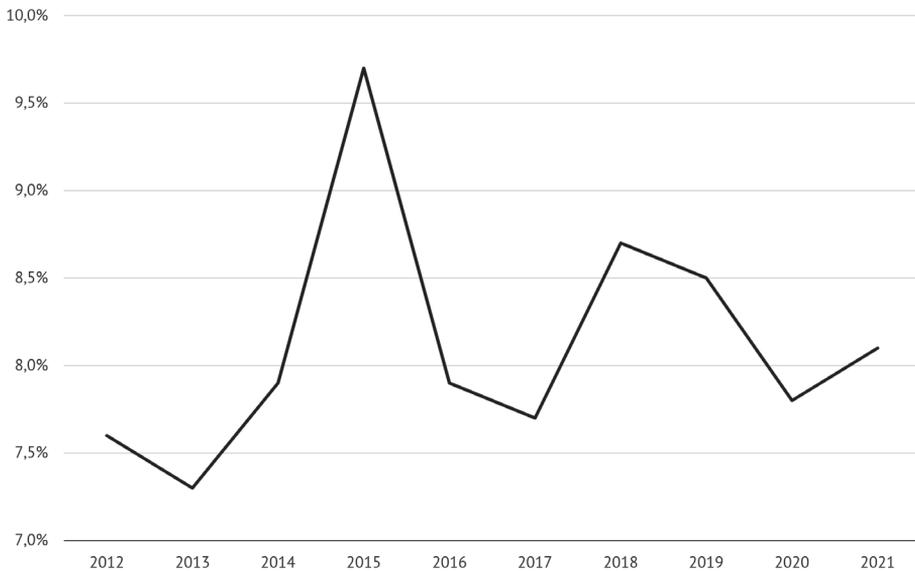


Fig. 13. The equity risk premiums on Russian stocks, as %, 2012–2020

Source: own compilation based on data from the studies by Fernandez et al., etc.

Risk-Free Rate used for 59 Countries in 2018: A Survey. URL: <https://ssrn.com/abstract=3155709>; Fernandez P., Martinez M., Fernandez A.I. Market Risk Premium and Risk-Free Rate Used for 69 Countries in 2019: A Survey. URL: <https://ssrn.com/abstract=3358901>; Fernandez P., Martinez M., Fernandez A. I. Market Risk Premium and Risk-Free Rate Used for 81 Countries in 2020: A Survey. URL: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3560869; Fernandez P., Martinez M., Fernandez A.I. Market Risk Premium and Risk-Free Rate Used for 88 Countries in 2021: A Survey. URL: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3861152

- 1 Damodaran A. Country Risk: Determinants, Measures and Implications – The 2020 Edition (14 July 2020). NYU Stern School of Business. URL: <https://ssrn.com/abstract=3653512> or <http://dx.doi.org/10.2139/ssrn.3653512>
- 2 Damodaran A. Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2019 Edition. URL: <https://ssrn.com/abstract=3378246>

country risk premium specific of the stocks issued by a company in a given country. The base market premium is calculated as the discount rate applied to the cash payments to shareholders in the form of dividends and stock buybacks, which grow over a medium-term period of 3-5 years according to market expectations (based on the consensus forecasts released by news agencies, e.g., Bloomberg, Thomson Reuters, etc.), and thereafter at a growth rate that equals the current risk-free rate on 10-year government bonds issued in the base country. The country premium in this approach is determined using the spreads between 10-year government Eurobonds issued by a given country and the bonds denominated in the same currency for the base country, or by using CDS spreads. In addition, in our calculations, the methodology is augmented by the factor of relative volatility of stock returns compared to bond returns in the domestic market of the country under consideration, whereby the country risk premium may be adjusted for the relative equity risk premium.

Fig. 14 shows two indicators of the project risk premiums that we have calculated by applying Damodaran’s methodology: the country risk premium determined on the basis of yield spreads of RF and US sovereign bonds denominated in US dollars, adjusted for the volatility of Russian stocks (indicator 1), and the country risk premium calculated on the basis of credit default swap (CDS) premiums on RF sovereign bonds denominated in US dollars, also adjusted for the volatility of Russian stocks (indicator 2).

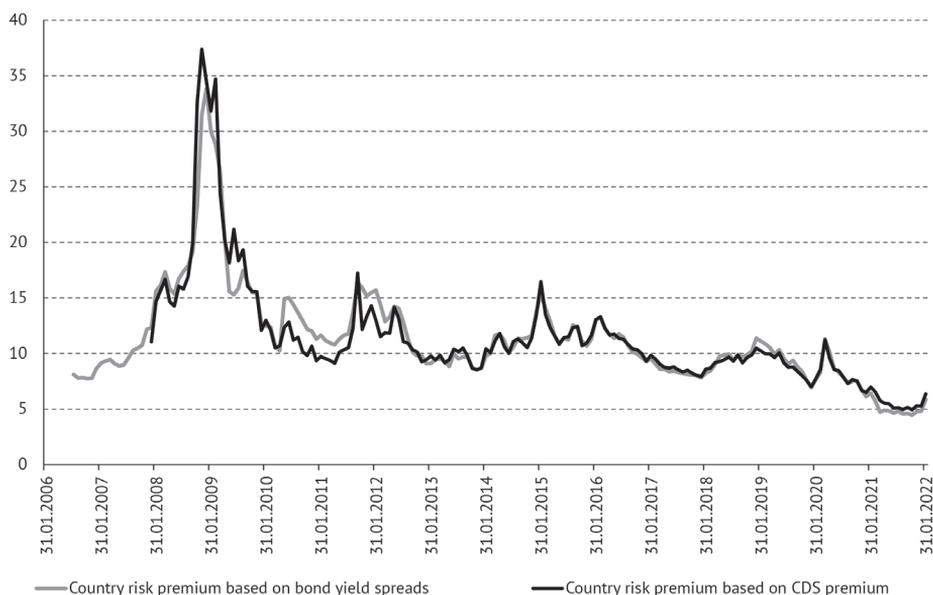


Fig. 14. The current and historical equity risk premiums on Russian stocks, adjusted for their relative volatility in the domestic market, as %, 2006 – January 2022

Source: own calculations based on data released by Bloomberg.

During crisis periods, the equity risk premium spreads, especially those based on indicators that take into account stock volatility, become quite significant. In December 2008, the country risk premiums calculated on the basis of CDS premiums and the yield spreads of sovereign bonds stood at 37.4% and 33.8%, respectively. However, shortly before the onset of the current crisis, in spite of the growing fears associated with rising global inflation, interest rates increases by the US FRS and the ECB, and the mounting geopolitical tensions around the world, both equity risk indicators were at their historically lows, and were relatively weak signals of possible risks: thus, indicator 1 declined from 6.13% in 2020 to 4.80% in 2021, and then and increased to 5.86% in January 2022; over the same period, indicator 2 slid from 6.50% to 5.26%, and then moved up to 6.38%.

The equity risk indicators calculated according to Damodaran cover the period preceding the conflict outbreak in Ukraine on February 24, 2022. The spread of credit default swap (CDS)¹ premiums on RF 10-year eurobonds and US government bonds increased from 151.1 b.p. as of January 3, 2022 to 2436.1 b.p. as of March 24, 2022, or 16.1 times (Fig. 15). Over the same period, another sovereign credit risk indicator – the yield spread of RF and US long-term government eurobonds – jumped from 174.2 b.p. to 1,848.8 b.p., or 10.6 times. The growth from 1.5% to

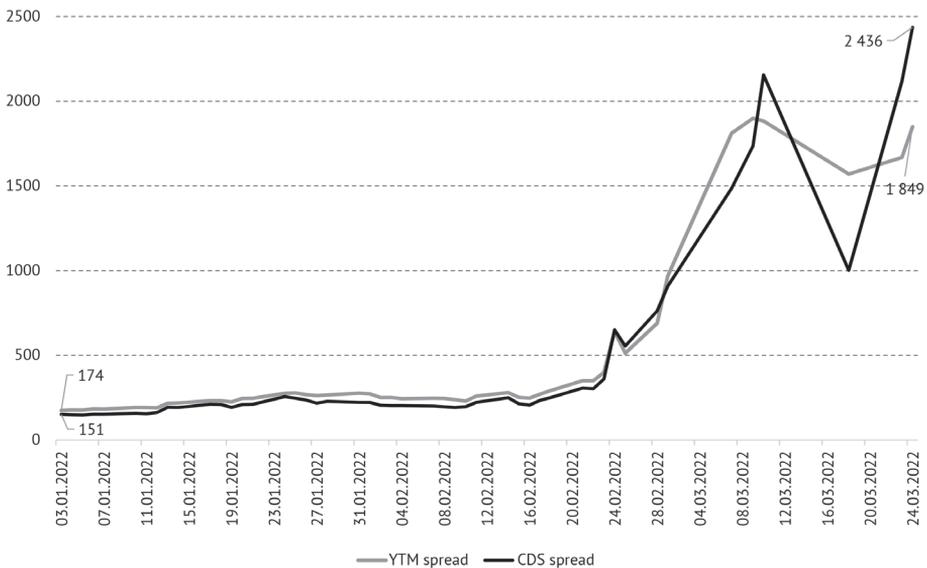


Fig. 15. The spreads of the yields to maturity (YTM) and credit default swap (CDS) premiums on RF 10-year sovereign eurobonds and US 10-year government bonds, January 3 – March 24, 2022, basis points

Source: own calculations based on data released by the Federal Reserve Bank of St. Louis, Cbonds and Bloomberg.

1 CDS premiums reflect the market default risk premium on bonds.

24.4%, in January-March 2022, of the sovereign debt premium included in the calculation of project risk premiums on Russian stocks inevitably caused a collapse of prices for the equity instruments of Russian issuers on foreign and domestic stock exchanges.

Thus, an analysis of the current trends in the Russian stock market demonstrates that the movement pattern of equity risk premiums points to a diminishing investment attractiveness of Russian stocks relative to bonds, while the equity risk premium indicators that assess the value of shares based on discounted cash flow have begun to grow, albeit with a lag, which bring down the value of stocks.

3.1.4. The fundamental characteristics of the stock market

Fig. 16 shows data on the parameters of returns and risks of 30 national stock indexes across 27 countries; for the sake of data comparability, the stock indices are recalculated in US dollars. The return and risk assessments of each country's index portfolios were done for 2021, the 5-year period from 2017 through 2021, and the 13-year period from 2009 through 2021.

In contrast to the situation in 2020 when the RTS Index lost 10.4%, in 2021, with a return of 15.0% per annum, it jumped above the corresponding average index for a sample of 31 national stock indexes amounting to 12.9%; and its risk of 17.1% was just above the sample average of 16.7% (*Fig. 16a*). By its return to risk ratio, it outperformed most of the national indexes of other developing markets. On a 5-year time horizon (2017–2021) (*Fig. 16b*), the return to risk ratio of the RTS Index was only slightly below the sample average. Over that period, the return of the RTS Index amounted to 6.7% per annum vs the sample average of 7.5%. The standard deviation (risk) of the RTS Index climbed to 23.6%, that is, above the sample average of 22.8%.

On a 13-year horizon from 2009 to 2021 (*Fig. 16c*), the RTS Index moved above the sample's average stock return, earning investors a return of 6.6% per annum, while the sample average was only 6.2%. The average annual risk index of the RTS index over the same period amounted to 30.6% per annum, while the sample average stood at just 24.9%.

Thus, against the backdrop of global stock markets, shares in Russian companies appeared to be quite an attractive investment, with an average return and a risk indicator higher than the world averages. This had largely been achieved due to the relatively rapid recovery of the Russian economy after the global crisis caused by the coronavirus pandemic, as well as the proactive dividend policies of many big Russian PJSCs.

The prices for Russian stocks, with their financial indicators of net return and dividend yield being higher than those in many other countries, and their leverage ratios being among the sample's lowest, have been consistently below the prices of their foreign counterparts. As shown in *Fig. 17*, out of the 30 national stock indexes, the price/book value per share (P/BV) ratio¹ of the constituent companies of the RTS Index was among the lowest in the world. In 2021, its average value

1 The P/BV ratio also describes the relative capitalization level of companies. It is the per share ratio between a company's market capitalization and the book value of its net worth.

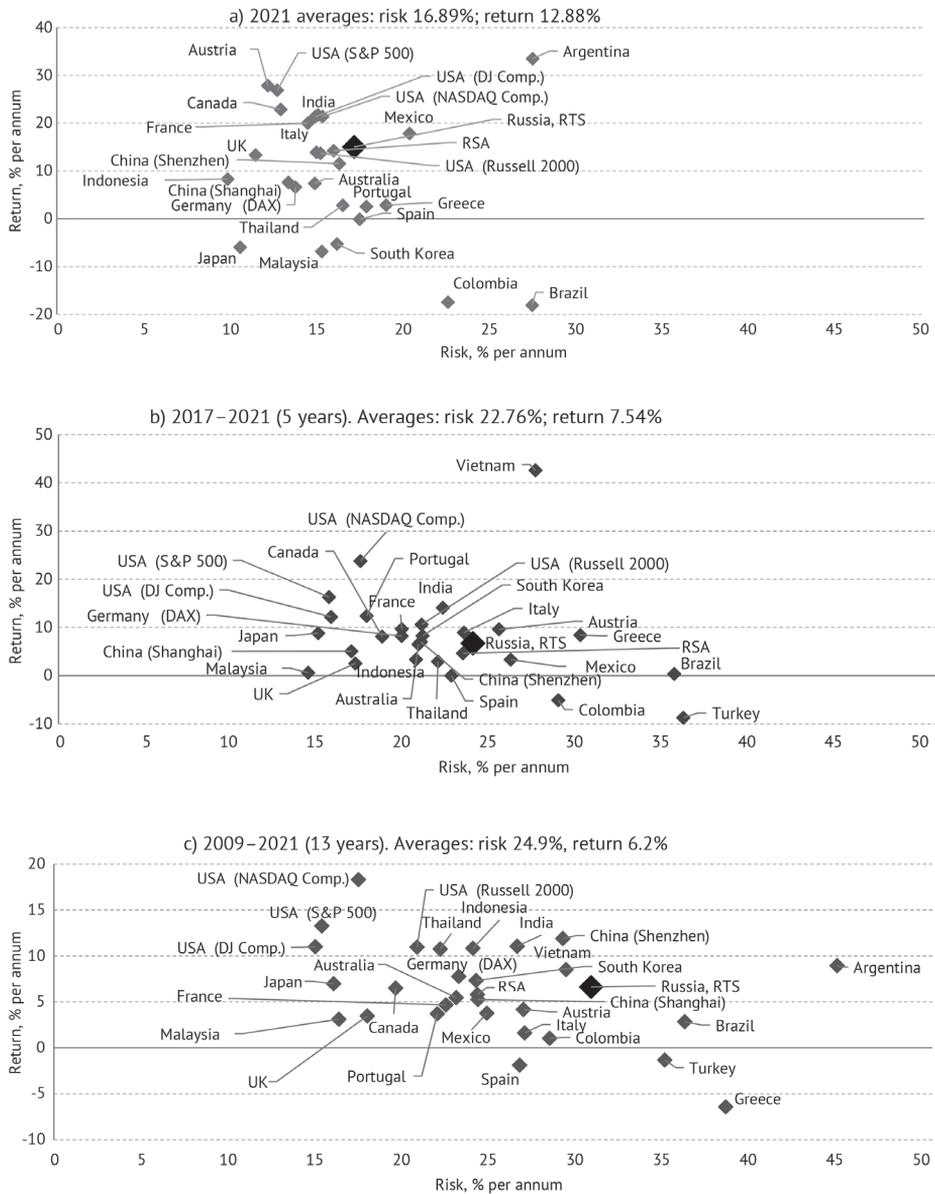


Fig. 16. The geometric mean values of return and risk parameters of 31 national stock indexes for the period from January 2009 through December 2021, in US dollars, on time horizons of 1, 5, and 13 years, % per annum

Source: own calculations based on data released by the Moscow Exchange and Bloomberg.

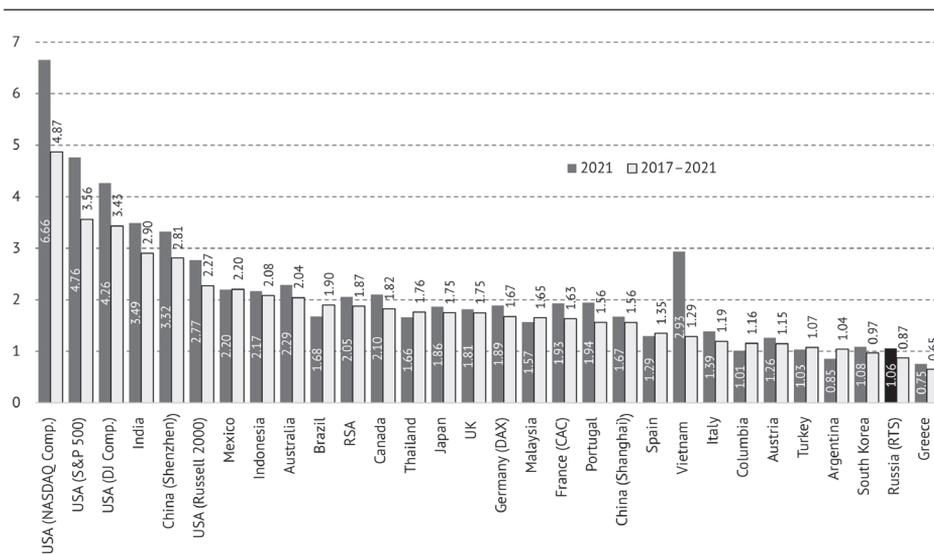


Fig. 17. The financial indicator price/book value per share (P/BV) as of December 31, 2021 and its mean value for the period 2017–2021 based on 30 national stock indexes

Source: own calculations based on data released by Bloomberg.

was 1.1; its mean value based on the period-end results of the 5-year period 2017–2021 stood at 0.9.

The stock prices of Russian PJSCs are lower than those of their competitors in other countries, even though their return on equity (ROE) ratio is significantly above that of the companies trading in other markets.¹ As shown in *Fig. 18*, in 2021, among the 30 national stock indexes, the ROE of 19.9% for the RTS Index was below only five of them (two US indexes, Turkey, the RAS, and Brazil). The average ROE of Russian companies on a 5-year time horizon (2017–2021) amounted to 12.7%, being below only four out of the sample's other 30 national stock indexes. According to data released by Rosstat, in 2021, total profits of Russian companies (less small businesses) increased to Rb29.6 trillion, from Rb13.4 trillion in 2020, or 2.6 times.²

In 2021, Russia's biggest public companies operated in conditions of a low debt burden. As shown in *Fig. 19*, in 2021, among 30 national stock indexes, Russia's RTS Index constituent companies had the lowest D/EBITDA Ratio³ of 0.6, which was above the corresponding parameters only of the stock indexes of Argentina,

1 ROE is calculated as the ratio between the company's net profit and the book value of its net worth, which should not be confused with the company's capitalization, because the latter depends on the number of ordinary shares outstanding and their market prices.

2 URL: <https://rosstat.gov.ru/finance>

3 The D/EBITDA is the ratio of companies' debt burden to their operating earnings before interest, taxes, depreciation and amortization, thus reflecting their ability to cover their debt by the amount of income generated and available annually.

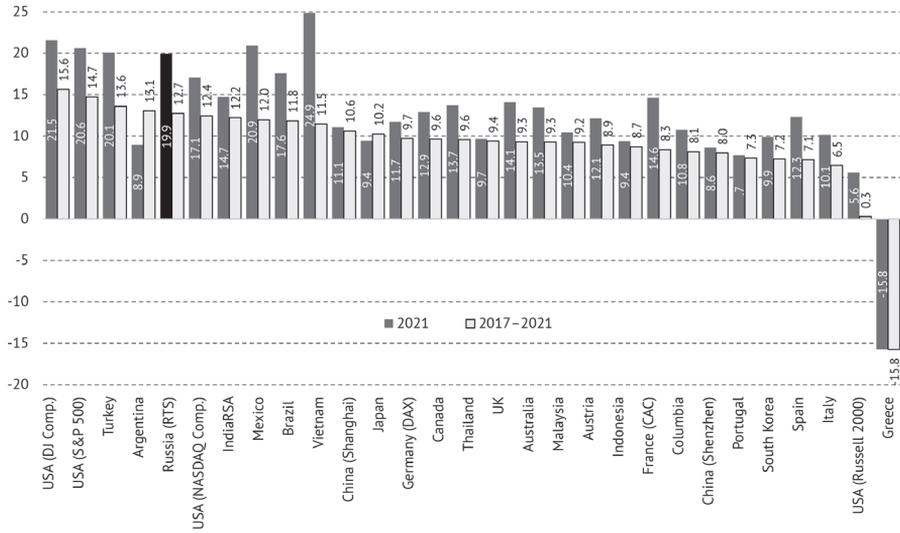


Fig. 18. The financial indicator ‘return on equity’ (ROE) as of December 31, 2021 and its mean value for the period 2017–2021 based on 30 national stock indexes across 26 countries, %

Source: own calculations based on data released by Bloomberg.

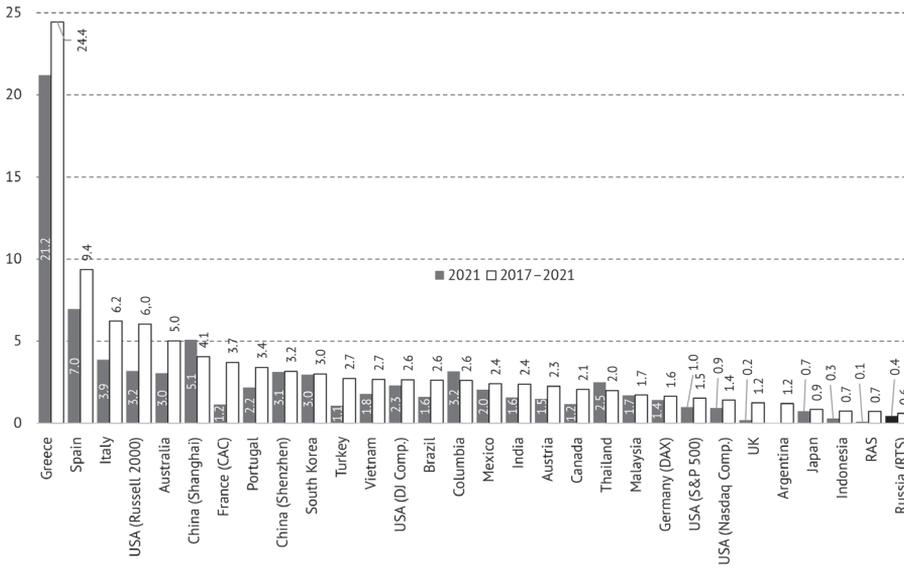


Fig. 19. The financial indicator ‘Debt/EBITDA’ as of December 31, 2021 and its mean value for the period 2017–2021 based on 30 national stock indexes of 26 countries

Source: own calculations based on data released by Bloomberg.

the RSA, Indonesia and the UK. On average over the period 2017–2021, that constituent of the RTS Index was also the lowest in the sample, amounting to 0.4.

One of the positive trends in the domestic stock market observed after the 2008 crisis has been a significant growth of dividend yield on Russian stocks, from 1.56% in Q4 2009 to 5.71% in Q4 2022, or 3.7 times (Fig. 20a).

The main factors that were pushing up the dividend yields during those years were the desire of issuers to keep up the investment attractiveness of their securities in the eyes of investors; the pressure put by the RF Ministry of Finance on the biggest state-owned companies (SOEs) to make them pay at least 50% of their net profit in the form of dividends; and in part, the desire of major stakeholders to receive additional payments from companies in the form of money that the latter had not invested.¹

From July 1, 2021, some significant changes were introduced in the dividend policy of PJSCs with federal stakes. Now, in accordance with RF Government Edict No. 1589-r dated June 11, 2021, they are required to earmark not less than 50% of their adjusted net profit for the payment of dividends on their shares. It took 15 years to solve the problem of a legislatively established dividend payout floor, and throughout that period biggest state-owned companies, to the best of their administrative resources, tried to secure their individual rules of the game in the field of dividend payments.

The new approach to the dividend policy of state-owned companies introduced in 2021 resulted in a compromise solution with regard to the base that dividend payments were to be tied to (net profit or operating cash flow). The compromise scheme established by RF Government Edict No. 1589-r envisaged that the dividend base should be calculated by the amount of net profit entered by a company into its consolidated financial statement and adjusted downwardly by the income or upwardly by the expenses that were not confirmed by documented cash flows. Besides, net profit could be adjusted for the following items: inventory revaluation of fixed assets and intangible assets, and the fair value of financial assets; exchange rate differences; and some other factors. If the adjustment of net profit resulted in an excess of the amount of dividend payments over that of net profit, the company was to cover the difference by its retained earnings of previous years.

A policy of high dividend payouts is fraught with increased medium-term risks.² In some cases, an excessive redistribution of net profits towards dividend payments can push down the market value of shares in amounts that would exceed the dividend income of shareholders. As a result, companies with high dividend payouts will be offering to investors lower returns compared with the return on the market portfolio, not only in terms of stock price, but also in terms of total returns, dividends included.

In 2021, although the average dividend yield on stocks issued by Russian companies increased to 5.71% vs 5.40% in Q4 2020, the movement pattern of

1 Abramov, A.E., Radygin, A.D., Chernova, M.I., Entov, R.M. The “Dividend Puzzle” and the Russian Stock Market. Part 1 // *Voprosy Ekonomiki*. 2020. No. 1. P. 66-92. Part 2 // *Voprosy Ekonomiki*. 2020. No. 2. P. 89–85.

2 Abramov, A.E., Belyakov, Yu.A., Radygin, A.D., Chernova, M.I. Features and Risks of the Dividend Policy of Russian Joint-stock Companies // *Russian Economic Development*. August 2021. P. 37–46.

that indicator was unstable (*Fig. 20a*). After hitting an all-time high of 8.12% in Q1 2020, the dividend yield was on the decline for six consecutive quarters, moving to 4.42% in Q3 2021. This happened because companies, in order to sustain their financial strength during the coronavirus pandemic, were generally reducing the amount of dividends, while stock prices began to recover rapidly from mid-2020 onwards.

At the same time, even if we take into account the constraints on the dividend policy of companies during that period, Russia's RTS Index was the world's leader in terms of dividend yield. Over the period 2017–2021, the RTS Index, with a 5.5% dividend yield on stocks, demonstrated the best performance among the 26 major stock exchange indexes around the world, and in 2021 it was second only to the national stock index of Brazil (*Fig. 20b*). The policy of non-payment of dividends during the global recession caused by the coronavirus pandemic was shared by all countries, Russia including.

However, the dividend yield index by no means always objectively reflects the effectiveness of a company's dividend policy. It is understood as the quotient of the dividend payout ratio (as a percentage of net profit) divided by the price-to-earnings (P/E) ratio. The growth of dividend yield may result not only from an increasing dividend payout ratio (which is a positive factor for shareholders), but also from a declining P/E ratio in response to a company's falling stock prices relative to its net profit, which is a factor that can give rise to negative consequences for investors.

