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RUSSIAN ECONOMY IN 2019

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The review "Russian Economy. Trends and Outlooks" has been published by the Gaidar Institute since 1991. This is the 41th issue. This publication provides a detailed analysis of main trends in Russian economy, global trends in social and economic development. The paper contains 6 big sections that highlight different aspects of Russia's economic development, which allow to monitor all angles of ongoing events over a prolonged period: global economic and political challenges and national responses, economic growth and economic crisis; the monetary and budget spheres; financial markets and institutions; the real sector; social sphere; institutional changes. The paper employs a huge mass of statistical data that forms the basis of original computation and numerous charts confirming the conclusions.

By contrast to the previous publications the present issue includes also a short analysis of the first three months of 2020 from the perspective of the COVID-19 pandemic impact on the Russian economy development.

Reviewer: Faltsman V.K., Doctor of science (Economics), Professor, main researcher, Department of Institutional and Financial Markets Analysis, IAES RANEPА.

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3.1. The Russian financial market in 2019¹

3.1.1. The stock market in 2019 and Q1 2020

The year 2019 was one of the luckiest periods in the history of Russia’s stock market. On a 10-year time horizon (2010–2019), the geometric mean return on investment in Russian ruble-denominated stocks amounted to 8.3% per annum, which was below the corresponding indices of only a few markets like the USA, the Scandinavian economies, Japan, India, the Philippines, and Argentina (*Fig. 1*). The average annual return on investment in Russian stocks denominated in US dollars stood at 0.7%, which was significantly below the ruble-denominated return on investment in those same stocks due to the ruble weakening in the post-crisis period.

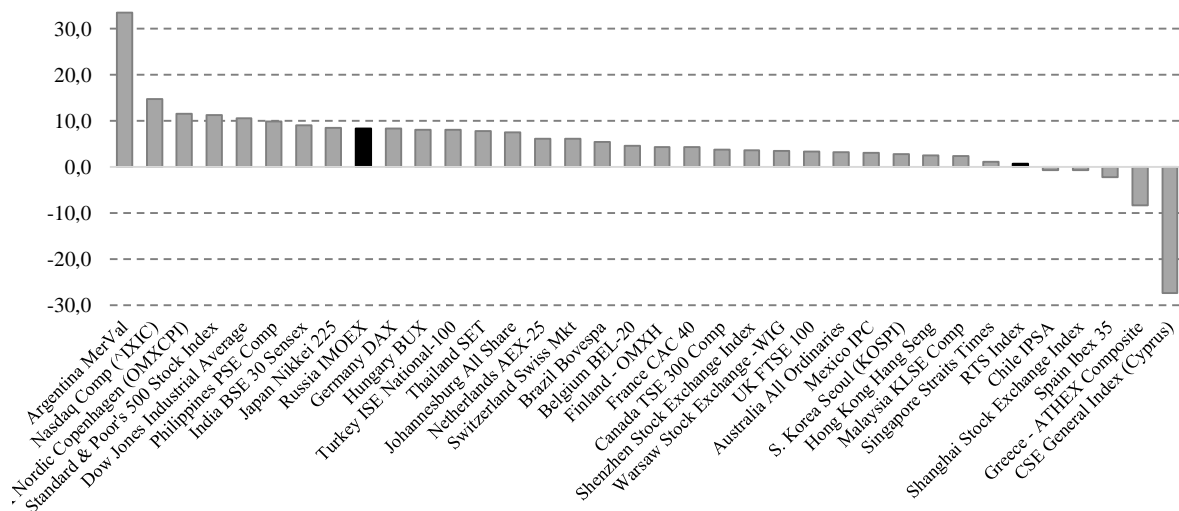


Fig. 1. The geometric mean return of 36 world stock indexes on major stock exchanges over the period 2010–2019, % per annum

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

In 2019, the returns on Russian stocks were among the highest, compared with the other stock indexes around the world (*Fig. 2*), rising to 44.9% (RTS Index) and to 28.6% (MICEX Index). Among the 36 indexes of the world’s largest stock exchange markets, the RTS Index was behind only ATHEX Composite (the Greek stock market indicator), which gained 49.5%. It was also unusual that the RTS Index, which is denominated in US dollars, significantly

¹ This section was written by *Abramov A. E.*, Candidate of Economic Sciences, Director of the Center for Institutions Analysis and Financial Markets, IAES, RANEPA; *Chernova M. I.*, researcher at the Center for Institutions Analysis and Financial Markets, IAES, RANEPA.

RUSSIAN ECONOMY IN 2019

trends and outlooks

outperformed IMOEX, which has the same constituents, only they are denominated in rubles. This happened because the high returns on Russian stocks in 2019 were concurrent with the ruble strengthening against the US dollar, which created some additional incentives for foreign investors to invest in shares issued by Russian companies.

However, the events that followed in Q1 2020 and led to the collapse of stock markets in Russia and around the world, were yet another reminder of the fact that rapid growth in stock prices cannot continue over a long period of time, and the years of high dividend yields usually give way to periods of severe recession. As of March 20, 2020, Russian stocks became the world leaders in falling stock quotes: since the beginning of 2020, the RTS Index had lost 40.3%, and the MOEX Index, 23.5%. Out of the 36 stock indexes shown in *Fig. 2*, only those of Thailand, Argentina and Brazil plunged deeper than the RTS Index. This time, the more impressive downfall of the RTS Index compared to the MOEX Index was caused by the stock market adjustment on the back of the ruble weakening against the US dollar.

The main factor behind the stock and forex market crisis at the beginning of 2020 was the combination of two unexpected events: the onset of a pandemic of coronavirus infection (COVID-19) and the breakup of the oil price deal between OPEC and Russia on March 6, 2020, which unleashed a price war and the collapse of oil prices in the market.

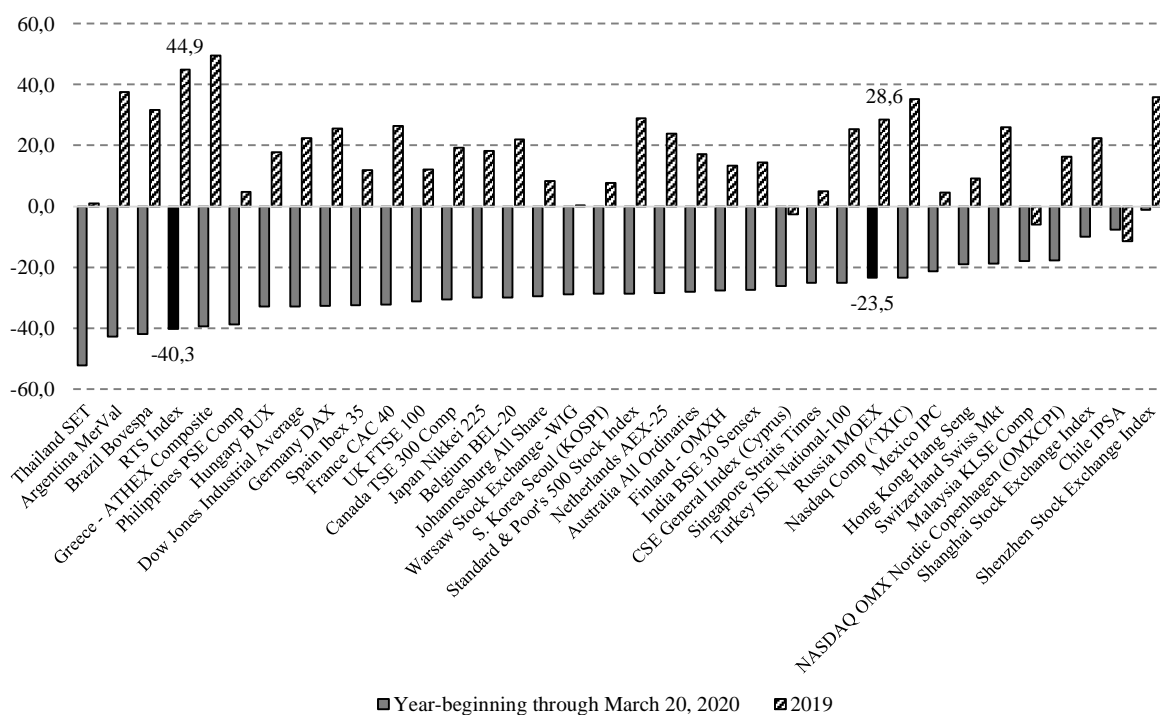


Fig. 2. The returns of 36 world stock indexes on major exchanges in 2019 and Q1 2020 (as of March 20), % per annum

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

As shown in *Fig. 3*, in 2019, Russia nearly topped the list of 27 countries in terms of national currency strengthening against the US dollar, as the ruble exchange rate climbed by 12.1% over that period. Among the other national currencies, the ruble fell behind only the Ukrainian hryvnia, which gained 17%. At that time, the ruble's exchange rate was being sustained by

comfortably high oil prices, the fiscal rule effects on the budget, and the macroeconomic stabilization measures that contributed to the inflow of foreign investment into the government debt market.

However, in Q1 2020, the situation in the foreign exchange market changed dramatically. From the start of the year through March 20, 2020, the ruble exchange rate against the US dollar fell by 22.4%. The ruble depreciation rate was nearly the highest among the corresponding indices demonstrated by the 27 major world currencies. Only the Mexican and Argentinean pesos and the Norwegian krone experienced a steeper downfall, plunging by 22.5%, 25.5%, and 36.9%, respectively. As can be seen in *Fig. 3*, the impact of the March 2020 shock was felt most strongly by the national currencies of those countries that depended heavily on their oil export revenues (Norway, Mexico, Russia, Brazil, Kazakhstan, etc.), as well as those that largely depended on external financing to maintain their financial sustainability (Argentina and Ukraine).

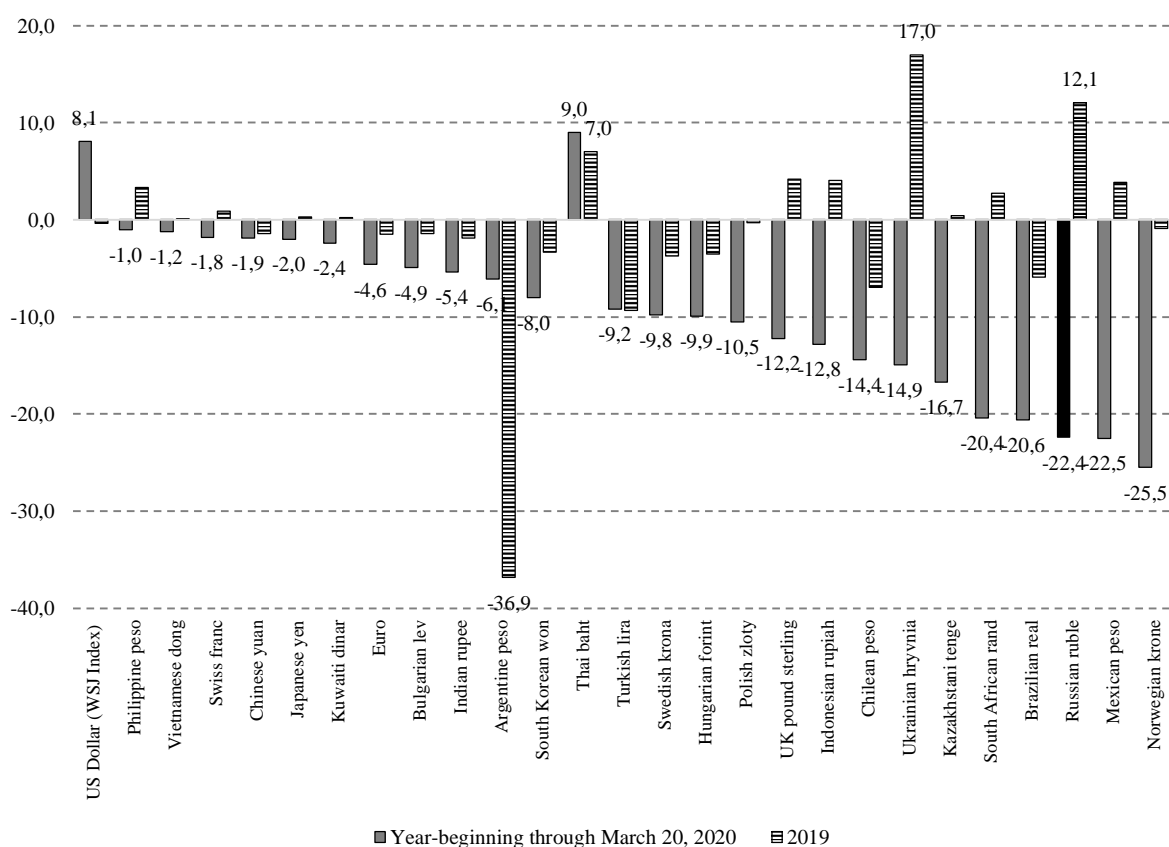


Fig. 3. Changes in the value of 27 national currencies in 2019 and Q1 2020 (as of March 20), %

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

The behavior of financial markets in 2019 cannot be discussed separately from the shocks that occurred in investment asset markets in Q1 2020. Unlike many previous crises, the developments in the financial markets at the beginning of 2020 were caused by unexpected external shocks: a pandemic and the price war between oil-exporting countries. The current crisis was triggered not by the debt crises experienced by certain companies or countries, but

by falling prices in the markets for certain assets, such as stocks, oil and other raw materials, and some national currencies. At the time of writing this review, the shock that originated in the markets for these assets has not yet penetrated the debt markets and become manifest in the form of a recession officially recognized by major economies.

An analysis of the development trends in Russia’s financial market in Q1 2020 can be based on the generally accepted criteria for financial crises. The estimates presented in one of the most authoritative works on financial crises in the world written by US economists Carmen Reinhart and Kenneth Rogoff, released in 2009 and published in Russian in 2011, can be applied here as such criteria (*Table 1*).

Table 1

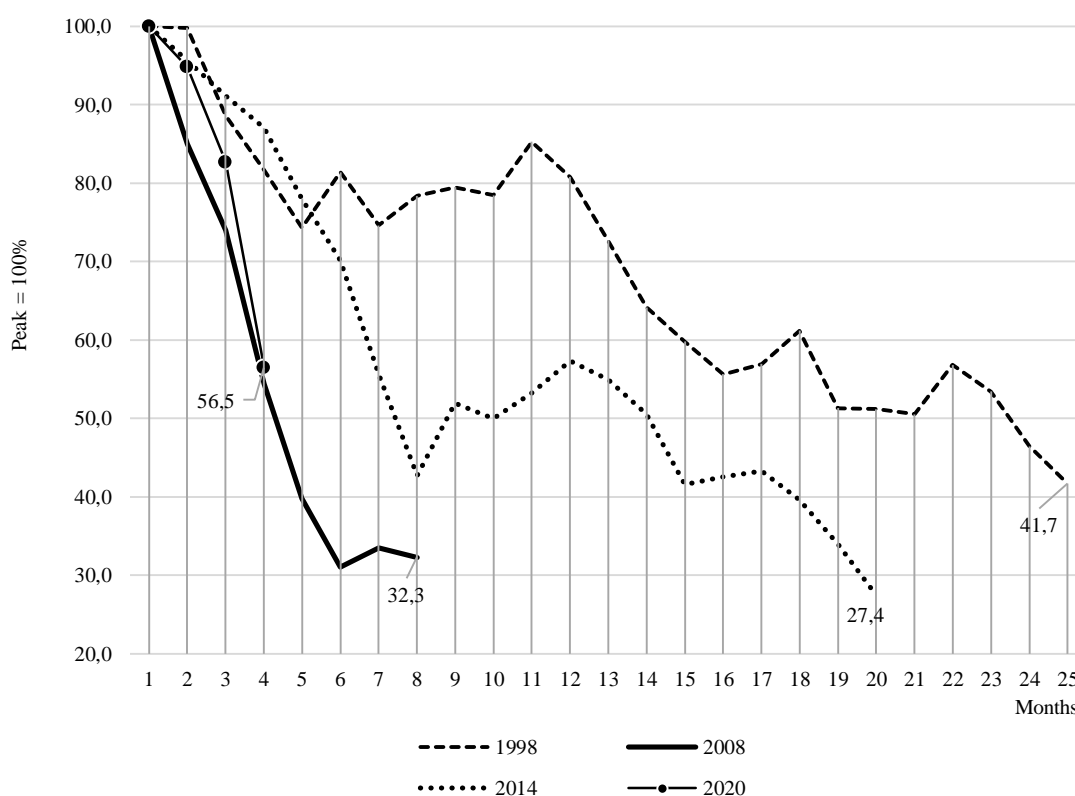
The quantitative criteria of financial crises, according to Carmen Reinhart and Kenneth Rogoff

Type of crisis	Crisis criteria
Inflationary crises	Threshold inflation of 20% per annum
Currency crises	Annual depreciation rate above 15%
Banking crises	Presence of at least one of two events: 1) bank insolvency caused by massive withdrawal of deposits, resulting in closure, takeover or nationalization of one or more financial institutions; 2) closure, takeover, nationalization, or large-scale state support of important financial institution (or group of institutions).
External debt crisis	Sovereign (state) default, as inability of government to make principal debt or interest payments as of specified date.
Debt crisis	Same definition as that of external debt crisis also applies here. Additionally, it includes freeze on bank deposits and/or forced conversion of dollar deposits into national currency.
Corporate defaults	Due to limited availability of historical statistics, there is no strict definition of signs of such crisis. However, corporate defaults and banking crises correlate in many of their aspects.
Stock market crash	Criterion by Barro and Ursua was applied, whereby stock market crash is understood as cumulative decline in real stock prices by 25% or more.

Source: own compilation based on data from the monograph by Reinhart and Rogoff.¹

The main channel of influence on the ruble weakening and the plunging market for Russian stocks in early 2020 was the onset of a price war in the oil market between the OPEC countries and Russia against the backdrop of falling demand for oil produced by a slowdown of global economies in response to the coronavirus pandemic. Formally, this happened when Russia walked out of the agreement at a joint meeting on March 6, 2020. As shown in *Fig. 4*, over the period from December 2019 to March 20, 2020, the average monthly price of Brent oil decreased by 45.5%. Reinhart and Rogoff, in their monograph, do not consider crises in commodity markets, and therefore we do not define this event as an oil crisis. However, compared with the previous three oil price shocks in 1998, 2008 and 2014, the downward trajectory of oil prices during the first three months of 2020 was almost as steep as during the 1998 crisis.

¹ Reinhart, C.M., Rogoff, K.S. (2009). *This Time Is Different: Eight Centuries of Financial Folly*. Princeton, NJ, Princeton University Press.

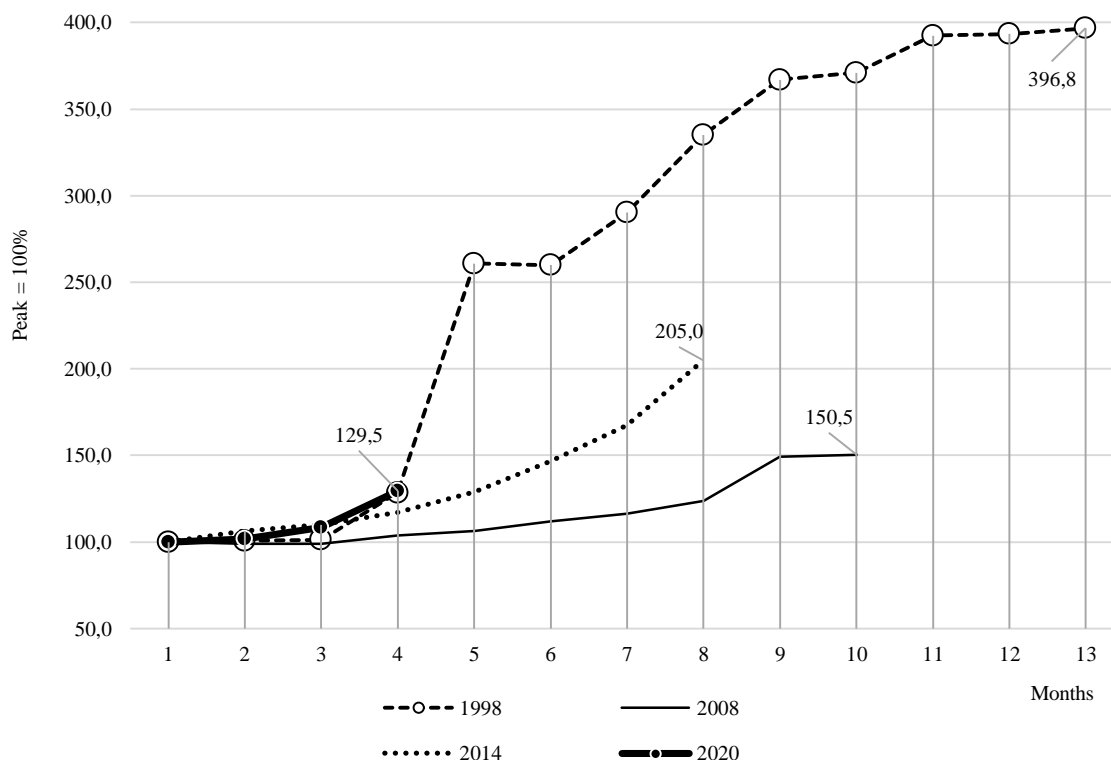


Note. The average monthly price of Brent crude oil in March 2020 was calculated for the period from March 1 to March 20, 2020.

Fig. 4. The average monthly decline of the price of Brent crude oil relative to its peaks of December 1996, July 2008, June 2014, and December 2019, as % (peak value = 100%)

Source: own calculations based on data released by Thomson Reuter and Finam (URL: <https://www.finam.ru/profile/moex-akcii/gazprom/export/>).

Over the period from December 2019 to March 20, 2020, the ruble plunged by 29.5%, while Reinhart and Rogoff define a currency crisis as the national currency weakening by 15% against the US dollar over the course of one year. As shown in *Fig. 5*, compared with the crisis scenarios of 1998, 2008, and 2014, the ruble's weakening in early 2020 in response to the movement of oil prices followed a very steep trajectory, although, of course, it can hardly replicate that of its downfall in August 1998. Under the present circumstances, the ruble depreciation was contributed to by the fact that oil prices were plummeting against the background of an almost complete liberalization of the exchange rate regime, as a result of which the exchange rate mechanism had become much more transparent even in such a troublesome situation. At the same time, at the time of writing this review, it is not yet clear whether the ruble will remain at its current depreciated level in face of the inevitable recovery of oil prices in the future. Judging by the previous experiences, we know that because of the Russian economy's high dependency on the prices of its exports, even a relatively short-term weakening of the ruble can translate into its long-term depreciation, if the average price of oil, after it has experienced price shocks in commodity markets, over the next few years stays at a lower level compared with the pre-crisis period.



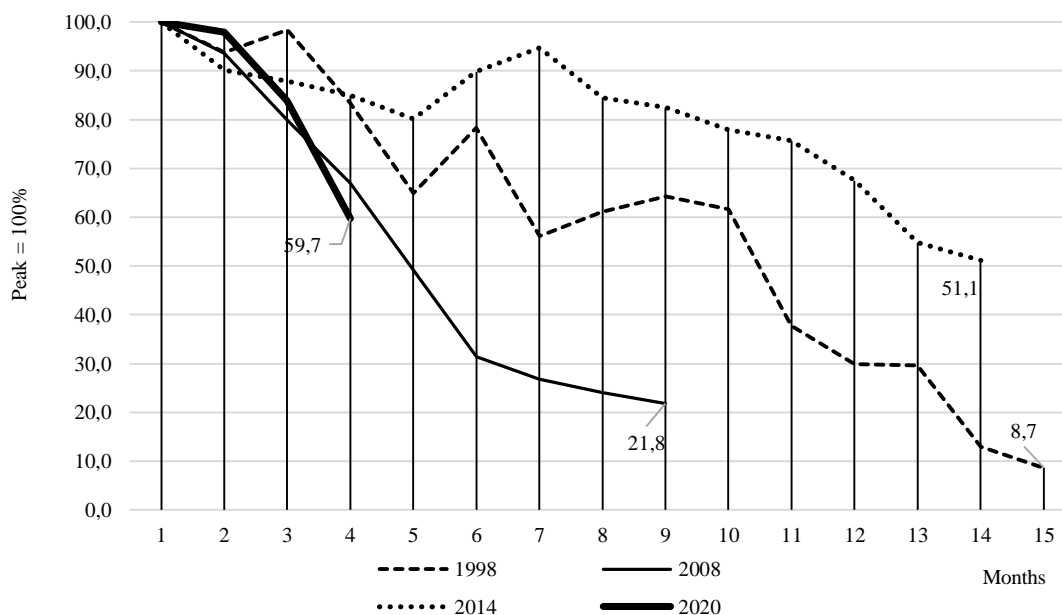
Note. The USD-to-ruble exchange rate in March 2020, as of March 20, 2020.

Fig. 5. The average monthly movement of the USD-to-ruble exchange rate relative to its peaks of May 1998, May 2008, July 2014, and December 2019, as % (peak value = 100%)

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

As shown in *Fig. 6*, over the period from December 2019 to March 20, 2020, the RTS Index lost 40.3%, its plunge translating into the deepest market decline compared with the acute phases of the crises of 1998, 2008 and 2014. According to the classification of Reinhart and Rogoff, Barro and Ursua, if this decline pattern is confirmed by the year-end results of 2020, the current developments in the stock market will be defined as a fully fledged financial crisis. However, it is important to note that the sharp decline of stock quotes both in the Russian and global financial markets in response to the economic recession threats so far has not given rise to crises in the financial debt markets.¹

¹ For more details on the impending financial crisis and the financial market prospects, see Sukhova, S. (2020). ‘We got a strange crisis’; economist A. Abramov on the economic turbulence against the background of the coronavirus pandemic. *Ogonyok*, No 12, March 30. URL: <https://www.kommersant.ru/doc/4299705?from=vybor>



Note. The movement of the RTS Index in March 2020, as of March 20, 2020.

Fig. 6. The movement of the RTS Index relative to its peaks of July 1997, May 2008, February 2014, and December 2019, as % (peak value = 100%)

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

However, even despite its fall in early 2020, the Russian stock market retained its investment attractiveness for a number of foreign investors, as evidenced by the publication in Barron's,¹ a leading source of business news. It cites the opinion of Justin Leverenz, Senior Portfolio Manager for the OFI Emerging Markets Equity team at Invesco Ltd. (an American independent investment management company), who believes that 'Russia at a headline level is one of the most attractive places on the planet to invest now.' But 'there's just one problem: it may take a year or two to come to pass.' David Aserkoff, J.P. Morgan's chief of equity strategy for emerging Europe, notes that 'Russian companies have also been swept by a quiet governance revolution that has transformed them into some of the better dividend payers in emerging markets.' Aaron Hurd, senior currency portfolio manager at State Street Global Advisors, sees the ruble bouncing from its current level near 80 to the US dollar to 60 or 65 over the next two years, driving returns of up to 40% in local bond markets.

The onset of a new wave of falling stock indices in Russia occurred at a time when they had not yet completed their full recovery to the levels prior to the 2008 crisis (*Fig. 7*).² According to the year-end results of 2019, the ruble-denominated MOEX Index surged to 158.5% of its value as of May 2008, while the RTS Index denominated in US dollars amounted to only 63.0% of its level as of the same date. The recovery of the same stock portfolio in ruble terms was faster than that of its value in US dollars, because over that period the ruble fell 160.8% against the US dollar.

¹ Mellow C. (2020). Russia's Stocks Are a Buy Only for Very Patient Investors. Barron's, online. March 27.

² The fact of the stock indexes recovering to their pre-crisis level is purely symbolic, but it is still important for investors as a sign that the stock market has overcome the issues that led to its decline during the crisis.

However, the partially successful recovery of stock prices in 2019 gave way to a recoil in Q1 of 2020. As of March 20, 2020, the RTS Index fell to 37.6% of its peak value of May 2008. The MOEX Index was still considered to have recovered, but it had declined to 121.1% of its peak value of May 2008, in spite of the ruble’s highly noticeable weakening in Q1 2020.

The rate of stock market recovery after the 2008 crisis differed significantly from its movement pattern after the previous crisis of 1998, when the ruble-denominated MICEX Index recovered in just 8 months, while the RTS Index took almost 5 years (58 months) to do so.

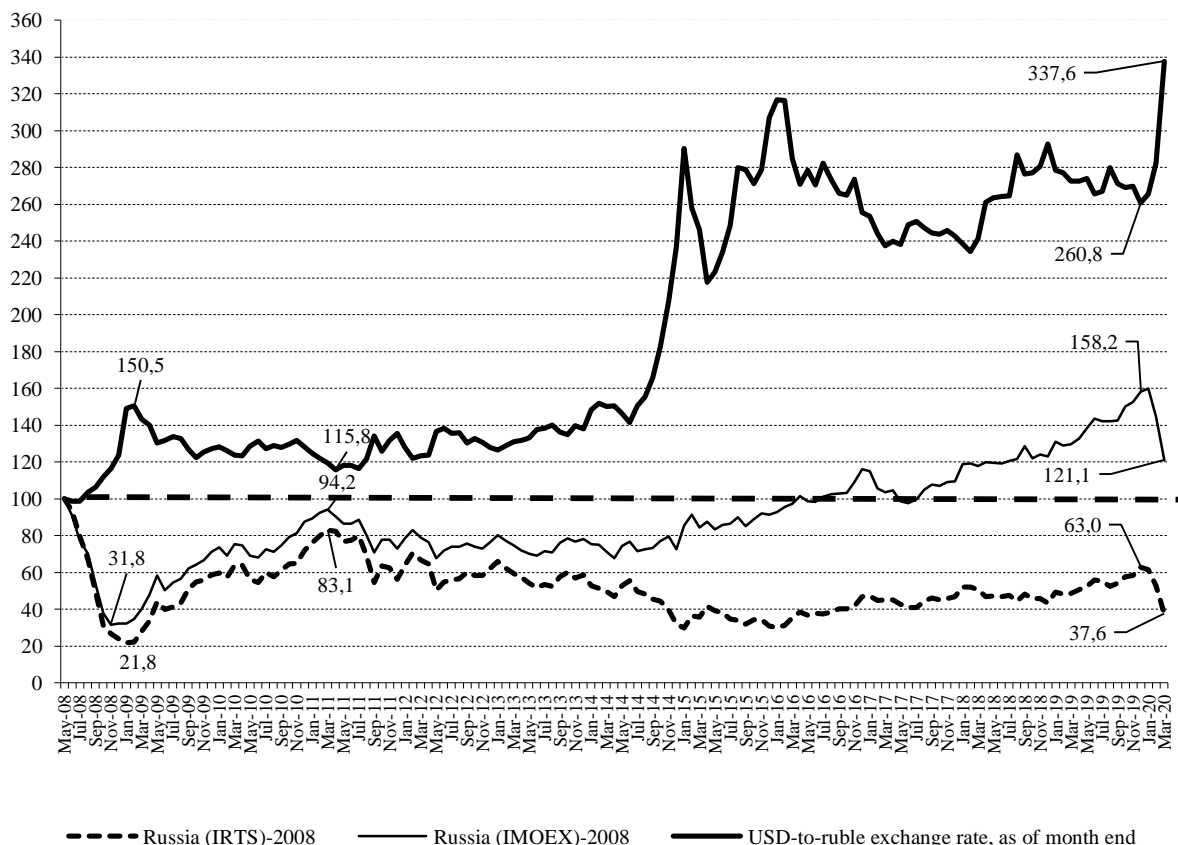


Fig. 7. The movement of the USD-to-ruble exchange rate, the RTS Index, and the MOEX Index from May 2008 through March 20, 2020 (May 2008 = 100%)

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

At present, similarly to the situation in the aftermath of the 1998 financial crisis, a key factor that influenced the recovery speed of Russian stock indices is the level of oil prices. As shown in Fig. 8, after the crisis period 1997–1998, when the price of oil plummeted to 31.1% of its pre-crisis peak in December 1996, the period of its full recovery lasted 3 years, or 36 months. As of March 20, 2020, over the 140 months that had elapsed since the price of Brent crude oil peaked at USD 133.9 per barrel in July 2008, its current price amounted to only 28.4% of its peak value. Moreover, the year 2020 saw a third wave of oil price decline to 56.5% of its December 2019 level.

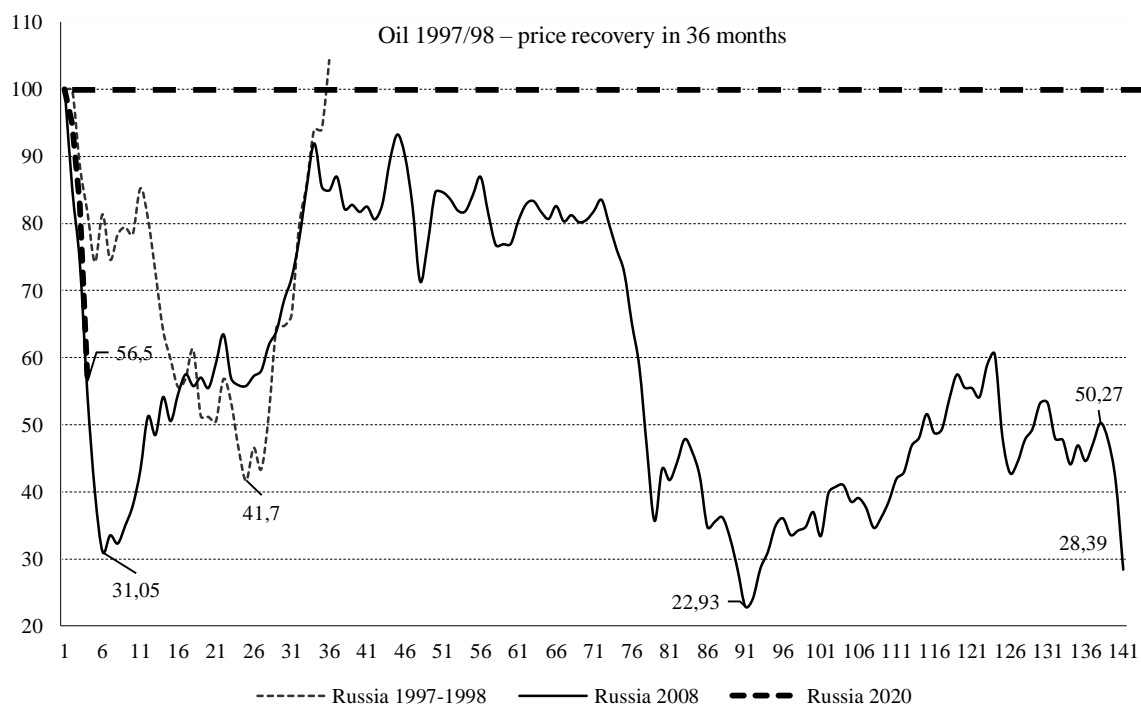


Fig. 8. Brent crude oil price growth during the financial crises in Russia (pre-crisis peak price = 100%), as of March 2020

Source: own calculations based on data released by the International Monetary Fund and the International Energy Agency.

Fig. 9 and *Table 2* show the recovery process of stock indices in the BRICS countries. For comparability of data, the country indices of the MSCI family, calculated in dollar terms, were used as indicators. Assessment of changes in the Russian market was carried out using the RTS currency index, including a similar index that takes into account the dividend yield of its share issues.

As of March 20, 2020, out of the five BRICS members, the stock indices after the 2008 crisis did not recover in Russia and Brazil, where the long-term stagnation of stock markets has been of the most chronic nature. Over the 142 months that had passed since May 2008, the RTS Index recovered to only 37.6% of its pre-crisis level, and the MSCI Brazil Index, to only 24.1%. In 2019, due to the high dividend yield on Russian stocks, the RTS index fully recovered, demonstrating a dividend yield of 102.5% relative to its May 2008 value; however, as a result of the plunging stock prices in early 2020, that index recoiled to the level of 61.3% of its value in May 2008.

The MSCI indexes for India, South Africa and China recovered to their pre-crisis levels over the periods of 22, 28, and 82 months after May 2008, respectively. However, by March 20, 2020, the stock indices of South Africa and India had slid to 53.0% and 84.0% of their pre-crisis peaks of May 2008. The economies of BRICS members differ significantly in their structure; thus, India and South Africa do not depend on oil prices, in contrast to Russia and Brazil. The simultaneous downfall of large emerging markets in early 2020 was caused by factors that they all share, namely the forced shutdown of companies under the quarantine

measures and foreign capital outflow from their markets in the direction of the developed markets with safer investment conditions.

Out of all the BRICS stock markets, only the Chinese stock market turned out to be the most sustainable one. As of March 20, 2020, the MSCI China A Index stood at 102.2% of its May 2008 value. The stability of this index relative to the ongoing decline in the stock markets, although China was the first country to come to grips with the threat of coronavirus, for the most part was ensured by the secure position of the yuan against the US dollar due to the forex interventions undertaken by the People’s Bank of China.