In spite of the adoption of RF Government Edict No. 1589-r dated June 11, 2021, whereby companies with state participation were required to allocate at least 50% of their net profits for dividend payments, in reality the dividend payout rate of the RTS Index constituent companies sharply shrank, from 87.9% of their net profits in Q3 2020 to 39.8% in Q4 2021 (*Fig. 20c*). This happened because in 2021, alongside a significant increase in their profits,¹ they still followed the practice of reducing the amount of their dividends in response to the coronavirus pandemic until the end of the year. Thus, in 2021, the decreased dividend payments of the largest Russian companies, including SOEs, translated into a decline in the dividend-generated budget revenue.²

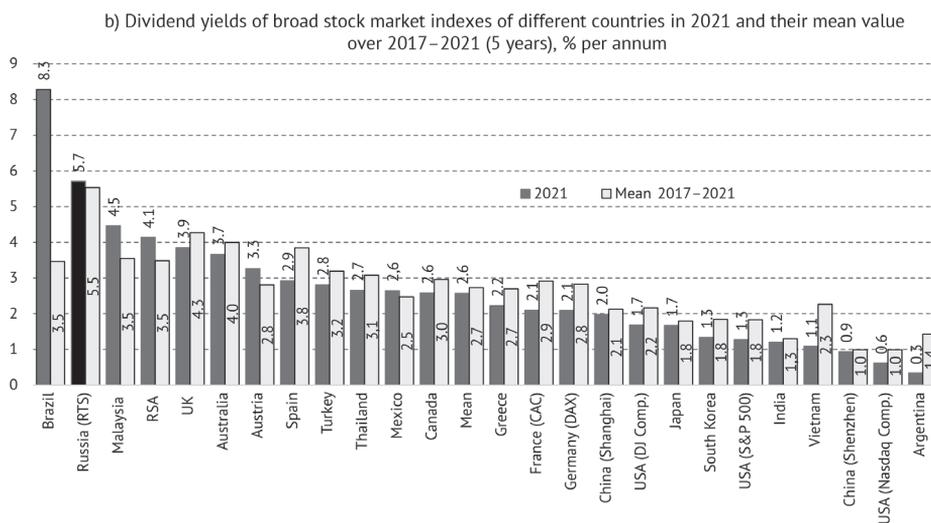
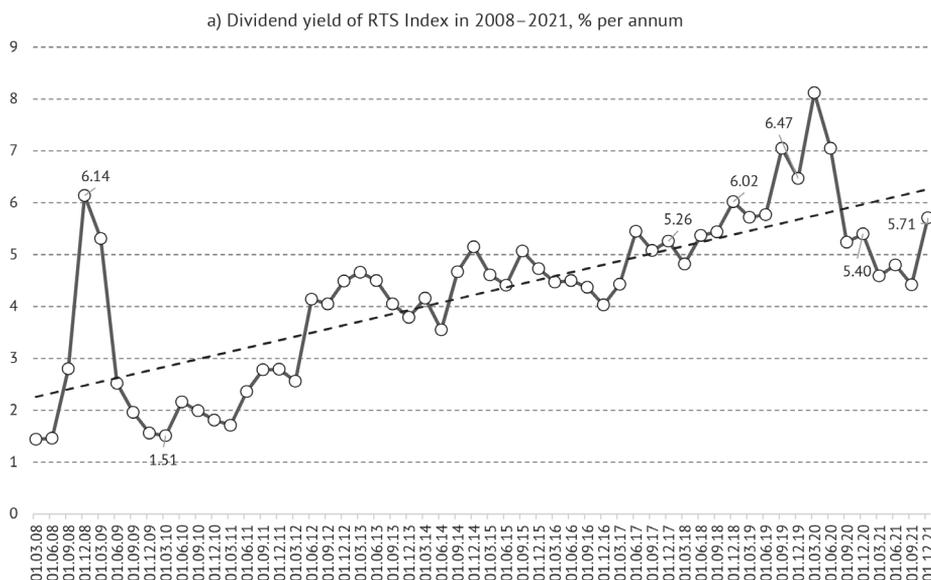
The aggravation of geopolitical risks is also likely to prevent companies from resuming their dividend payments in 2022. On February 25, 2022, the Bank of Russia recommended that banks postpone the accrual of dividends to a later date.³ According to RBC, while preparing for their general meetings of shareholders, the

1 According to data released by Rosstat for 2021, total profits of Russian companies, less small businesses, increased 2.6 times on 2020.

2 According to available estimates, budget revenue in the form of dividends should decrease from Rb639.5 bn in 2020 to Rb560 in 2021 (projected value). Meanwhile, the budget revenue projections for 2022-2024, as stated in the explanatory notes supplied by the RF Ministry of Finance, envisage an increase in the revenues generated by dividends to be paid by SOEs, to Rb990 bn in 2022, Rb1.033 trillion in 2023, and Rb1.050 trillion in 2024, as a result of the subsequent growth in company profits and resumed dividend payments (The RF Ministry of Finance expects a significant increase in dividend receipts. Prime Business News Agency. September 21, 2021. URL: <https://1prime.ru/News/20210921/834753693.html>).

3 URL: http://cbr.ru/press/pr/?file=25022022_160000SUP_MEAS25022022_155231.htm

boards of directors of at least 10 PJSCs (the Moscow Exchange, Mother and Child Medical Group, Rospadskaya OJSC, Enel Russia, X5 Group, Rusagro, LSR Group, Cherkizovo, and NLMK) issued recommendations that the dividends based on the performance of companies in 2021 should not be accrued for that year.¹



1 URL: <https://quote.rbc.ru/news/article/6245a0b89a7947dc260e2ec3>

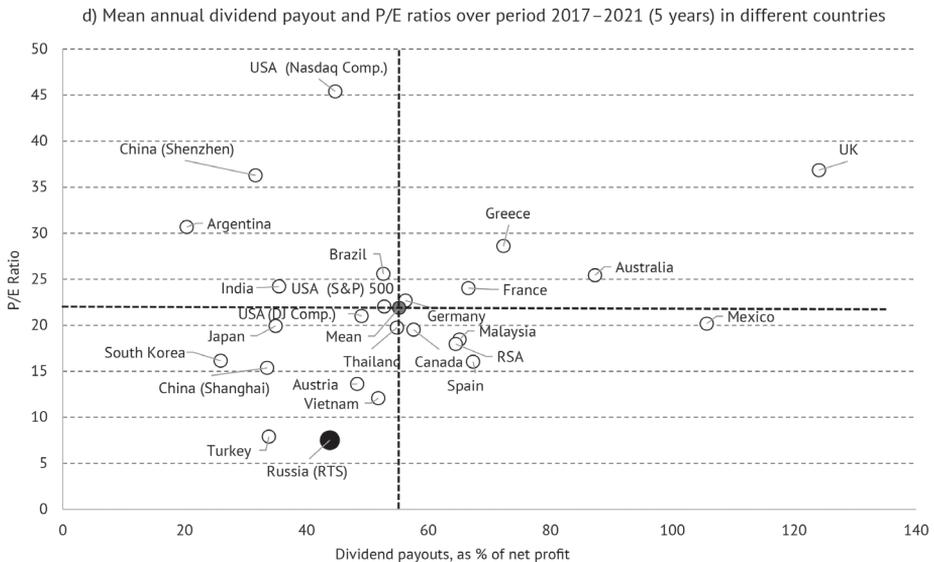
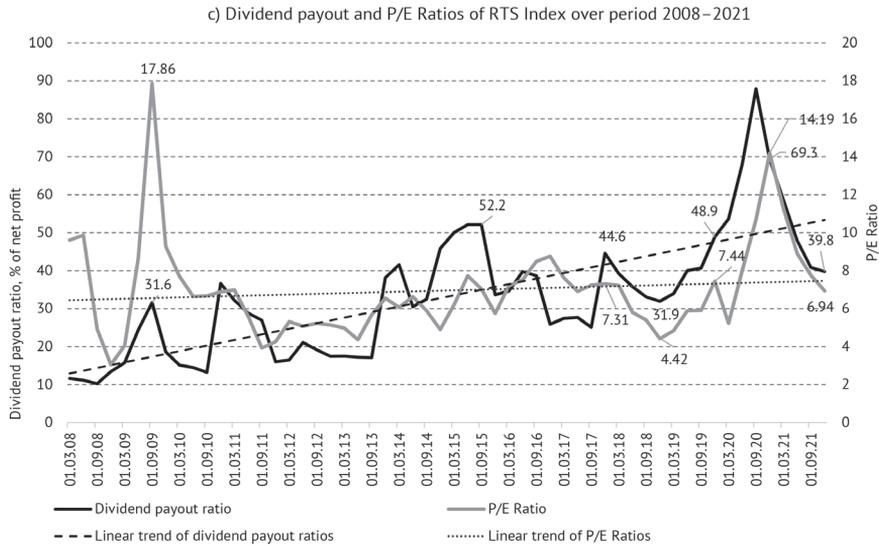


Fig. 20. The dividend yield on the RTS Index, as % of market stock price, as of December 31, 2021

Source: own calculations based on data released by Bloomberg.

Meanwhile, alongside a declining dividend yield, the shrinkage of the P/E Ratio from 14.2 in 2020 to 6.9 in 2021 (Fig. 20c) in response to the accelerated growth of companies’ net profits relative to their capitalization (stock prices), as a result of the specific method of calculating the dividend payout ratio that we have

mentioned earlier, the year-end dividend payout ratio for 2021 did not decline, but even slightly increased.

Over the period 2017–2021, the RTS Index stayed below the other national stock indexes in terms of dividend yield and P/E Ratio (*Fig. 20d*). However, while by its dividend yield of 43.8% the lag of the RTS Index relative to the sample average value (55.2%) was moderate, its average annual P/E ratio was the sample's lowest, at 7.5 vs 21.9%. At the same time, the RTS average annual dividend payout ratio for the period 2017–2021 turned out to be the highest of the entire sample of 26 national stock indexes (*Fig. 20b*).

Over the period 2007–2021 (14 years), the cumulative equity risk premium on Russian stocks¹ amounted to 227.5% for the MOEX Total Return Index², and to 409.2% for our calculated broad market portfolio index (RMRF) (*Fig. 21*). This means that the more diversified RMRF index also included the stocks with higher yields that were not included in the MOEX portfolio.

Tradable shares in Russian companies and their issuers have certain specific features. In our classification of issues of shares, we applied the following criteria: capitalization index; liquidity on the secondary market; P/BV Ratio; dividend yield; the size of state-owned stakes; stock returns over the previous period; and P/E Ratio. A separate portfolio was compiled for each of these criteria, to be reviewed on a quarterly basis. This approach makes it possible to evaluate, on a monthly basis, the returns on stocks issues by different groups of companies, each group sharing one or other specific feature.³ Besides, it becomes possible to evaluate their corporate strategies on the basis of these financial indicators, as well as to plot factor investment strategies, which are widely used by institutional investors all over the world.⁴

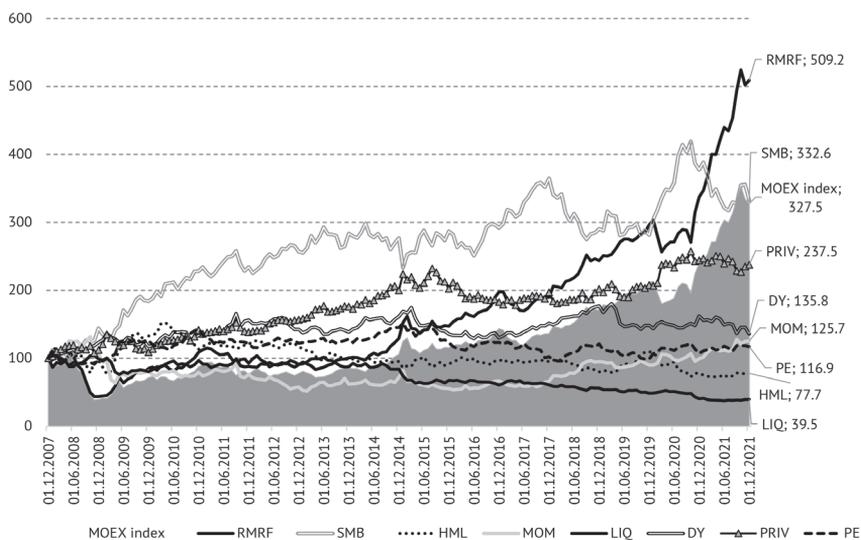
In 2021, the cumulative equity risk premiums for six of the seven factor investment strategies, calculated as the difference between the return on a stock portfolio with a high factor value, minus the return of a stock portfolio with a low factor value, did not result in additional returns compared to the returns of the broad market portfolio index (RMRF) and the MOEX index, minus risk-free returns (*Fig. 21*). It was only the return on shares in small-cap companies that slightly exceeded the cumulative return on the MOEX index. This is in line with the widespread theoretical assumption that during periods of a rising stock market, more diversified portfolios have a return advantage over less diversified ones.

1 The difference between the return on a market stock portfolio and on a risk-free asset. As market portfolios, we used in our calculations the MOEX Russia Total Return Index (MCFTR) and a broad market portfolio (RMRF) composed of all the stocks traded on the market, where each stock was weighted by the market capitalization index of its issuer (with weight cap of 15%). Unlike the MOEX index, a broad market portfolio is adjusted by survivorship bias, i.e. the yields on stocks no longer traded on the stock exchange.

2 Hereinafter, the total returns on the MOEX and RMRF indexes are understood as the sum of a proportional rise in the market value of stocks included in the index portfolio and their dividend yield.

3 We publish the regularly updated historical series of returns for each of these stock market factors at the official website of the RANEPА Center for Institutions Analysis and Financial Markets (RANEPА IAES) at <https://ipei.ranepa.ru/ru/capm-ru>

4 For more details on the use of factor pricing models in the Russian stock market, see *Abramov, A.E., Radygin, A.D., Chernova, M.I.* Pricing models of shares in Russian companies and their practical application // *Voprosy Ekonomiki*. 2019. No 3. P. 48–76.



Note. The MOEX index (MCFTR) is the market equity risk premium on stocks, calculated as the difference between the return on the MOEX Index, including dividend yields (starting from January 2009) and the return of a risk-free asset; the RMRF index is the market equity risk premium on stocks, calculated as the difference between the return on a broad market portfolio, including dividend yields, and the return on a risk-free asset. SMB is a size and value factor, calculated as the difference between the weighted average return on small-cap stock portfolios and that on large-cap stocks (including dividend yields). SMB is a size and value factor, calculated as the difference between the weighted average return on small-cap stock portfolios and that on large-cap stocks (including dividend yields). The companies were grouped into 'small-cap' and 'large-cap' ones once a year, with the market cap set at the median. HML is a cost factor calculated as the difference between the weighted average return on portfolios of value stocks and that on portfolios of growth stocks (including dividend yields). The stocks were regrouped into the categories of growth and value stocks once a year according to their book-to-market ratio. MOM is a momentum (inertia) factor calculated as the difference between the returns on portfolios with high and low total returns in the previous 11 months (including dividend yields). The stocks were redistributed between portfolios with high and low total returns once a year, with the quantile caps set at 30% and 70%. LIQ is a liquidity factor calculated as the difference between the weighted average return on low-liquidity stock portfolios and that on high-liquidity stock portfolios, including dividend yields. DY is a dividend yield factor calculated as the difference between the weighted average return on high-dividend stock portfolios and that on low-dividend stock portfolios. The dividend yield is understood as the ratio of the sum of all dividends payable for a calendar year to the stock price at year beginning. PRIV is a state ownership factor calculated as the difference between the weighted average return on stocks issued by private companies and that on stocks issued by state-owned companies (SOEs). A company was treated as a SOE if in its quarterly reports for the previous year the stake held directly or indirectly by the state amounted to more than 10% of its authorized capital. PE is a growth factor calculated as the difference between the weighted average returns on stock portfolios with high and low PE ratios (including dividend yields)¹.

Fig. 21. The cumulative returns on the MOEX index (MCFTR), the broad market portfolio index (RMRF), and the investment factors that were influencing them from December 2007 through December 2021

Source: own calculations based on data released by CAPM-RU (RANEPА, IAES). URL: <https://ipei.ranepa.ru/capm-ru>

¹ For further details concerning the methodology applied in calculating each return factor, see the CAPM-RU project on the official website of the RANEPА. URL: <https://ipei.ranepa.ru/capm-ru/metodika-rascheta-faktorov>

The market patterns described in the Note to Fig. 21 by no means imply that factor investment strategies do not work in the Russian stock market and do not generate an additional return relative to that on the broad market portfolio. Over the period 2007–2021, the factor portfolios composed only of selected stocks with certain high factor values (i.e., only long positions in the stocks portfolios) generated significantly higher returns for a number of factors compared with the market portfolios (the return on a risk-free asset was not subtracted from the latter). As shown in Fig. 22, on the time horizon 2007–2021, the cumulative returns on portfolios of stocks issued by private companies (819.4%), top dividend yield stocks (699.0%), growth stocks (with a high P/E Ratio) (595.9%), and top growth stocks (579.9%) were significantly above the cumulative returns on the broad market portfolio index (RMRF) and the MOEX index (MCFTR), which amounted to 477.9 and 271.3%, respectively.¹

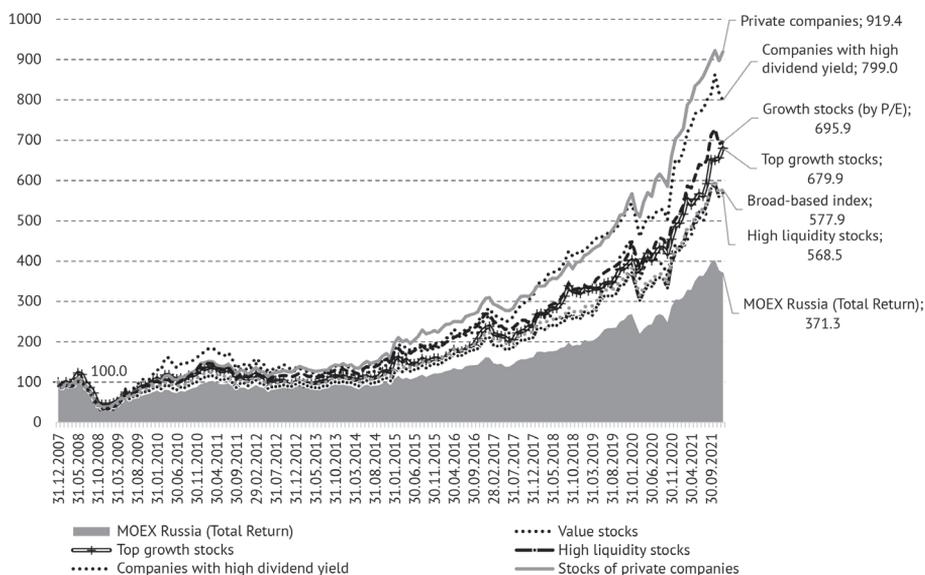


Fig. 22. The cumulative returns on the portfolios of best performing stock categories compared with the MOEX Russia Index, total return, December 2007 = 100%, from December 2007 through December 2021

Source: own calculations based on data released by CAPM-RU (RANEPА, IAES). URL: <https://ipei.ranepa.ru/capm-ru>

¹ Some differences in the cumulative market returns on the RMRF index and the MOEX Index in Fig. 21 and 22 are explained by the starting point for calculations in Fig. 19 being December 2007, and that for calculations in Fig. 20, January 20, 2008.

Table 5

Annual returns on all long factor portfolios, 2007–2021, %

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Mean return, 2007–2020
Risk free rate of return	-0.1	-12.7	24.8	2.5	-1.2	6.9	-3.5	-20.9	19.7	6.8	5.0	-5.1	12.1	1.7	-11.3	0.99
State-owned enterprises	11.0	-65.3	145.4	15.9	-19.1	-1.6	-2.4	-3.9	37.9	50.8	-3.8	19.4	32.4	5.6	33.0	8.98
Low liquidity stocks	41.5	-60.8	96.0	52.5	-20.4	8.4	4.1	-0.8	16.4	31.5	1.9	14.7	21.9	0.7	32.3	10.20
Lowest-growth stocks	14.2	-60.8	171.8	32.2	-24.3	20.1	0.5	-9.4	59.7	22.2	2.4	-7.6	28.0	7.2	9.9	9.13
Stocks without dividends	22.4	-64.7	176.1	55.5	-21.2	2.7	4.5	21.0	42.0	27.2	-2.6	-6.2	17.6	-5.8	36.6	10.93
Market risk premium	18.9	-56.4	95.1	28.0	-14.9	-2.3	11.1	28.5	13.9	34.1	-3.8	28.3	21.6	13.9	50.9	12.76
Stocks with low dividend yield	24.9	-64.3	136.1	12.9	-20.5	9.6	9.0	-7.9	52.6	47.7	-3.6	14.6	49.2	9.8	-16.2	8.82
Large-cap stocks	13.4	-63.7	133.6	28.9	-16.1	3.4	6.8	1.9	37.3	43.6	0.8	22.1	36.0	14.9	34.8	12.66
High liquidity stocks	13.4	-64.1	136.4	26.8	-15.1	3.6	7.0	2.2	39.6	45.0	0.7	22.6	39.7	17.2	34.7	13.25
Value stocks (by P/E)	18.7	-64.9	129.8	25.4	-8.3	3.3	7.3	-2.5	48.3	42.1	9.7	11.8	50.4	8.4	9.3	12.01
Broad-based index	18.7	-62.7	140.9	31.0	-16.2	4.2	7.4	2.2	37.6	43.2	0.9	22.0	36.0	15.3	34.7	13.70
Growth stocks (by P/E)	21.1	-65.1	187.8	42.7	-22.3	4.8	13.5	10.4	27.9	44.1	-7.5	33.7	24.9	21.1	37.9	15.26
Growth stocks	11.1	-64.3	172.9	65.9	-23.3	1.1	9.0	10.2	39.7	32.8	-2.5	24.4	25.5	38.8	25.2	15.07
Stocks with high dividend yield	8.2	-55.6	132.3	29.2	-3.5	0.8	6.6	8.0	29.8	42.4	13.0	33.4	27.8	21.9	22.4	15.41
Top growth stocks	48.0	-55.9	134.1	30.2	-21.3	-5.8	15.4	8.7	27.0	47.4	2.5	33.9	22.2	23.8	40.1	16.65
Value stocks	65.2	-66.6	259.8	41.9	-18.6	-2.9	-8.2	8.2	38.3	38.4	-3.4	5.2	72.1	-1.1	25.7	15.95
Private stocks	27.4	-61.1	148.5	51.2	-19.4	12.0	10.6	9.7	39.8	37.4	4.6	24.0	37.4	28.3		15.74
Small cap stocks	53.4	-44.3	196.5	60.7	-12.4	14.6	18.5	0.8	47.0	46.4	26.5	-1.3	33.0	56.7	20.1	26.21

Source: own calculations based on data released by CAPM-RU (RANEPA, IAES). URL: <https://ipei.ranepa.ru/capm-ru>

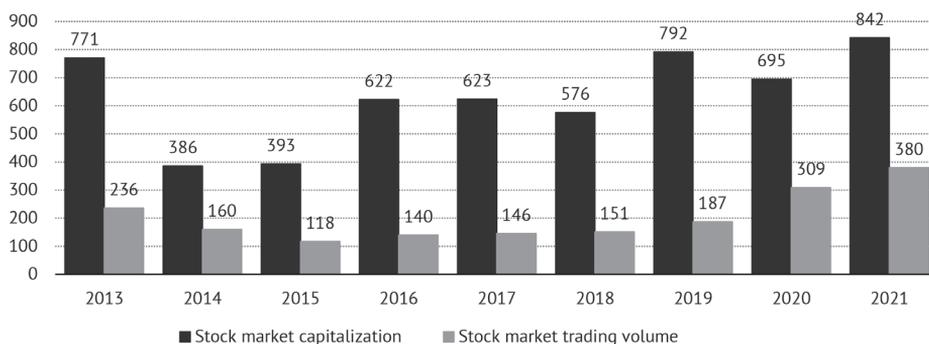
Table 5 demonstrates a similar pattern on a 15-year horizon (2007–2021): the average annual returns on the portfolios of stock issued by small companies, top growth stocks, and high-dividend stocks exceeded the return on the broad market portfolio index (RMRF). Thus, over the period 2007–2021, factor investment strategies provided investors in Russian stocks with an opportunity to significantly boost the return on their portfolio investments.

3.1.5. The organization of the stock market

In 2020, the positive upward trend in the total value of traded stocks continued on the stock exchange market, which primarily had to do with an inflow of individual investors. The total volume of market trades in shares on the Moscow Exchange increased to \$380 bn, from \$309 bn in 2020, or by 23.0% (Fig. 23). The growing demand for Russian stocks pushed up the total market cap of stock issuers, from \$695 bn in 2020 to \$842 bn in 2021, or by 21.2%.

Starting from 2013, for 9 years in a row, there has been a downward trend in the number of listed issuers on the Moscow Exchange (Fig. 24). In 2021, their number shrunk on 2020 by another 3 companies, to 210. The main obstacle to increasing the number of listed companies is a weak inflow of new Russian companies onto the stock exchange market.

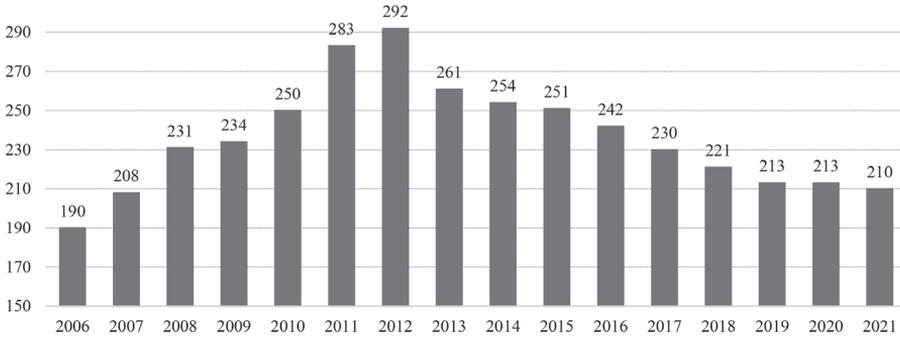
The period 2020–2021 saw a revival of public offerings of shares in Russian companies (IPOs and SPOs) on Russian and foreign exchanges. However, one serious problem of the Russian stock market is the lack of proper statistical records of such transactions kept by financial regulators and analytical databases. As a result, there exist some serious discrepancies in the statistics on IPO-SPOs by Russian companies available from the Moscow Exchange, the World Federation of Exchanges, Bloomberg, Preqveca.ru, and some other data suppliers. In this review,



* Market transactions are understood as the transactions concluded during an anonymous auction on the Moscow Exchange.

Fig. 23. The capitalization and volume of market stock transactions* on the Moscow Exchange in 2013–2021, billions of USD

Source: own calculations based on data released by the World Federation of Exchanges.



* The figures for the period 2006–2011 are based on the listing data released by the MICEX; for the period 2012–2021, on the listing data released by Moscow Exchange PJSC.

Fig. 24. The number of companies listed on the Moscow Exchange in 2006–2020*

Source: own calculations based on data for 2006–2008 taken from NAUFOR’s (Russian National Association of Securities Market Participants) factbook ‘Russian Stock Market: 2015. Events and Facts’; and data for 2009–2021 released by the World Federation of Exchanges (WFE).

based on relevant data for 2020–2021, we for the first time attempted to develop a classification of public offerings of shares in companies registered in Russia and carrying out their main operations in Russia (Russian companies) on Russian and foreign exchanges.¹

As can be seen in *Table 6*, the total volume of IPO-SPOs by Russian companies on the Russian stock exchanges (less ADDL) increased from \$2.9 bn in 2020 to \$4.9 bn in 2021, or 1.7 times. Out of the total amount of such transactions closed in 2021, 61.2% involved shares to the total value of \$3.0 bn sold with the purpose of raising capital, while the remaining 38.8% were resales of shares by their previous owners. In the total value of the IPO-SPOs launched in 2021, \$2.1 bn, or 42.9%, was taken up by transactions closed on Russian exchanges, and the remaining 57.1% were those closed on foreign exchanges.

The main directions in the development of the IPO-SPO market for shares in Russian companies have to do with the goals of increasing its share taken up by Russian stock exchanges in terms of trading volume and improving the parameters of trading on Russian stock exchanges, in particular, boosting the

¹ Based on the classification of transaction categories applied by the World Federation of Exchanges, we identified 9 types of public offerings of shares on stock exchanges. The first group includes 4 types of transactions on Russian stock exchanges either in the form of an IPO or SPO launched by a stock issuer in order to raise capital, or a resale of shares by their owners (that is, without raising new capital for their issuer). The second group consists of 4 types of IPOs and SPOs similar to those in the first group, but these involve only trades on foreign exchanges in shares issued by companies that operate mostly in Russia. And the ninth type of transactions is the sale of a large block of shares in a public company through an accelerated bookbuild. In our opinion, transactions of the ninth type are not IPO-SPOs of corporate stocks, because the latter are unavailable to a wide range of investors and, as a rule, these transactions rely on an over-the-counter mechanism.

Table 6

**Classification of IPO-SPO transactions of Russian companies in 2020–2021,
millions of USD**

	2020	2021	Change, %
1. Transactions on Russian stock exchanges, total	1,625.8	2,148.1	32.1
Including:			
IPO, capital raising	550.0	807.9	46.9
IPO, resale of block of shares by its current owner	1,075.8	1,100.1	2.3
SPO, capital raising	0	0	
SPO, resale of block of shares by its current owner	0	240.0	
2. Transactions on foreign exchanges, total	1,311.1	2,766.4	111.0
Including:			
IPO, capital raising	1,311.1	2,204.7	68.2
IPO, resale of block of shares by its current owner	0	561.7	
SPO, capital raising	0	0	
SPO, resale of block of shares by its current owner	0	0	
3. Transactions on Russian and foreign exchanges, total	2,936.9	4,914.5	67.3
Including:			
IPO, capital raising	1,861.1	3,012.6	61.9
IPO, resale of block of shares by its current owner	1,075.8	1,661.9	54.5
SPO, capital raising	0	0	
SPO, resale of block of shares by its current owner	0	240.0	
4. Trades with Accelerated Order Book Formation (ADDL)	136.5	2681	1,864.1

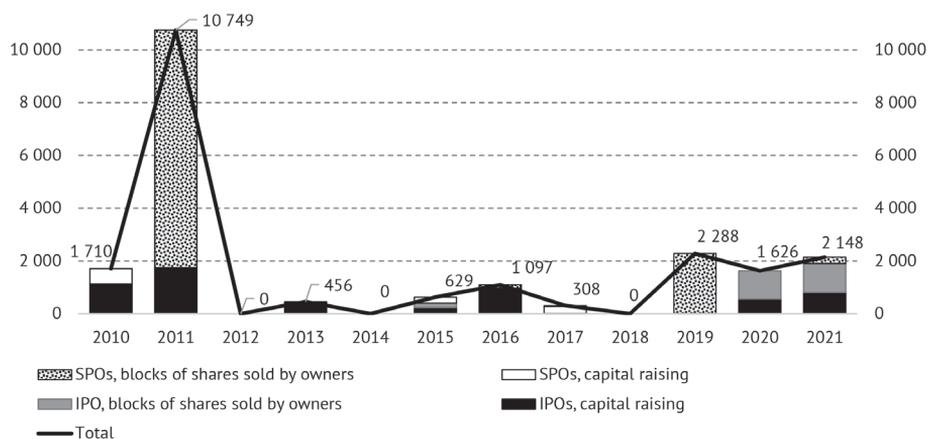
Source: own calculations based on primary statistics released by stock issuers and data released by the Bloomberg Terminal.

levels of underpricing¹ (all other conditions being equal) and the long-term excess returns on these shares.