Table 2

The recovery of BRICS stock indices denominated in US dollars after the 2008 crisis, as of March 20, 2020

Index	Index recovery period from May 2008, months	End of recovery	Current index value, % (May 2008 = 100%)
RTS	142	No	37.6
RTS Total Return	140	Yes	61.3
MSCI Brazil	142	No	24.1
MSCI South Africa	28	Yes	53.0
MSCI India	22	Yes	84.0
MSCI China	82	Yes	102.2

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

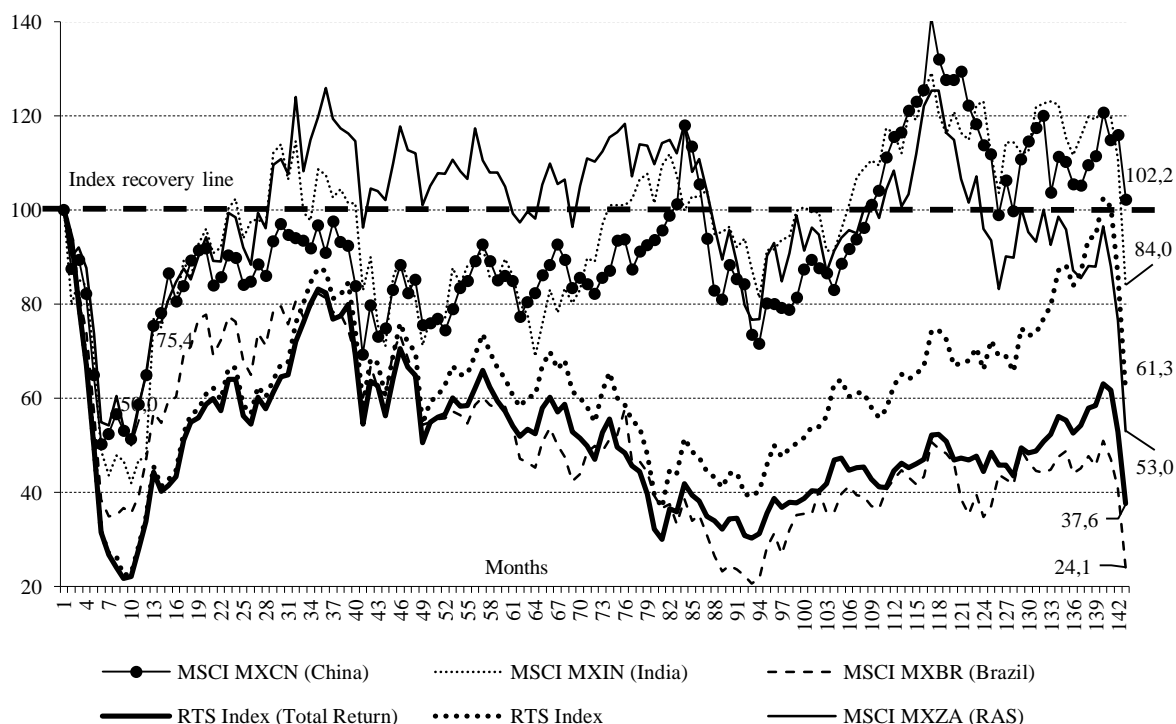


Fig. 9. The depth and duration of the impact of the 2008 financial crisis on BRICS stock indices denominated in US dollars, as of March 20, 2020 (peak in May 2008 = 100%)

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

The most protracted crises in the modern history of stock markets were 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* and *Table 3*). In 2015, this record was broken by the Japanese NIKKEI-225 index, which as of March 20, 2020, had failed to recover in 363 months, i.e. more than 30 years. Its value in March 2019 amounted to only 42.5% of its peak achieved in 1989. The crises followed by such lengthy periods of stock price recovery are unique; they are caused not just by some deeply rooted structural problems of the economy, but by a combination of these problems with some serious economic and monetary policy mistakes.

The markets where financial crises were of medium-term duration and were brought about by structural imbalances in the economy, such as the recession in South Korea in 1989 and the dotcom bubble burst in the USA in 2000, typically demonstrated a W-shaped index recovery trajectory (*Fig. 10*). These two crises lasted 183 and 177 months, respectively.

Against the backdrop of these crises, the recovery of the Russian RTS Index and MSCI Brazil to the levels of 37.6% and 24.1%, respectively, which has lasted 142 months, has not yet formally exceeded the time horizon of a typical medium-term crisis. However, as can be seen in *Fig. 10*, the recovery pattern currently displayed by RTSI and MSCI Brazil has begun to follow the trajectory of a long-term crisis rather than a medium-term one, which is usually a characteristic feature of the stock markets of those countries where structural problems coincide with unresolved economic and monetary policy challenges.

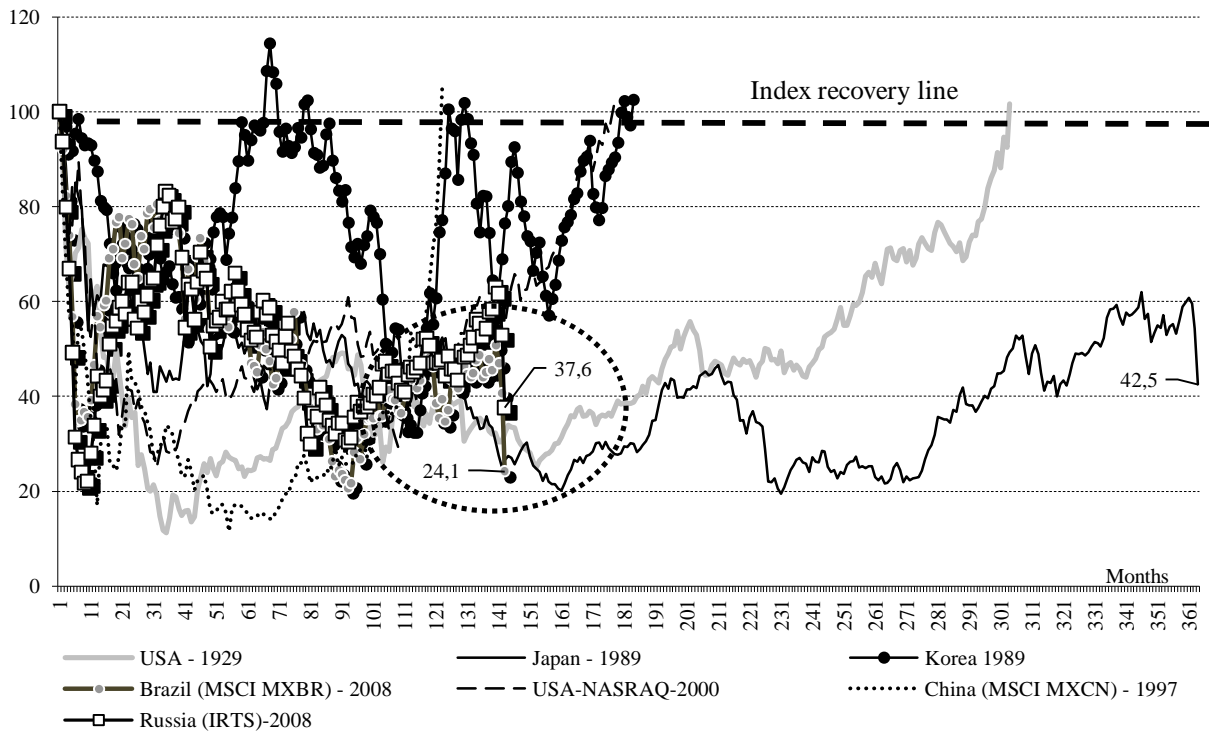


Fig. 10. The depth and duration of the recoveries of stock indexes after the longest crises of the 20th and 21st centuries, as of March 20, 2020 (pre-crisis peak = 100%)

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

Table 3

**The longest recovery periods of stock indexes after the major crises
of the 20th and 21st centuries**

Country (index - year of crisis onset)	Period of index recovery from its peak value, months	End of recovery	Current value of unrecovered index, % (peak = 100%)
Japan (Nikkei – 1989)	363	No	42.5
USA (DJIA – 1929)	303	Yes	
South Korea (KOSPI – 1989)	183	Yes	
USA (NASDAQ – 2000)	177	Yes	
Russia (RTS (USD) – 2008)	142	No	37.6
Brazil (MSCI (USD) 2008)	142	No	24.1
China (MSCI-Shanghai (USD) – 1997)	122	Yes	
Japan (Nikkei – 1989)	82	Yes	
USA (DJIA – 1907)	64	Yes	

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

The lengthy recovery period of the Russian stock index, even by the standards of the global stock market, has demonstrated that the causes of its stagnation have more to do with the internal situation in the Russian economy than with the volatility effects of the global financial system.

3.1.2. Equity risk premium

For domestic and foreign investors, the equity risk premium is one of the key characteristics of a country's stock market. It is the main component of the cost of capital to be considered when assessing investment projects, it also serves as a universal corporate governance performance indicator and as a benchmark of a stock's attractiveness for foreign investors. The essence of the problem is that there exist several different equity risk premium indicators of Russian stocks, and the relevant information concerning these indicators is provided by foreign agencies. Our review relies on our own estimates of these indicators.

We can point out several most popular approaches to assessing the market risk premium of Russian stocks (*Fig. 11*). Fernandez et al. estimate the average equity risk premium based on opinion polls of scientists and businessmen in different countries. Dimson, Marsh, and Stainton, in their book 'Triumph of the Optimists'¹ and their investment return reports released by Credit Suisse,² calculate the long-term equity risk premiums for different countries, including Russia,

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

² Dimson E., Marsh P., Stainton M., Wilmot J. Credit Suisse Global Investment Returns Yearbook 2009 // Credit Suisse Research Institute, Switzerland. – 2009; Dimson E., Marsh P., Stainton M., Wilmot J. Credit Suisse Global Investment Returns Yearbook 2010 // Credit Suisse Research Institute, Switzerland. – 2010; Dimson E., Marsh P., Stainton M., Holland D., Matthews B. Credit Suisse Global Investment Returns Yearbook 2011 // Credit Suisse Research Institute, Switzerland. – 2011; Dimson E., Marsh P., Stainton M., Wilmot J., McGinnie P. Credit Suisse Global Investment Returns Yearbook 2012 // Credit Suisse Research Institute, Switzerland. – 2012; Dimson E., Marsh P., Stainton M., Garthwaite A. Credit Suisse Global Investment Returns Yearbook 2013 // Credit Suisse Research Institute, Switzerland. – 2013; Dimson E., Marsh P., Stainton M., Mauboussin M. Credit Suisse Global Investment Returns Yearbook 2014 // Credit Suisse Research Institute, Switzerland. – 2014; Dimson E., Marsh P., Stainton M., Holland D., Mattenws B., Rath P. Credit Suisse Global Investment Returns Yearbook 2015 // Credit Suisse Research Institute, Switzerland. – 2015; Dimson E., Marsh P., Stainton M., Wilmot J. Credit Suisse Global Investment Returns Yearbook 2016 // Credit Suisse Research Institute, Switzerland. – 2016; Dimson E., Marsh P., Stainton M. Credit Suisse Global Investment Returns Yearbook 2017 (Summary Edition) // Credit Suisse Research Institute, Switzerland. – 2017; Dimson E., Marsh P., Stainton M. Credit Suisse Global Investment Returns Yearbook 2018 (Summary Edition) // Credit Suisse Research Institute, Switzerland. – 2018; Dimson E., Marsh P., Stainton M. Credit Suisse Global Investment Returns Yearbook 2019 (Summary Edition) // Credit Suisse Research Institute, Switzerland. – 2019.

as the difference between the estimated real return on stocks and the estimated real return on safe (government) bonds. 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.

Fernandez, with a team of co-authors whose composition has been changing from year to year, conducts annual surveys of experts, asking them which premium values and risk-free rates they used in their reviews for the previous year.¹ The experts are grouped into university professors and analysts employed by companies and financial organizations. The data summary published by Fernandez offers a sociological picture of how different specialists perceive the equity risk premiums in one or other country.

The information on Russia is included in the surveys for the period from 2012 through 2019, thus making it possible to obtain a certain historical perspective and follow the changes in the researchers' assessments. It is noteworthy that according to the surveys, in almost every country the premium varies very broadly. Thus, for example, in 2012, according to a survey of 70 experts, the average equity risk premium on Russian stocks was 7.6%, the estimates falling within a range of 2.7% to 25.0%. In 2019, according to 30 experts' answers, the average premium was 8.5%, and the range narrowed to 5% to 10.1%. This result indicates that, in spite of the current trend in the scientific/academic and business communities towards a more uniform assessment of the size of equity risk premiums, there is still no common understanding of their size and calculation methods.

Dimson, Marsh and Staunton, in their book 'Triumph of the Optimists'² and subsequent investment return reports published by Credit Suisse³, calculate the historical stock premium for the majority of developed markets and selected developing countries. Their data have made it possible to compare the long-term returns on investment in stocks and government bonds. The interest rate spreads that they assess can be regarded as performance indicators of public companies in comparison with the returns on government securities.

According to their methodology, the equity risk premium is calculated as a geometric⁴ mean 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

¹ Fernandez P., Aguirreamalloa J., Corres L. Market Risk Premium Used in 56 Countries in 2011: A Survey with 6,014 Answers. Downloadable in <http://ssrn.com/abstract=1822182>. – 2011; Fernandez P., Aguirreamalloa J., Corres, L. Market Risk Premium Used in 82 Countries in 2012: A Survey. Downloadable in <http://ssrn.com/abstract=2084213>. – 2012; 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. Downloadable in <http://ssrn.com/abstract=914160>. – 2014; Fernandez P., Linares P., Fernandez A. I. Market Risk Premium Used in 88 Countries in 2014: A Survey with 8,228 Answers. Downloadable in <http://ssrn.com/abstract=2450452>. – 2014; Fernandez P., Pershin V., Fernandez A. I. Discount Rate (Risk-Free Rate and Market Risk Premium) Used for 41 Countries in 2015: A Survey. Available at: <https://ssrn.com/abstract=2598104>. – 2015. Fernandez P., Ortiz A., Fernandez A. I. Market Risk Premium Used in 71 Countries in 2016: A Survey with 6,932 Answers. Available at: <https://ssrn.com/abstract=2776636>. – 2016; Fernandez P., Pershin V., Fernandez A. I. Discount Rate (Risk-Free Rate and Market Risk Premium) Used for 41 Countries in 2017: A Survey. Available at: <https://ssrn.com/abstract=2954142>. – 2017; Fernandez P., Pershin V., Fernandez A. I. Market Risk Premium and Risk-Free Rate used for 59 Countries in 2018: A Survey. Available at SSRN: <https://ssrn.com/abstract=3155709>. – 2018; Fernandez P., Martinez M., Fernandez A. I. Market Risk Premium and Risk-Free Rate Used for 69 Countries in 2019: A Survey. Available at SSRN: <https://ssrn.com/abstract=3358901>. – 2019.

² Dimson et al. 2002.

³ Dimsom et al. 2009–2019.

⁴ $(1+\text{Premium})=(1+\text{return on shares})/(1+\text{bond Yield})$ in annual terms.

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. Dimson et al. disclose the data for Russia only in the reports published by Credit Suisse from 2014 to 2018; for other years, no data is available. The equity risk premium for Russia is available for two periods: the longer one from 1995 to the year of publication of each of the reports, and the shorter one starting from 2000, which does not include the crisis period 1998–1999. The equity risk premium for Russian stocks vs. long-term government bonds, calculated from 2000 onwards, turns out to be negative: for the period 2000 to 2016, it amounts to -3.7%, and for the period 2000 to 2012, to just -6.7%. When compared with short-term government bonds, the premium is positive, amounting to 3.2% in 2000–2016, and to 5.1% in 2000–2012. Thus, we can conclude that long term government bond yields in Russia are significantly higher than short-term government bond yields.

In the analysis of investment projects, the most popular approach to estimating equity risk premiums is that suggested by Damodaran.¹ The equity risk premiums calculated using his method are based on forecasts of future returns and estimated market expectations. These indicators are most often used by investors in calculating the cost of capital and predicting the cost-effectiveness of future investment projects. The resulting estimates, as a rule, are customized depending on the specific method applied in the calculations; moreover, the method itself is never fully disclosed.

The equity risk premium, according to Damodaran, is made up by a ‘base premium for mature equity market’ plus the cost of ‘country risk’ for the stocks issued in a given country. The base premium is calculated as the discount rate for cash payments to shareholders in the form of dividends and share buybacks that grow over the medium term of 3–5 years according to market expectations (based on the consensus forecasts data services, e.g., Bloomberg, Thomson Reuters, etc.), and thereafter, at a growth rate equal to the current risk-free rate on 10-year government bonds in the base country. The country risk premium in this approach is determined by using the spreads between 10-year government eurobonds issued in a given country and the bonds denominated in the same currency issued in the base country, or by using CDS spreads. Additionally, the methodology is further optimized by the inclusion of the coefficient of relative volatility of stocks compared with that of bonds traded in the domestic market of a given country, whereby the country risk premium can be adjusted by the relative risk of a given stock.

Fig. 11 presents summary data on all the equity risk premiums in the studies and reviews discussed here. Besides, the chart is augmented by data published by Bloomberg, where the premium is calculated as the difference between the return of a stocks index and the yield to maturity of 10-year ruble-denominated government bonds. Such a benchmark is extremely simple to build; it does not fully explain the premiums, but is often used in practice as a guide for investors.

The data of Dimson et al. represent the geometric mean of the return on stocks over the period 2012–2016 for the time horizon from 2000 to each reporting date: compared with the return on long-term bonds, it is negative, i.e. the average stock market return for that period is less than that on government bonds, and it is positive compared with that on short-term government securities. For the period after 2017, the data is no longer publicly available. The equity risk premiums based on the other four indicators (by Damodaran, Fernandez and

¹ Damodaran A. (2019). Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2019 Edition. Available at SSRN. URL: <https://ssrn.com/abstract=3378246>.

Bloomberg), as a rule, differ little from one another. Thus, for example, in 2019, the equity risk premiums declined on 2018: Damodaran’s indicators based on bond spreads – from 9.4% to 7.4%, and those based on premiums on credit default swaps (CDS) – from 8.1% to 6.2%; the geometric mean based on expert surveys by Fernandez declined from 8.7% to 8.5%; and those based on Bloomberg estimates – from 9.3% to 6.3%.

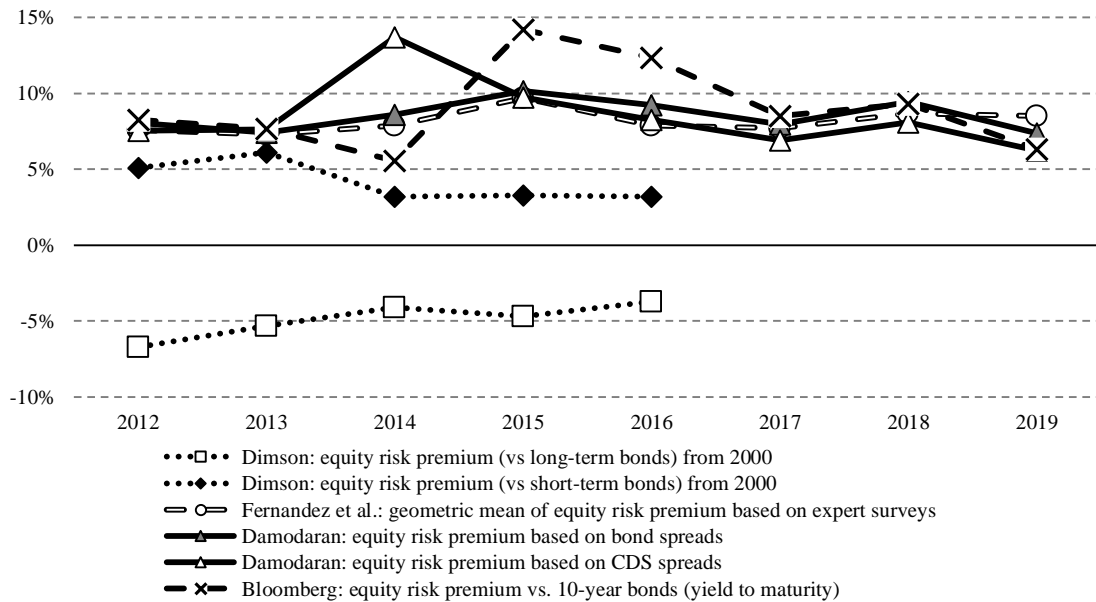


Fig. 11. The equity risk premiums on Russian stocks, based on the most cited international sources, %, 2012–2019.