The data on IPO-SPOs by Russian companies on Russian stock exchanges for the period 2010–2021, less similar transactions on foreign exchanges, are presented in Fig. 25. After a surge in IPO-SPO transactions by \$10.7 bn in 2011, over the subsequent years they rarely moved above the threshold of \$1 bn, and in 2014 and 2018 they were absent altogether. In 2019, 2020 and 2021, the value volume of IPO-SPOs on domestic stock exchanges amounted to \$2.3 bn, \$1.6 bn, and \$2.1 bn, respectively.

The low activity in Russia's market for public offering of stocks has to do both with the problems presented by their low supply by issuers and the insufficient demand on the part of investors. In view of the banking system's high liquidity, it was easier for companies to obtain financing from banks because, while it is somewhat more expensive than the launch of new stock issues, they are not required to publicly disclosure information on their activities. Besides, in the

¹ The difference, expressed as a percentage, between the set IPO or SPO price at which a stock is listed on the exchange and its first-day closing price. A low underpricing level, as a rule, means that a stock in a public offering was overpriced, and also that the investment demand on the first day of it being traded was low.



* An IPO (initial public offering) is an initial public placement of stocks on the market. In the WFE statistics, an IPO deal is understood as the initial sale on the stock exchange of newly issued stocks or bundles thereof owned by their issuer. A SPO (secondary public offering) is a deal of sale of stocks issued by listed public companies on a stock exchange. This type of transaction may also involve newly issued stocks or bundles thereof, which during a SPO already belonged to their previous owners.

Note. The WSE data for 2019 on the volume of IPO-SPOs were reduced by the value of SPOs of shares in PJSC Gazprom, sold on May 25, 2019 and November 21, 2019 to the total value of \$5,067 mn, because these were non-market deals.

Fig. 25. The value of various IPOs and SPOs* on Russian stock exchanges in 2010–2021, billions of USD

Source: own calculations based on data released by the World Federation of Exchanges (WFE) and Bloomberg, and primary statistics released by stock issuers.

presence of an outflow of non-resident resources and underdeveloped domestic institutional investors, the advantages of cheaper borrowing in the form of capital raised on a stock exchange become lower.

Through mergers and acquisitions (M&A), stock markets contribute to the ongoing structural changes in the economy. As shown in Fig. 26, after two years (2019-2020) of decline in the global M&A index, in 2021 it once again climbed by 57.2%, to \$5.1 trillion. In Russia, the value of closed M&A deals increased from \$37 bn in 2020 to \$38 bn in 2021, or by 2.7%, but their growth was lower than that of the global index. Since 2014, transactions of this type involving Russian companies have been displaying a trend towards stagnation, and their volume shrank from \$59 bn in 2014 to \$38 bn in 2021, or by 35.6%. Russia's share in the global M&A index declined over the same period from 1.5% to 0.7%.

By their key stock market volume indicators, Russian stock exchanges lag behind many of their foreign competitors. The Moscow Exchange's share in the total number of listed national companies plunged from 0.51% in 2013 to 0.39% in 2021 (Fig. 27a). By the capitalization index of its stock issuers, the Moscow Exchange's share in the global capitalization index shrank from 1.03% in 2013 to 0.68% in 2021 (Fig. 27b).

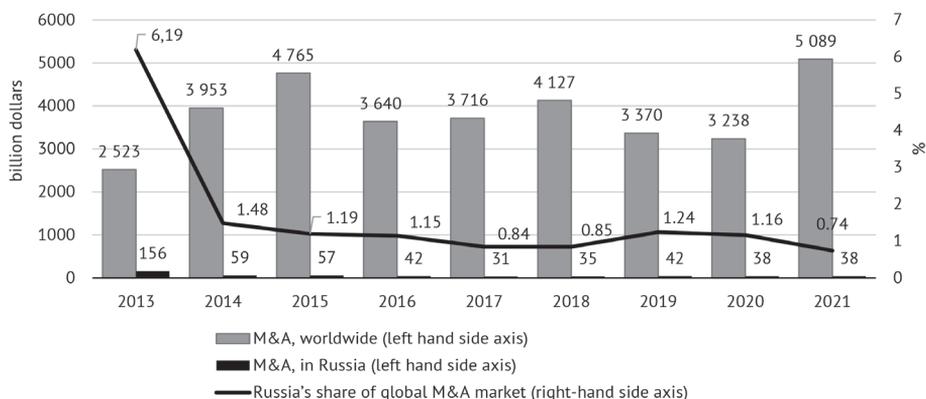


Fig. 26. The value volume of mergers and acquisitions (M&A) in the world and in Russia (billions of USD) and Russia's share of global M&A market (%), 2013–2021

Source: own calculations based on data released by Merger.ru (<http://mergers.ru/>) (Cbonds Group), the Institute of Mergers, Acquisitions and Alliances (IMAA). (URL: <https://imaa-institute.org/mergers-and-acquisitions-statistics/>) and PwC (URL: [https://www.pwc.com/gx/en/services/deals/trends.html#:~:text=Global%20mergers%20and%20acquisitions%20\(M%26A,an%20unprecedented%2024%25%20from%202020](https://www.pwc.com/gx/en/services/deals/trends.html#:~:text=Global%20mergers%20and%20acquisitions%20(M%26A,an%20unprecedented%2024%25%20from%202020)))

In terms of its stock exchange trading volume in 2021, the share of the Moscow Exchange in the global stock exchange trading volume decreased from 0.33% in 2013 to 0.22% in 2021 (*Fig. 27c*). In 2021, by its volume of market stock transactions, the Moscow Exchange's share did not change relative to the previous year, which testifies to the fact that the increased stock exchange trading volume on Russia's major stock exchange in response to the massive entry on the market of new investors was in line with the similar developments on foreign exchanges.

The slow growth of the market for shares in Russian companies and, in some cases, its worsening market depth indicators have been determined by a variety of factors, such as economic growth slowdown, economic sanctions, heavy regulatory burden, and weakness of institutional investors. So far, the massive entry on the market of individual investors by itself has produced no significant impact on the trends that created the lag between the domestic stock market and its foreign competitors. The stock market needs some profound changes to increase its attractiveness for different categories of investors

The Russian stock market is characterized by a high concentration of stock issuers in terms of their capitalization index; moreover, this index has been demonstrating an upward trend since the early 2010s (*Fig. 28, Table 7*). The combined share of the top 10 PJSCs in the total market capitalization index increased from 61.7% in 2011 to 65.8% in 2021, and that of the top 20 stock issuers of shares, from 77.0 to 80.6%, respectively. Unlike the USA and China, where hi-tech companies are dominant drivers in market capitalization, in Russia the top 10 companies by their market cap index operate in the fuel and energy

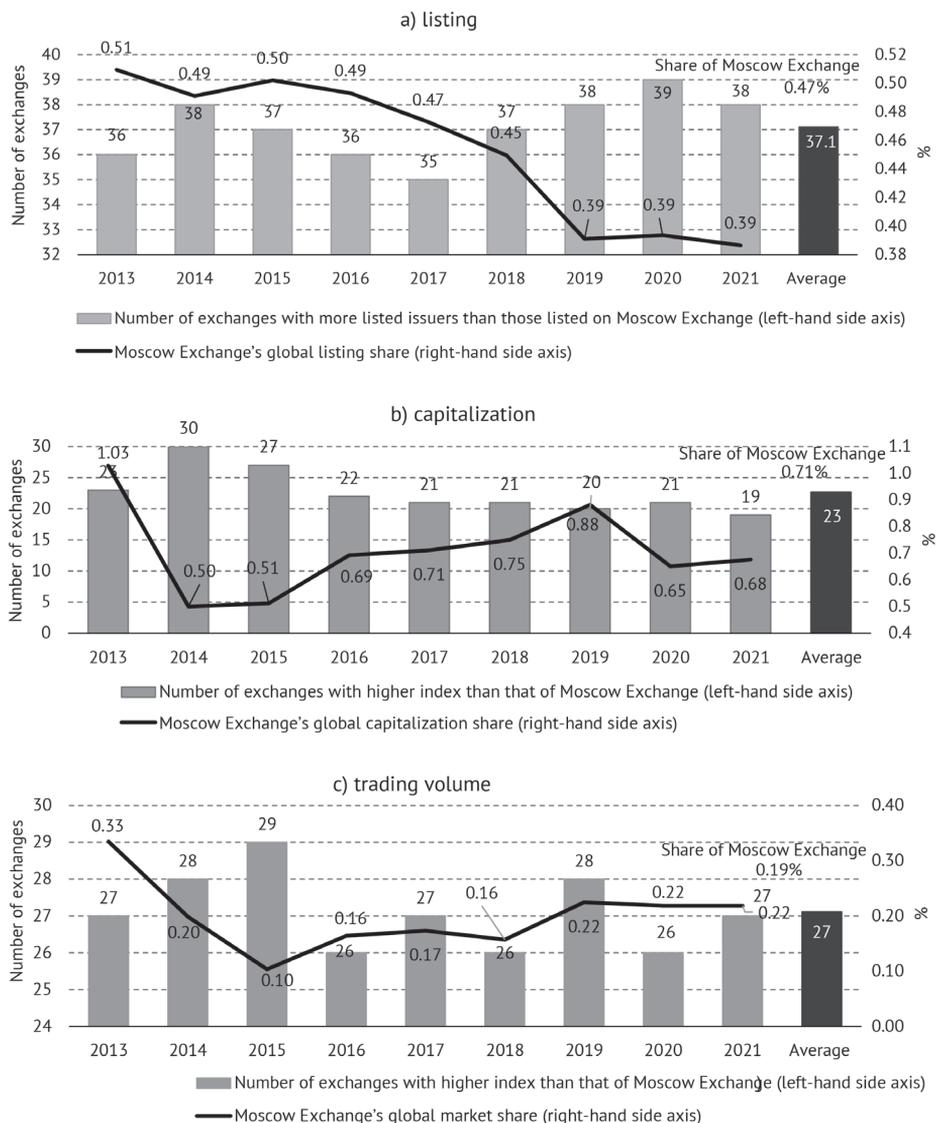


Fig. 27. The competitiveness indicators of the Russian stock market in 2013–2021: a) the number of foreign stock exchanges with more listed issuers than those listed on the Moscow Exchange, and the global listing share (%) of the Moscow Exchange; b) the number of exchanges with a higher capitalization index than that of the Moscow Exchange, and the global capitalization share (%) of the Moscow Exchange; c) the number of exchanges with a higher trading volume than that of the Moscow Exchange, and the share (%) of the Moscow Exchange in the global stock market trading volume

Source: own calculations based on data released by the WFE and the Moscow Exchange.

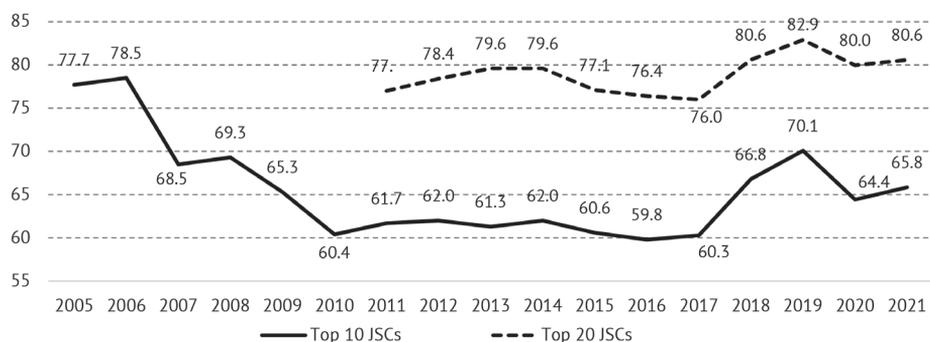


Fig. 28. The domestic stock market cap share of biggest PJSCs, %

Source: own calculations based on data released by the Moscow Exchange

complex, metallurgy, and the banking sector. The hi-tech sector is represented by just two companies, Yandex and (in part) Sberbank (a financial ecosystem). Lately, five companies – Gazprom, Sberbank, Rosneft, Lukoil, and Novatek – have been competing for the first place in the market cap ranking. In 2021, Gazprom had the highest market cap index due to the accelerated growth in gas prices that began in April 2021.

In 2021, the concentration level of the largest stock issuers increased on the previous year: from 80.0% to 80.6% for the top 20 PJSCs, and from 64.4% to 65.8% for the top 10 companies. In 2021, the accelerated recovery of the Russian economy was driven primarily by growth across pro-cyclical industries like the energy complex and the banking sector, where the largest public companies are the leaders. Therefore, in 2021, their combined share in the total market cap was on the rise.

In 2021, the market cap share of state-owned companies (SOEs)¹ increased to 51.0%, from 49.9% in 2020 (*Fig. 29*). Because state-owned companies with highest market cap indices prevail in the fuel and energy complex, as well as in the energy, transportation, and banking sectors, their combined market cap share usually expands during periods of rising oil prices (2010–2012, 2016–2018, and 2021), and declines alongside falling oil prices (in 2013–2014 and 2020). Before the crisis of 2008, this pattern did not work, perhaps due to the fact that, in parallel with the rise in oil prices, the capitalization of Russian issuers was then strongly influenced by the flow of foreign portfolio investments, as well as structural reforms, such as the restructuring of RAO UES of Russia and the creation of state development institutions.

Alongside the massive inflow of private investors into the stock market during the coronavirus pandemic, the role of individuals in shaping the stock market liquidity became more prominent. Against this background, there was a positive

¹ A state-owned enterprise (SOE) is an organization controlled by the state acting as its sole owner, or the owner of a majority stake or significant minority stake in its authorized capital in the amount of not less than 10% thereof.

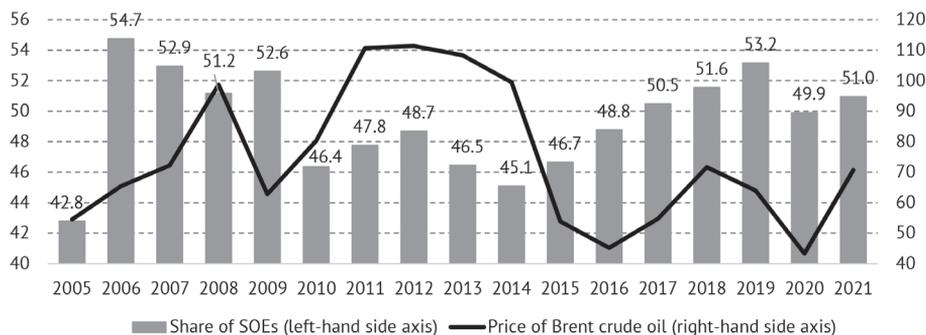
Table 7

The market cap indices of Russia's top 10 public joint-stock companies (PJSCs) in 2019–2021

Issuer	2019		Issuer	2020		Issuer	2021	
	Capitalization, billions of rubles	Market share, %		Capitalization, billions of rubles	Market share, %		Capitalization, billions of rubles	Market share, %
Gazprom PJSC	6,077	12.5	Sberbank PJSC	5,873	11.4	Gazprom PJSC	8,078	12.9
Sberbank PJSC	5,482	11.3	Gazprom PJSC	5,024	9.8	Rosneft PJSC	6,336	10.1
Rosneft PJSC	4,776	9.8	Rosneft PJSC	4,620	9	Sberbank PJSC	6,329	10.1
LUKoil PJSC	4,405	9.1	NOVATEK PJSC	3,814	7.4	NOVATEK PJSC	5,248	8.4
NOVATEK PJSC	3,834	7.9	Norilsk Nickel PJSC	3,738	7.3	LUKoil PJSC	4,539	7.2
Norilsk Nickel PJSC	3,050	6.3	LUKoil PJSC	3,590	7	Norilsk Nickel PJSC	3,496	5.6
Gazprom Neft PJSC	1,995	4.1	Polyus PJSC	2,049	4	Gazprom Neft PJSC	2,568	4.1
Surgutneftegas OJSC	1,814	3.7	Yandex N. V.	1,634	3.2	Polyus PJSC	1,761	2.8
Tatneft PJSC	1,668	3.4	Gazprom Neft PJSC	1,507	2.9	Yandex N. V.	1,447	2.3
Polyus PJSC	945	1.9	Surgutneftegas OJSC	1,286	2.5	Surgutneftegas OJSC	1,423	2.3
Combined cap of all issuers on Moscow Exchange	48,579	100	Combined cap of all issuers on Moscow Exchange	51,428	100	Combined cap of all issuers on Moscow Exchange	62,604	100
Combined cap of Top 5 issuers	24,574	50.6	Combined cap of Top 5 issuers	23,070	44.9	Combined cap of Top 5 issuers	30,528	48.8
Combined cap of Top 10 issuers	34,047	70.1	Combined cap of Top 10 issuers	33,137	64.5	Combined cap of Top 10 issuers	41,224	65.8

Source: own calculations based on data released by the Moscow Exchange.

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Note. The data for 2021 on the market cap share of SOEs are preliminary.

Fig. 29. The relative share of state-owned companies (SOE) in the domestic stock market cap and the per barrel price of Brent crude oil in 2005–2021

Source: own calculations.

shift in the structure of exchange trades, as the share of more transparent market transactions increased from 19.9% in 2019 to 32.8% in 2020 (*Fig. 30*). However, in 2021, the share of market transactions in the structure of exchange trades shrank to 31.3%, which could be caused by the increased share of REPO trading in shares, as a source of funding for securities transactions. Within the first two months of 2022, the share of market transactions increased to 44.3%, which was probably caused by the cash inflow from foreign portfolio investors into the domestic share market.

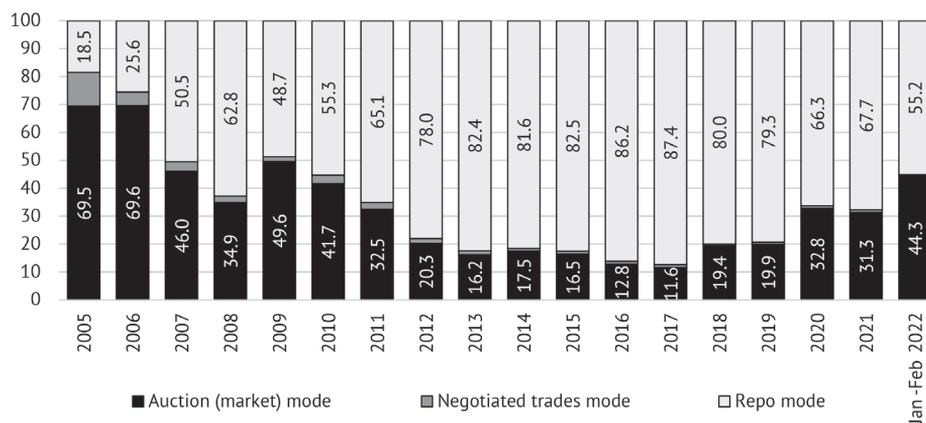


Fig. 30. The structure of trades in shares on the Moscow Exchange's Main Market from 2005 through February 2022, %

Source: own calculations based on data released by the Moscow Exchange and the World Federation of Exchanges.

Individual investors, in their role of the main liquidity drivers, now became second in importance after non-residents (*Table 8*). The share of non-residents in market stocks trades shrank from 47.5% in 2019 to 44.6% in 2020, and, conversely, the share of individual investors increased from 36.7% to 44.1% over the same period. However, in 2021 and January 2022, the share of non-residents increased markedly: in 2021, they mainly sold shares in Russian companies to individuals.

Table 8

The structure of investors participating in trades in shares on the Moscow Exchange's Main Market

	2017	2018	2019	2020	2021
Non-residents	47.5	51.2	47.5	44.6	47.7
Individuals	35.3	34.7	36.7	44.1	40.3
Dealers	8.9	8.2	8.1	5.8	6.7
Legal entities	5.1	3.8	4.7	3.3	3.1
Trust Managers	3.2	2.1	3.0	2.0	2.2

Source: own calculations based on data released by the Moscow Exchange.¹

After the resumption of trades in shares on the Moscow Exchange on March 24, 2022, the share of individuals in exchange trading in shares increased to 58%. This is a new reality for the domestic stock market, when the liquidity of shares on the stock exchange will be driven in the main by domestic investors, who will be primarily individuals.

3.1.6. The general review of the domestic bond market

By contrast with a favorable bond market situation in 2020, the year 2021 saw a slowdown of bond market growth on the back of an upturn in the rate of inflation both in the world and Russia, in particular, increased geopolitical tensions and the RF Central Bank's tightening of its monetary policy in response to higher inflationary pressures. In 2021, the inflation rate in Russia picked up to 8.4% as compared with 4.9% in 2020. Amid this situation, in 2021 the RF Central Bank had to raise for seven straight times the key interest rate which increased from 4.25% per annum to 8.50% per annum. A rise in the key rate led to a higher cost of issuers' borrowings on the bond market and a decrease in the market value of the earlier issued bonds in investors' portfolios.

In 2021, an important factor in the development of the bond market was substantial growth in revenues of non-financial companies and banks amid economic recovery and a favorable price environment on global commodity markets. This factor brought about a contraction of supply of corporate bonds on the part of issuers with high credit ratings, thus opening up the bond market for borrowings by lower quality issuers, including those oriented on attracting private investors' funds.

¹ URL: https://www.moex.com/s2184?fbclid=IwAR1Xl1wazyliXc5_77Q7usAilbS4BwecrqBWQ8XtdlHJ78fvoc0bejFDTLA

In 2021, a decrease in non-residents' demand for OFZ was driven by US sanctions which banned US investors from buying OFZ on the primary market, as well as the information on a possible ban on OFZ purchasing on the secondary market. The US Treasury forbade its banks and other financial institutions to buy on the primary market ruble- and foreign currency-denominated bonds issued by the RF Central Bank, the National Welfare Fund or the RF Ministry of Finance after June 14, 2021, as well as extending loans to the latter.

In 2021, the volume of the Russian bond market increased up to Rb34.4 trillion as compared with Rb31.8 trillion in 2020; the growth rates amounted to 8.5% against 24.2% a year ago (*Fig. 31*).

Within a year, the value of corporate bonds (CB), including non-market issues picked up from Rb16.2 trillion to Rb17.6 trillion or 8.6%; federal bonds (OFZ, GSO and other) – from Rb14.1 trillion to Rb15.8 trillion or 12.1%; regional bonds – from Rb0.9 trillion to Rb1.0 trillion or 11.1%. Late in 2021 the RF Central Bank bought back all its bonds from banks to refinance their operations amid increased geopolitical risks and a threat of sanctions.

The year 2021 saw a considerable decrease in the volumes of new bonds issues (*Fig. 32*). There was a decrease in the volumes of new corporate bonds issues from Rb4.2 trillion in 2020 to Rb3.4 trillion in 2021 or 19.0%; federal bond issues from Rb6.6 trillion to Rb2.6 trillion or 60.6%; regional bonds issues from Rb264.9 billion to Rb157.6 billion or 40.5% and the RF Central Bank's bonds issues from Rb5.5 trillion to Rb3.1 trillion or 43.6%.

The negative trend of shrinking liquidity of exchange-traded bonds observed in 2020 continued in 2021. By contrast with the equity market where market growth drivers were individuals and non-residents which accounted for 88% of the deals,

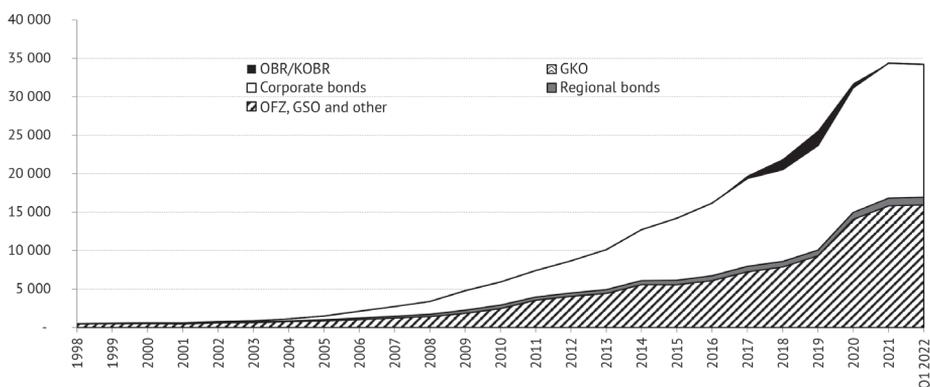


Fig. 31. The volumes of ruble-denominated bonds in circulation from 1998 till February 2021, billion rubles

Source: Own calculations based on the data of the RF Ministry of Finance and Cbonds.

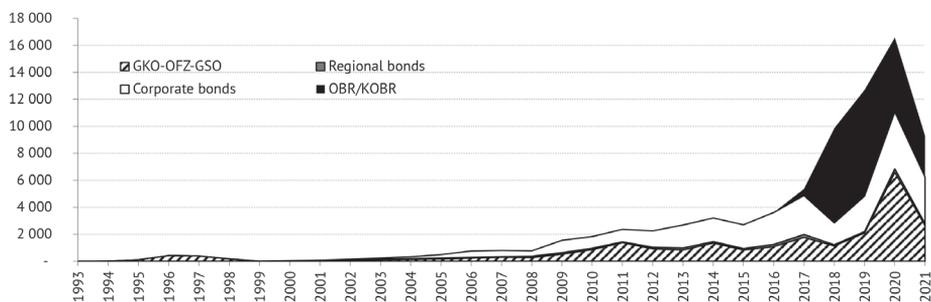


Fig. 32. The volumes of ruble-denominated bonds issues in 1993-2021, billion rubles

Source: Own calculations based on the data of Cbonds.

the share of such participants on the bond market was equal to the mere 23%.¹ Banks which are the main investors on the bond market find deals with bonds on the money market more attractive because they can receive additional profits by means of preferential funding of their resources on the pledge of bonds.

The value of market deals and negotiated mode deals (NMD) on the secondary exchange bond market decreased from Rb11.1 trillion in 2020 to Rb10.1 trillion in 2021 or 9%. By contrast, the money market volume in terms of REPO deals remained stable at the level of Rb283.4 trillion and Rb283.6 trillion in 2020 and 2021, respectively. As a result, the share of market deals and negotiated mode deals in overall volumes of bonds trading fell from 4.5% in 2020 to 3.4% in 2021 (Fig. 33). As the fair bond price is formed by means of market deals and negotiated mode deals, the shrinking of on-exchange liquidity of the bond market makes it less transparent and more risky to investors.

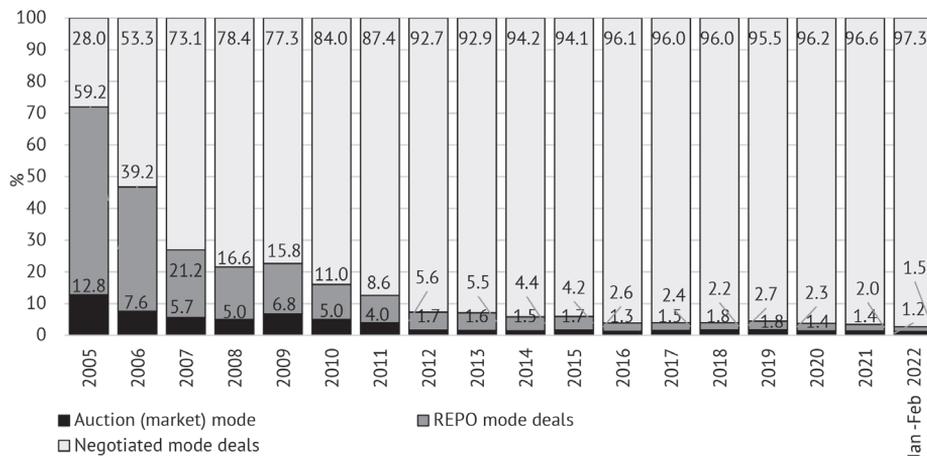
Our own calculations based on the data of the Moscow Exchange on monthly trading volumes² show that on the back of a temporary suspension of stock exchange trading from February 28 till March 24, 2022 the volumes of market deals and negotiated mode deals decreased from Rb2.1 trillion in Q1 2021 to Rb1.7 trillion in Q1 2022 or 48.0%. At the same time, the overall volume of REPO deals with bonds and securities portfolios on the money market increased from Rb62.3 trillion to Rb132.2 trillion or 112.3% in the specified period.

REPO deals do not form a fair (market) value of securities which normally gives a warning about issuers' credit risks and risks of an interest rate change. A lack of an option to sell bonds on the secondary market does not allow bond holders to react in a timely manner to market changes and changes in securities issuers' standing. This complicates portfolio management and reduces efficiency. Market trend changes, for example, an upturn in the inflation rate and the key interest

1 Based on the data of the presentation of the Moscow Exchange for its shareholders in March 2022. URL: <https://www.moex.com/s865>

2 URL: <https://www.moex.com/s868>

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Note. REPO deals with bonds include direct REPO with the RF Central Bank, inter-dealer REPO and REPO deals with the central counterparty (REPO-REPO).

Fig. 33. The pattern of deals with bonds at the Moscow Exchange in 2005 – February 2022, %

Source: own calculations based on the data of the Moscow Exchange and the VFB.



Note. The value of outstanding bonds worldwide January through September 2021 as per the data of SIFMA (USA). Russian issuers' bonds include corporate, government, municipal domestic bonds and Eurobonds.

Fig. 34. The value of outstanding bonds of Russian issuers (billion Rb) and their share in the value of bonds worldwide (%)

Source: Own calculation based on the data of Cbonds and SIFMA.

rate, create serious problems for bond holders who cannot sell bonds timely on the market and restructure their bond portfolios.

All types of Russian bond issues are equal to the mere 0.5% of the value of outstanding bonds worldwide (*Fig. 34*). Strong growth in Russian bond issues from \$123 bn in 2005 to \$547 bn in 2014 was also accompanied by a pickup from 0.23% to 0.64% in the share of Russian bonds in the value of bonds worldwide because Russian bond market growth was ahead of the global one. However, later this trend changed. Growth in the value of Russian bonds from \$427 bn in 2016 to \$619 bn in 2021 was accompanied by stagnation of the share of Russian bonds in the world at the level of 0.5%, that is, in the past six years the Russian bond market was growing almost at the same rate as the global one.

3.1.7. Fundamental characteristics of corporate bonds

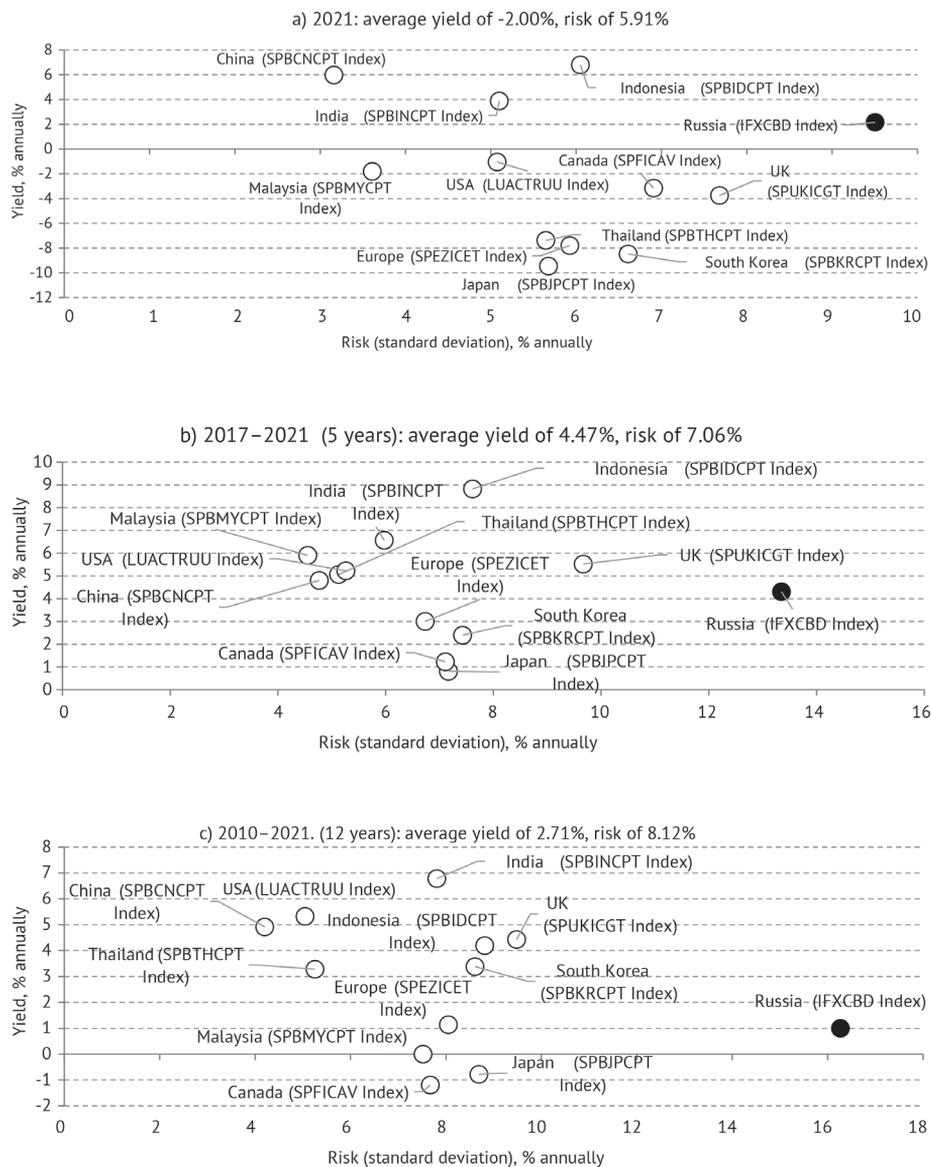
The comparison of yield and risk parameters (a standard deviation) of CB indices of 12 countries, including the Russian IFX CBD Index, on the time horizons of 1 year, 5 years and 12 years in 2010–2021 is shown in *Fig. 35 (a, b, c)*¹. For the sake of comparison of the outputs, historic yield series and, accordingly, risks are adjusted with the exchange rate of the US Dollar taken into account.

On all the reviewed time horizons, the IFX CBD index is characterized by the highest risk level which largely correlates with volatility of the Russian ruble, rather than the yield of the bond portfolio this index is made up of. In 2021, amid low yield on investment-grade bonds in different countries and expectations of an upturn in the interest rates of the US Federal Reserve and the European Central Bank the IFX CBD index saw positive yield and outperformed in this respect numerous foreign indices and their average values on sample. The IFX BND yield amounted to 2.16% annually with the average yield on sample of -2.0%; a standard deviation on the Russian bond portfolio was equal to 9.5% with the average risk index of 5.91%.

On the five-year horizon in 2017–2021, the average annual yield of 4.31% annually of the IFX BND index was somewhat smaller than that on sample (4.47%), however, the risk index of the Russian bond portfolio (13.35%) was nearly twice as high as the average index of 7.06% on sample. On the 12-year horizon from 2010 till 2021, the average yield of 1.0% annually of the IFX BND Index was lower than that on sample of countries (2.71%), while the risk index was again twice as high: 16.27% against 8.12%.

The main problem related with investment in ruble-denominated bonds is an unstable exchange rate of the ruble which regular devaluations reduce the appeal of such investments. A new factor keeping individuals from buying government and corporate coupon bonds was the personal income tax which started to be charged at the rate of 13% from coupon income since 2021. Non-residents have to pay a tax of 30% on coupon income of government and corporate bonds.

¹ A relatively limited size of the sample is substantiated by the fact that the Bloomberg's information and analytical resource presents historic series of corporate bond indices on a relatively small range of countries.



* For the purpose of comparability, these yield series of respective country indices were translated in US dollars.

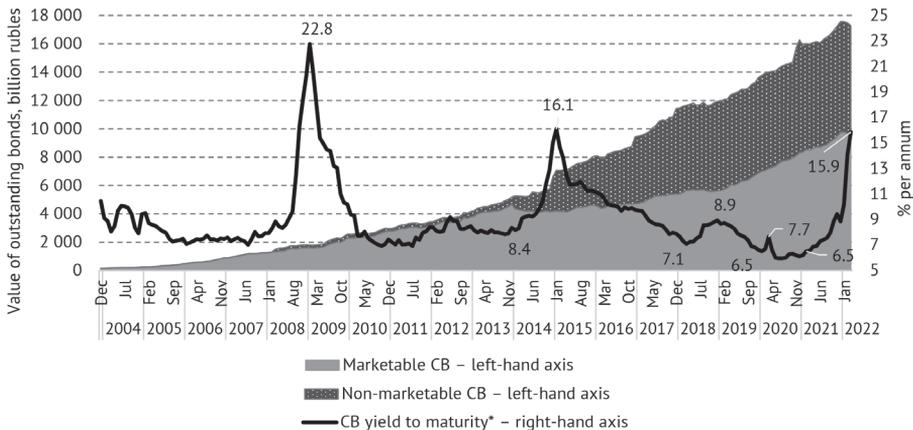
Fig. 35. The parameters of geometric mean yield and risk of 12 corporate bond indices of different countries' in the period from January 2009 till December 2021 on 1-year (a), 5-year (b) and 12-year (c) time horizons, % annually

Source: own calculation based on the data of the Bloomberg and Cbonds.

After the 2008 crisis, ruble-denominated yield of the IFXCND index grew now and then under the impact of depreciation of prices for oil and investors' concerns amid geopolitical risks and international sanctions (Fig. 36). Index portfolio yield-to-maturity peaks in 2014 and February 2022 coincided with the RF Central Bank's highest key rate levels. Specifically, corporate bond market growth has been largely driven by a pickup in non-marketable bond issues¹ without stock exchange quotations since 2014. In 2021, out of the overall value (Rb17.6 trillion) of outstanding ruble-denominated corporate bonds, marketable bond issues accounted for 55.6% or Rb9.8 trillion, while non-marketable bond issues, for Rb7.8 trillion (44.4%).

The period of low interest rates on corporate bonds underpinned by banks' and large non-financial companies' high liquidity amid moderate inflation expectations was over early in 2021. With the key interest rate increasing from 4.25% to 20.0% in March 2022 on March 2021, the average yield to maturity of the IFXCBND index bond portfolio picked up from 6.56% to 15.86% annually. Materialization of such a high interest risk did not bring about a large-scale sale of CB because of low liquidity of this market. However, in short-term such high interest rates will not only limit bond market growth, but also make corporate defaults more likely.

In 2021, the share of ruble-denominated corporate bonds with one or another form of defaults decreased to 2.7% as compared with 3.3% a year ago (Fig. 37). However, despite a decrease, this indicator on the 2013–2021time horizon



* Yield to maturity (YTM) on IFXCBN portfolio.

Fig. 36. The value of outstanding ruble-denominated corporate bonds and yield to maturity of the IFX-Cbonds corporate bond portfolio, December 2003 – February 2022

Source: own calculations based on the data of Cbonds.

1 As defined by the RF Central Bank, deemed as a non-marketable issue is the situation where the entire placed issue or a larger portion thereof is purchased by the lead bank or companies close to the issuer.

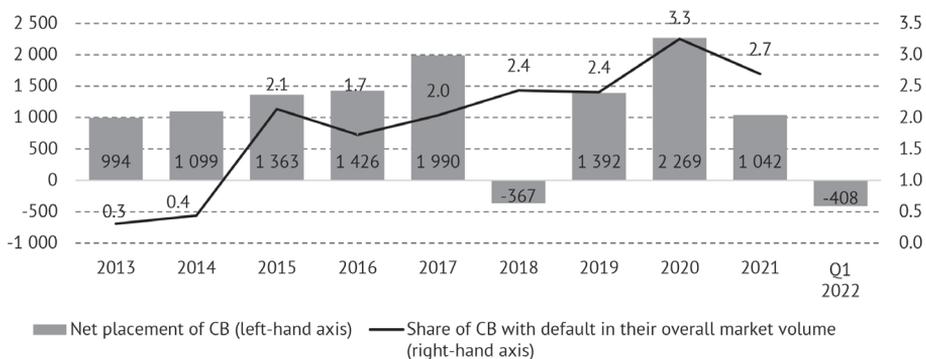


Fig. 37. The value of the net placement of corporate bonds (billion rubles) and the share of corporate bonds with a default in the overall volume of their market (%), January 2013 – March 2022

Source: own calculations based on the data of Cbonds.

remained at the historically high level. In 2021, the likelihood of defaults on some issues of corporate bonds increased owing to the abovementioned trends on the corporate bond market that year when it saw an influx of lower-quality borrowers.

The likelihood of defaults of corporate bonds largely increased in 2020. High geopolitical risks, sanctions preventing Russian companies' entry to global financial markets, the RF Central Bank's high key rate and a rise in the rate of inflation limit placements of new corporate bonds, thus making it infeasible to refinance outstanding debts. In Q1 2022, the volume of new corporate bond issues was small and the value of redeemed bonds in that period exceeded companies' borrowings worth Rb408 bn. In previous years, numerous CB issuers amassed funds, but these funds may turn out to be insufficient enough because the main sum of new CB issues is used for refinancing the outstanding debt. By our estimates, in 2021 the ratio of the sum of redeemed corporate bonds to that of placed corporate bonds was equal to 69.8%. In 2022, issuers will have to spend over Rb1.1 trillion on redemption of corporate bonds (without payment of coupon income).

3.1.8. The organization of the corporate bond market

The number of issuers on the Moscow Exchange corporate bond market exceeds largely the number of companies in the listing of shares. The corporate bond market is extensively used by issuers from various economic sectors for raising funds and refinancing outstanding debts.

Over a long period of time, the stock exchange saw a contraction of the number of CB issuers from 467 issuers in the pre-crisis 2007 to 198 in 2018 (*Fig. 38*). This was driven not only by changes in borrowing patterns where earlier large issuers used more often subsidiaries for issuing CB, while now they issue bonds directly, but also by the fact that large bond issues had an advantage in terms of issuers'

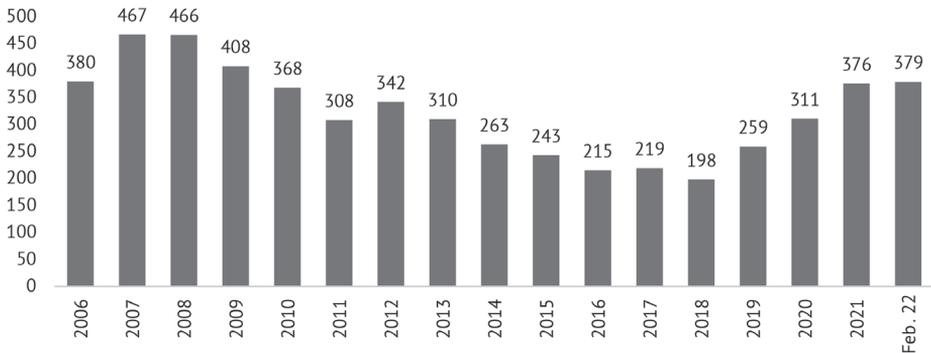


Fig. 38. The number of issuers of marketable CB issues on the Moscow Exchange

Source: Based on the data of the Cbonds Bulletin.

costs and listing requirements. In 2018, amendments were introduced in the stock market legislation to simplify corporate bond issuing as regard decision-making on issuing bonds, reduce the period of registration of bond issues, simplify reporting on the outputs of bond issuing and lift limitations as regards the deadlines of completion of bonds placement.

In February 2022, the stock exchange traded marketable CB of 379 issuers by contrast with 198 issuers in 2018, an increase of 90%. Until recently, the corporate bond market facilitated a more diversified distribution of investments between economic sectors than the domestic equity market.

According to the data of the RF Central Bank, in 2021 the share of placements by high-quality “first tier” issuers¹ with an investment rating fell considerably in the value of placed corporate bonds, while that of placements by “second-tier” issuers increased.² The share of bonds of “second-tier” issuers in the overall value of new CB issues increased from 21.0% in 2020 to 57.0% in 2021, while that of bonds of “first tier” CB issuers fell from 49.0% to 8.0%. This is evidence of a substantial rise in credit risks on the corporate bond market. In 2022, on the back of sanctions limiting export-import operations and external funds raising, as well as problems related with refinancing of debts on the internal financial market because of a high cost of borrowings numerous CB issuers may encounter a downward revision of credit ratings and defaults.

The credit exposure of corporate bonds is aggravated because “second-tier” CB issues account for the bulk of private investors’ investments in corporate bonds. According to the data of the RF Central Bank, in the overall volume of CB bought by households the share of bonds of “second-tier” issuers increased from 21.0% in

1 “First-tier” bonds include bonds with ACRA ratings from BBB- and higher and Moody’s Baa3 and higher. These ratings are the lower boundaries of investment ratings of Russian CB issuers. Under the RF legislation, the investment category of ratings under the ACRA scale for national issuers with some limitations regarding ultimate investments include also corporate bonds with the rating of BB+.

2 “Second-tier” bonds include bonds with ACRA rating of BB and Moody’s Ba3.

2017 to 51.0% in 2021, while that of ‘first-tier’ issuers picked up somewhat from 16.0% to 20.0%.¹

An upside trend on the corporate bond market is the formation of the market of ESG-financing. The new version of securities issuing standards which became effective on May 11, 2020 includes the standards of issuing three new types of bonds: “green” bonds, social bonds and infrastructure bonds. The value of “green” bonds increased from Rb119.2 bn in 2020 to 236.8%. In 2021 and Q1 2022 this indicator remained unchanged.

At the same time, the market volume of SME’s corporate bonds was growing slower: from Rb274.1 bn in 2020 to Rb286.9 bn in 2021 or 4.6%; these growth rates were below those of the corporate bond market as a whole. In 2021, the overall value of outstanding marketable corporate bonds increased by 15.5% on the previous year.

Despite advanced growth in placement of bonds of “second-tier” issuers, the primary corporate bond market remains highly concentrated (*Fig. 39*). In 2021, the share of top-20 issuers in the overall volume of new CB issues decreased as compared with 2020 and amounted to 76.4%. The share of top-10 issuers decreased from 68.3% in 2020 to 64.4% in 2021. However, the concentration indicators stand at a relatively high historic level, for example, as compared with 2015. In 2021, for the first time in many years Rosneft is not among top CB issuers (*Table 9*), however, new leading CB issuers – Veresayeva-6, Alfa-Leasing, Gazprombank Kapital and OTEKO-Portservis – emerged and this points to a higher diversification of issuers across various economic sectors.

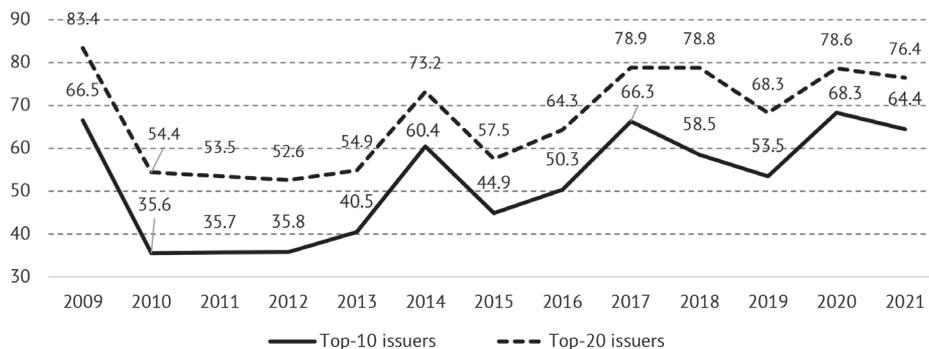


Fig. 39. The share of top-10 and top-20 issuers in new issues of ruble-denominated corporate bonds in 2009–2021, %

Source: own calculations based on the data of Cbonds.

1 The RF Central Bank. The Review of the Russian Financial Sector and Financial Instruments. Analytical paper. 2021. Moscow. p. 32. URL: https://www.cbr.ru/Collection/Collection/File/40903/overview_2021.pdf

Table 9

Top-10 CB issuers and their share in the overall value of CB issues

	Issuers	2019		Issuers	2020		Issuers	2021	
		Billion Rb	%		Billion Rb	%		Billion Rb	%
1	Sberbank of Russia	465	16.1	1 Rosneft	815	17.7	1 DOM.RF Mortgage agent	418	13.3
2	DON.RF	253	8.7	2 Sberbank of Russia	550	12.0	2 VEB.RF	411	13.1
3	VTB	172	5.9	3 VTB, including Demetra Holding	489	10.6	3 Sberbank of Russia	366	11.7
4	Vneshekonombank	170	5.9	4 DOM.RF	386	8.4	4 VTB, including Demetra Holding	273	8.7
5	RZhd	106	3.7	5 RZhd	353	7.7	5 Veresayeva-6	130	4.1
6	Gazprombank	95	3.3	6 GSP-Finans	243	5.3	6 Gazprom Kapital	120	3.8
7	Rosneft	80	2.8	7 Vneshekonombank	90	2.0	7 OTEKO-Portservis	96	3.1
8	MTS	78	2.7	8 Azot (Kemerovo)	88	1.9	8 Alfa-Leasing	76	2.4
9	Avtodor	69	2.4	9 GTLK	66	1.4	9 RZhd	69	2.2
10	RUSAL Bratsk	60	2.1	10 Gazprombank	59	1.3	10 AFK Systema	63	2.0
	Capitalization of all CB issues	2 893	100	Capitalization of all CB issues	4 595	100	Capitalization of all CB issues	3 137	100
	Capitalization of issues of top-10 CB issuers	1547	53.5	Capitalization of issues of top-10 CB issuers	3138	68.3	Capitalization of issues of top-10 CB issuers	2022	64.4

Source: own calculations based on the data of Cbonds.

Despite accelerated growth in ruble-denominated corporate bonds in the past few years, the volume of the market of dollar-denominated Eurobonds issued by Russian companies remained relatively stable (Fig. 40). In 2021, its size decreased from \$107 bn to \$99 bn or by 7.5%. Amid sanctions limiting foreign currency proceeds and Russian large issuers' feasibility to refinance external debt, the commercial bond market has entered the zone of different risks with a likelihood of a default of individual companies.

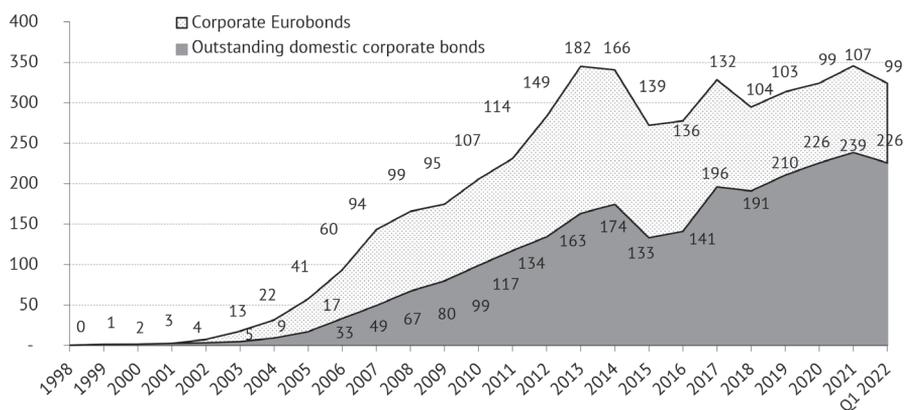
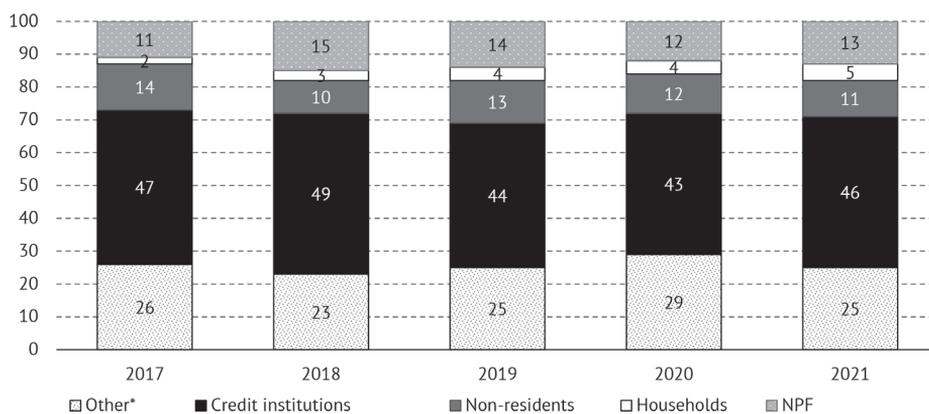


Fig. 40. The volumes of outstanding commercial bonds of Russian issuers, billion US Dollars

Source: Own calculation the data of Cbonds and the Moscow Exchange.



* The public sector, non-banking financial institutions, insurers, investment funds and other resident entities.

Fig. 41. The pattern of corporate bond holders in 2017-2021, %

Source: own calculations based on the data of the RF Central Bank. URL: http://www.cbr.ru/securities_market/analytics/

In 2017–2021, the pattern of the main corporate bond holders remained relatively stable (*Fig. 41*). The main corporate bond holders were credit institutions whose share was equal to 47.0% and 46.0% in 2017 and 2021, respectively. The share of non-residents decreased somewhat from 14.0% in 2017 to 11.0% in 2021, while that of NPFs and private investors increased in the same period from 11.0% to 13.0% and from 2.0% to 5.0%, respectively, thus showing that private investors played a moderate role on the corporate bond market though in individual types of bonds (high-yield bonds, bank bonds and other) their role was much higher. As seen from a relatively stable pattern of corporate bond holders, no explicit growth drivers have emerged on this market in the past few years and, consequently, this may limit corporate borrowings growth in future.

3.1.9. The government bond market

In 2020, the RF Ministry of Finance raised on the market by means of OFZ the record-high sum of borrowings (Rb6 trillion), an increase of 60% on the overall value of net borrowings over the previous five years, that is, from 2015 till 2019. A sharp increase in borrowing volumes on the domestic market began in H2 2020 owing to the need to finance the budget deficit amid the suspension of the fiscal rule which envisaged financing of the budget by selling foreign currency out of the NWF on the market. Growth in the government securities domestic market was facilitated by the RF Central Bank's policy of reducing its key rate, existence of excessive liquidity in the banking sector and the RF Finance Ministry's preparedness to pay a market premium on placed bonds.

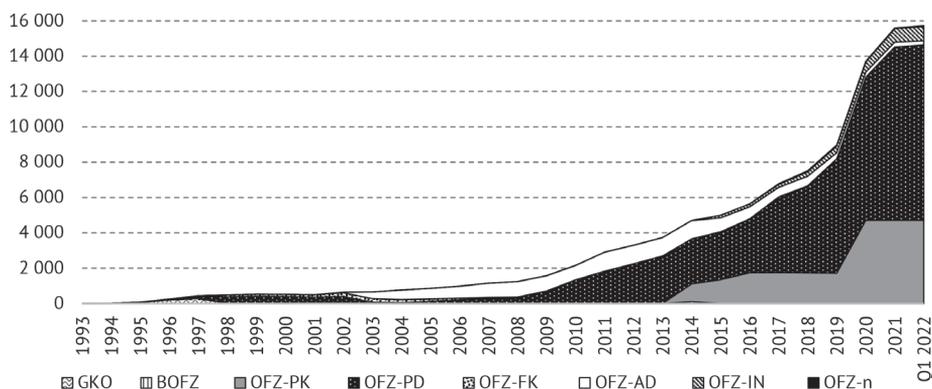
In 2021, amid an upturn in the key rate the volume of net borrowings on the OFZ market amounted to the mere Rb1.6 trillion, a decrease of 73.3% on the previous year. In Q1 2022, the net borrowings volume amounted to the mere Rb128.1 bn with the average annual value of this indicator over the past five years being equal to Rb374.6 bn in Q1.

As of March 2022, the overall OFZ volume amounted to Rb15.7 trillion, an increase of 14.6% as compared with Rb13.7 trillion in 2020 (*Fig. 42*). As the main investors in newly issued government bonds were banks and partly non-banking financial institutions, it was necessary to change the pattern of OFZ in favor of OFZ with a floating coupon (OFZ-PK) providing banks with greater flexibility to manage liquidity and interest risks. The size of a coupon of OFZ-PK correlates with the RUONIA money market rate which is largely pegged to the RF Central Bank's key rate. The overall value of OFZ-PK issue increased from Rb1.7 trillion in 2019 to Rb4.7 trillion in 2020. In 2021 and Q1 2022, the market volume of these bonds did not change. In March 2022, their share in the value of the OFZ market was equal to 29.9%

The largest segment of the OFZ market is represented by OFZ-PD with a constant coupon income. The size of coupon income on such bonds is known in advance over the entire period of their circulation, thus making them an attractive financial instrument for various categories of investors. The value of OFZ-PD increased from Rb8.1 trillion in 2020 to Rb9.6 trillion in March 2022 or by 18.5%. Their share in the value of OFZ market was equal to 63.1% in March 2022.

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Note. BOFZ is non-coupon federal loan bonds; GKO is government short-term non-coupon bonds; OFZ is federal loan bonds; OFZ-AD is federal loan bonds with amortization of debt; OFZ-IN is federal loan bonds with par value linked to the inflation rate in the Russian Federation; OFZ-PD is federal loan bonds with a constant coupon income; OFZ-PK are federal loan bonds with a floating coupon income "linked" to the RUONIA rate; OFZ-n is federal loan bonds for individuals ("people's bonds").