Source: own compilation based on data from the studies by Dimson et al., Fernandez et al., Damodaran and Bloomberg.

When the relationship between the equity risk premium indicators shown in Fig. 11 and the cash flows of private investors in foreign investment funds specializing in Russian stocks was tested throughout the period 2012–2019, no significant or interesting dependencies were found, except that the changes in the equity risk premium assessed on the basis of CDS spreads according to Damodaran turned out to be directly proportional to the changes in the relative size of cash flows of private investors in foreign equity funds (Fig. 12). The counter-cyclical strategy of these portfolio investors produces a situation where an increased equity risk premium, as a rule, boosts an inflow of investor funds, while a reduced equity risk premium prompts the withdrawal of investor funds.

Considering that foreign sources do not always promptly disclose their assessments of Russian stock risks and do not publish in full their calculation methodology, we decided to publish our own equity risk premium estimates, with due regard for Damodaran and Dimson’s methods, but based on our own time data on the movement of financial instruments and their portfolios.

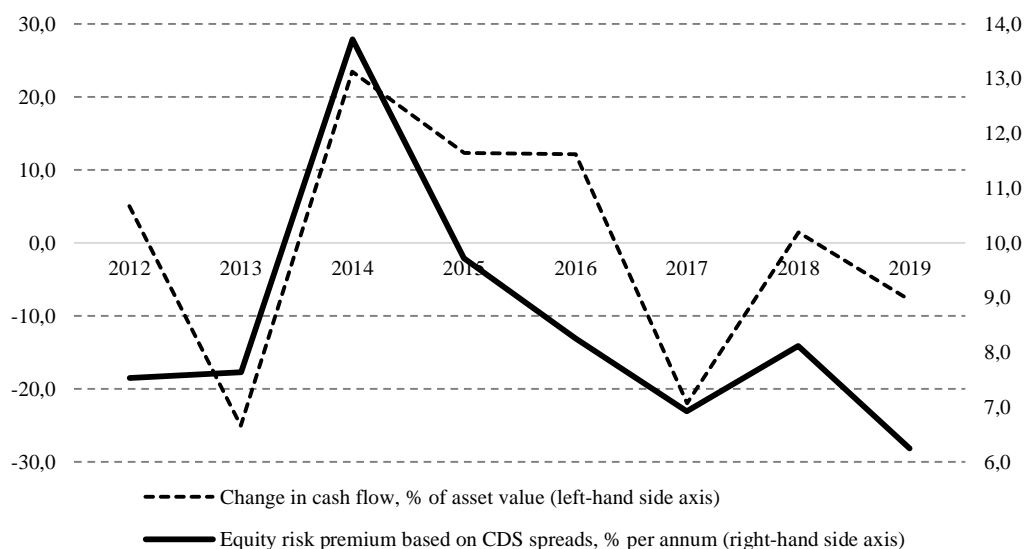


Fig. 12. The equity risk premium based on CDS spreads according to Damodaran (%) and changes in the cash flows of private investors in foreign investment funds specializing in Russian stocks, relative to the asset value of those funds at the start of a reporting year (%), in 2012–2019

Source: own calculations based on data published by Damodaran and Emerging Market Portfolio Research (EMPR).

The first group of consists of new indicators (**projected risk premiums, or PRP**) calculated as suggested by Damodaran.¹ There are four indicators in the group: PRP1 is country risk premium, determined on the basis of yield spreads of RF and US sovereign bonds denominated in US dollars; PRP2 is country risk premium calculated on the basis of credit default swap (CDS) premiums on RF sovereign bonds denominated in US dollars; PRP3 is country risk premium estimated by adjusting PRP1 for the volatility of Russian stocks; PRP4 is country risk premium calculated by adjusting PRP2 for the volatility of Russian stocks. PRP3 and PRP4 are

¹ According to Damodaran (2019), the forecast risk premium for Russian stocks is calculated as the sum of the current default spread and the implied risk premium for the base country. The implied premium for the base country (USA) is calculated as the rate of return in a two-stage growth model of dividend payouts to investors (dividends + share buybacks), where the first stage lasts 5 years with volatile growth rates adjusted by data in the current consensus forecasts and S & P500 Earnings, and the second stage lasts ‘indefinitely’ for a long time, with income growth rates equal to the current risk-free rate. Thus, predictive power becomes part of the calculation of the equity risk premium components. The default spread (or country risk premium) can be calculated as the spread between Russian and US 10-year government bonds, or Russia CDS.

The disadvantage of this method of assessing risk premiums and country risks is its reliance on the assumption that country risk premium can be reduced to the differences in government bonds yields, or CDS, relative to a mature equity market. In this connection, the specific stock market properties are not taken into account. Therefore, in our calculations, we introduced the factor of relative volatility of stock returns compared to bond returns. One example of this factor is the ratio between the standard deviations of stocks and bonds. However, the standard deviation of bond returns is not comparable with the standard ratio of annual stock returns. Therefore, a coefficient of variation can be calculated for bonds (normalized standard deviation). After that, relative stock volatility can be calculated as the ratio between the standard deviation of stocks and the coefficient of variation of government bonds. The country risk premium value, calculated on the basis of default spreads, is multiplied by their calculated coefficient of volatility, and then added to the equity risk premium in a mature equity market. Thus, the premium accounts for the additional risk associated not only with the risk of stocks compared with that of bonds in a ‘base’ developed country, or with country risk, but also with stock volatility in a given financial market.

the indicators that most adequately determine the forecasted value of equity risk premium on Russian stocks.

As shown in *Fig. 13*, during the periods of relative stability in the stock market, the values of all the four indicators of forecasted equity risk premium on Russian stocks become close to each other. In 2019, the equity risk premium estimates shrank on 2018 as follows: PRP1 from 9.43% to 6.65%, PRP2 from 8.95% to 6.68%, PRP3 from 11.38% to 6.95%, and PRP4 from 10.48% to 6.99%. As can be seen from these data, the spreads of all four risk indicators fell within the range of 6.65% to 6.99%, i.e. they were negligible.

However, during crisis periods, the equity risk premium spreads, especially those based on indicators that take into account stock volatility, become quite significant. In December 2018, PRP1 and PRP2 amounted to 19.05% and 19.25%, respectively, while those indicators that were adjusted by stock volatility (PRP3 and PRP4) increased to 33.83% and 34.52%. During another crisis period with an increased ruble volatility (January 2015), while PRP1 and PRP2 stood at 12.39% and 13.11%, respectively, PRP3 and PRP4 rose to 15.34% and 16.46%, respectively.

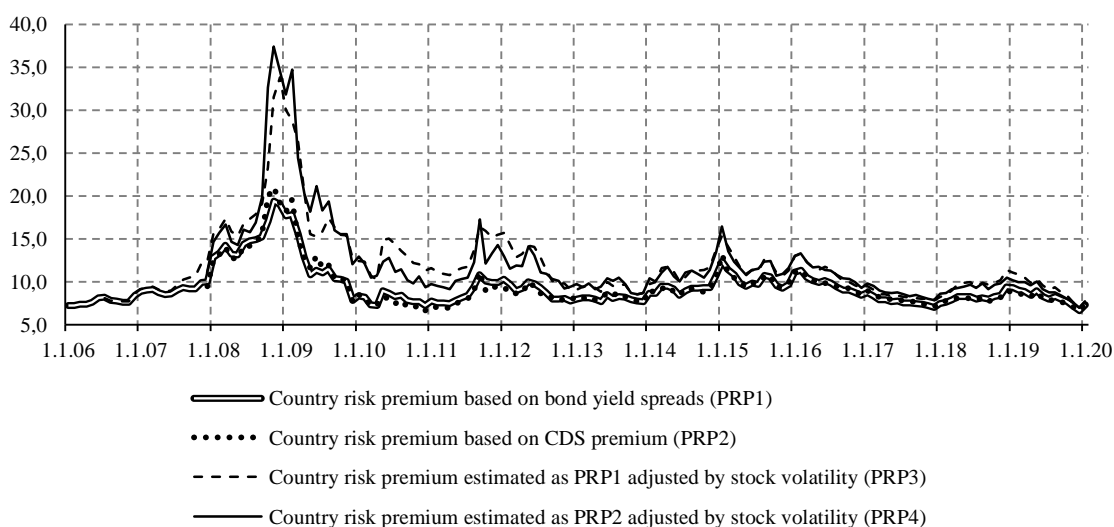


Fig. 13. The current and historical equity risk premiums on Russian stocks, adjusted for their relative volatility in the domestic market, %, 2006 - January 2020

Source: own calculations based on data released by Bloomberg.

The second group of equity risk premium indicators consists of the **historical risk premiums (HRP) on Russian stocks** denominated in US dollars relative to short- and long-term portfolio yields of RF eurobonds. The methodology applied in calculating these spreads, without much detail, was described in the book ‘Triumph of the Optimists’, and later in the reviews released by Credit Suisse and authored by the same team. The problem with the data for Russia applied by Dimson et al. is that they are publicly available only for a limited number of years, and rely on a calculation methodology that is not entirely transparent. For these reasons, we decided to calculate HRP1 and HRP2 on our own; these are the historical risk

premiums that we calculated on a longer time horizon relative to the long- and short-term yields of RF eurobond portfolios, respectively, and reviewed on a monthly basis (*Fig. 14*).¹

The calculation of historical equity risk premiums is of practical importance for forecasting the movement of premiums and stock returns, evaluating the cost of capital for companies, as well as using it as a benchmark for the required rate of return on investments. A positive long-term equity risk premium is indicative of the relative safety of long-term investments in stocks compared with a risk-free rate (in practice, the authors have come to the conclusion that stocks most stably outperform bonds over at least a 40-year horizon). A comparison of premiums across many countries makes it possible to draw reliable conclusions as to the feasibility of global or regional portfolio diversification.

Fig. 14 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 risk-free rate) and long-term eurobonds (the most commonly used proxy for the risk-free rate). The premium on short-term bonds is positive and amounts to 5.6% over the 20-year period from 2000 through 2019. Over the shorter periods in 2016–2018, it hovered around 3.5–3.8%, and its surge to the 2019 level was caused by the sharp increase in the stock returns in that year. The premium on long-term bonds has

¹ Essentially, the method developed by Dimson et al. aims at comparing long series of historical data on the returns on stocks and two types (short- and long-term) of government bonds, which are used to calculate their geometric mean for a certain period. 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. It describes the aggregate behavior of markets and the success of long-term investment in stocks over a long period of time (30 years or more). Nevertheless, the authors of the book believe that the expert forecasts of future stock returns and risk premiums rely to a greater degree on exactly such historical estimates, and that the calculations based on empirical data have confirmed the existence of some connections between the historical and future equity risk premiums.

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 of different countries, for example, in US dollar terms. Next, the cumulative return of that stock index is calculated from the start of its monitoring period until the present. One example of such an index is MSCI Russia, which has been followed since December 1994. Accordingly, to calculate the equity risk premium of that index for 2019, its cumulative return for the period 1995–2019 was used, and the premium for 2013 was based on data for 1995–2013.

As a proxy for the risk-free rate, Dimson et al. used both short-term and long-term government bonds. Both approaches have their advantages and disadvantages. 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 (*Dimson et al., 2001, p. 74*). Thus, the authors insist that it is important to calculate equity risk premiums relative to both instruments, because they represent two key alternatives for investors. The benchmark in this case should be the yield of the national eurobond price index denominated in US dollars. After compiling or selecting such an index, the calculation algorithm is similar to that applied to stocks: their effective yield for the longest period is calculated.

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. Probably, for Russia, Dimson used the eurobond index that he had compiled himself, and he does not disclose its composition. In our calculations, we relied on a similar approach and compiled our own short-term and long-term indexes for RF eurobonds, and thus also calculated our own values of historical risk premium for Russian stocks (HRP1 and HRP2).

been negative since 2008 and reflects the fact that after the 2008–2009 crisis, the Russian stock market has never fully recovered. Since 2017, Credit Suisse has removed Russia from its reviews, and so for that period, we replaced the classical calculations by Dimson et al. by our own data. For the period 2000–2019, the premium relative to long-term bonds amounted to -1.2%, which points to a higher investment attractiveness of RF government bonds compared with Russian stocks.

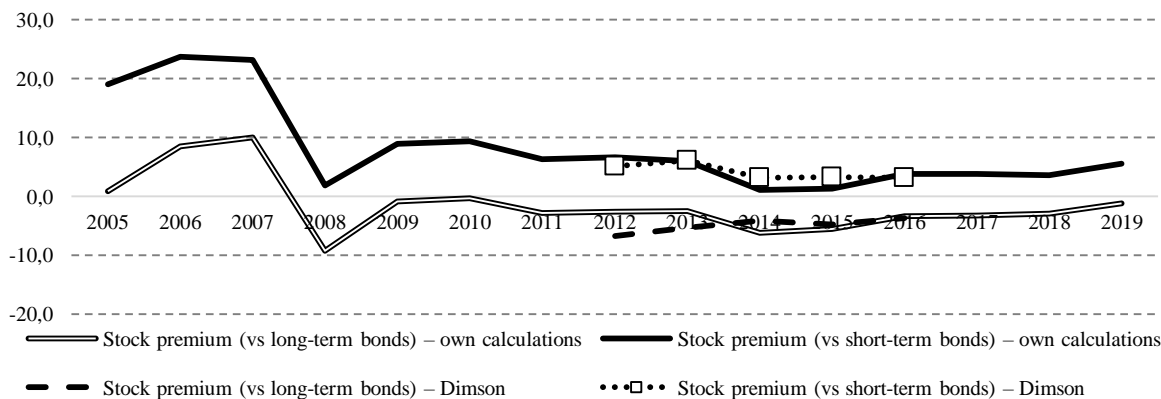


Fig. 14. The long-term historical equity risk premiums vs short- and long-term eurobonds (in US dollars), 2000–2019

Source: own calculations based on data released by Bloomberg.

As can be gleaned from 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 stock market problems that prevent investors from receiving their expected amount of equity risk premium on their investments in more risky assets.

3.1.3. The fundamental characteristics of the stock market

Fig. 15 shows data on the parameters of returns and risks of 31 stock indexes from 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 2019, the 5-year period from 2015 through 2019, and the 12-year period from 2007 through 2019.

In 2019, the dividend yield on the RTS Index was 44.9%, second only to the Greece stock market index, and several times higher than the average return of 16.5% for a sample of country indexes (*Fig. 15a*). The risk index (standard deviation) of the RTS Index amounted to 17.6%, which was below the sample’s average of 22.0%. However, the risk score of approximately 2/3 of all the indexes included in the sample was still lower than that of the RTS Index.

On a 5-year time horizon (2015–2019), the RTS Index also demonstrated some decent results by its return-risk ratio (*Fig. 15b*). Its dividend yield of 14.4% per annum was the highest among all the stock indexes included in the sample; the average return for that group of countries barely reached 2.2% per annum. The risk of the RTS Index for the period under study amounted to 22.5%, which was lower than the sample’s average standard deviation of 25.6%. However, 3/4 of all country indexes had a lower risk indicator than the Russian stock index.

RUSSIAN ECONOMY IN 2019

trends and outlooks

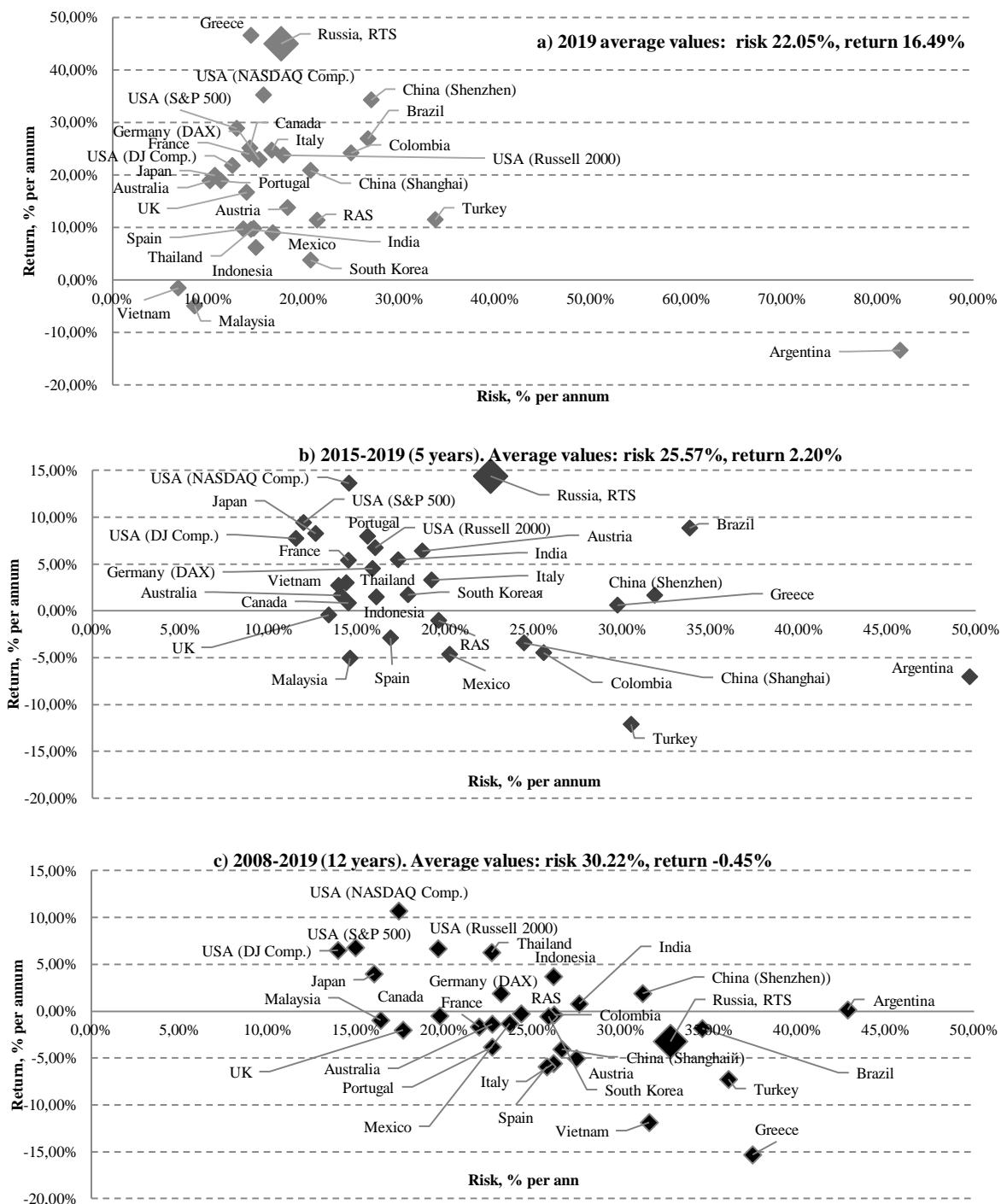


Fig. 15. The geometric mean values of return and risk parameters of 31 national stock indexes for the period from January 2008 through December 2019, in US dollars, on time horizons of 1, 5, and 12 years, % per annum¹

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

¹ The values of Venezuela's stock index are not shown on the chart due to the scaling limitations of the X and Y axes.