Fig. 42. The volume of outstanding GKO-OFZ issues in 1993 – March 2022, billion rubles

Source: own calculations based on the data of the RF Ministry of Finance and Cbonds.

OFZ-AD bonds with amortization of the principal debt are convenient for investing pension savings amid market volatility, but difficult for the RF Ministry of Finance to manage the public debt. As the pension saving system's growth is slowing down, demand for this instrument is virtually decreases to zero. The value of OFZ-AD fell from Rb283 bn in 2020 to Rb242 bn in March 2022; their share in the overall value of OFZ fell to 1.5%.

Taking into account an upturn in the rate of inflation, OFZ-IN bonds are much in demand on the market of government securities because they envisage indexation of their par value depending on the level of inflation as measured by the consumer price index (CPI). For these reasons, these bonds are in demand with domestic institutional and private investors. The value of OFZ-IN bonds increased from Rb575 bn in 2020 to Rb803 bn in 2022 or by 39.7%; their share in the overall volume of OFZ is equal to 5.1%.

In 2021, OFZ-n bonds accounted for an insignificant share of the OFZ market (0.3%); these bonds are often called "people's bonds" because they are meant for individuals' investments and positioned by the RF Ministry of Finance mainly as an over-the-counter instrument aimed at promoting households' financial literacy. As OFZ-n bonds are sold via large retail banks, these bonds have to compete fiercely with bank bonds and structured products offered by such banks to their customers. Further, yield on them is often smaller than on other types of OFZ. Consequently, despite the mass influx of investors to the stock market, the value of OFZ-n after a decrease thereof in 2020 by contrast with the previous year resumed weak growth in 2021 and Q1 2022. The value of these bonds increased

from Rb41 bn in 2020 to \$48 bn in March 2022 or by 17.1%. However, their share in the overall value of OFZ does not exceed 0.3%.

For a long period of time, starting from the mid-2000s, the Russian Federation has carried out the policy of advanced growth in domestic market borrowings in rubles as compared with accumulation of debts in foreign currencies (*Fig. 43*). In 2006, the values of domestic and external debts became equal and amounted to \$38 bn, each. After that, the value of domestic ruble-denominated bonds (OFZ) was growing at a higher rate than that of external borrowings.

From 2019 till March 2022, the government debt volume on Eurobonds remained at the level of \$40 bn–\$42 bn. For comparison: as of March 2022, the volume of domestic government securities amounted to \$208 bn. In 2022, amid western sanctions which brought about the freezing of over \$300 bn worth of gold and foreign-exchange reserves, the Russian Federation encountered the risk of default on obligations to pay a coupon income on Eurobonds. The RF Ministry of Finance’s proposal to pay in rubles because of the ban imposed on Russia’s gold and foreign-exchange reserved failed to win support of foreign creditors.

On February 28, 2022, S&P, an international rating agency revised downwards the Russian investment rating from BBB- to BB+ (below the investment level), on March 4, 2022, straight downward to CCC-, while on March 16, 2022, downward to CC with a negative outlook. This rating means that default has not happened yet, but is highly likely. On March 3, 2022, Moody’s, a rating agency, revised six grades downward Russia’s long-term foreign currency- and ruble-denominated debt ratings from Baa3 to B3, downgraded Russia’s sovereign rating from “junk” B3 to pre-default Ca, while on March 31, 2022 withdrew all ratings of Russia

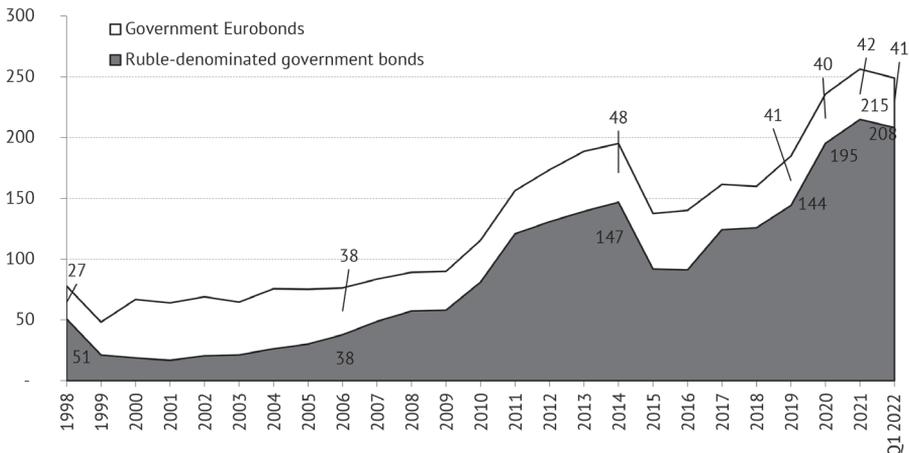


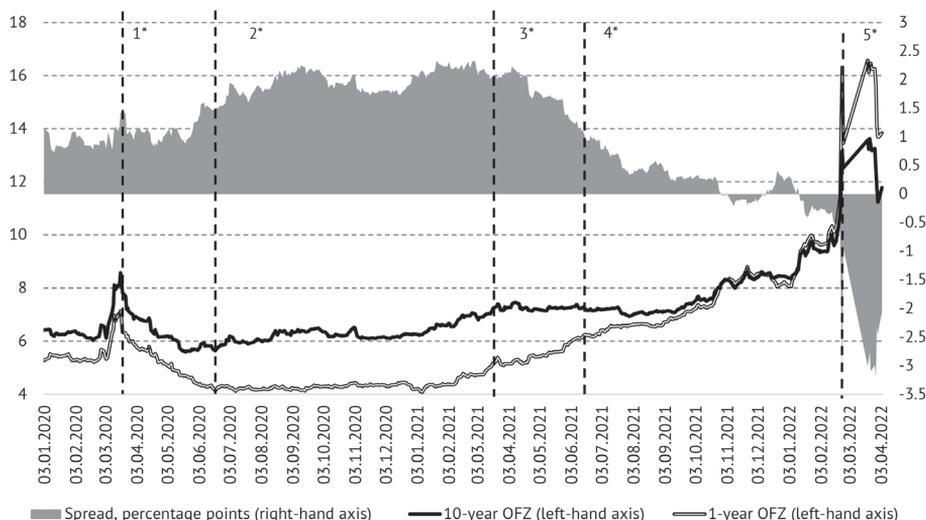
Fig. 43. The volumes of outstanding domestic public bonds and Eurobonds of the Russian Federation, 1998 – March 2022, billion USD

Source: own calculation based on the data of Cbonds and the Moscow Exchange.

and its regions. On March 3, 2022, another international agency, Fitch, revised downwards Russia’s long-term default rating in foreign currency from investment BBB to speculative B, on March 9, 2022 they downgraded again Russia’s rating to “default is imminent” and late in March withdrew Russia’s ratings altogether.

If materialized, an artificially created risk of Russia’s default on foreign debts on the back of sanctions is unlikely to lead to serious negative consequences for financial stability and new seizures of property of the Russian Federation abroad. However, in future if it persists, global financial markets may become inaccessible for Russia for years to come.

Shown in Fig. 44, the indicator of spread between yield to maturity of 10-year and 1-year government bonds is regarded by many economists as an effective predictor of recession. If the indicator is equal to zero or negative, this is called a reversal of a yield curve on bonds and normally means that recession is going to occur in a few months.¹ As shown in Fig. 44, the spread of yields on 10-year and



Note. 1* is a financial shock caused by the outbreak of COVID-19 and liquidity shock on global financial markets; 2* is growth in the program of government borrowings with emphasis on domestic investors; 3* is the beginning of the period of an upturn in the RF Central Bank’s interest rate: from March 23, 2021 till February 28, 2022 this rate increased from 4.25% to 20.0% annually; 4* is the introduction of US sanctions barring US investors from buying Russian government securities on the primary market; 5* is the RF Central Bank’s setting of the key rate of 20% annually.

Fig. 44. Yield to maturity of 1-year and 10-year OFZ (% annually) and the spread between the yield of 10-year OFZ and 1-year OFZ in percentage points from January 3, 2020 till April 4, 2022

Source: own calculations based on the data of the RF Central Bank and the Moscow Exchange.

1 Growth in yield to maturity of short duration government securities normally points to financial institutions’ increased demand for liquidity, while a relevant decrease in yield on long-term bonds, to growth in market participants’ expectations of a decline of the RF Central Bank’s interest rate in response to a slowdown of economic growth.

1-year OFZ reached the zero level on January 10, 2022 and the negative peak of -3.2% on March 29, 2022. Dynamics of yield curves on long-term and short-term bonds depended largely on RF Central Bank's decisions to raise the key interest rate (events 3 и 5 on Fig. 44).

Probably, the reversal of the yield curve early in 2022 will predict this time recession of the Russian economy in 2022. At the same time, one cannot but agree with assumptions of the RF Central Bank's experts that lower yield on long-term government bonds by contrast with yield on shorter duration bonds early in 2022 may reflect market participants' expectations of a decline in inflation in the mid-term, particularly, owing to the RF Central Bank's decisions on the monetary policy.¹

After foreign settlement and clearing institutions opened nominee accounts with the Russian Central Securities Depository in 2013, the Russian internal market of government bonds saw an influx of foreign investments. The share of non-residents on the secondary OFZ market increased from 6.5% in July 2012 to 28.1% in May 2013 (Fig. 45).² Later, non-residents owned nearly a quarter of OFZ,

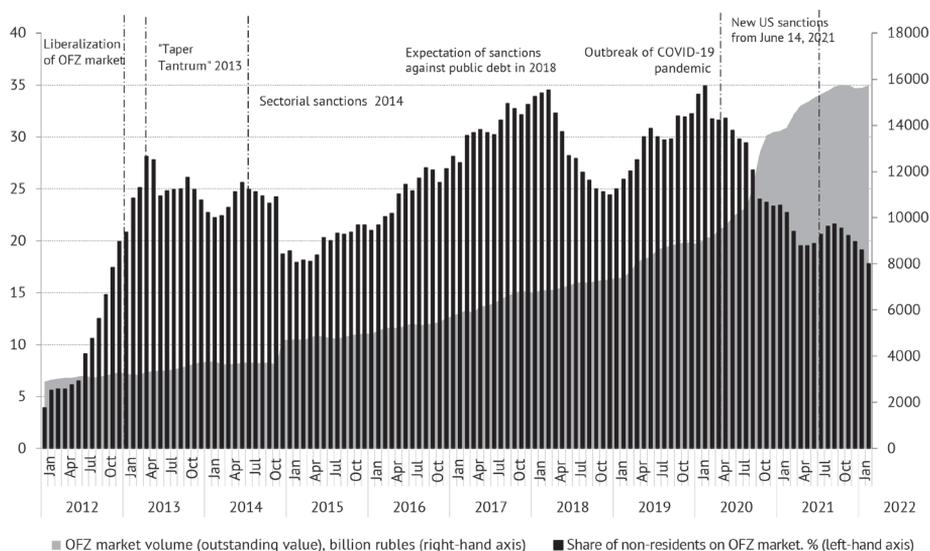


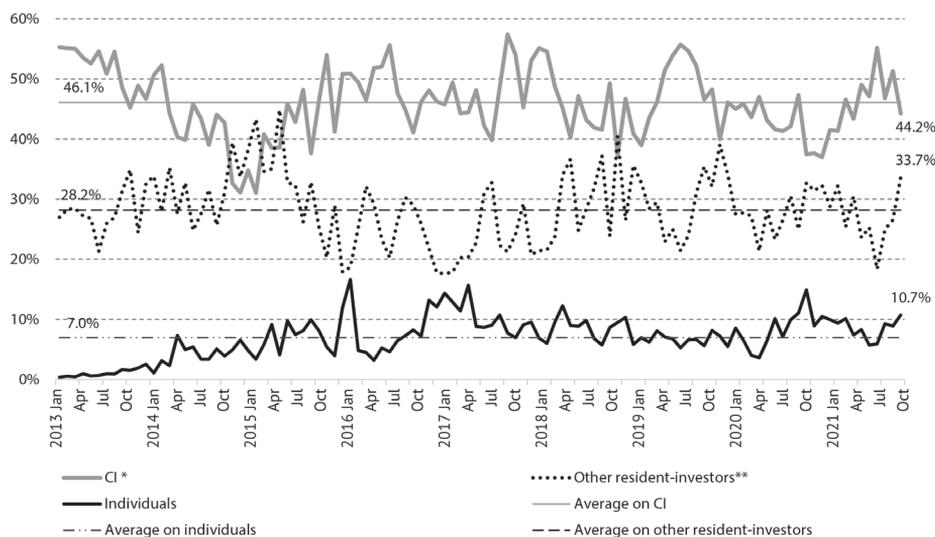
Fig. 45. The share of non-residents on the OFZ market, February 2012 – February 2021

Source: own calculations based on the data of the RF Central Bank and Cbonds.

- 1 The RF Central Bank. The Review of the Russian Financial Sector and Financial Instruments. Analytical paper. 2021. Moscow. p. 2. URL: https://www.cbr.ru/Collection/Collection/File/40903/overview_2021.pdf
- 2 In our view, prior to the liberalization of the OFZ market in 2013, the actual share of non-residents in OFZ was higher than the official one of 6.5% because before opening by the Clearstream and the Euroclear of correspondent depo accounts with the National Settlement Depository, the custodian accounting system of that time failed to take into account non-residents' investments in OFZ via various indirect schemes.

however, their weight changed considerably on the back of non-residents' cash flows because of financial and geopolitical risks. For example, amid concerns over possible new sanctions barring global investors from buying Russian government bonds, in April 2018 the share of non-residents in the OFZ ownership pattern shrank from 33.1% in 2017 to 24.4% in 2018. However, after it became clear that such sanctions would not be applied to OFZ investors, favorable market conditions in 2019 facilitated the return of foreign investors' funds to this market segment and their share in the OFZ ownership pattern reached a historic peak of 34.9% in February 2020.

From March 2020 till February 2022, the share of non-residents fell to 17.8% owing to two major developments. During the pandemic-induced financial crisis, the share of OFZ non-resident-investors declined from 34.9% in February 2020 to 19.7% in June 2021 on the back of a sharp increase in the RF Ministry of Finance's OFZ issues which were placed mostly among domestic institutional investors. However, later the share of non-residents decreased mainly because of a risk of US sanctions barring non-residents from buying Russian government bonds on auctions. These sanctions came into effect on June 14, 2021. In February 2022, non-residents were forbidden to buy Russian government bonds on the secondary market, as well. A number of large foreign institutional investors started to sell



* CI – credit institutions. ** Other investors -non-residents - non-banking financial institutions, PIFs, NPF, trust management accounts and other resident-entities.

Fig. 46. The share of investments of banks, non-residents and other investors in OFZ. January 2013 – December 2021

Source: own calculations based on the data of the RF Central Bank

their Russian assets until the Russian regulator introduced a ban on fulfillment of non-residents' instructions regarding securities deals on the Russian exchanges. At present, non-residents' outstanding OFZ investments worth nearly Rb2.8 trillion remain frozen.

The value of foreign investments in OFZ increased from Rb3.0 trillion in January 2020 to Rb3.2 trillion in January 2021 (Fig. 46). At the same time, banks' investments in OFZ more than doubled: from Rb3.6 trillion to Rb7.6 trillion. Over the same period, investments by other investors, including NPF and insurance companies picked up from Rb2.3 trillion to Rb2.8 trillion or by 21.7%.

So, the domestic market of government securities remains stable despite suspension of non-residents' operations and higher yield on bonds related with an upturn in the key rate. Taking into account the fact that Russian gold and foreign-exchange reserves have been frozen, the stability of foreign debt remains to be seen and serious efforts need to be taken to resolve this situation.

3.1.10. Futures market

The futures market is important in economic terms because it ensures pricing of investment assets, as well as makes it feasible for market participants to hedge their assets against dramatic price volatility in future.

In 2021, high volatility of foreign-exchange yields and financial and commodity assets, as well as appreciation of global prices for oil and other raw materials facilitated futures market growth on the Moscow Exchange (Fig. 47). The futures market trading volume increased from Rb124.5 trillion in 2020 to Rb151.25 trillion in 2021 or by 21.5%; in 2020 its growth was equal to 60.9%. The volume of option transactions grew from Rb5.3 trillion in 2020 to Rb6.8 trillion in 2021 or by 26.6%; at year-end 2020 growth was almost at the same level (27.3%).

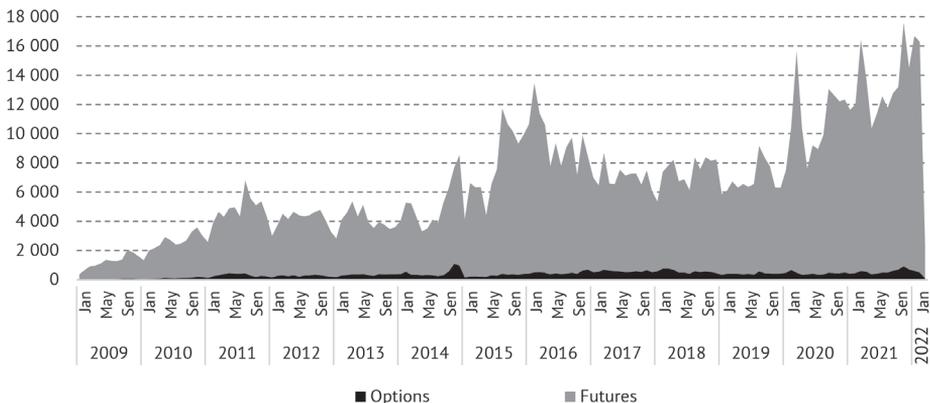


Fig. 47. The value of futures and options on the Moscow Exchange, January 2009 – March 2022, billion rubles

Source: own calculations based on the data of the Moscow Exchange.

According to the data of the Moscow Exchange, in 2021 non-residents and private investors accounted for 48.0% and 43.0% of the overall futures market trading volume, respectively. The development of the futures market, particularly transactions based on securities, stock indices, as well as interest rates, is impeded because the presence of domestic institutional investors is rather limited on this market, while non-financial businesses do not often hedge their assets against foreign-exchange, interest rate and other risks. By contrast with the US market which saw rapid growth in individuals' option transactions in 2020–2021, expectations of similar trends failed to materialize in Russia, probably, because of insufficient liquidity of this market segment and a lack of offensive marketing on the part of large brokers.

In 2021, the Moscow Exchange futures market did not see any breakthroughs. The Moscow Exchange opened an additional morning trade session from 7 a.m., thus making the futures market accessible to participants from Russia's eastern and far eastern regions and Asia, introduced S&P500 index futures and options, expanded the range of futures contracts for equities and depository receipts of a number of issuers, including equities of large BigTechs from China.

In 2021, traditional exchange-traded contracts accounted for the bulk of deals on the futures market. Particularly, foreign exchange (US dollar and euro) futures played a major role on the Moscow Exchange futures market. The drivers of this futures market segment were high volatility of exchange rates and feasibility to buy foreign currency at more favorable exchange rates on the Exchange rather than at banks (Fig. 48). Foreign-exchange futures volumes increased from Rb63.4 trillion in 2020 to Rb66.7 trillion in 2021; the share of foreign-exchange futures deals on the futures market fell from 57.3% in December 2020 to 38.9% in 2021. However, on the back of high demand for foreign-exchange in Q1 2022, the share of foreign-exchange futures grew to 70.3% in March 2022.

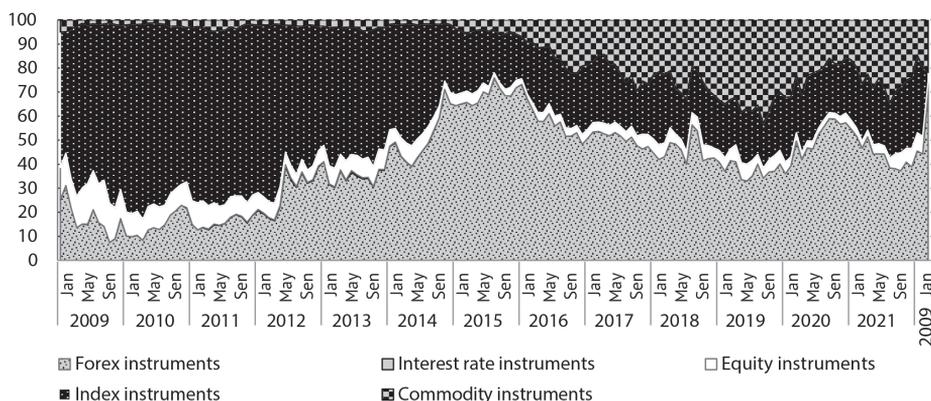


Fig. 48. The Moscow Exchange futures market pattern. January 2009 – March 2022, % of the deal value

Source: own calculations based on the data of the Moscow Exchange.

The second most important futures market segment is stock index contracts, primarily, RTS and Moscow Exchange index contracts. Their volume increased from Rb29.8 trillion in 2020 to Rb38.9 trillion in 2021; the share of index futures grew from 23.4% in December 2020 to 29.4% at year-end 2021. On the back of the collapse of indices in February-March 2022 and suspension of equity trading from February 28 till March 24, 2022, the share of such contracts was equal to the mere 3.4% based on results for Q1 2022.

In 2021, commodity futures (for Brent oil, gold and other precious metals, natural gas, raw sugar, copper, nickel and other goods) were a vigorously developing futures segment on the Moscow Exchange. Amid inflation expectations and the risk of weakening of the ruble, investments in commodities were regarded by lots of investors as hedging. Commodity futures trade volumes increased from Rb27.4 trillion in 2020 to Rb38.6 trillion in 2021; as result, within a year the share of commodity futures grew considerably from 15.3% to 24.0%. In the crisis Q1 2022, their share in the futures market volume decreased somewhat to 21.8% owing to market participants' increased demand for investments in commodities.

In 2021, on the back of dynamic growth in equity and bond futures volumes their share in the overall futures market almost doubled from 3.9% in December 2020 to 7.6% in 2021. Individuals' increased interest in such deals reflected their optimism amid market growth.

As before, interest-rate futures and options are not in demand at all. Such futures deals are close to zero, although amid high inflation and an upturn in the RF Central Bank's key rate, interest rates increasingly affect business. The main challenges to growth are a lack of reliable indicators of inter-bank market interest rates and large investors which are prepared to take interest rate risks.

As the options market is probably used less markedly for hedging financial assets, the Exchange-traded options volume is relatively moderate. Contracts for index instruments are the most active options market segment: its volumes increased from Rb3.3 trillion in 2020 to Rb4.4 trillion in 2021, while the share in the overall exchange-traded options declines somewhat from 64.1% in 2020 to 63.0% in 2021 (*Fig. 49*).

The volumes of foreign-exchange options increased from Rb1.7 trillion in 2020 to Rb2.0 trillion in 2021, while their share in the overall volume of option deals declined over the same period from 34.1% to 30.8%.

Other options market segments are very small. In 2020 and 2021, commodity options were equal to Rb0.3 trillion and their share in the overall volume of the options market also remained at the level of 4.0%. The value of equity options is insignificant and has no effect on the options market's overall performance.

Consequently, the Moscow Exchange futures market is not balanced yet. Foreign-exchange, equity and commodity options still paly a dominating role on this market. Further impetus should be given to the markets of interest rate derivatives, futures and options for equities, bonds and various index-linked securities. Taking into account new realities, it is necessary to develop a liquid market for futures contracts for yuan and other emerging market currencies.

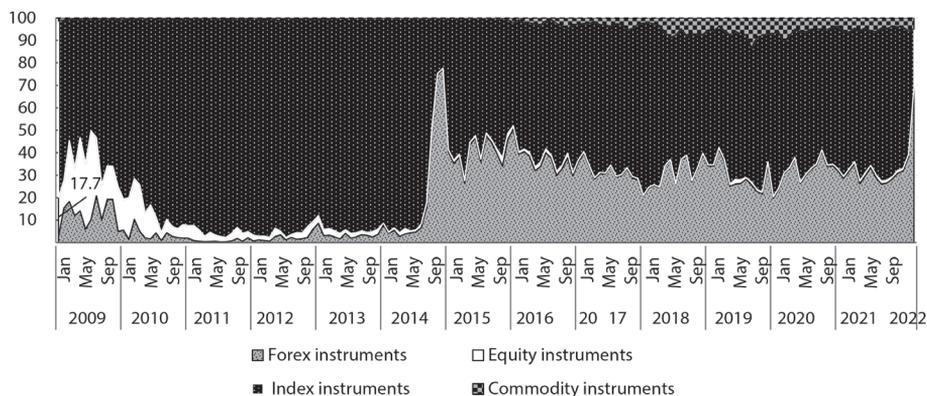


Fig. 49. The Moscow Exchange options market pattern, January 2009 – March 2022, % of deal value

Source: own calculations based on the data of the Moscow Exchange.

3.1.11. Financial intermediaries and the exchange

In 2021, the number of professional securities market participants (PSMP) and licenses to various types of professional activities kept declining (*Fig. 50*). There was a decrease in the number of licenses to brokerage activity from 268 licenses in 2020 to 250 licenses in March 2022 or by 6.7%; licenses to dealer activities from 297 licenses to 276 licenses or by 7.1%; licenses to trust management from 189 licenses to 182 licenses or by 3.7%.

On the longer-term time horizon, the reduction in the number of PSMP licenses started as far back as the crisis of 2008 and reflects the general trend towards the domestic financial market's higher sustainability coupled with a reduction in the stock market's role in the economy.¹ The establishment of the financial mega-regulator in September 2013 sped up somewhat the reduction in the number of valid PSMP licenses, however, the main reasons for withdrawal of licenses and establishment of the mega-regulator were licensees' declarations of their exit from the business.

A more serious challenge to the development of the Russian stock market is a dramatic decrease in the number of new professional participants who are meant to promote competition. A considerable slowdown of the influx of new players took place in 2012. The upside is growth in the number of new PSMP licenses: 30 licenses in 2021 by contrast with 10 licenses in 2020. However, this is much below the number of licenses in 2007–2014.

The concentration of financial intermediaries and use of economies of scale are a reasonable strategy aimed at enhancing efficiency and it takes place to some extent in many countries. However, the specific of the domestic financial

¹ For more details on the decline of the role of the stock market in the economy, see: *A.E. Abramov, A.D. Radygin, M.I. Chernova. The Russian Stock Market: Trends, Challenges and Guidelines for Development // The Voprosy Ekonomiki. 2021. Issue No.11. p. 5–32.*

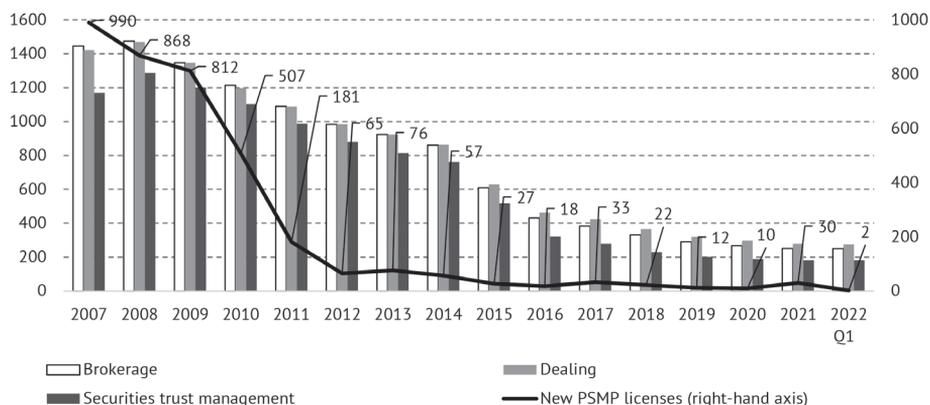


Fig. 50. The number of licenses to carry out brokerage, dealing and securities trust management activities (left-hand axis) and the number of licenses issued to professional securities market participants (right-hand axis) from 2007 till March 2022

Source: own calculations based on the data of the NAUFOR and registers of the RF Central Bank.

market consists in the existence of large administrative barriers to growth of independent fintech and competition from financial platforms based on open architecture of sale of finance and investment products; domination of a few large financial ecosystems based primarily on government entities, as well as project activities by the RF Central Bank in areas where they compete directly with private financial institutions.¹ As regards fintech, no requirements – similar to the second European Payment Services Directive, 2015 (PSD2) – making the “open banking” standard and API addresses mandatory to large financial entities were set. The approval of the legislation on activities of operators of financial platforms (marketplaces) has led to artificially excessive requirements to their capital and limitation of such activities by commercial banks, brokers and asset management companies.

The situation on the Russian financial market after February 24, 2022 highlighted high risks of the stock market development strategy based on priority development of a limited number of financial ecosystems based on large state-owned banks and companies. Competition on the financial market could be promoted by legislative measures stimulating competition between investment platforms; creation of the environment for implementation of fintech projects; reduction of administrative barriers for new companies to enter the market; introduction of fiduciary standards of sale of finance and investment products²;

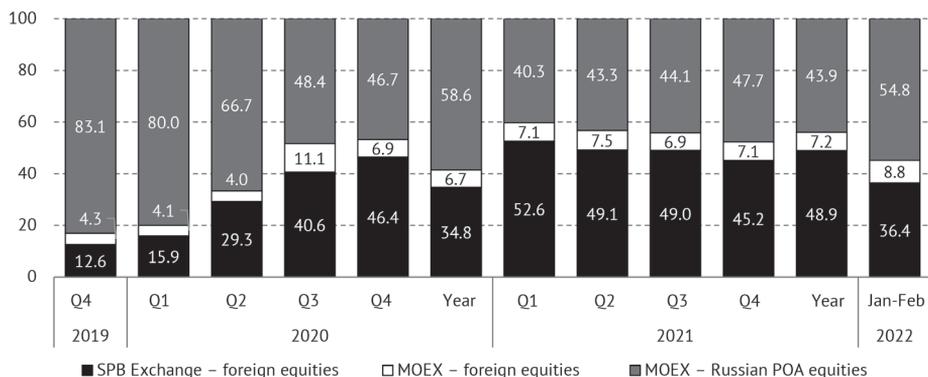
1 The Main Guidelines for the Development of the Financial Market of the Russian Federation in 2022 and in the 2023-2024 Period approved by the RF Central Bank include the latter's 14 projects which compete to some extent with financial services of private financial institutions.

2 These standards imply limitations on financial intermediaries' conflict of interests when selling financial products to customers.

more comprehensive orientation of important infrastructure development projects on the needs of financial intermediaries and their customers.¹

In 2011, the deal on the merger of the MICEX with the RTS was completed and it sped up the development of exchange-related technologies and made it feasible to concentrate liquidity on auction participants' accounts with the integrated clearing and trading center. However, despite the upside of this merger, there were disadvantages in terms of a loss of competition between exchanges; competition used to be a powerful driver of exchange activities and higher efficiency. In 2020–2021, the sped-up development of the St. Petersburg Exchange (SPE) which became the organizer of foreign equity trading made it feasible to restore competition between the exchanges on the equity market. From 2020, the Moscow Exchange started to include foreign issuers' equities in its listing; in its turn the SPE declared its intention to include equities of Russian PAOs.

As shown in Fig. 51, the SPE's share in the domestic spot market of Russian and foreign equities increased from 12.6% in Q4 2019 to 48.9% at year-end 2021. On the back of competition between the exchanges on the market of foreign equities, private investors' investment demand shifted from domestic PAO equities to foreign equities. The share of foreign equities in the overall volume of equity trading on both Russian exchanges increased from 16.9% in Q4, 2019 to 56.1% at year-end 2021. In January-February 2022, amid increased operations of non-residents and private investors with Russian equities, the share of foreign equities in stock trading fell to 45.2%.



Note. On-exchange equity volumes include market transactions and negotiated deals.

Fig. 51. The shares of the Moscow Exchange (MOEX) and the Saint-Petersburg Exchange (SPB-Exchange) in the overall volume of stock exchange equity transactions, %

Source: own calculations based on the data of the Moscow Exchange and the Saint-Petersburg Exchange.

1 On development of investment platforms and fintech, see: A. Abramov. To Stake Out a Platform // Expert. October 28– November 3, 2019. Issue No.44. pp. 64–68.

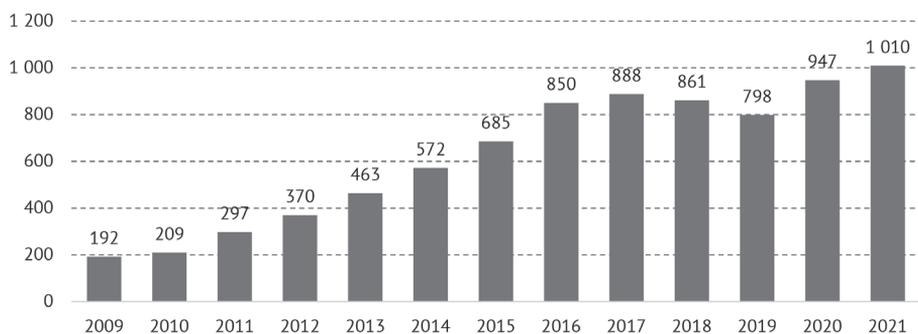


Fig. 52. The overall auction volumes of all instruments at the Moscow Exchange, 2009–2021, trillion rubles

Source: own calculations based on the data of the Moscow Exchange.

Over the past years, the Moscow Exchange sought to realize its advantages on the market in terms of a universal organizer of auctions of various financial and investment assets. In 2021, the overall volume of stock trading in all financial instruments exceeded Rb1 quadrillion. Overall volumes of stock trading increased from Rb947 trillion in 2020 to Rb1010 trillion in 2021 or by 6.6% (*Fig. 52*).

The model of a universal exchange forms some risks which reduce market-based incentives in development of some or other segments which do not yield a high exchange fee income. At present, this is observed in equity and futures markets' becoming less prominent in the overall exchange trading volumes. In 2010-2018, the equity market share in the overall exchange trading volume decreased from 13.2% to 4.4% and then it began to increase again, but failed to recover to the former level (*Table 10*). In 2021, it was equal to 5.2%. The share of the futures market was growing more dynamically; it increased from 9.5% in 2017 to 15.7% in 2021.

Table 10

The pattern of the Moscow Exchange market, 2010 – March 2022, %

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Jan.-Mar. 2022
Stock market	13.2	10.3	6.5	5.2	3.6	3.0	2.8	4.0	4.7	5.1	5.8	5.2	3.5
Including:													
Equities, RDR and equity units	8.0	6.6	3.1	1.9	1.8	1.4	1.1	1.0	1.3	1.6	2.5	3.0	2.7
Bonds	5.2	3.7	3.4	3.3	1.9	1.6	1.7	3.0	3.5	3.5	3.2	2.2	0.8
Secondary bidding	3.4	2.9	2.8	2.7	1.5	1.2	1.1	1.2	1.2	1.3	1.2	1.0	0.5

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Jan.-Mar. 2022
Offerings market	1.8	0.8	0.6	0.6	0.3	0.4	0.6	1.7	2.3	2.2	2.1	1.2	0.3
Forex market	72.0	70.6	80.0	84.3	85.6	83.3	83.6	86.5	84.8	84.5	80.5	78.9	85.9
Including:													
Money market	33.9	41.3	48.3	50.7	45.7	38.0	44.8	47.3	44.3	45.9	45.7	47.2	56.1
REPO operations	31.5	38.3	45.8	44.8	32.0	26.4	34.8	38.3	36.0	36.7	40.0	41.5	46.4
Lending market	2.4	3.1	2.5	2.8	3.7	4.8	4.4	4.2	6.3	6.7	5.0	5.5	8.4
Currency market	38.1	29.3	31.6	33.7	39.9	45.4	38.8	39.2	40.5	38.6	34.7	31.7	29.8
Spot deals	18.0	15.8	16.6	12.4	13.6	15.1	12.6	8.8	10.1	8.4	10.2	9.4	8.9
Swap deals	20.1	13.4	15.0	21.3	26.3	30.3	26.2	30.3	30.4	30.2	24.5	22.2	20.9
Futures market	14.8	19.1	13.5	10.5	10.7	13.7	13.6	9.5	10.4	10.3	13.7	15.7	10.3
Derivatives financial instrument (DFI)	0.0	0.0	0.0	0.0003	0.0002	0.001	0.002	0.01	0.1	0.1	0.1	0.3	0.4
Commodity market	0.001	0.003	0.006	0.005	0.003	0.02	0.02	0.01	0.02	0.01	0.01	0.02	0.01
Total	100	100	100	100	100	100	100	100	100	100	100	100	100

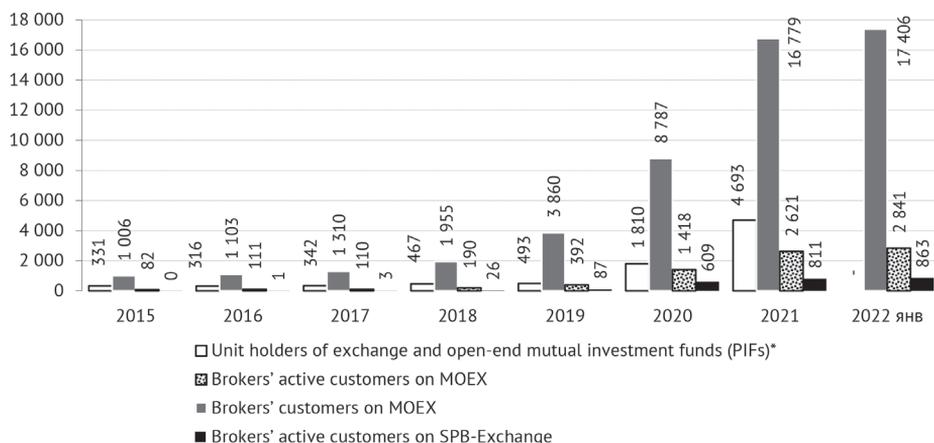
Source: own calculations based on the data of the Moscow Exchange.

3.1.12. Investors

Private investors

In 2019–2021, the mass influx of private investors was an important event on the financial market. As shown in *Fig. 53*, the overall number of investors' brokerage accounts with the Moscow Exchange increased from 2.0 mn accounts in 2018 to 17.4 mn accounts in January 2021¹, that is, 8.7 times over. The number of customer's active brokerage accounts, in which at least one transaction a month was carried out, increased over from 190,000 accounts to 2,841,000 accounts or 15.0 times over during the same period at the Moscow Exchange; at the SPB-Exchange the number of active customers grew from 26,000 customers to 863,000 customers or 33.2 times over. Also, the number of unit holders of market mutual investment funds (PIFs) increased markedly from 467,000 unit holders in 2018 to 4,693,000 in 2021 or 10 times over.

¹ As a result of sanctions introduced against large Russian financial companies (these sanctions brought about a considerable restructuring of some brokers' customer bases), the Moscow Exchange has stopped publishing since February 2022 the data on its website on the number of accounts opened with different financial institutions.



*The data on the number of market unit holders of mutual investment funds (PIFs) in January 2022 is not available.

Fig. 53. The number of management companies' market retail customers and brokers at the Moscow Exchange and SPB-Exchange

Source: own calculations based on the data of the Moscow Exchange, SPB-Exchange and Expert RA.

The main drivers of the influx of millions of new private investors to the equity market were as follows: a decrease in the key interest rate of the RF Central Bank until March 2021; lower investment appeal of bank deposits; new technologies making investors' access easier to deals with risky assets (investment platforms of the Tinkoff-Bank, the Sber, the VTB and other banks); large retail banks' aggressive marketing of brokerage services; more free time at the disposal of individuals during the pandemic; an upturn in households' saving ratio amid unstable cash incomes.

According to the statistics of the RF Central Bank, in 2021 individuals' account balances with depositories and brokers were equal to Rb12.9 trillion in terms of investments in brokers' cash funds, debt securities, equities of Russian and foreign companies and equity units of Russian and foreign investment funds, including participation units in closed PIFs (Fig. 54). By contrast with 2018, the volume of households' specified financial assets increased 2.9 times over. Equities (Rb5.7 trillion), participation units (shares) of mutual investment funds (Rb3.3 trillion), debt securities (Rb2.9 trillion) and cash balances with brokers (Rb1.0 trillion) dominated in households' portfolio.

According to the data published by the RF Central Bank,¹ in 2021 Rb8.3 trillion worth of investments in securities were in accounts of 20.2 mn private customers (Table 11). Specifically, the distribution of clients' assets was rather uneven: out of 20.2 mn customer accounts 12.7 mn accounts or 63.0% were empty, in another 4.0 mn accounts (20.0%) the value of assets did not exceed Rb10,000, while in

1 URL: https://www.cbr.ru/securities_market/analytics/

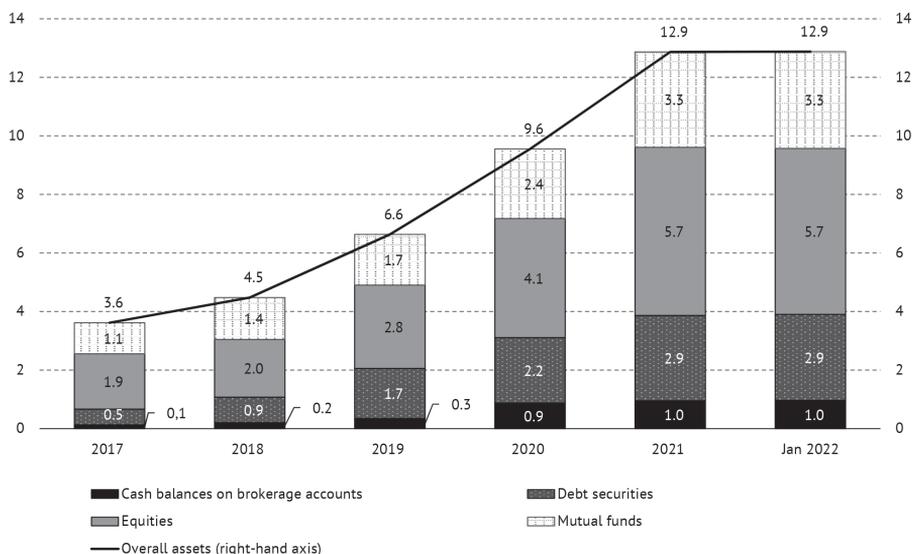


Fig. 54. The value of households' financial assets on the equity market, December 2017 – January 2022

Source: Own calculations based on the RF Central Bank's data on household savings.

Table 11

Distribution of the number of private investors and the value of clients' assets by the size of clients' brokerage accounts in 2021

Size of brokerage accounts	Distribution by:			
	Number of clients		Value of customer portfolio	
	Thousand persons	share, %	Billion Rb	share, %
From Rb6 mn and more	0.2	1.0	6151	74.1
From Rb1 mn to Rb6 mn	0.4	2.0	1411	17.0
From Rb100,00 to Rb1 mn	1.4	7.0	664	8.0
From Rb10,000 to Rb100,000	1.4	7.0	66	0.8
Up to Rb10,000	4.0	20.0	8	0.1
Empty accounts	12.7	63.0	0	0
Overall	20.2	100	8300	100

Source: own calculations based on the data of the RF Central Bank's Reviews of Key Performance of Professional Securities Market Participants, No. 4, 2021.

1.4 mn accounts (7.0%) it varied from Rb10,000 to Rb100,000. If it is believed that accounts with assets worth over Rb100,000 have a sufficient investment and diversification potential, then it turns out that there were only 2 mn such accounts or 10% of the overall number of private investors' brokerage accounts in 2021.

As regards assets value, only 1% of accounts of brokers' wealthiest clients accounted for 74.1% of the value of all customers' assets. Customer accounts with real investment potential (assets worth over Rb100,000) making up only 10.0% of the overall number of brokerage accounts accounted for 99.1% of the value of all clients' assets.

The above statistics brings into question in some sense a widespread idea about a mass influx of private investors to the stock market. In reality, 90% of individuals' brokerage account balances are not sufficient enough to diversify financial investments, while the share of assets in such accounts in the overall value of individuals' assets with brokers is equal to the mere 0.9%. Opening by millions of individuals of empty brokerage accounts or accounts with a symbolic asset value is the result of some large retail banks' aggressive marketing. Implicitly, it involves risks of misselling and touting of useless financial services and products to individuals.

Active marketing aimed at prompting individuals to open as many brokerage accounts as possible started in 2018 when the Tinkoff-Bank entered the equity market as an independent player (Fig. 55). Other competitor-banks (the Sber, the VTB and the Otkrytie) took advantage of new technologies to attract customers on the equity market, thus giving further impetus to growth in brokers' customer base.

As of January 2022, three large banks – the Tinkoff-Bank, the Sber and the VTB – accounted for 59.4% of registered brokerage accounts of which the leader, Tinkoff-Bank, accounted for 32.3% of registered brokerage accounts. The number

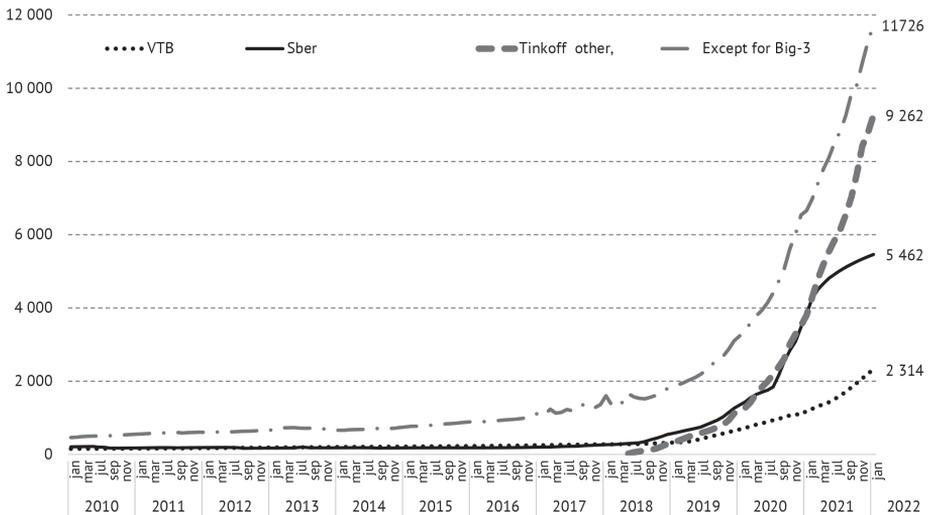


Fig. 55. The number of clients' registered (non-unique) brokerage accounts on the Moscow Exchange with top-3 brokers, thousand accounts

Source: own calculations based on the data of the Moscow Exchange.

of brokerage accounts maintained with this bank increased from 286,000 in 2018 to 9.3 mn in January 2022 or 32.4 times over.

Business related with active clients' account maintenance is even more concentrated (*Fig. 56*). The Tinkoff-Bank, the Sber and the VTB account for 94.3% of the overall number of accounts, with the Tinkoff-Bank being the leader (69.9%). The number of active brokerage accounts maintained with the Tinkoff-Bank increased from 33,000 accounts in 2018 to 2.0 mn accounts in January in 2022 or 60.9 times over.

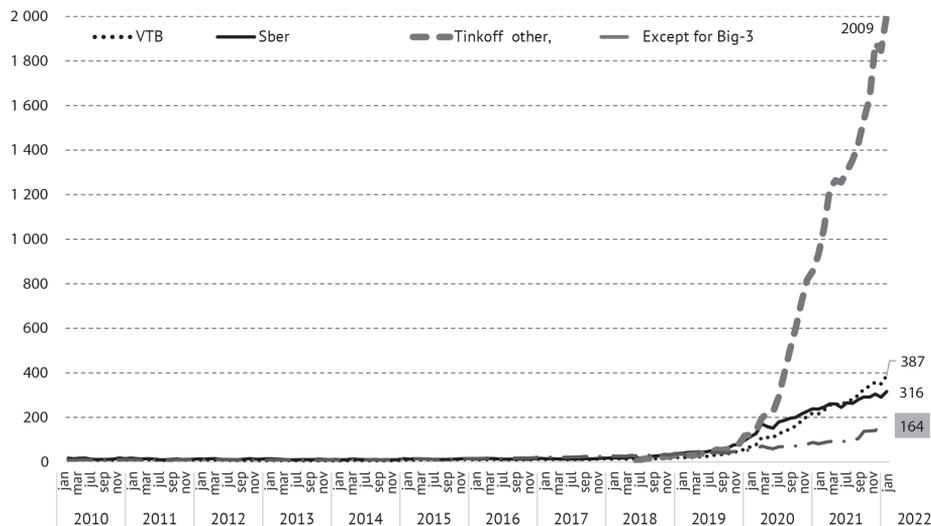


Fig. 56. The number of customers' registered brokerage accounts with Big-3 brokers at the Moscow Exchange, thousand accounts

Source: own calculations based on the data of the Moscow Exchange.

Individual investment accounts (IIA) with personal income tax privileges and no serious limitations on investment of funds from these accounts have become an important development in the private savings sector in the past seven years. According to the data of the Moscow Exchange, as of January 2022, the number of brokerage IIAs was equal to 5.0 mn accounts (*Fig. 57*). Growth in the number of brokerage IIAs was driven by banks carrying out brokerage operations. From December 2018 till January 2022, their share in the overall number of specified accounts increased from 73.9% to 89.3%, while the share of brokers – non-banking financial institutions – fell from 24.8% to 10.1%.

The Tinkoff-Bank, the Sber and the VTB accounted for 83.5% (including the Sber's 43.3%) of the overall number of accounts in the IIA-servicing business (*Fig. 58*). The number of IIAs with the Sber increased from 291,000 accounts in 2018 to 2.1 mn accounts in January 2022 or 7.4 times over.

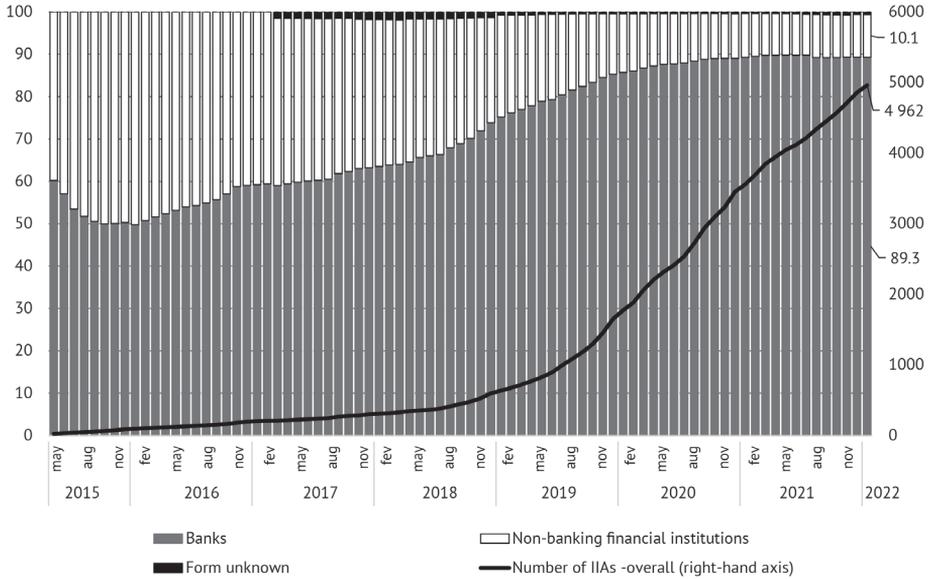


Fig. 57. The overall number brokerage individual investment accounts (IIA), May 2015 – January 2022, thousand accounts.

Source: own calculations based on the data of the Moscow Exchange.

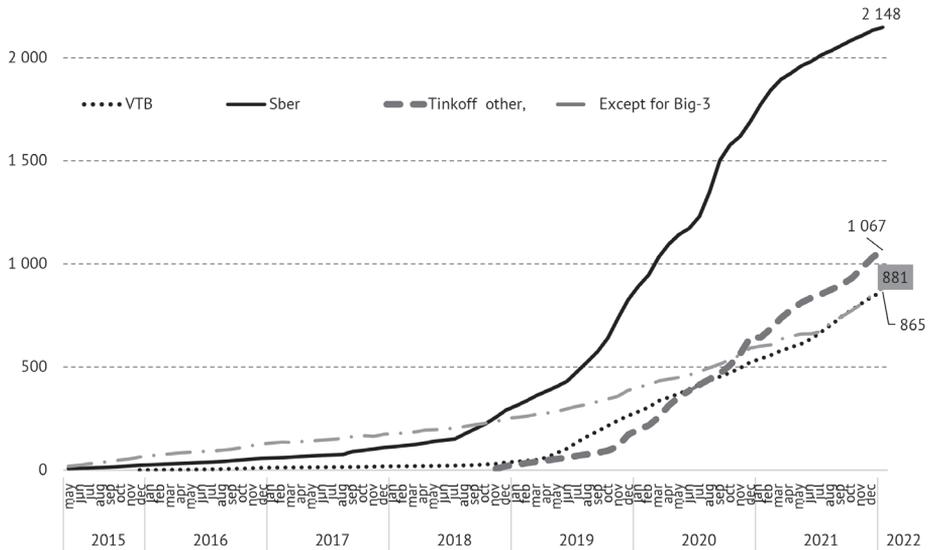


Fig. 58. The number of brokerage IIAs with top-3 brokers, thousand accounts

Source: own calculations based on the data of the Moscow Exchange.

The existing IIAs have not become yet an instrument of long-term savings; assets in such accounts are much lower than in classical brokerage accounts and trust management accounts. However, IIA owners paid more attention to instruments making it feasible to better diversify the portfolio and protect it from risks of ruble volatility. Also, increased demand for collective investment effective products, primarily, index ETFs, as well as exchange-traded and index PIFs was driven by growth in IIAs.¹

Domestic instructional investors

In 2021, the influx of private investors' funds to the equity market made up partially for the outflux of non-residents' funds on the back of sanctions introduced in June 2021 and global investors' expectations of tightening of the monetary policy both in the US and the EU. In March 2022, after opening up of Russian exchange auctions in securities, private investors have become the main players on the equities and derivatives market.

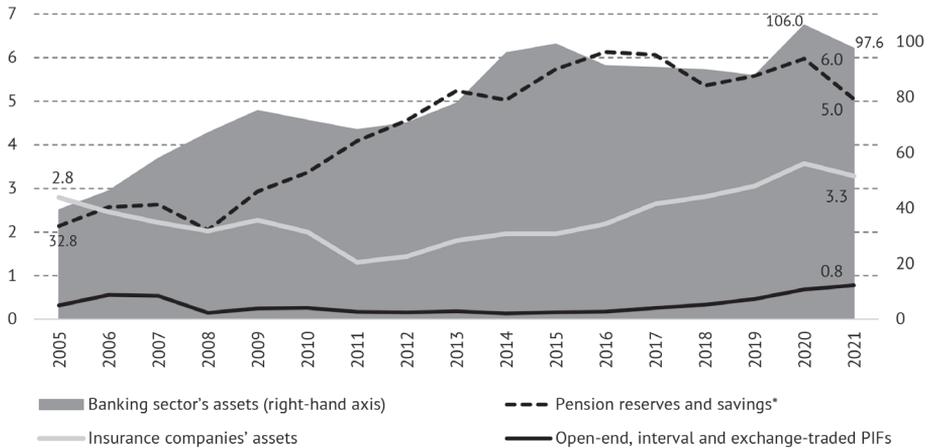
In 2021, the sector of domestic pooled investments saw no breakthroughs. PNFs' and asset managers' pension savings growth was constrained because of the "freezing" of the mandatory pension savings system starting from 2014. The financial regulator failed to create alternative corporate and individual pension plans.

In 2021, growth in the value of assets of most institutional investors, except for PIFs, lagged somewhat behind GDP growth rates; as a result, the share of specified assets in GDP decreased. As shown in *Fig. 59*, the share of banking assets in GDP decreased from 106.0% in 2020 to 97.6% in 2021. The share of pension savings and GDP reserves fell from 6.0% to 5.0%, the share of insurers' assets decreased from 3.6% to 3.3%, while the share of net assets of open-end, interval and exchange-traded PIFs in GDP increased from 0.6% to 0.8%.

In 2021, an upturn in the RF Central Bank's interest rate which brought about automatically a decline in the market value of the earlier bought bonds had an impact on depreciation of assets of banks, NPFs and insurers which traditionally had substantial assets in terms of fixed income instruments. At the same time, advanced growth in net assets of marketable PIFs was related with a substantial share of high-yield equities in their assets in 2021. In addition, a substantial growth driver of pooled investments was the sector of exchange-traded and open-end index-linked PIFs which are in high demand with private investors.

As shown in *Fig. 60*, the value of net assets of exchange-traded PIFs increased from Rb86 bn in 2020 to Rb213 bn in 2021 or by 147.7%; over the same period the value of traditional index-linked open-end PIFs grew from Rb79 bn to Rb164 bn or by 107.6%. Over the same period, the overall value of net assets of open-end PIFs increased from Rb666.1 bn to Rb921.2 bn or by 38.2%. It means that advanced

1 The need to form such synergy of savings accounts, PIFs and exchange-traded funds is justified in the monograph: *A.E. Abramov. Institutional Investors in the World: The Specifics of Activities and Policy of Development: in two books. Book 2 / Scientific editor A.D. Radygin. Moscow: The Delo Publishing House, RANEPa, 2014.*



* In calculating pension reserves and savings, the value of pension savings and reserves with the NPF was estimated as of Q3 2021.

Fig. 59. The share of bank assets (% , right-hand axis), pension reserves and savings, insurance companies' assets and the value of net assets of open-end and interval PIFs (% , left-hand axis) in Russian GDP in 2005–2021

Source: own calculations based on the data of the RF Central Bank, the Pension Fund of the Russian Federation and the Rosstat.