On the 12-year horizon from 2008 through 2019, which encompasses the global financial crisis of 2008, the return-risk indicators of the RTS Index were among the worst in the group of stock indexes included in the sample (*Fig. 15c*). While the sample's average return was 0.4% per annum, that of the RTS Index amounted to -3.2%; the risk ratio of Russian stock portfolio was 32.8%, while the sample's average stood at 30.2%.

Thus, by comparison with the other competing countries, Russian stocks and their index offer the investors higher returns at a moderate risk. However, during global crises, Russian companies 'spoil' their track record for many years by creating, in the eyes of investors, the image of their stocks as a highly speculative asset, suitable only for relatively short-term investment.

All other conditions being equal, Russian stocks are priced lower than their foreign counterparts, and this underestimation has become a persistent phenomenon. The low price-earnings multiples on Russian equities are not an upshot of some temporary market factors; their causes are rooted deeper and have to do with their inadequate investment attractiveness. As shown in *Fig. 16*, out of the 26 national stock indexes,¹ the price-to-book (P/BV) ratio² of the constituent companies of the RTS Index was among the lowest in the world. Although, in 2019, this indicator of Russian companies increased to 1.0, over the 5-year period from 2015 through 2019 its average value was 0.8. According to the period-end results, only companies from Greece demonstrated a lower P/BV ratio.

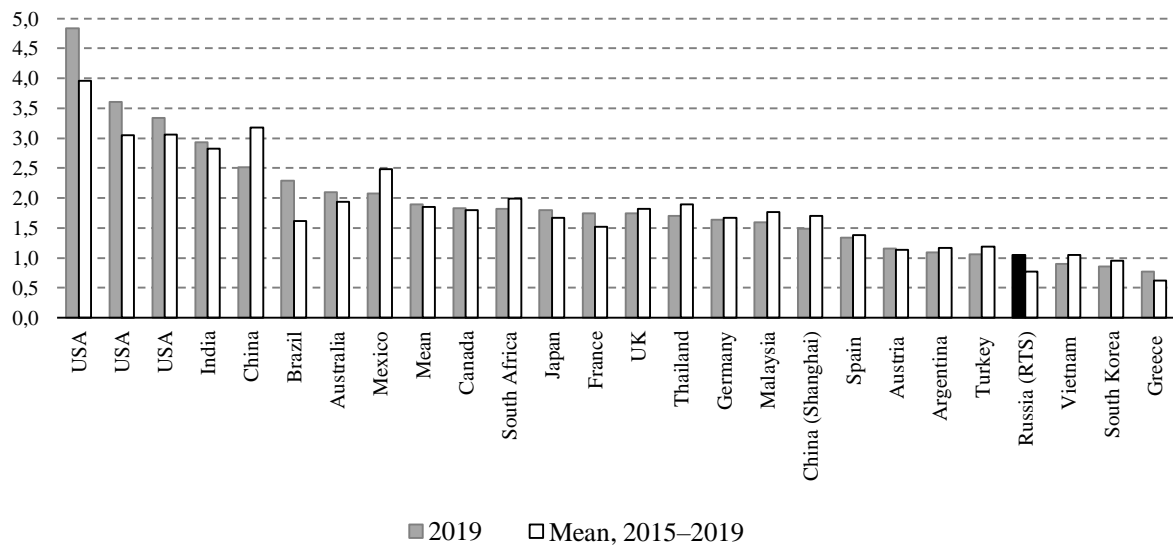


Fig. 16. The financial indicator 'price-to-book per share ratio' as of December 31, 2019 and its mean value for the period 2015–2019 based on 26 national stock indexes

Source: own calculations based on data released by Bloomberg.

¹ In comparison with the sample of 31 stock indexes in the calculations to *Fig. 15*, the stock indexes of Venezuela, Indonesia, Italy, Colombia, Portugal and the Russell 2000 index of American companies are excluded here and further due to abnormal values of their financial coefficients.

² 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, including charter capital, reserves and retained earnings.

The stock prices of Russian PJSCs are underestimated compared to 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. 17*, in 2019, among the 26 national stock indexes, the ROE of 15.3% for the RTS Index was among the highest in the world, second only to the Argentina Stock Market index and the Dow Jones Composite Average. The average ROE of Russian companies in a 5-year time horizon (2015–2019) stood at 11.5%, which was above the mean value of 9.5% in the sample of 26 stock indexes and below that of only 6 stock indexes.

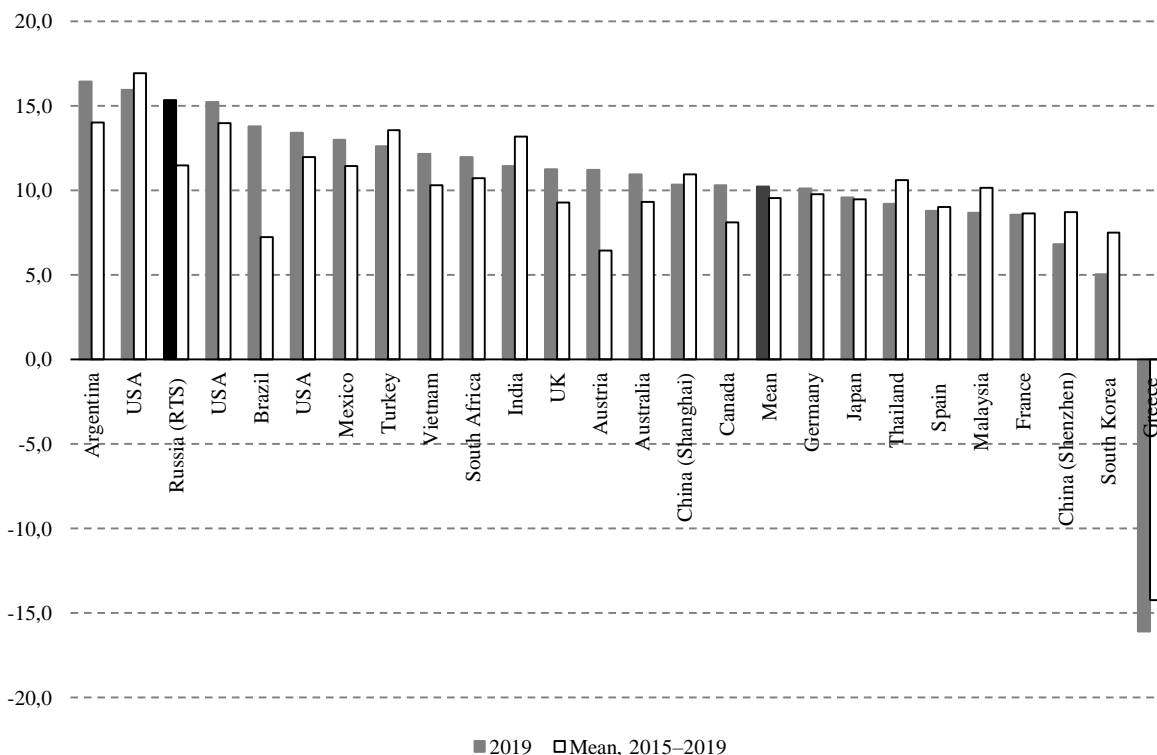


Fig. 17. The financial indicator ‘return on equity’ (ROE) as of December 31, 2019 and its mean value for the period 2015–2019 based on 26 national stock indexes, %

Source: own calculations based on data released by Bloomberg.

Under the conditions of economic sanctions that restrict a capital inflow from external sources and the relatively high domestic key rate compared with the other economies, the characteristic feature of Russia’s biggest public companies is their low debt burden, which has been shrinking over the past 5 years. As shown in *Fig. 18*, in 2019, among the 26 national stock indexes, Russia’s RTS index constituent companies had the lowest D/EBITDA ratio of 0.3, compared with the sample’s mean value of 3.4. On average over the period 2015–2019, that constituent of the RTS index was also the lowest in the sample, amounting to 0.7 vs the sample’s mean of 3.4.

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.

Thus, the persistently underpriced Russian stocks over the past 5 years alongside their higher returns on equity compared with those observed in many other stock markets, and their lower debt load according to the D/EBITDA ratio, have led us to the assumption that the main factors responsible for the lower prices of shares in Russian PJSC are exogenous and have to do with the general investment climate and some other risks typical of the Russian economy.

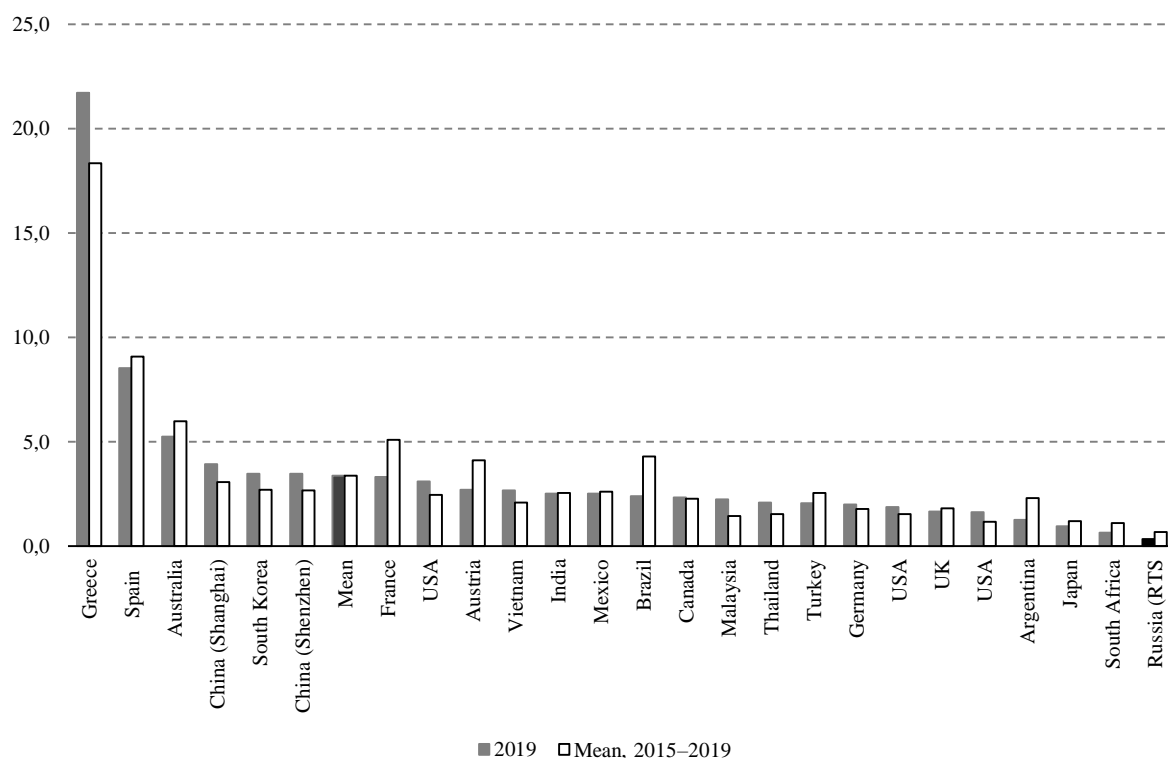


Fig. 18. The financial indicator ‘Debt/EBITDA’ as of December 31, 2019 and its mean value for the period 2015–2019 based on 26 national stock indexes

Source: own calculations based on data released by Bloomberg.

A positive trend in the domestic stock market observed after the 2008 crisis has been a significant growth of dividend yield on Russian stocks. The dividend yield on the RTS Index increased from 1.5% in Q1 2010 to 6.5% in Q4 2019, or 4.3 times (Fig. 19a). In 2019, as well as on average over the 5-year period from 2015 through 2019, the dividend yields on the RTS Index of 6.5% and 5.2%, respectively, turned out to be the highest among all the 26 stock indexes included in the sample (Fig. 19b). Over the same periods, the mean dividend yields on those indices were 3.0 and 2.8%, respectively.

According to some studies (see Abramov et al.¹), the main factors that were pushing up the dividend yields during these 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 (SOE) to make them pay at least 50% of their

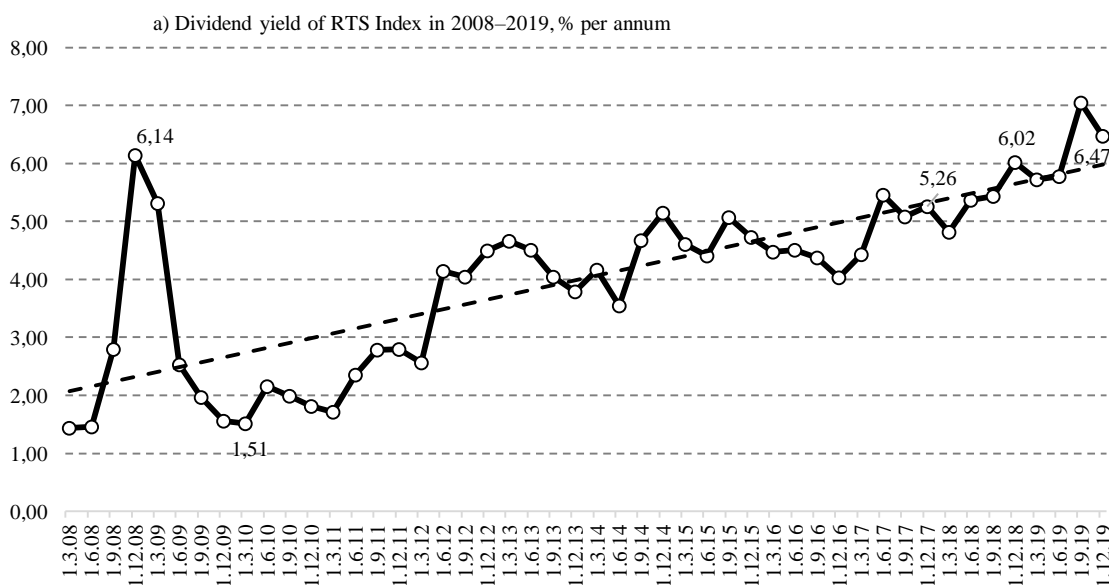
¹ Abramov, A.E., Radygin, A.D., Chernova, M.I., Entov, R.M. The ‘dividend puzzle’ and the Russian stock market. Part 2 // Voprosy Ekonomiki. 2020. No 1. P. 66–92; Part 2. // Voprosy Ekonomiki. 2020. No 2. P. 89–85.

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 they had not invested.

In theory, the dividend yield is considered as the quotient of the dividend payout ratio (as a percentage of net profit) divided by the price-to-earnings (P/E) ratio.¹ This means, for example, that the growth of dividend yield can 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 points to negative consequences for investors.

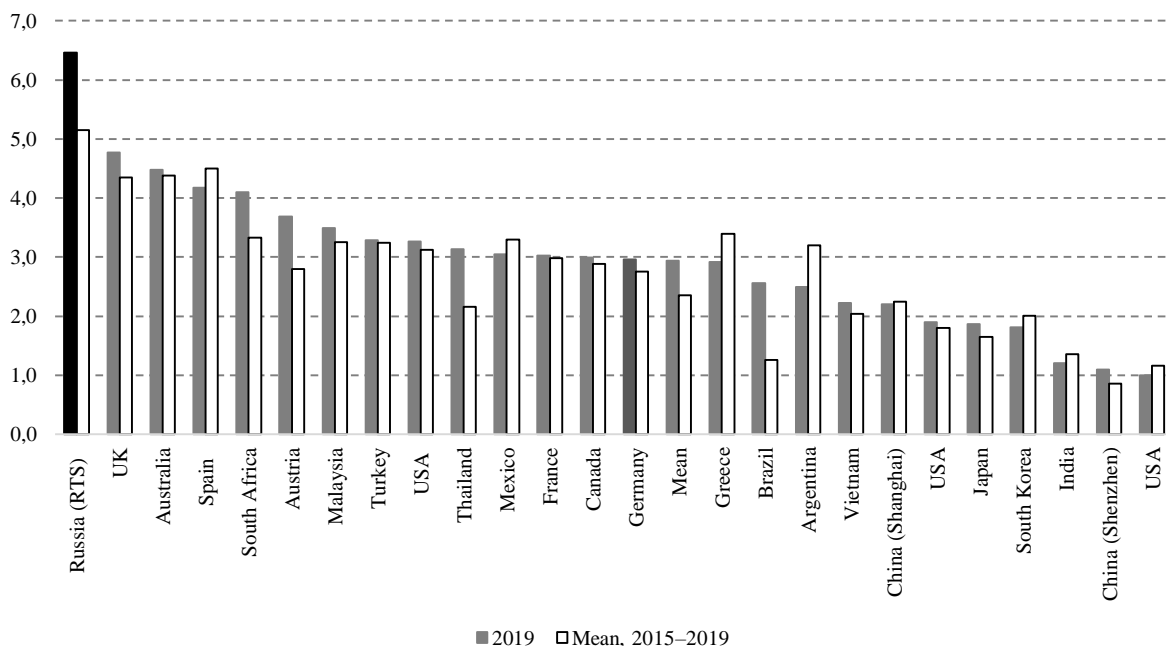
As shown in *Fig. 19c*, during the 12-year period from 2008 through 2019, the increasing dividend yield on the RTS Index noted in *Fig. 19a* resulted from the combined effects of two trends: growth of the amount of net profit paid out as dividends from 11.6% in Q1 2008 to 34.7% in Q4 2019, and shrinkage of the P/E ratio over the same period from 9.6 to 6.8. Meanwhile, the behavior of these two indicators in 2008-2019 was highly volatile. Thus, the accelerated growth in the dividend yield on the RTS Index on the said 12-year horizon was caused not only by a factor that was positive for investors – an increase in the share of companies’ net profit earmarked for dividends, but also by a downward trend in the intrinsic value of their stocks, which was a negative factor.

Although over the period 2015–2019, the average annual dividend yield on stocks issued by Russian PJSCs was the highest among the 26 stock indexes around the world (*Fig. 19a*), this was achieved, as shown in *Fig. 19d*, primarily due to the extremely low value of the P/E ratio constituent of the RTS Index relative to the other stock indexes. Over the 5-year period under consideration, the average annual P/E ratio of the RTS Index was the sample’s lowest, at 6.6 vs the mean P/E ratio of 20.9 of the other 26 stock indices. At the same time, the RTS average annual dividend payout ratio amounted to 34.7%, which was below 19 out of the other 26 stock indexes, while the sample’s mean stood at 50.9%.

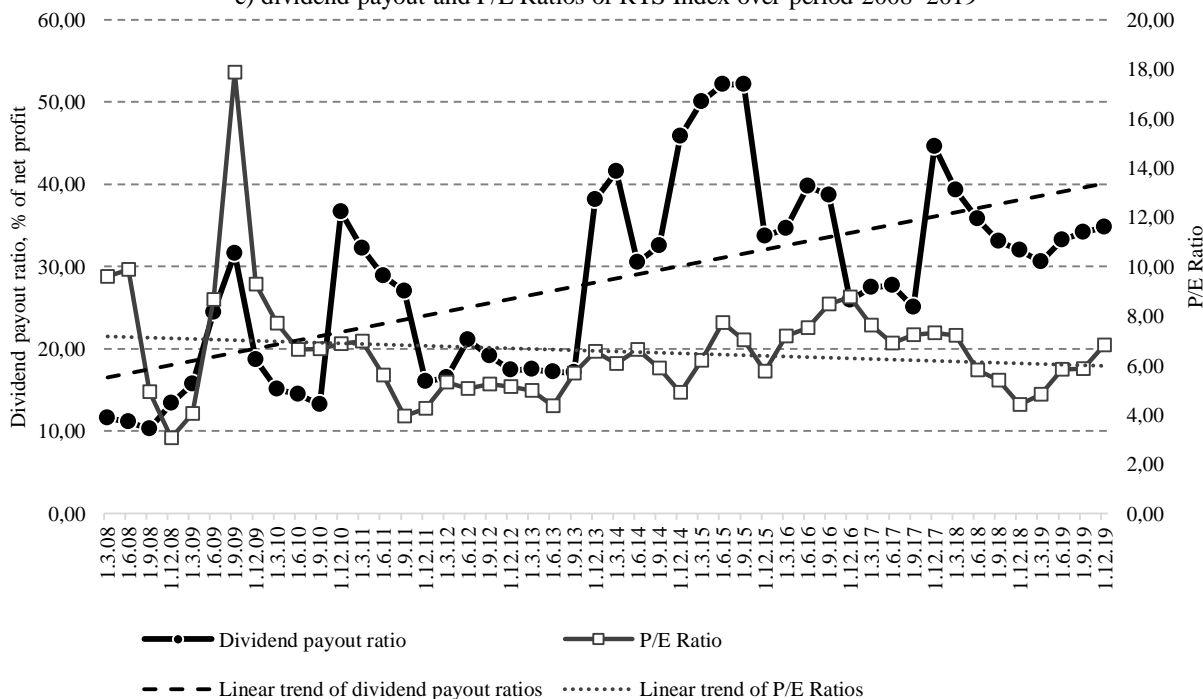


¹ This financial ratio describes the relative amount of companies’ capitalization, i.e., for how many years the amount of net profit per share pays off its market price.

b) dividend yields of broad stock market indexes of different countries in 2019 and their mean value over 2015—2019 (5 years), % per annum



c) dividend payout and P/E Ratios of RTS Index over period 2008–2019



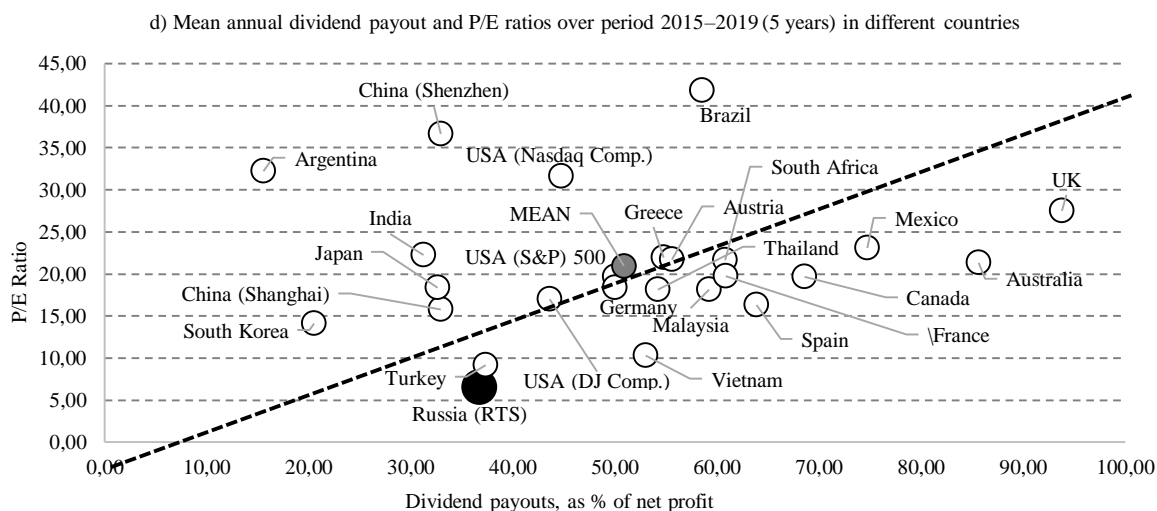


Fig. 19. Analysis of dividend yield on the RTS Index, as % of market stock price, as of December 31, 2019

Source: own calculations based on data released by Bloomberg.

Over the period 2008–2019, the cumulative equity risk premium on Russian stocks¹ amounted to only 9.5% for the MOEX Total Return Index², and to 51.5% for our calculated broad market portfolio index (RMRF) (*Fig. 20*). As a risk-free return, we applied the monthly rate of return on individual bank deposits of 181 days to 1 year.

The issues of tradable Russian stocks are definitely non-homogeneous, because they differ by certain criteria that are typical of their issuers. In our classification of stocks, we applied the following criteria: capitalization index; liquidity on the secondary market; P/BV ratio; dividend yield; the size of state-owned stakes; and stock returns over the previous period. A separate stock portfolio was compiled for each of these criteria, to be reviewed once a year. 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 investing strategies, which are widely used by institutional investors all over the world.⁴

¹ The difference between the yield 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) that we compiled using 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 Center for Institutions Analysis and Financial Markets (RANEPА IAES) at <https://ipei.ranepa.ru/en/capm-ru>. Similar calculations for US stocks are available on the resource supported by US economist Kenneth French, at: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

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.

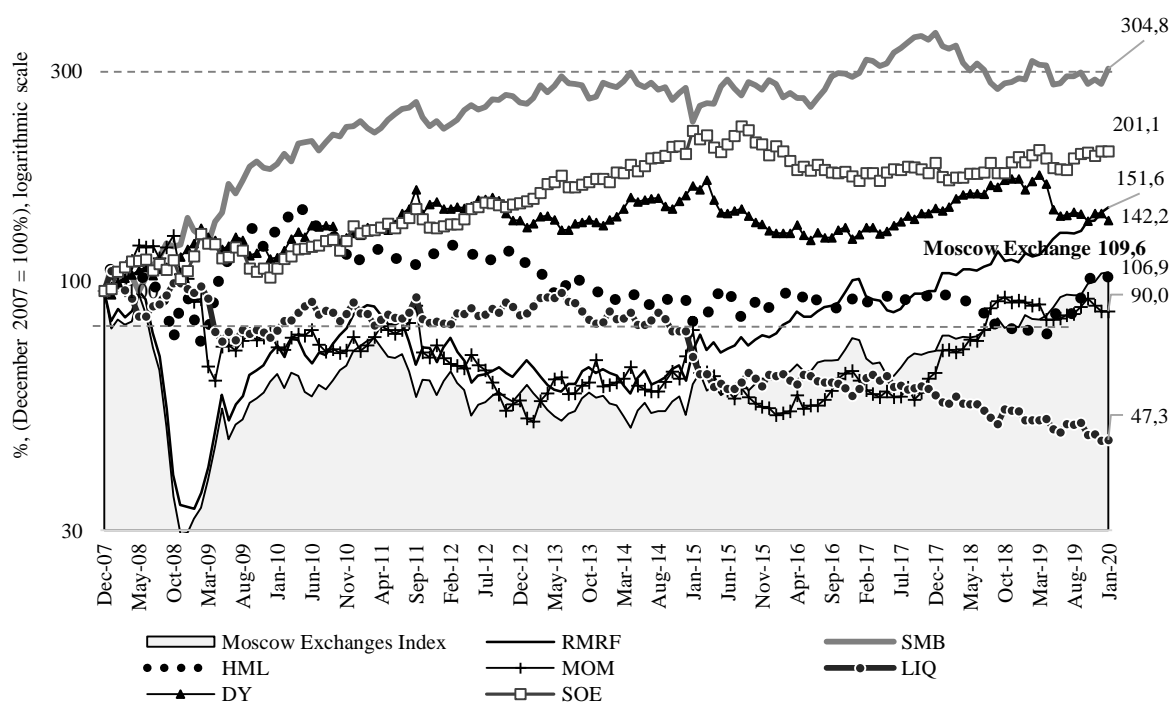


Fig. 20. The cumulative returns on the MOEX Index, the broad market portfolio index (RMRF), and the investment factors that were influencing them from December 2007 through January 2020¹

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

¹ The MOEX Index: 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: 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). 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. SOE 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 (SOE). 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 charter capital.

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/ru/capm-ru/metodika-rascheta-faktorov>

The data in the graph (*Fig. 20*) show that the use of three out of seven criteria for selecting stock issues – the company capitalization index, the presence of the State as a shareholder, and the dividend yield for the previous period – makes it possible for investors to increase the returns on their stock portfolios. Over the period from December 2007 through January 2020, as a result of their orientation to stocks issued by smaller companies and by joint-stock companies with smaller state stakes in their charter capital, as well as to stocks with higher dividend yields, investors received 12-year accrued premiums of 204.8%, 101.1%, and 42.2%, respectively, compared with the premiums on stocks issued by big companies, companies with large stakes held by the State, and stocks with low dividend yields.

At the same time, in 2019, when investing in less liquid stocks and stocks with higher returns, the investors were not compensated with premiums in an amount that they usually expected to receive on low-liquidity financial instruments and when they relied on an ‘inertial’ investment strategy. No obvious benefits could be derived from investment in value stocks or growth stocks, either.

Thus, the fundamental internal factors that influence the return on investment in stocks placed by specific groups of issuers are beginning to play an increasingly important role in the domestic stock market, which may be a sign of a transition of this market segment to a higher level of development, more typical of mature capital markets.

3.1.4. The stock market organization

In response to rising stock prices, the capitalization index of Russian companies increased from USD 576 billion in 2018 to USD 792 billion in 2019, or by 37.5%¹ (*Fig. 21*). By this indicator, the Russian market had rebounded to its level of 2013, when it was operating prior to the introduction of economic sanctions. However, the volume of market transactions, on the basis of which the market value of stocks is calculated, is still growing at a slow pace. In 2019, it reached the level of USD 180 billion, which represents an increase of 7.8% on the previous year, but only 74.4% of its 2013 level. This means that a moderate capitalization growth occurred against the backdrop of liquidity stagnation in the stock exchange market in response to an insufficient activity there of non-residents and institutional investors, alongside a freeze of the domestic pension savings system.

For more than 7 years already, starting from 2013, there has been a trend towards reducing the number of listed issuers on the Moscow Exchange (*Fig. 22*). Their number shrunk from 225 in 2018 to 217 in 2019, or by 3.6%. The problem is not that one or other issuer is struck off the exchange lists, which may happen as a result of a natural process of company reorganization or tightened requirements to listed companies, but that the exchange market is not being entered by new medium-sized and small businesses, and the process of emergence of new national business champions is not properly realized.²

¹ The quantitative parameters of the Russian stock market were evaluated in dollars in order to make it comparable with similar statistics of other countries.

² In Q1 2020, in the framework of business support measures, the government compiled a list of 646 system-forming enterprises, which it would be ready to help in the first place. The support of such companies is a timely and important step; however, interestingly, 66% of those companies were not listed on the Moscow Exchange, which points to difficulties in assessing their performance and transparency. Probably, in the future, the condition for placing big companies on a government support list could be their listing on the stock exchange, because then it would be easier to monitor in a transparent and efficient manner the government support measures provided to them.

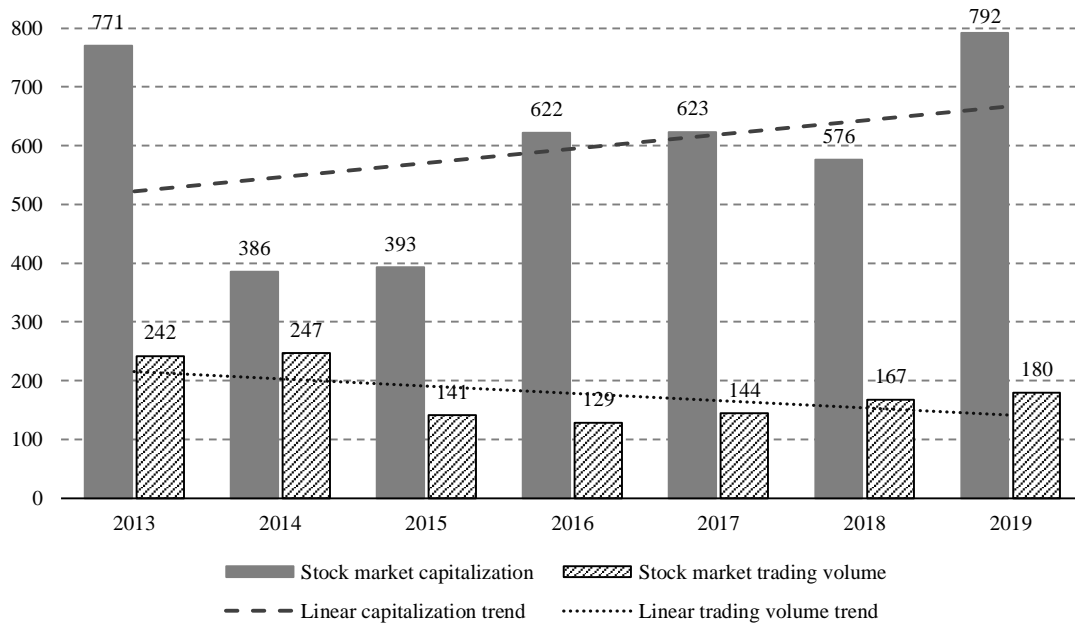


Fig. 21. The capitalization and volume of market stock transactions¹ on the Moscow Exchange in 2013–2019, billions of USD

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

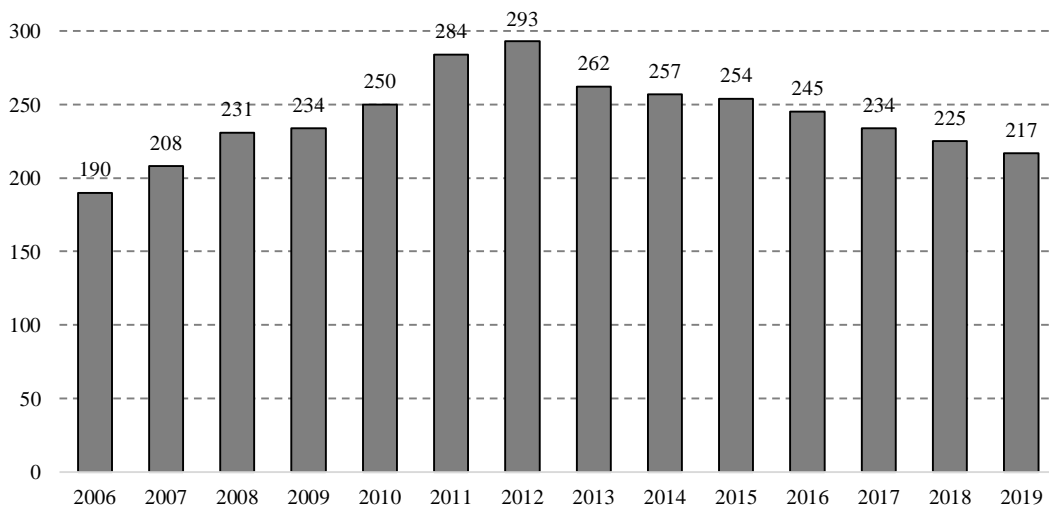


Fig. 22. The number of companies listed on the Moscow Exchange in 2006–2019²

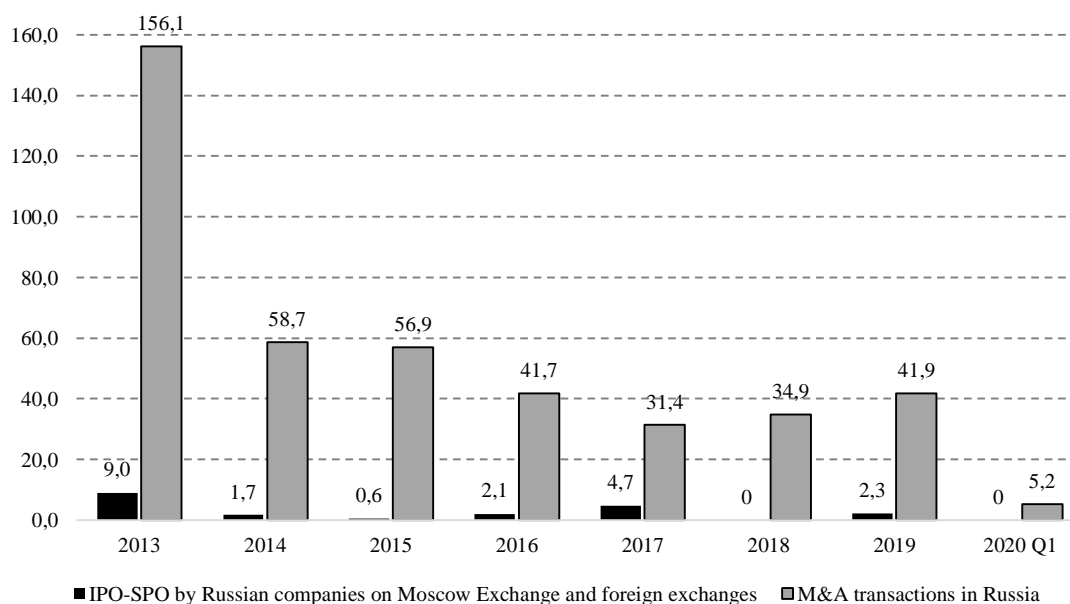
Source: own calculations based on data for 2006–2008 taken from NAUFOR’s (Russian National Association of Securities Market Participants) factbook ‘Russian stock market: 2015. Events and facts’; and data for 2009–2019 released by the World Federation of Exchanges (WFE).

¹ Market transactions are understood as the transactions concluded during an anonymous auction on the Moscow Exchange.

² The figures for the period 2006–2011 are based on the listing data released by the MICEX; for the period 2012–2019, on the listing data released by the Moscow Exchange PJSC.