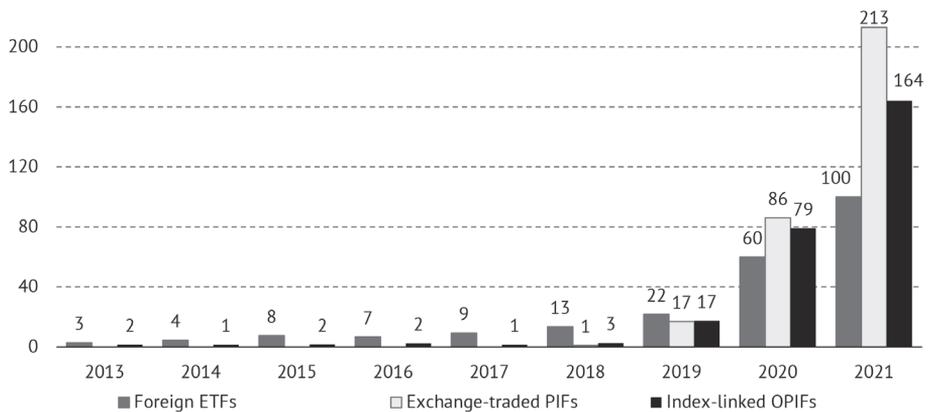


Fig. 60. The value of net assets of index-linked investment funds in the Russian Federation, billion Rb

Source: own calculations based on the data of the RF Central Bank, Investfunds.ru and the Moscow Exchange.

growth rates of different types of index-linked PIFs were almost 2.5 times higher than those of assets of classical mutual investment funds.

The year 2021 saw appreciation of the value of exchange-traded funds (ETF), registered in the EU jurisdiction with equities marketable on the Moscow Exchange; their net assets value amounted to Rb100 bn. However, sanctions of February-March 2022 limiting non-residents' operations in Russia led to the freezing of their operations with units (equities) of the specified investment funds with Russian brokers because of the EU's bans on rendering financial services and sale of financial instruments to Russian investors. This case highlighted high relevance of transaction risks in case of Russian investments into foreign financial assets. In future, such risks should be insured within the framework of establishment of the system of individuals' guaranteed investments with brokers. This challenge is relevant not only in case of investments in foreign ETFs, whose equities are marketable on Russian exchanges, but also in case of any investments by Russian individual-residents in foreign issuers' financial instruments.

When investing in mutual investment funds, private investors' behavior is procyclical: a fall in base stock indices brings about sales of units of mutual funds, while in case of index growth, an influx of new investments. As a result, private investors increase volatility of equity and bond prices. As shown in *Fig. 61*, sharp growth in the RTS index during recovery from the coronavirus pandemic in April 2020 – October 2021 gave rise to a substantial influx of private investors' funds into equities of open-end PIFs. On the back of increased geopolitical risks and

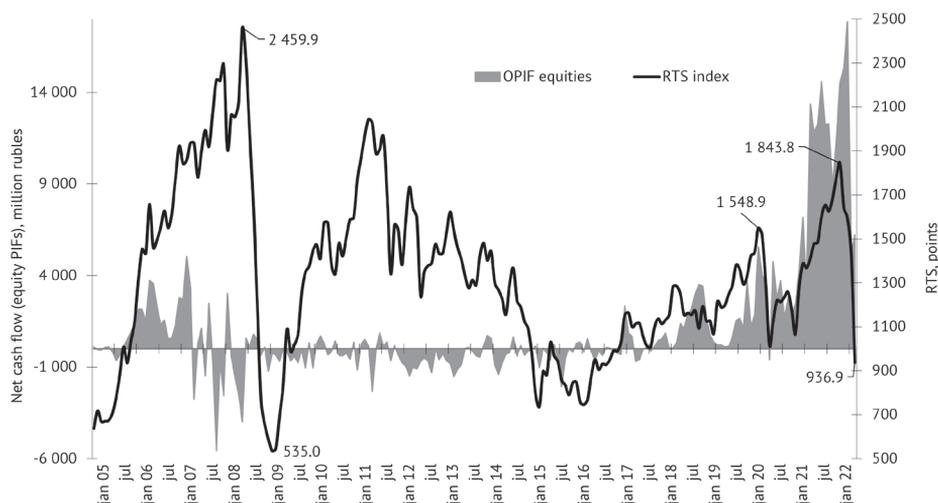


Fig. 61. Investors' monthly net cash flows in open-end PIF (OPIF) equities (billion rubles, left-hand axis) and the RTS index in points (right-hand axis), January 2005 – February 2022

Source: Own calculations based on the data of Investfunds.ru and the Moscow Exchange.

an upturn in the key interest rate, a dramatic fall in the index in January-February 2022 led to a three-fold decrease in the influx of new investments in these funds.

Interestingly, in 2021 the net influx of private investors' funds – which accrued total is calculated from December 2004 – into open-end PIF equities surpassed in US Dollar terms the relevant indicator of the influx of investments in foreign funds of Russia-EMEA-Equity specializing in investments into Russian issuers' equities (Fig. 62), thus becoming a notable development in the pooled investments segment. Over 14 years, the overall influx of investments in Russian PIF equities amounted to \$2.9 bn, while in Russia-EMEA-Equity funds, to the mere \$0.7 bn. At the peak of popularity of investments in equities of Russian companies in April 2011, the net influx of private investors' investments into the funds of Russia-EMEA-Equity amounted to \$14.1 bn, however, over the next 10 years foreign investors were mainly withdrawing from those funds. In 2021, the overall value of net assets of foreign funds was equal to \$11.5 bn, while the relevant indicator of Russian open-end PIF equities, to the mere \$4.5 bn.¹ To some extent, this trend is symbolic and shows that the role of domestic savings and investors in the development of the market of Russian issuers' securities should be enhanced.

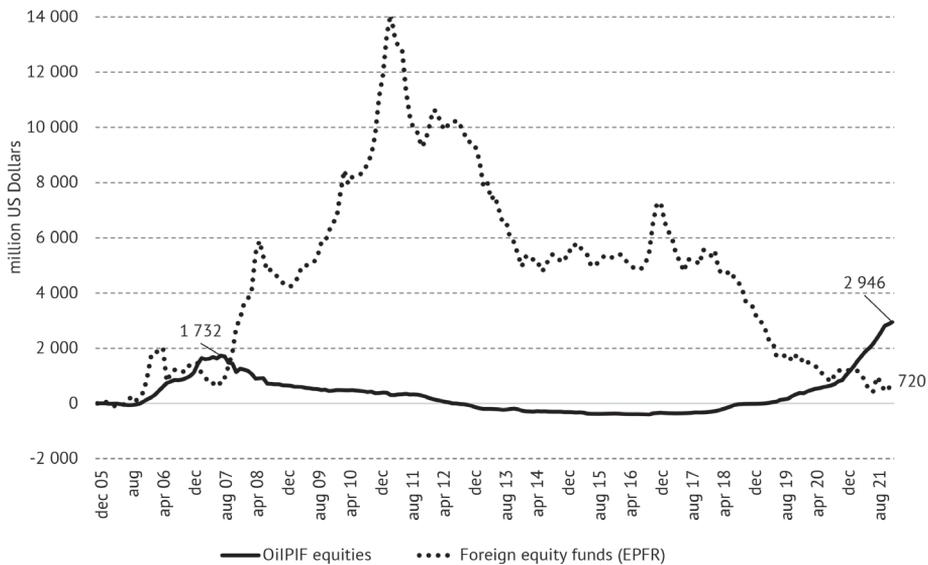


Fig. 62. Investors' net cash flows into open-end and interval PIF (OilPIF) equities and foreign funds of Russia-EMEA-Equity specializing on equities of Russian companies, accrued total, million US Dollars (December 2004 = 0), December 2004 – February 2022

Source: Own calculations based on the data of Investfunds.ru and Emerging Portfolio Fund Research (EPFR Global) web resource. URL: <https://www.epfrglobal.com/>

¹ More information on the strategy of these funds' investments using the example of Russia, see: A. Abramov. Differences in the Behavior of Domestic and Foreign Private Investors on the Russian Equity Market // Russia's Economic Development. 2014. No. 11.

So, in 2021 with stagnation of the system of pension savings and reserves because of an undecided fate of funded pensions, pooled investments in terms of mutual funds demonstrated strong growth. The importance of development of domestic institutional investors consists in the fact that in most countries with a successfully developing financial market, pension funds and mutual funds play a key role in the domestic system of long-term savings. In Russia, the level of development of such institutions is quite moderate, thus complicating capitalization growth, regular IPO-SPO of equities, maintenance of liquidity on the stock market of equities and bonds and sustainable futures market growth. In new geopolitical realities, demand for securities of Russian issuers is most likely to be based on domestic investors. For this reason, the creation of the proper environment for accelerated development of institutional investors should become a priority of the Russian financial market development strategy.

Foreign investors

The domestic financial market became isolated from the global one because of the sanctions which followed after February 24, 2022. Non-residents are not allowed to buy Russian issuers' equities and bonds on the domestic market and sell securities which they own. Russian issuers are limited in placing securities on global markets. In the coming months and years, the domestic financial market will have to readjust to demand of domestic private and institutional investors, as well as banks.

By our estimates, in 2021 the overall investments of foreign portfolio investors in equities and bonds of Russian issuers amounted to \$140 bn of which equity investments accounted for about 60% (\$86 bn). For comparison: Russian private investors' investments into equities and bonds were equal to about \$80 bn. Overall, if resources of non-financial companies and financial entities which funds wealthy individuals can return from abroad are taken into account, the domestic market volume is sufficient enough for efficient functioning of the financial market. Government measures aimed at supporting domestic investors and facilitating institutional investors growth become increasingly important.¹

By estimates of experts of the Wall Street Journal, in 2020 the shares of individuals in equity trading volumes at the Shanghai Stock Exchange, China and the South Korean Stock Exchange² were equal to 80% and 84%, respectively, which data proves that national equity markets can potentially function owing to funds of primarily domestic private investors.

The reorientation of the domestic equity market from dependence on foreign portfolio investors to domestic demand is a trend which is typical of many emerging markets. This is evidenced by the statistics of cash flows of foreign funds

1 For more information, see: A.E. Abramov, A.D. Radygin, M.I. Chernova. The Russian Stock Market: Trends, Challenges and Guidelines for Development // The Voprosy Ekonomiki. 2021. Issue No.11. pp. 5–32.

2 Osipovich A. Individual-Investor Boom Reshapes U.S. Stock Market // The Wall Street Journal online. 31 August 2020. URL: <https://www.wsj.com/articles/individual-investor-boom-reshapes-u-s-stock-market-11598866200>

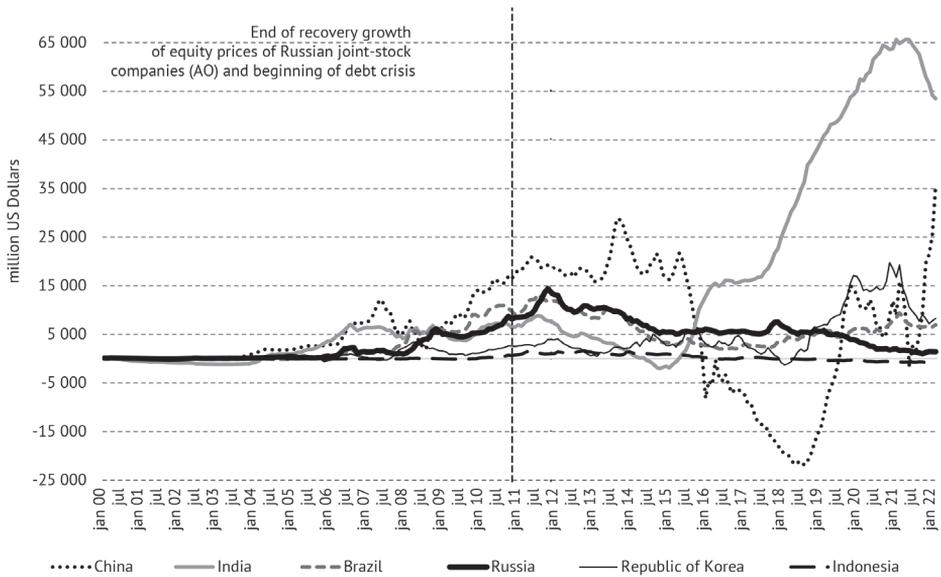


Fig. 63. Accumulated cash flows of foreign investment funds specializing on investments in equities of some or other countries with emerging markets, January 2000 – February 2022

Source: Own calculations based on the data of EPFR.

specializing in investments in equities of some or other emerging economies.¹ As seen from the data in *Fig. 63*, the Russian equity market encountered the mass outflow of foreign funds as far back as the mid-2011. Comparison with other five large emerging equity markets – Brazil, India, China, South Korea and Indonesia – reveals that mostly all of them encountered a similar phenomenon at that time.

In 2021, foreign investors withdrew from Russia-EMEA-Equity funds \$0.76 bn as compared with \$0.32 bn in 2020. Investors have been steadily withdrawing from Russia-EMEA-Equity funds since the mid-2011; this behavior reflects their pessimism about investments in equities of Russian companies. It is noteworthy that an influx of \$286 bn worth of investments in these funds was observed only in January-February 2022.

* * *

In 2021 and early in 2022, the following major trends prevailed on the Russian financial market.

¹ Though these funds are not the largest foreign portfolio investors, specialization of their investments in equities of some or other countries is an important indicator of attitude of a larger range of foreign investors to these financial investments.

Amid economic recovery after the pandemic and the influx of foreign-exchange revenues in 2021, Russian stock indices demonstrated high yield and moderate risks. Risk premiums, particularly Damodaran risk premium, used in assessment of Russian equity prices hit record-low values, thus driving up equity prices. Equity market growth was underpinned by a stable macroeconomic situation, companies' and banks' record-high profit, equity issuers' active dividend policy, an influx of private investors' funds and pooled investments growth.

The main domestic market challenges surfaced most commonly on mid-term and long-term time horizons. As regards yield and risks criteria of Russian equities, on specified horizons Russian equities were inferior to most stock markets, as well as income of long-term bonds of Russian issuers. Over the entire period of its existence, the Russian market regularly passes through recessions which in academic literature are referred to as "black turkeys". An unstable foreign exchange rate has reduced efficiency of long-term domestic savings strategies. The equity market encounters regularly challenges, such as a low influx of new issuers to the stock market, limited liquidity of securities, high concentration of a trading activity on equities of a few large issuers from the fuel and energy sector and banks and regular capital flight of foreign portfolio investors.

Also, a low capacity of the domestic equity market (capitalization, the number of companies in the listing, stock exchange liquidity, volumes of IPO-SPO deals and other) is a serious challenge reducing the influence of the equity market on the economy and impeding the solution of social issues.

In 2021, the domestic bond market was growing less aggressively than in the previous years because of an upturn in the key interest rate in March and the US ban introduced in June on US investors' purchases of Russian government securities. A pickup in revenues and cash flows of large Russian companies made it less interesting for them to issue new bonds. It is noteworthy that the activities of "second-tier" issuers increased considerably on the corporate bond market. With moderate activity of private investors on the bond market and insufficient level of development of domestic institutional investors, the bond market liquidity remained low, while the role the money market in terms of REPO deals increased.

Early in 2022, the trend of inversion of yield curves started to take shape when the yield of short-term borrowings surpassed that of long-term ones and this is often viewed as an effective predictor of oncoming economic recession.

In 2021, the financial mediation sector was characterized by a low level of competition between financial entities and slower growth in assets of banks, the NPF and insurance companies as compared with GDP growth.

In 2020–2021, stock markets saw a mass influx of investors. The number of individuals' registered customer accounts with brokers at the Moscow Exchange alone exceeded 17 million accounts. Households have serious investment potential on the equity market, but private investors' assets are distributed rather unevenly, while out of the bulk of brokers' customers only 2 mn customers have a real investment potential with assets worth Rb100,000 and more in their accounts.

Changes which took place in February 2022 create new realities for operation of the financial market both at present and in future. With closure of the domestic

equity market for non-residents, restrictions on Russian companies' and individuals' cross-border operations with foreign-exchange, exit from Russia of numerous foreign companies and banks and introduction of sanctions on trading operations by Russian companies, the domestic equity market can rely in short-term only on domestic investors' funds. Along with other factors, restrictions applied to bond issuers in refinancing of their debt increase risks of corporate defaults.

This challenge suggests implementation of an effective policy of adjusting the financial market and its participants to new realities and difficulties, while in future, an in-depth development policy aimed at facilitating growth based primarily on domestic potential should be elaborated. Late in 2021, the RF Central Bank approved the "Main Guidelines for the Development of the Financial Market of the Russian Federation in 2022 and in 2023 and 2024", as well as other development strategies in terms of focused reports on various lines of financial markets' activities. The RF Ministry of Finance prepared the draft of "the Financial Market Development Strategy of the of the Russian Federation till 2030" meant to facilitate a close networking between the RF Government and the RF Central Bank in developing the financial market and strengthening its ties with the government's economic and social policies. These documents aroused great interests in professional and investment communities. With new realities which emerged in 2022 taken into account, these documents can be further elaborated in order to become a reliable platform for maintaining stability and subsequent development of the financial market.

3.2. Banking sector¹

3.2.1. Key indicators and financial performance of the banking sector

At the end of 2021, the Russian banking system boasted of 370 credit institutions. A year earlier, their number constituted 406. During the year, the number of active credit institutions decreased by 36. The number of license revocations amounted to 26, voluntary revocation of licenses – 11. The number of banks with a universal license at the end of the year stood at 232 banks (248 at the beginning of the year), and with a basic license - 103 banks (118 at the beginning of the year). The number of non-bank credit institutions dropped by 5 to 35 (*Fig. 64*)

The reduction in the total number of credit institutions was accompanied by the consolidation of the banking sector – in 2021, there was an increase in assets, own funds and profits. Due to the rapid economic recovery, last year total assets of credit institutions gained 15.9% (in 2020 the increase amounted to 16.5%), banks' own funds went up by 12.2% (in 2019 – by 11.3%). Thus, the growth rates of assets and capital approximately remained at the level of the previous year.

¹ This section was written by: Zubov S.A., Candidate of Economic Sciences. Senior Researcher, Structural Studies Department, IAES RANEPa.

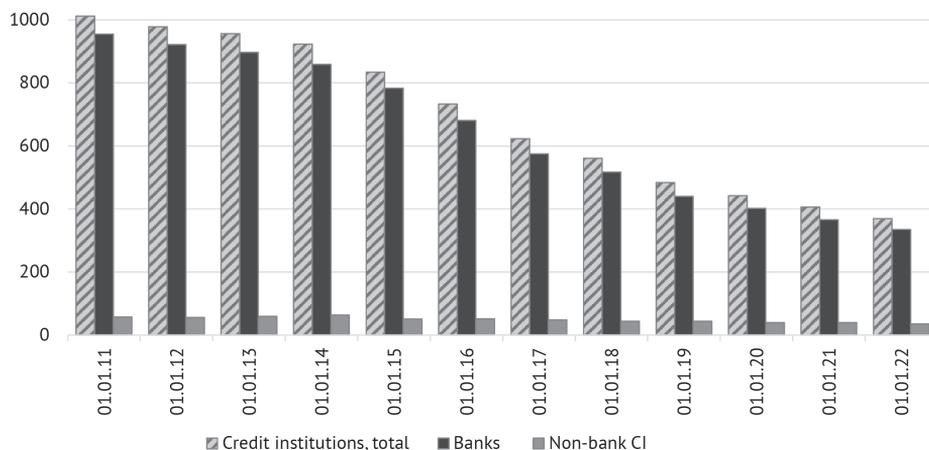


Fig. 64. Dynamics of the number of credit institutions over the last 11 years

Source: Bank of Russia.

As of January 1, 2022, the aggregate profit of the banking sector amounted to Rb2,362.9 bn (in 2020 – Rb1,608.1 bn), at the end of 2021, the number of profitable banks came to 84% (in 2020 – 80%). At present, approximately 20% of the sector (of the total number) consists of loss-making banks and banks with low operating efficiency, which are in the default zone and, in all likelihood, most of them will cease to exist as credit institutions during 2022.

Throughout the year, banks maintained a high level of profit (around Rb200 bn monthly). At the end of the year, the stock market crisis significantly adjusted the volume of bank profits downward (*Fig. 65*).

On the whole, Russia’s banking sector was prepared for a long-term crisis largely thanks to the stabilization policy of the Central Bank of Russia implemented in recent years. Maintaining a high level of liquidity, liquidation of insolvent banks, as well as increased requirements to the quality of banking products and services by implementing the Basel standards made the domestic banking system more resilient. Increased business volumes and high transactional activity in the context of economic recovery contributed to the growth of positive financial performance of banks.

Profit upsurge has significantly exceeded the growth of assets and capital, which affected the growth of bank profitability: at the end of 2021, ROA¹ constituted 2.2% (1.4% a year earlier), ROE² – 21.7% (at the end of 2020 – 15.1%). The Russian banking sector remains one of the most profitable in the world, compared to the average return on capital for banks in the U.S. which is 12–13%, and for European banks – 6–8%.

1 ROA (Return on assets) – return on assets, the ratio of net profit to total assets of the credit institution.

2 ROE (Return on equity) – return on equity, the ratio of net profit to equity (capital) of a credit institution.

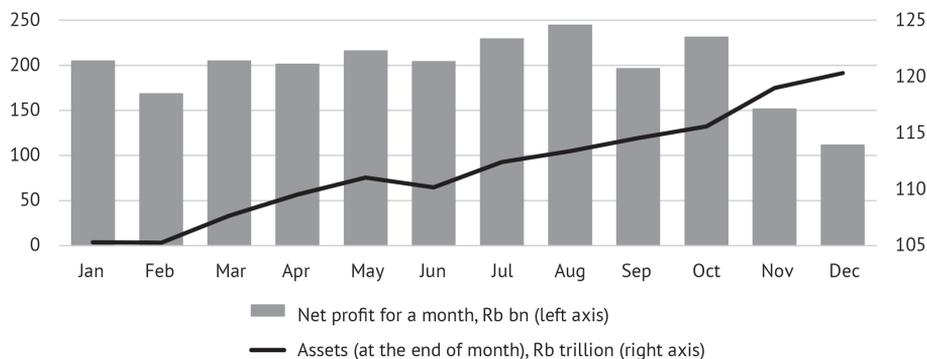


Fig. 65. Net profit (per month, Rb bn) and the volume of total assets of the banking sector (at the end of the month, Rb trillion) in 2021.

Source: Bank of Russia.

The leading banks managed to take advantage of the current situation in different ways. At the end of the year, the top five most profitable credit institutions were the same banks as a year earlier: Sberbank (52.4% of total banking sector profit, annual growth of 58.3%), VTB (10.3%, annual growth of 332.4%), Alfa-Bank (5.7%, annual growth of 14.5%), Gazprombank (3.9%, annual growth of 45.0%) and FC Otkrytie (3.6%, annual growth of 4.4%).

In terms of return on capital, the leaders are small banks and non-bank credit institutions offering a wide range of payment and settlement services, as well as business on marketplaces. The highest return on equity at the end of 2021 demonstrated – NCO Mobile Card (ROE – 395.6%), NCO Settlement Solutions (83.11%), Modulbank (67.5%), NCO Western Union DP East (62.17%), Kiwi Bank (58.0%). These institutions and similar small banks and non-bank credit institutions markedly raised the level of profitability in 2021.

Let's analyze the main components of the net profit of banks in 2021.

Net interest income amounted to Rb4,075.1 bn, or by 15.1% (Rb533.8 bn in absolute terms), exceeding the value of the preceding year (Rb3,541.3 bn). In the context of low interest rates on loans, the growth rate of interest income was not so high: interest income from corporate lending grew over the year by 5.3%, while that from retail loans – by 7.3%. The growth of these indexes was provided by the growth in the volume of loans and the end of favorable conditions for loan restructuring due to the pandemic of rapid economic recovery.

Having said that, low interest rates allowed banks to significantly optimize interest expenses by reducing the rates on term deposits of households and enterprises; the short-term increase in interest rates on open-end and savings accounts in the first half of the year did not affect the overall reduction of interest expenses – interest expenses on accounts and deposits of enterprises fell by 14.4%, and on accounts and deposits of households by 14.7%. Thus, the overall reduction of market rates on attracted resources contributed to the growth of

net interest income. It should be noted that the banks managed to significantly increase fee and commission income on credit operations, thus compensating for the losses from the low interest margin. For example, in 2021 the growth of fee and commission income on corporate loans was 41.6% and on retail loans – 82.7%. This type of income includes fees for services provided when granting loans (for consideration of an application, SMS-notification, credit card service, etc.).

Due to the development of electronic settlement forms and high transactional activity of bank customers, the net fee and commission income from intermediary transactions (money transfers, brokerage services, issuance of guarantees) spiked, growing by Rb252.1 bn to Rb1,536.8 bn by the end of the year under review (Rb1,284.7 bn by the end of 2020), and its annual growth amounted to 19.6%.

In 2021, the most significant contribution to the growth of bank profits was associated with the recovery of reserves. In absolute terms, their total volume decreased by Rb740.9 bn, or 60.1% against 2020, amounting to Rb491.4 bn. The reason behind this phenomenon was the preventive provisioning for potentially high-risk debts during 2020, which was restored in 2021 on the back of the improvement in the overall economic situation, as well as the activity of debt collectors and the possibility of assigning problem loans.

The most significant contribution, reducing the financial performance of banks in absolute terms (for the year – Rb2,568.2 bn), were operating costs associated with the provision of credit institutions. The annual growth amounted to Rb304 bn, or 18.1% (1.4% growth a year ago), while personnel costs rose by 10.0% (2.8% growth in 2020). Thus, the reduction in the number of departments and personnel of banks does not yet give a noticeable positive effect from the introduction of the latest IT-technologies.

The situation on the stock market was not so favorable for the banks. Starting from the Q3, banks faced a negative revaluation of securities due to the growth in yields of OFZs because of the increase in the key rate, as well as owing to the fall of the stock market in Q4. As of the end of 2021, the net income from operations with securities was lower than the expenses on the issued securities. The final negative result of operations with securities amounted to Rb65.2 bn (in 2020 a positive result was registered – Rb115.4 bn).

In the near term, banks will face pressure on margins due to a slowdown in the high-yield unsecured lending sector and the need to raise deposit rates. The situation on the stock market at the beginning of 2022 significantly deteriorated and will remain extremely tense in the context of increased geopolitical risks and sanctions pressure. In February this year, Russian systemically banks proposed the Central Bank of Russia not to take into account the negative revaluation of securities when calculating the capital adequacy ratio, fixing the securities value as of the beginning of the year. The capital reserve (norms H20.0,¹ H20.1² and H20.2³) has remained at a low level recently, forcing banks to curtail their market activities. On February 22, 2022, the Bank of Russia acknowledged the increased

1 H20.0 – Tier I capital adequacy ratio.

2 H20.1 – the basic capital adequacy ratio.

3 H20.2 – capital adequacy (own funds) ratio.

market volatility and announced support measures for Russian banks:¹ until October 1, 2022, banks were entitled not to recognize losses due to depreciation of securities, reporting shares and bonds at their market value as of February 18, 2022. A similar regulatory relief in the recalculation of securities at favorable quotes was used in 2015 amid a sharp increase in the key rate. Also, the regulator allowed credit institutions to use foreign currency exchange rates as of February 18, 2022 when calculating mandatory banking standards until October 1.

It is possible that a new round of geopolitical problems may trigger an increase in financial risks, for which banks will have to raise provisions for possible loan losses. Thus, in the first half of the year one should expect a decrease in the size of profits and the level of profitability of banking activities against the 2021 indexes.

3.2.2. Corporate lending

Economic recovery and the expected increase in interest rates stimulated credit demand from companies during 2021. The quality of the aggregate corporate loan portfolio of banks was improving: the average level of overdue debt was gradually declining, the level of profitability was growing.

As of January 1, 2022, the aggregate corporate credit exposure² to Russian banks reached Rb51.9 trillion. The growth of the corporate credit portfolio over the past year amounted to Rb7.2 trillion or 16.1%, which corresponds to the growth in total bank assets (15.9%). A year earlier, the corporate loan portfolio of Russian banks went up by Rb5.8 trillion or 14.8%. Since the high rates of the previous year were due to the currency revaluation and the state stimulation of concessional lending, we can conclude about the growth of corporate lending resulting from the improvement of the business climate in the business environment in 2021.

Since the beginning of 2021, ruble portfolio of corporate loans grew by 19.8% to Rb39.7 trillion, which exceeds the growth rate of 2020 – 11.4%. The share of ruble loans in the total loan portfolio remained virtually unchanged – 76.4%. The foreign currency portfolio in 2021 grew insignificantly by 5.3%, while in the previous year there was a spike of 25.5%, due to the depreciation of the ruble.

Loan growth, as well as higher interest rates and the introduction of a variety of bank commissions has a positive effect on the growth of bank revenues from corporate lending. After their level fell in 2019–2020 on the back of a decline in interest rates, in 2021 there was a clear change in the trend (*Fig. 66*). Also, the growth of bank revenues was due to the subsidization of loans provided under preferential government programs.