In 2019, the statistics on public stock offers and M&A transactions participated by Russian companies, i.e., the indicators of the domestic stock market performance in terms of attracting investment and redistributing the ownership of stakes in companies, somewhat improved (Fig. 23). While in 2018 no IPO-SPO stock market transactions¹ with the participation of Russian companies took place on the Moscow Exchange or foreign exchanges, in 2019 several such deals were closed, mainly in the form of SPOs on foreign exchanges, to the total value of USD 2.3 billion. The only classic IPO in 2019 was the initial public offering, on the Nasdaq stock market in the USA, of shares in HeadHunter, a Cyprus company registered in Cyprus, which carried out the bulk of its activities in the Russian Federation, to the value USD 220 million. The total volume of IPO-SPO transactions in 2019 was 3.9 times lower than the corresponding index for 2013, which stood at USD 9.0 billion.

The value of completed M&A transactions increased from USD 34.9 billion in 2018 to USD 41.9 billion in 2019, or by 20.0%. However, in spite of this growth, the current volume of mergers and acquisitions is still significantly below its 2013 level, when it amounted to USD 156.1 billion, or 3.7 times more than in 2019.



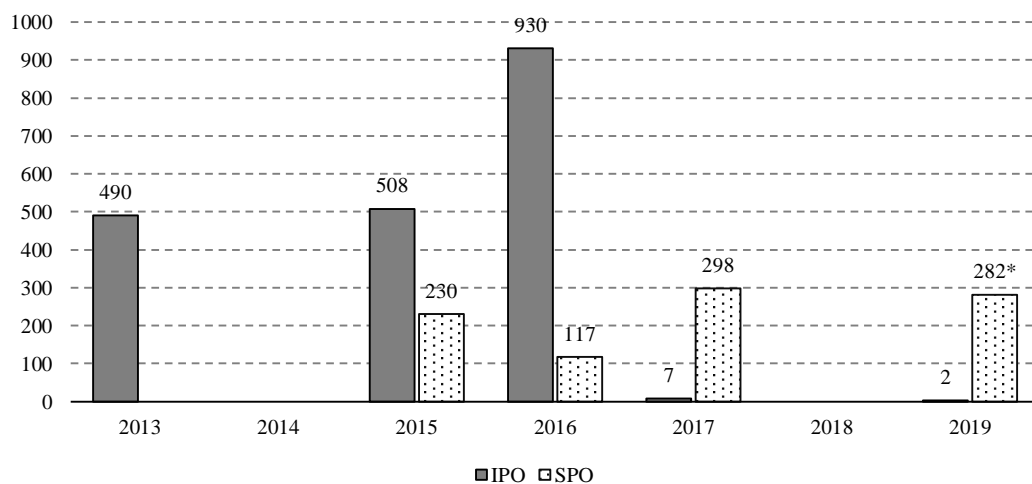
* Russian legal entities and public companies registered in foreign jurisdictions and operating in the Russian Federation.

Fig. 23. The value of IPOs and SPOs by Russian companies on the Moscow Exchange and on foreign exchanges, and the value of mergers and acquisitions participated by Russian companies from 2013 through Q1 2020, billion USD

Source: own calculations based on data released by the World Federation of Exchanges (WFE); Merger.ru (<http://mergers.ru/>) and Preqveca (<http://preqveca.ru/placements/>) (sources owned by Cbonds Group).

¹ 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.

Over the past three years, the bulk of IPO-SPOs by companies operating in the territory of the Russian Federation took place on foreign exchanges. According to the World Federation of Exchanges, only IPOs to the total value of about USD 2 million and SPOs (less the sale of two blocks of shares in Gazprom to an unknown buyer) to the value of USD 282 million went directly to the Moscow Exchange in 2019 (*Fig. 24*). In 2018, there were no such stock market transactions at all. Thus, for a variety of reasons, which primarily had to do with the unstable investment climate and the lack of market financing sources on the stock exchange, for three straight years from 2017 to 2019, the domestic stock market was not performing one of its key functions – the attraction of additional investment by company through public offering of their stocks.



* In our calculations, the WSE’s data on the total value of SPO deals on the Moscow Exchange in 2019 (USD 5,329.7 million) were reduced by the amount equal to the value of big stakes in Gazprom PJSC (USD 5,048 million) sold on March 25, 2019 and November 21, 2019, because of the insufficient transparency of those transactions.

Fig. 24. The value of IPO and SPO transactions on the Moscow Exchange in 2013–2019, million USD

Source: own calculations based on data released by the WSE and Preqveca (URL: <http://preqveca.ru/placements/>) (Cbonds Group).

A comparative analysis of the Russian stock market’s competitiveness has revealed that its scale and performance, expressed as the sum of foreign investment attracted through stock issuance and the value of mergers and acquisitions with the participation of national companies, do not match the size of the Russian economy and the complexity of its goals. Executive Order of the President of the Russian Federation No. 2014 dated May 7, 2018 ‘On National Goals and Strategic Objectives of the Russian Federation through to 2024’, outlined, as one of the national development goals, that of taking Russia into the top five largest economies. In order to achieve this goal in a situation of economic sanctions restricting the attraction of external financing, it will be necessary to mobilize massive sources of domestic savings, including market-based mechanisms for transforming savings into investment resources.

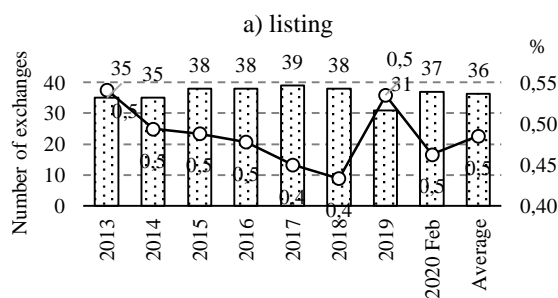
However, the data presented in *Fig. 25* demonstrate that the domestic stock market is unlikely to help significantly in providing solutions to these problems, because it is rather small compared with the stock markets of many other countries. While Russia seeks to become fifth

RUSSIAN ECONOMY IN 2019

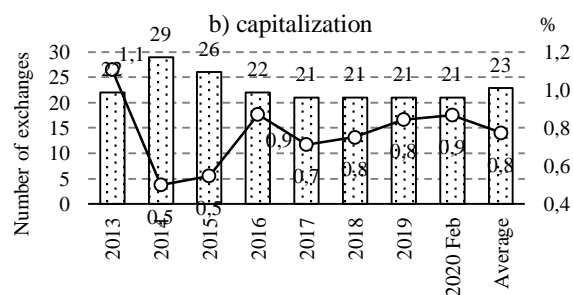
trends and outlooks

largest economy in the world, the Moscow Exchange, an average over the period 2013–2019, was behind 36 foreign stock exchanges by the number of listed companies; 23 foreign stock exchanges by the capitalization index of listed companies; 25 foreign stock exchanges by its stock market liquidity; and 35 and 40 foreign stock exchanges by the number of IPOs and SPOs, respectively. On average over the same period, Russia’s share in the total global number of listed companies was 0.5%; in the global capitalization index, 0.8%; in the global stock exchange trading volume, 0.2%; in the global value volume of IPOs and SPOs, 0.001% and 0.04%, respectively; and in the global value volume of mergers and acquisitions, 1.25%. In 2019, there were some minor improvements in terms of listing, capitalization, stock market liquidity, and the volume of SPO and M&A transactions. However, these improvements are purely cosmetic, and they do not change the general trends of the domestic stock market’s low competitiveness on a global scale and the inadequacy of its potential to Russia’s economic goals.

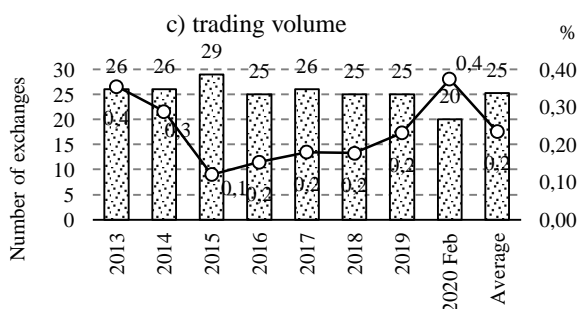
Some serious measures are needed to reform the domestic stock market and to reverse its development and competitiveness trends that prevailed over the period from 2013 through Q1 2020. These measures should be consistent with Russia’s strategic economic and social goals outlined in the national projects and other strategic planning documents.



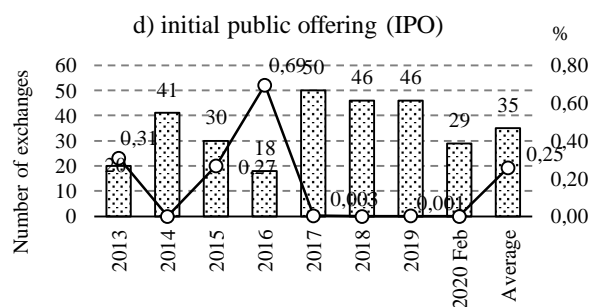
Number of exchanges with more listed issuers than those listed on Moscow Exchange (left-hand side axis)
 Moscow Exchange's global market share (right-hand side axis)



Number of exchanges with higher index than that of Moscow Exchange (left-hand side axis)
 Moscow Exchange's global capitalization share (right-hand side axis)



Number of exchanges with higher index than that of Moscow Exchange (left-hand side axis)
 Moscow Exchange's global trading volume share (right-hand side axis)



Number of exchanges with higher index than that of Moscow Exchange (left-hand side axis)
 Moscow Exchange's share of global IPO market (right-hand side axis)

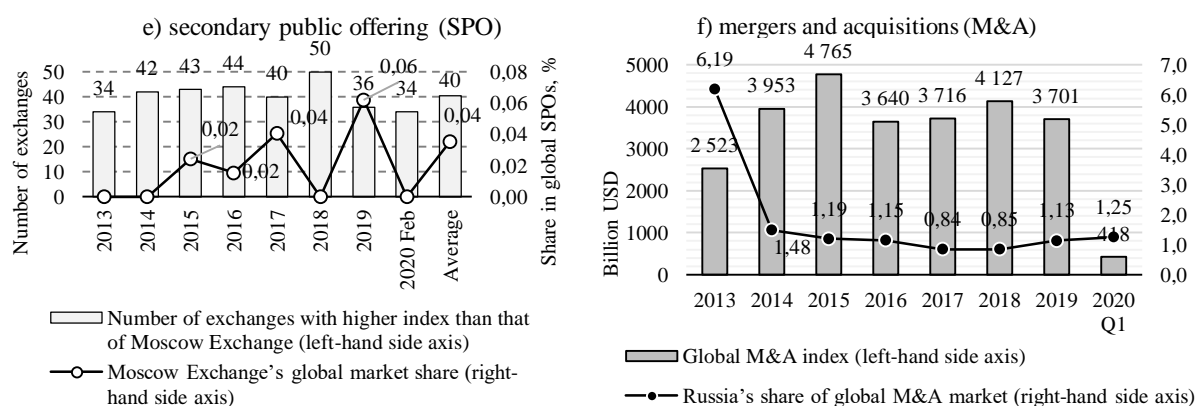


Fig. 25. The competitiveness indicators of the Russian stock market in 2006–2019

Source: own calculations based on data released by the WSE, Merger.ru (URL: <http://mergers.ru/>) (Cbonds Group), and the Institute of Mergers, Acquisitions and Alliances (IMAA). URL: <https://imaa-institute.org/mergers-and-acquisitions-statistics/>

The domestic stock market liquidity is mainly sustained by shares in a limited number of companies, and the market cap concentration index, which is already quite high, is still on the rise. The stocks of the top 5 issuers (Gazprom, Sberbank, Rosneft, LUKoil and Novatek) in 2019 accounted for 50.6% of the total combined market cap, compared with 48.7% in 2018; the combined market cap share of the top 10 PJSCs increased from 66.8% in 2018 to 70.1% in 2019; and that of the top 20 issuers – from 80.6 to 82.9%, respectively (Fig. 26, Table 4). Unlike other countries where companies belonging to the new economy often become leaders in capitalization, in Russia it is the companies operating in the fuel and energy complex, extractive industries, and Sberbank that continue to be the top ten largest issuers.

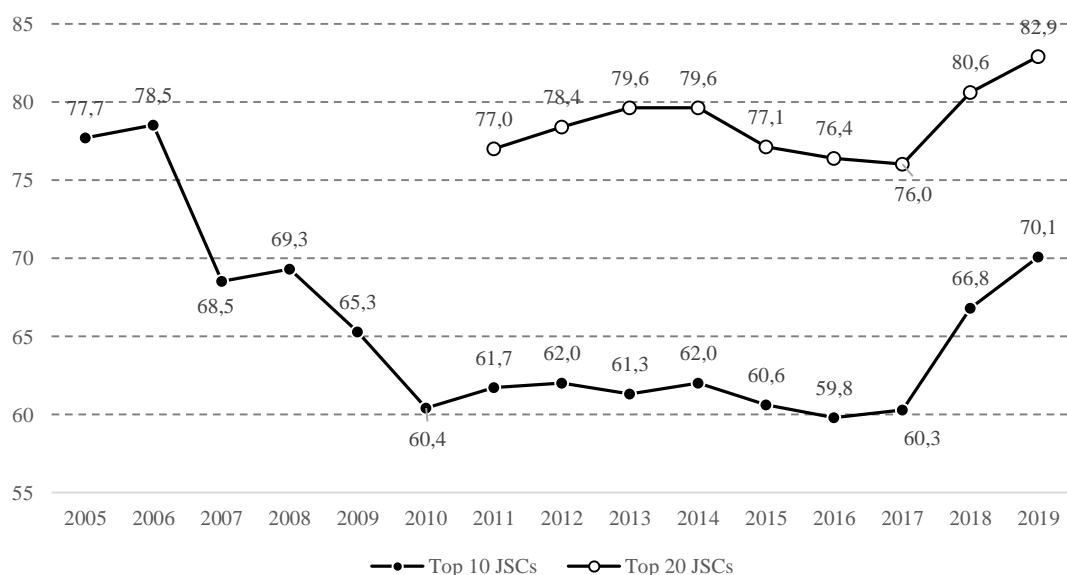


Fig. 26. The domestic stock market cap share of biggest PJSCs, %

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

Table 4

The market cap indices of Russia's top 10 public joint-stock companies (PJSCs) in 2017–2019

	Issuer	2017			Issuer	2018			Issuer	2019	
		Capitalization, billions of rubles	Market share, %			Capitalization, billions of rubles	Market share, %			Capitalization, billions of rubles	Market share, %
1	2	3	4	5	6	7	8	9	10	11	12
1	Sberbank PJSC	4,859	13.5	1	Sberbank PJSC	4,535	11.4	1	Gazprom PJSC	6,077	12.5
2	Gazprom PJSC	3,074	8.6	2	LUKoil PJSC	4,017	10.1	2	Sberbank PJSC	5,482	11.3
3	Rosneft PJSC	3,072	8.6	3	Gazprom PJSC	3,739	9.4	3	Rosneft PJSC	4,776	9.8
4	LUKoil PJSC	2,823	7.9	4	Rosneft PJSC	3,629	9.1	4	LUKoil PJSC "	4,405	9.1
5	NOVATEK PJSC	2,048	5.7	5	NOVATEK PJSC	3,431	8.6	5	NOVATEK PJSC	3,834	7.9
6	Norilsk Nickel PJSC	1,701	4.7	6	Norilsk Nickel PJSC	2,059	5.2	6	Norilsk Nickel PJSC	3,050	6.3
7	Gazprom Neft PJSC	1,162	3.2	7	Gazprom Neft PJSC	1,639	4.1	7	Gazprom Neft PJSC	1,995	4.1
8	Tatneft PJSC	1,035	2.9	8	Tatneft PJSC	1,588	4	8	Surgutneftegas OJSC	1,814	3.7
9	Surgutneftegas OJSC	991	2.8	9	Surgutneftegas OJSC "	959	2.4	9	Tatneft PJSC	1,668	3.4
10	NLMK PJSC	885	2.5	10	NLMK PJSC	944	2.4	10	Polyus PJSC	945	1.9
	Combined cap of all issuers on Moscow Exchange	35,896	100		Combined cap of all issuers on Moscow Exchange	39,716	100		Combined cap of all issuers on Moscow Exchange	48,579	100
	Combined cap of Top 5 issuers	15,876	44.2		Combined cap of Top 5 issuers	19,351	48.7		Combined cap of Top 5 issuers	24,574	50.6
	Combined cap of Top 10 issuers	21,650	60.3		Combined cap of Top 10 issuers	26,541	66.8		Combined cap of Top 10 issuers	34,047	70.1

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

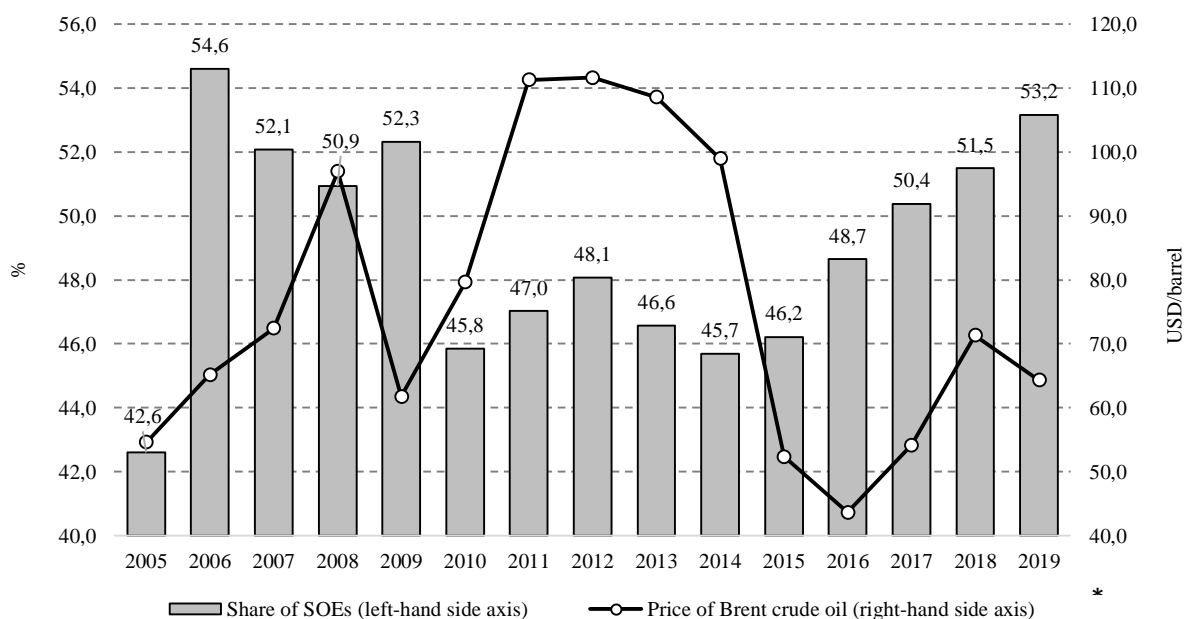
Another notable trend of the period 2014–2019 was a steady increase in the market cap index of state-owned companies (SOE)¹, from 45.7% in 2014 to 53.2% in 2019 (*Fig. 25*). This trend was associated with an accelerated market cap growth demonstrated by energy companies, where SOEs prevail, as oil prices rebounded in 2017–2018 after their collapse in 2015–2016, as well as with the favorable situation in the European natural gas market. Besides, there were the factors of increasing attractiveness of shares in Sberbank of Russia for foreign investors and the effect of the acquisition, by the private company TNK-BP, of the state-owned oil company Rosneft (in 2013), as well as the transition of the formerly private companies Bashneft PJSC (in 2014) and Magnit PJSC (in 2018) into the category of SOE.² The dwindling share of private companies in the combined market cap may be an indirect sign of a worsening investment climate and a limited access to financing in the banking system, as well as to other sources.