The level of outstanding debt during 2021 decreased both in absolute and relative terms. According to data reported for January 1, 2022, the volume of overdue debt on corporate loans amounted to Rb2.9 trillion, having declined over the year by Rb231.2 bn, or by 7.3%. Having said that, the ratio of outstanding debt to the total portfolio of corporate loans has also dropped from 7.1% to 5.6%. Thus, most Russian banks have generally adequately assessed the creditworthiness of their clients and managed to employ various mechanisms for dealing with bad

1 URL: <https://rg.ru/2022/02/22/bank-rossii-obiavil-o-merah-podderzhki-rynka.html>

2 With loans to non-financial and financial organizations, as well as individual entrepreneurs.

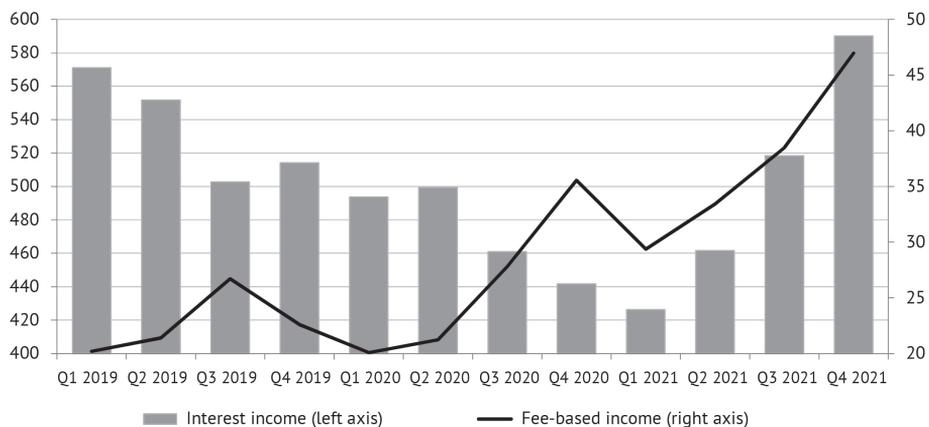


Fig. 66. Interest and fee-based income of the banking sector from corporate lending in 2019–2021, Rb bn

debts (reassignment to collectors, sale of collateral, use of insurance instruments, etc.). In general, the formed loan loss provisions covered bad loans by about 75% and do not represent a significant risk

The sectoral structure of corporate loans did not undergo significant changes compared to the previous year. The leaders in terms of the volume of loans attracted are the following industries: “Financial and Insurance Activities” (Rb41.0 trillion, or 47.9% of total loans), “Wholesale Trade, except for wholesale trade in motor vehicles and motorcycles” (Rb14.3 trillion, or 18.7%) and “Manufacturing Activities” (Rb10.5 trillion, or 13.8%).

The most significant increase in the volume of loans was recorded in the following industries: “Professional, scientific and technical activities” (an increase of 55.4%), “Provision of other services” (an increase of 42.2%), “Mining and quarrying” (an increase of 39.8%).

Despite the continuation of concessional lending programs and other support measures by the government and the Bank of Russia to enterprises in vulnerable industries in 2021, many areas of activity still experienced serious difficulties in attracting bank loans and were forced to reduce the volume of borrowing. As of January 1, 2022, 31 classes of OKVED-2 (32.3% of all types of activity) saw a decline in the amount of outstanding loans against the 2020 level. The most significant drop in volumes was recorded in the following industries: “Other activities” (down 49.9%), “Activity in the field of information and communication” (down 23.5%) and “Activity in the field of healthcare and social services” (down 17.3%).

It should be noted that the effects of the pandemic were reflected in the concentration of corporate lending: despite the portfolio growth, the total number of corporate borrowers fell by 27.6% compared to a year ago (*Fig. 67*). This is due to the fact that the main users of support programs were borrowers who had no significant credit indebtedness during the year before the pandemic.

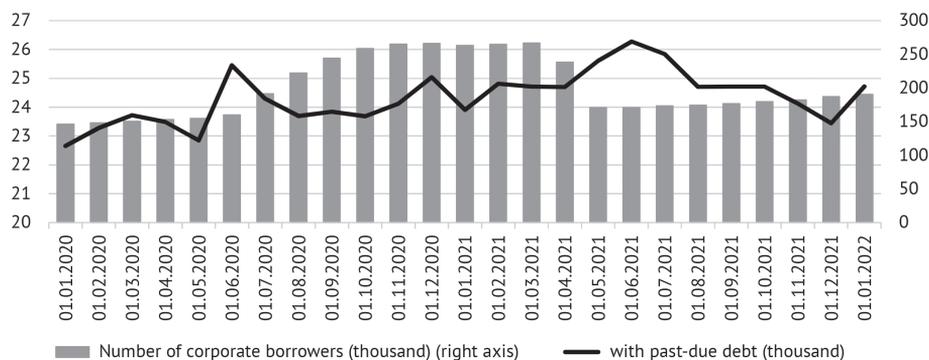


Fig. 67. Number of resident legal entities that have debts to banks (including past-due debt) in 2020–2021

Source: Bank of Russia.

Support for small and medium-sized enterprises remained one of the government’s economic priorities. At the end of 2021, loans to SMEs accounted for Rb7.1 trillion, or 13.7% of the total aggregate portfolio. In this regard, the government developed new measures to support SMEs.

At the end of October 2021, the government announced the launch of the second phase of the concessional lending program “FOT 3.0”, as well as the mechanism of grant support for business.¹ The difference between the second phase of the program “FOT 3.0” from the first is that the list of recipients of credit has been significantly expanded, as well as increased the term of the loan (up to 18 months) and the loan repayment period (from 6 to 12 months). The new program was valid from November 1 through December 30, 2021.

The loan was granted at the rate of one minimum wage (minimum wage – Rb12,792) for each employee, for a period of 12 months, the loan rate – 3% per annum. Under the terms of the program in the first six months the borrower can make no payments on the loan – neither interest nor on the principal, then within 12 months to repay the loan in equal installments, including interest. Meanwhile, 75% of the loan is secured by the surety of VEB.RF.

Representatives of the 17 most affected industries could receive support under the second phase of the preferential lending program “FOT 3.0” (under the first phase of the program “FOT 3.0” there were 11). At the request of businesses, the list was enlarged by such areas of activity as additional education for children and adults, day care services for children, consumer services, dry cleaning, dentistry, hairdressing and beauty salons.

During the pandemic crisis, the Russian government and the central bank managed to minimize banking risks and stimulate lending to the corporate sector. However, the high concentration of corporate liabilities is a potential source of systemic risk for the domestic banking sector. Accordingly, measures stimulating

1 URL: <http://government.ru/news/43700/>

diversification of the banks' corporate loan portfolio will be required in the medium term; their success will largely depend on the development of small and medium-sized enterprises, as well as on the implementation of the strategy for the development of competition and antimonopoly regulation in the country.

3.2.3. Retail lending

As of January 1, 2022, the total retail credit exposure to Russian banks hit Rb25.1 trillion. The increment of the aggregate portfolio for 2021 amounted to Rb5023.9 bn, or 25.1%, which exceeds the annual growth rate of total bank assets (15.9%), as well as the growth rate of corporate loans (16.1%). A year earlier, retail loans during the same period rose by Rb2,392.8 bn, or 13.6%. Thus, the growth rate of retail lending last year markedly exceeded the corresponding index for 2020 and is a record-breaking in the history of the Russian credit market.

The share of ruble loans accounts for Rb25.0 trillion, or 99.8% of the total volume of credit exposure. The instability of the ruble exchange rate and high currency risks led to almost complete abandonment of foreign currency loans, which during the past year fell by 40.2% and amounted to only Rb56.2 bn.

The growth of overdue debt since the beginning of the year came to 8.1%, and its total volume reached Rb1,008.3 bn. The share of overdue debt in the credit portfolio slightly dropped and made 4.0% as of 01.01.2022. As of January 01, 2012, the share of overdue debt in the credit portfolio declined slightly to 4.0%, while a year ago it stood at 4.7%. On the whole, the overdue debt ratio remains at a low level, lower than in the corporate lending segment (5.6%). However, despite the relatively high quality of the loan portfolio, systemic risks accumulate along with its growth: according to the central bank of Russia, by mid-2021 45.6% of debts are owed by borrowers with DBR¹ above 80%.

The level of profitability of credit operations on retail loans in 2021 increased (*Fig. 68*): interest income went up every quarter as the market rates surged and at the end of 2021 exceeded the level of 2020 by 7.3% (in the previous year – the increase of 6.0%), the commission income spiked more significantly – by 82.7% (in 2020 – by 23.5%).

The portfolio of consumer loans spiked by 20.1% to the level of Rb11.7 trillion, the highest growth rate at relatively low interest rates were recorded in the middle of the year (up to 2.2% in May and August), by the end of the year, when interest rates increased, the rate dropped to 0.5% (December). In general, the cost of debt service for various types of consumer loans (targeted, non-targeted, POS-loans) by the end of the year went up by 2–3 p.p. Car loans demonstrated similar dynamics in terms of growth in volume and cost of service, the annual gain amounted to 22.1% to the level of Rb1.3 trillion.

The Bank of Russia has clarified the methodology for calculating the debt service ratio (DSR) for individuals. This coefficient is the ratio of the total amount of planned payments of individuals on loans to the total income of the population. In order to avoid double count, interest payments on loans, according

1 Debt burden ratio (DBR) – the ratio of all payments on the debtor's credit obligations to his income.

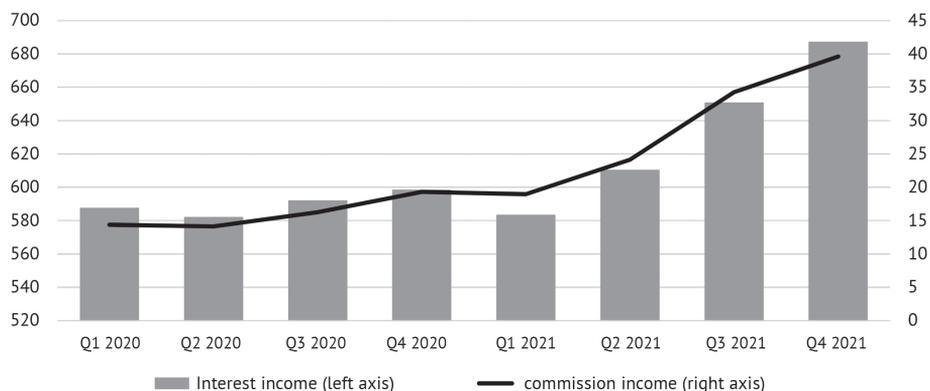


Fig. 68. Bank interest and commission income on retail loans in 2020–2021

Source: Bank of Russia.

to the new methodology, do not reduce the disposable income of households, as they are already taken into account in the amount of planned payments. The new methodology uses additional data from credit bureaus (NBKI, OKB, and Equifax), which allows you to segment the loan portfolio, and provides for the separation of scheduled payments on credit cards,¹ arrears, as well as penalties and fines. These changes lead to a decrease in the debt burden of the population (for the year DRS declined from 11.5% to 9.8%), while the overall dynamics of DSR index under the new methodology has not changed significantly and shows a steady growth over the past four years.

The acceleration in the debt growth rate is largely owing to the attraction of borrowers from new client segments, including the least secured, who spend more than 50% of their income on debt servicing. Thus, the decision made by the Board of Directors of the Bank of Russia to raise the increments to risk ratios for unsecured consumer loans extended from 1 July 2021, which was designed to reduce the risks of market overheating, has not yet affected the banking credit policy: in August we recorded a record-high 2.1 million consumer loans to the tune of Rb646.7 bn. This situation is partly due to seasonal factors (the end of the vacation season, preparation for the new school year), but at the same time, a certain incentive to the growth in demand is provided by the remaining low interest rates with their expected growth owing to the increase in the key rate of the central bank.

With nominally low interest rates on retail loans, banks increase lending margins by raising commissions, in particular, in the cost of the product increases the share of insurance, for which the bank receives commission income from insurance companies. With nominal rates of 5–12%, the average FC² (for all types

1 The scheduled monthly payment on the credit card is taken as 7.6% of the amount owed (the annual payment of 68% of the amount owed).

2 Finance charge (FC) – the borrower’s payments under the credit agreement, the amounts and terms of which are known at the time of its conclusion, including payments in favor of third

of consumer loans) ranges around 14-15%, and for certain types of loans (non-targeted consumer loans, loans for debt refinancing) the average FC is over 20%. According to the Federal Law “On Consumer Credit (Loan)” banks can conclude contracts with one third higher than the current average market FC calculated by the Central Bank of Russia. This allows us to conclude that this index has the potential to grow and in the near future we can expect an increase in the cost of loans on the back of both growth of interest rates and growth in commissions.

Under increased sanctions pressure, the government and the central bank will be forced again, as in the case of the crisis induced by epidemiological factors, to stimulate the lending activity of banks by introducing additional anti-crisis measures to support the population.

3.2.4. Mortgage lending

As of January 1, 2022, the aggregate portfolio of mortgage housing loans (MHL) on the balance sheet of banks hit Rb12.0 trillion,¹ an increase of 26.4% over the year, which exceeds the growth in 2020 (21,1%). The growth in mortgage lending in 2021 exceeded the corresponding figures in other retail segments (consumer lending and car loans).

In H1 2021, there were still favorable conditions for mortgage growth thanks to low market rates and preferential lending programs put in place during the pandemic in 2020, correspondingly the semiannual growth came to 13.8%. In H2 2021, rising market rates, the reduction and reformatting of government programs, and an increase in risk premiums on loans with LTV² in the 80–85% range from August 1, 2021 contributed to a slowdown in market growth, which, however, was partially offset by high demand for real estate and the development of new offers under the partnership programs of banks and developers (growth of 11.0% in the second half of the year). Also, the growth of market rates reduced the demand for refinancing of the previously taken loans; their share in the total volume of loans fell from 14.5% to 9.9% during the year.

In H1 2021, there were still favorable conditions for mortgage growth, thanks to low market rates and concessional lending programs introduced during the pandemic in 2020, respectively, the semiannual growth of 13.8%. In H2 2021, rising market rates, the reduction and reformatting of government programs, and an increase in risk premiums on loans with LTV in the 80–85% range from August 1, 2021 contributed to a slowdown in market growth, which, however, was partially offset by high demand for real estate and the development of new offers under the partnership programs of banks and developers (growth of 11.0% in the second half of the year). Also, the growth of market rates reduced the demand for

parties, determined by the contract, if the borrower's obligation to make such payments arises from the terms of the contract. The full value of the loan shall be calculated in annual percentage.

1 Taking into account securitization, the volume of the mortgage portfolio amounted to Rb12.9 trillion.

2 Loan-to-Value Ratio, LTV – is the percentage ratio of the principal amount of the loan to the appraised value of the asset that secures it. The LTV ratio is usually calculated by dividing the loan amount by the appraised value of its collateral. An 80% ratio requires that the loan be no more than 80% of the last purchase price of the collateral.

refinancing of the previously taken loans; their share in the total volume of loans declined from 14.5% to 9.9% during the year.

The bulk of mortgage lending accounts for the secondary segment (75%), while the share of loans issued in the primary market dropped from 27% to 25% during the past year. The quality of the mortgage portfolio remains high against the background of other retail segments – the share of debt overdue for over 90 days does not exceed 1%.¹

In Q3 the activity of borrowers decreased noticeably, the number of mortgage transactions declined by 11.3%, and the total volume of loans originated went down by 11.8% as compared to the previous quarter. The main reason for the change in market dynamics is the new terms of the state program “Preferential mortgage” which came into effect in July and increased the interest rate from 6.5% to 7%, and the maximum loan amount for all regions was reduced to Rb3 mn, which almost completely brings to naught the implementation of this program in Moscow and St. Petersburg.²

At the same time, rising inflation and, as a consequence, changes in the monetary policy of the Bank of Russia (increase in the key rate) also has a cooling effect on the behavior of banks and consumer activity: market rates, having reached their historical minimum in June – 7.07%, began to rise. Until the end of the year, the growth of interest rates remained less significant (Fig. 69), however, we can talk about a change in the trend. Since the beginning of the year, the rates at the primary market have been growing moderately (up to 6.3%, +0.7 p.p.) and remain quite low. At the secondary market, the rates were generally higher so the banks practically did not raise them in order to support the demand (an

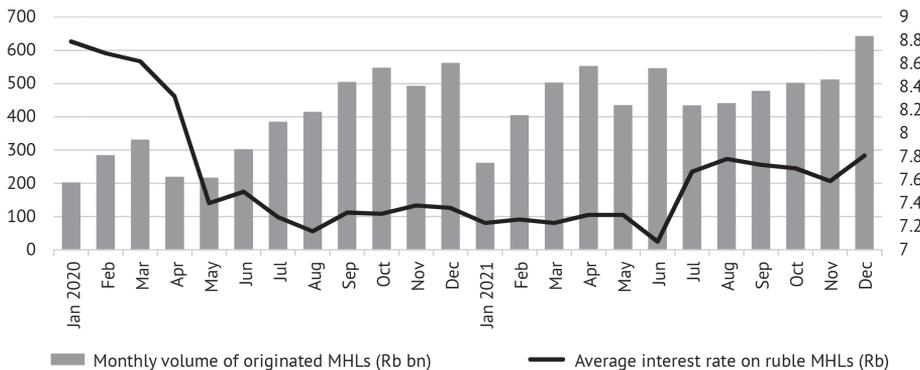


Fig. 6. Dynamics of monthly lending volumes and interest rates in the housing mortgage lending market in 2020–2021

Source: Bank of Russia.

1 URL: <https://xn--d1aqf.xn--p1ai/upload/iblock/5a5/5a5d4aef263441a366e4fb5296b93270.pdf>
 2 Under previous terms and conditions of the program in Moscow, Moscow region, St. Petersburg and Leningrad region, the maximum loan amount was Rb12 mn, in other regions of the Federation – up to Rb6 mn.

insignificant increase to 8.3%, +0.2 p.p.). Despite the growth of interest rates, banks managed to retain their clients and, together with the developers, introduced into the market a number of offers which provided for a below-market mortgage rate for a fixed pool of apartments or a fixed term. Overall, the average rate in the ruble mortgage lending sector has increased since the beginning of the year by approximately 0.5 p.p.

During the pre-pandemic period in Russia, as well as in other countries, the dynamics of mortgage lending rates correlate with the dynamics of long-term government bond yields. Taking into account the level of risk, loan rates are usually 2-5% higher than government bond yields. However, by the end of the year, average mortgage rates were lower than government bond yields by about 1 p.p.¹ due to two main reasons.

Firstly, back in 2020, a procedure was established for compensating banks for their shortfalls in income on retail mortgages. According to the RF Government's decree No. 566 dated April 23, 2020, the bank's shortfall in income from mortgages is the difference between the key rate of the central bank moved up by 3 p.p. and the preferential mortgage rate (according to the 2021 revision, for individual houses on land plots – 5 p.p.). Thus, an increase in the key interest rate is beneficial to banks, as the government compensates for the deviation of the preferential interest rate from its market value. Although the share of subsidized loans was steadily declining in 2021 (from 37% in Q4 2020 to 18% in Q4 2021), this factor was still affecting the cost of mortgage loans.

Secondly, in recent years, banks are increasingly compensating for the low interest income by increasing the commission income (in mortgage lending – commission for consideration of the application for a loan, for reducing rates, for changes in the terms of credit and collateral agreements, for issuing bank references and consents and other services), so banks are interested in high volumes of loans and growth in the number of credit transactions.

On the whole, according to the reports, the quality of the aggregate MHL portfolio is improving. As of January 1, 2022, the overdue debt on MHL amounted to Rb67.7 bn, or 0.6% of the total debt (for comparison, the overdue debt on consumer loans – 4.4% and on corporate loans – 5.6%).

The volume of NPL 90+² non-performing loans remains at a fairly low level – Rb73 bn (0.9% of the total volume), in 2021 their volume decreased by Rb14 bn, primarily due to write-offs of bad debts.

The share of refinancing in early 2021 was at a relatively high level – over 16% of the total number of originated mortgage loans, by the end of the year this value decreased to 9.4%. In the near future, the demand for loans for refinancing purposes will be further supported by extending the “family mortgage” to families with one child. The terms of the program allow you to refinance a mortgage loan

1 The yield on long-term (20–30 years) government bonds is 8–8.5%.

2 NPL (non performing loans) – the volume of loans in the bank's loan portfolio for which the terms of the loan agreement are not met. As a rule, loans fall into the NPL after they are overdue for more than a certain period, usually 90 days.

issued for the purchase of housing in new buildings at a preferential rate of up to 6%.¹

In the short term, due to the exacerbation of the crisis, depreciation of the ruble, strengthening of inflationary processes and growing construction costs, prices on the market of new construction and secondary housing will increase. In this context, banks in partnership with developers will try to stimulate demand by expanding the discount range and offering mortgages on special terms. At the same time, inflation will depreciate household savings and keep private investors interested in investing in real estate, which will also stimulate the demand at the mortgage market.

The full potential of the Russian mortgage market will be unlocked by introducing a wide range of financial instruments, which are now being actively developed by leading players: mortgage bonds, digital lending, development of mortgage marketplaces, scaling of electronic mortgages and other products and projects. The introduction of these tools will reduce average mortgage rates, make them more affordable for the borrower, simplify and accelerate the processing of mortgage transactions, raising its affordability.

As long as the international situation and macroeconomic processes stabilize and the epidemiological situation normalizes, the recovery of the population's real disposable income will gradually raise the share of mortgages in GDP to the level of developed countries, thereby improving the housing availability indexes.

3.2.5. Credit institutions resources

Slowdown in growth rates of the volume of retail deposits was owing to the policy of low rates in H1 2021 and introduction of tax on interest on retail deposits, which came into force in 2021. Increase in the Bank of Russia key rate contributed to the growth of bank interest rates on deposits and reduced the rate of outflow of funds from fixed deposit accounts. The low level of interest rates on deposits led to a gradual redistribution of resources of individual clients, which was reflected in the growing popularity of savings accounts and further promotion of bank products related to investments in the stock market.

The funds of individuals² remain one of the most important resources for banks: as of January 1, 2022, they amounted to 28.8% of bank liabilities. For comparison: the funds of corporate customers – 31.5%, funds of banks – 9.8%, government funds – 7.9%, loans from the Bank of Russia – 2.3%. The share of equity capital stood at 10.1%.

The total volume of retail deposits at the end of the year reached Rb34.7 trillion, in absolute terms the growth amounted to Rb1.9 trillion, or 5.7% (on January 1, 2021, there was an increase of Rb2.4 trillion, or 8.0%).

Funds in rubles amounted to Rb27.8 trillion and the past year recorded a decrease of 6.8% (in 2020 – growth of 6.5%). Foreign currency deposits amounted to Rb6.9 trillion (up by 1.4% from early 2021, up by 13.8% in 2020 on the back

1 URL: <https://xn--d1aqf.xn--p1ai/upload/iblock/063/063a1e46bc8c6bd983ae41064cbd06ed.pdf> (ДОМ.РФ).

2 Including deposits and funds on accounts.

of the fall of the ruble). Despite extremely low interest rates on foreign currency deposits, the level of dollarization¹ remains the same, at the beginning of 2022, the share of foreign currency deposits in the total volume of individuals' funds amounted to 19.9% (20.7% at the corresponding date of the previous year). The stability of foreign currency deposits is ensured by two main factors: the relative stability of the ruble exchange rate and rising inflationary expectations, which restrain the flow of foreign currency deposits into ruble accounts.

Significant growth was recorded in the indicator of escrow accounts of individuals under contracts of shared-equity construction, their growth amounted to Rb1,856.4 bn, or 158.2%. The growth of this indicator is largely due to the growing popularity of mortgages and extension of state support of preferential mortgage lending.

According to the Deposit Insurance Agency, the average size of a deposit placed with a single bank amounted to Rb283,000 (excluding small deposits of less than Rb1,000). The average size of depositors' funds in escrow accounts constituted Rb5.2 mn.

The attracted funds of non-resident individuals amounted to Rb547.0 bn, having decreased since the beginning of the year by 2.0%. At the same time, funds in accounts (accounts used for settlements) gained 14.1% in the period under review, while deposits (interest-bearing savings accounts) declined by 19.9%.

The number of savings certificates is also dropping. Over the year, their value fell by 52.9% to the level of Rb5.7 bn. This financial instrument has practically lost any attractiveness owing to the introduced restrictions on transferability.²

The term structure of deposits has not undergone serious changes. As a year ago, the greatest demand is for funds in accounts (38.5% of total deposits), the growth of which amounted to 8.2%. This category includes savings accounts, the advantages of which are relatively high interest rates (corresponding to time deposits) and the possibility of flexible account management (the number of transactions in the form of additions and withdrawals in the absence or low level of minimum balance is virtually unlimited). The share of long-term deposits with maturity over one year accounted for 34.4% of deposits, while the reduction came to 4.8%. On these deposits banks sometimes offer relatively attractive interest rates, thus ensuring stability of the resource base at low cost of funding. *Fig. 70* shows how over the past years the interest expenses on deposits have been decreasing and at the same time the share of interest expenses on accounts has been growing.

The reduction in the total number of credit institutions leads to the insured events in the market of bank deposits. The Deposit Insurance Agency (DIA) paid insurance compensation to 155 thousand depositors for the total amount of Rb52.5 bn in 2021. Last year insured events occurred in relation to 22 banks-participants of the deposit insurance system. The Agency started paying out compensations on the sixth-seventh business day after the insured event. The current limits

1 With all deposits in foreign currencies.

2 Amendments to the Civil Code (Federal Law No. 212-FZ of 26.07.2017) prohibit the sale of bearer securities from 01.06.2018.

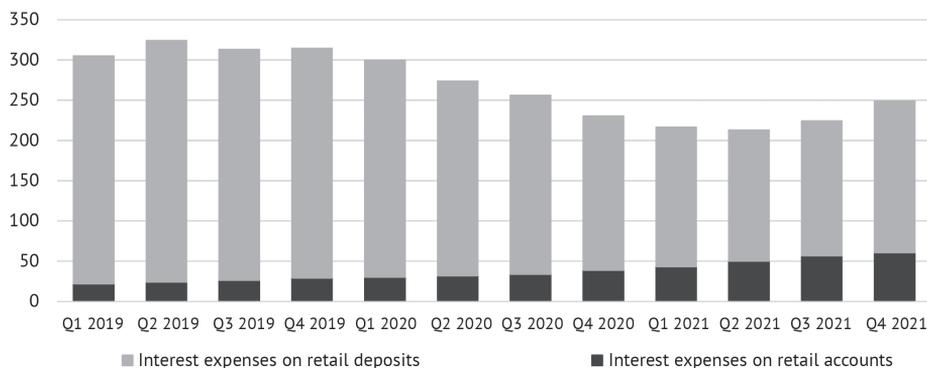


Fig. 70. Dynamics of interest expenses of banks on accounts and deposits of households in 2019–2021, Rb bn

Sources: Bank of Russia, own calculations.

of insurance coverage provided 98% of depositors with the opportunity to fully recover their funds from the mandatory deposit insurance fund.

Following the decision of the DIA Board of Directors, dated 27 April 2021, starting from Q3 2021, the basic rate of insurance premiums to the Compulsory Deposit Insurance Fund (CPIF) is raised from 0.1% to 0.12% of the estimated base. The amount of additional and increased additional rates of insurance contributions remains at the same level – 25 and 300% of the prime rate respectively. Taking into account the insignificant increase of the prime rate, this decision will not fundamentally affect the level of bank deposit rates.

No significant changes are expected in the deposit market in the absence of external shocks. At the end of 2021, the weighted average rate on retail deposits with maturities up to one year amounted to 3.86%, which is by 0.48 p.p. higher than at the end of 2020. The average rate on deposits with maturities exceeding one year increased to 5.8% (plus 1.63 p.p. against December 2020). The growth of bank interest rates associated with the increase in the key rate will probably stop the outflow of funds from the retail deposit accounts, but in the near future their real yield will be close to zero or remain in the negative zone, taking into account the expected inflation.

In the short term, there may be a slight increase in the nominal yield on deposits, which will allow balancing the outflow of funds from term deposits to savings accounts. In this context, credit institutions will be able to stabilize the structure of their resource base, as well as to reduce interest and liquidity risks.

On the whole, the bank policy with regard to household deposits will remain unchanged: low interest rates on household deposits will be combined with the active promotion of investment services, which, in particular, include trust management of client assets (for instance, investments in mutual investment funds), brokerage services (clients' independent purchase and sale operations with various financial instruments in the Russian stock market and in foreign

markets), as well as various structural (comprehensive) services. On the one hand, conservatism of the population in the form of adherence to traditional products will contribute to maintenance of high volumes of funds on bank deposits and accounts, which will allow banks to continue optimization of interest expenses and increase profits. On the other hand, a gradual transition to investment banking products (mutual funds, individual investment accounts, brokerage accounts, etc.) will give banks an opportunity to diversify market risks and, at the same time, to increase their commission income on trade and intermediary operations. Another task for the bank management will be to restore customers' confidence in the structured products developed in previous years; with an increase in their transparency, banks will be able to resume offers of investment (ILI)¹ and accumulative (ILA)² life insurance, contributing to an increase in the long-term resource base.

1 ILI is a mixed investment and insurance product, a combination of life insurance and investments in shares and bonds of Russian issuers.

2 ILA is a long-term investment program that combines two tools: insurance protection and accumulation of money.