As shown in *Fig. 28*, in the structure of all stock exchange transactions in stocks in 2019, market transactions accounted for only 19.9%, repos – for 79.3%, and the remaining share of 0.8% was taken up by negotiated deals. The economic scheme behind repo transactions in

¹ A company with state participation (SOE) is an organization controlled by the state, acting as the sole owner, owner of a majority or significant minority stake (share in the authorized capital) in the amount of at least 10%.

² For further details concerning the role of SOEs in stock market capitalization, see *Radygin M.I. et al. Privatization 30 years later: the scale and performance of the public sector / A.D. Radygin, R.M. Entov, A.E. Abramov, M.I. Chernova, G.N. Malginov. - M.: Delo Publishing House, RANEP, 2019.*

stocks is that brokers use the assets of some of their clients for short-term lending to their other clients, the loans being secured by stocks or money, i.e. short sales¹ or margin transactions.² With the help of this market segment, individuals (brokers' clients) can also receive additional short-term loans from the broker and other legal entities. Repo transactions can boost stock liquidity by attracting additional money loans, while at the same time shifting the increased credit risks onto the multitude of private clients-intermediaries, who are not prepared to shoulder these risks. For brokers, the virtually free use of their clients' assets through repo transactions and the possibility to lend these assets to other clients is one of their key sources of income, which accounts for 27% of their revenue base, while their brokerage and other commissions bring only about 16 % of their income.³



* The data for 2019 on the market cap share of SOEs are preliminary.

Fig. 27. The relative share of state-owned companies (SOE) in the domestic stock market cap and the per barrel price of Brent crude oil in 2005–2019

Source: own calculations. URL: <https://ipei.ranepa.ru/kgu>

After the crisis of 2008, the brokerage business model in the domestic stock market, which implied that a traditional intermediary carried on market asset transactions for a commission on behalf of a client, underwent some profound changes, giving way to a new business model that closely resembles the activities of banks in the money market, when an intermediary, on its own behalf and on an ongoing basis, uses the assets of some its clients for lending cash and securities to other clients, its income generated by the spread between the interest paid to the former for the use of their assets and the interest on loans paid by the latter. However, unlike the banking sector, the new brokerage business model and its specific systemic risks have effectively

¹ The sale of unsecured stocks in the hope of making a profit as a result of their reduced market price.

² The purchase of securities using borrowed funds in the expectation of an increase in their market price.

³ Bank of Russia. Brokerage industry. Analytical review, 2017 and Q1 2018 (in Russian). Available at URL: http://www.cbr.ru/finmarkets/files/supervision/broker_18-01.pdf. In its report for Q4 2019, the Bank of Russia, unfortunately, does not disclose the year-end data for 2018 and 2019.

remained outside of the existing special regulation and supervision system. Although the number of individual clients of brokers is approaching 5 million, this system so far has not become subject to state guarantees as a mechanism of protecting client assets, and the discussion of existing proposals on this topic is being held up by the regulator and lawmakers.

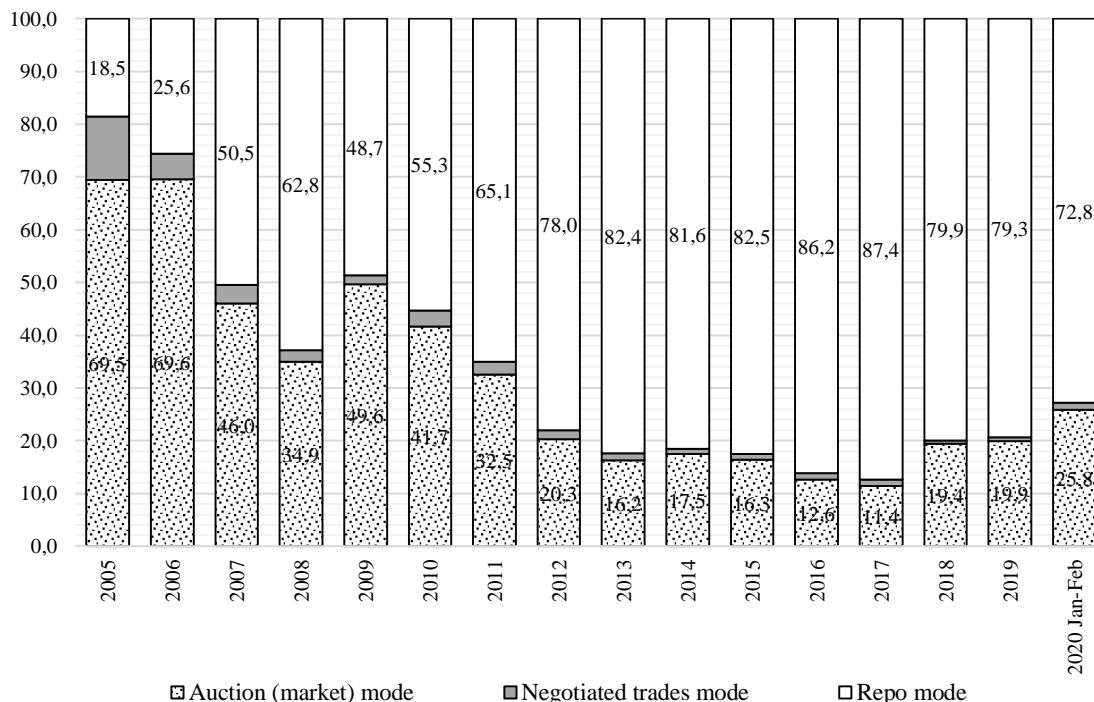


Fig. 28. The structure of trades in shares on the Moscow Exchange’s Main Market from 2005 through February 2020, %

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

As shown in *Table 5*, non-residents (foreign investment funds and banks) and resident individuals were the main liquidity drivers in the trades in shares segment on the Moscow Exchange over the period from 2017 through February 2020. The relative share of non-residents in the trades volume increased from 47.5% in 2017 to 48.6% in February 2020; the share of individuals also increased, from 35.3 to 38.0%, respectively. The year 2019 saw a massive inflow of individual traders into the stock market. According to data released by the Bank of Russia, the number of broker’s clients increased from 2.2 million in 2018 to 4.3 million in 2019, i.e. almost 2 times.

However, as shown earlier in the comments to *Fig. 25*, the Moscow Exchange by its volume of trades in shares falls behind 25 other stock exchanges in different countries of the world. This can largely be explained by the lower level of development of domestic institutional investors in Russia (private pension funds, administrators of private retirement plans and other savings programs, mutual funds, and other structures) compared with other developed and developing economies. According to data presented in *Table 5*, these institutions currently account for only 2.0% of the total volume of trades in shares; their tiny market share shrank further, from 3.2% in 2017 to 2.0% in February 2020.

Table 5

The structure of investors participating in trades in shares on the Moscow Exchange's Main Market from 2017 through February 2020

	2017	2018	2019	Feb 2020
Non-residents	47.5	51.2	47.5	48.6
Individuals	35.3	34.7	36.7	38.0
Dealers	8.9	8.2	8.1	6.6
Legal entities	5.1	3.8	4.7	4.8
Trust Managers	3.2	2.1	3.0	2.0

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

3.1.5. The general characteristics of the domestic bond market

In contrast to stocks, bonds played a more significant role as a means of saving,² as well as in financing the needs of business and the State. In 2019, the cost of bond loans in Russia was still on the rise, reaching the level of RUB 25.6 trillion, which represents an increase of 16.9% on 2018 (*Fig. 29*). The Bank of Russia bonds (OBRs), issued for the purpose of managing the liquidity level in the banking system, began to play an important role, their outstanding volume in 2019 amounting to RUB 1.9 trillion. Over the year, the value of corporate bonds, including non-market issues, increased from RUB 11.9 trillion to RUB 13.6 trillion, or 14.2%; that of federal bonds (OFZ, GSO, etc.), from RUB 7.7 trillion to RUB 9.3 trillion, or 20.8%. The volume of outstanding regional bonds in 2019 remained practically unchanged relative to the previous year, remaining at the level of RUB 0.7 trillion.

In 2019, the volume of bond placements once again increased after its decline in the previous year (*Fig. 30*). The volume of corporate bond placements sharply increased from RUB 1.6 trillion in 2018 to RUB 2.7 trillion in 2019, or by 68.7%. According to experts, the three key factors behind the growth of new corporate bond issues in 2019 and in January 2020, when companies placed their bonds to the total value of RUB 140 billion, were the reduced Bank of Russia's key rate, lower inflation, and a stronger ruble.³ Throughout the year 2019, the Bank of Russia reduced the key rate 5 times in a row; as a result, it dropped from 7.75% to 6.25% per annum. In February 2020, the key rate was reduced further, to 6.00%. In December 2019 - January 2020, for the first time in 23 months, there was a shrinkage in the total portfolio of bank loans to the corporate sector, by RUB 180 billion, which some experts explained by the banks' switchover to corporate bonds as their principal mechanism of providing companies with borrowed funds, instead of bank loans.⁴ Besides, as bank deposits were becoming less attractive as a result of declining interest rates, biggest banks were trying to keep their hold on their clients' assets by channeling part of their savings kept with banks as deposits into ordinary and structural bonds. The bonds issued by banks and non-banking financial institutions accounted

¹ URL: https://www.moex.com/s2184?fbclid=IwAR1Xl1wazyliXc5_77Q7usAilbS4BwecrqBwQ8XtdlHJ78fvoc0bejFDTLA

² According to NAUFOR, the share of assets in brokerage accounts other than individual investment accounts (IIAs) invested in stocks was 28%, and that invested in bonds was 59%; out of the total assets kept in IIAs, the investments in stocks and bonds amounted to 34% each. NAUFOR (2020). Annual study of individual investor activity in the stock market. February.

³ *Brzezinski D.* (2020). Repayment beautifies debt. RBC+ (thematic supplement to the RBC weekly business newspaper). February 26, No. 17 (3184).

⁴ *Builov M.* (2020). Debt goes public: companies replace loans with bonds. The Kommersant. March 2.

for more than half of all corporate bonds placed in 2019.¹ In one of its market reviews for 2019, the Bank of Russia referred to bank bonds as a driver of the development of brokerage services.²

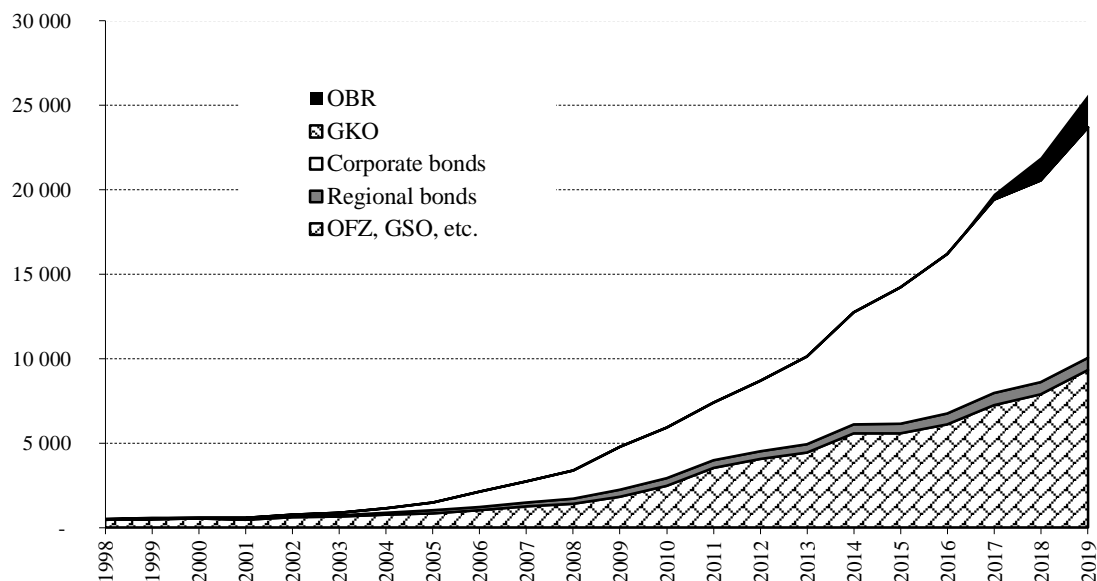


Fig. 29. The outstanding volume of ruble bonds, billion of rubles

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

The volume of federal loan bond (OFZ) issues increased from RUB 1.1 trillion in 2018 to RUB 2.1 trillion in 2019, or by 90.9%. The increasing attractiveness of OFZ to global investors had to do in the main with the reduced country risk premium³ and the rising yields of ruble bonds on the back of the ruble strengthening against the US dollar.⁴ In the situation of a stable reduction in the key rate, the interest of foreign investors was whipped up by OFZ issues with maturities of more than 7 years, because their yield grows faster than that of short-term bonds when the Bank of Russia key rate is reduced. Over the same period, the volume of regional bond issues increased from RUB 84.6 billion to RUB 111.8 billion, or 32.0%. The volume of short-term OBRs issued over the same period increased from RUB 7.0 trillion to RUB 7.9 billion, or 12.9%.

As shown in Fig. 31, in 2019, the ruble bond issues were bought in the main by non-residents, who accounted for 28% of their total value. Next came credit institutions (25%), followed by non-governmental pension funds (NPFs) (15%); individuals (11%); insurance companies (7%); non-financial organizations (3%); professional securities market participants and the Pension Fund of the Russian Federation (PFR) (1% each).

¹ Brzezinski D. (2020). Repayment beautifies debt. RBC+ (thematic supplement to the RBC weekly business newspaper). February 26, No. 17 (3184).

² Bank of Russia (2020). Review of Key Indicators of Professional Securities Market Participants. 2019. P.7.

³ As stated in the comment to Figure 13, in 2019, the amount of the equity risk premium decreased compared to 2018, from 9.43 to 6.65% in terms of PRP1, and from 8.95 to 6.68% in terms of PRP2.

⁴ Lomskaya, T. (2019). Foreigners once again take their share. The RBC newspaper. November 8, No. 177 (3132).

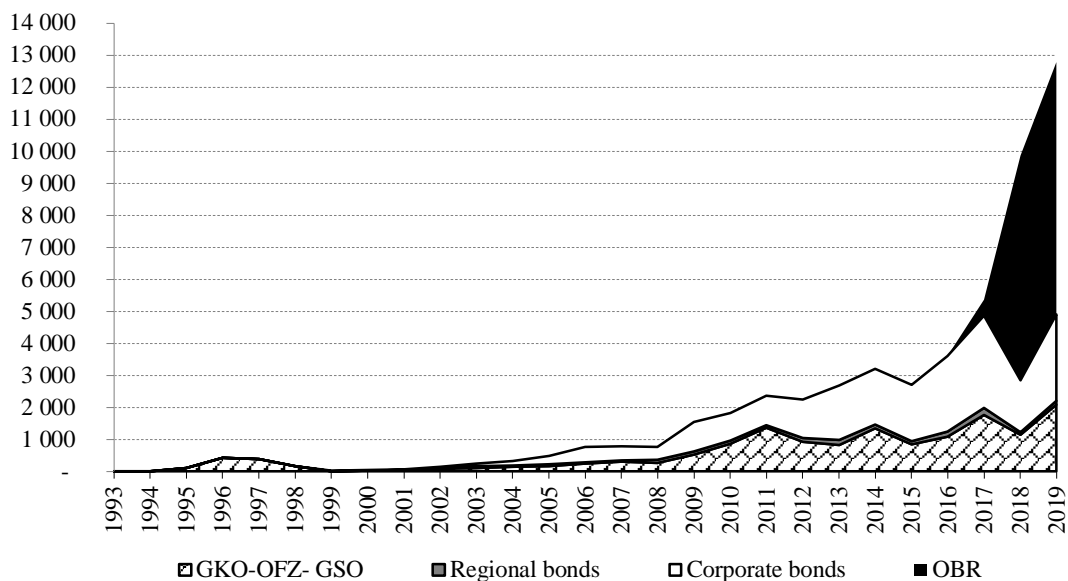


Fig. 30. The value volume of ruble bond issues placed in 1993–2019, billions of rubles
 Source: own calculations based on data released by the RF Ministry of Finance and the Moscow Exchange.

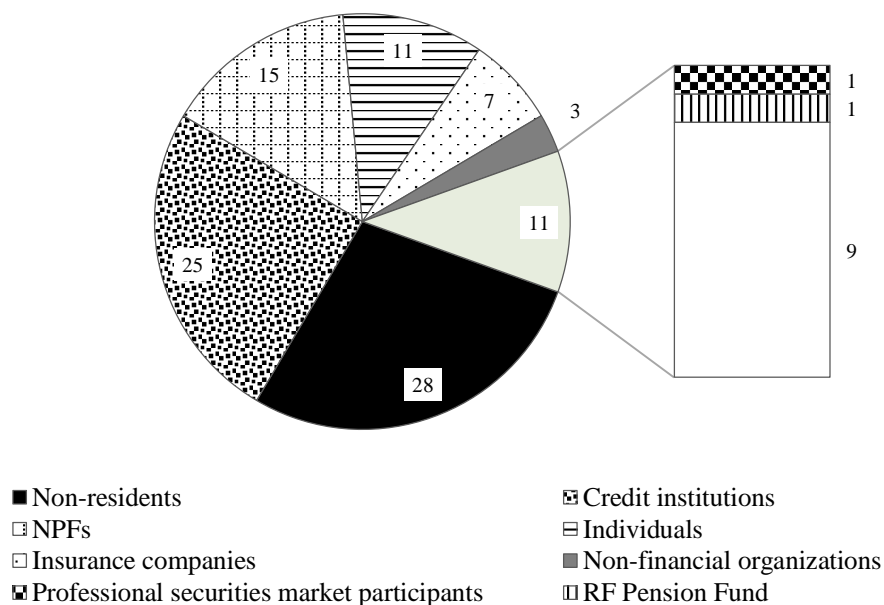


Fig. 31. The structure of buyers of ruble debt securities issued in the domestic market in 2019, %

Source: own compilation based on data released by the Bank of Russia (2020).¹

¹ Bank of Russia (2020). Financial Market Risks Review. February. P.15.

In 2019, growth in the ruble debt market was taking place against the backdrop of aggravating liquidity problems, created in the main by the inadequately developed domestic institutional investors and major market makers trading in this particular market segment, including the subsidiaries of large foreign financial organizations. The secondary government and corporate bond market in Russia functions primarily as a money market for repurchase transactions, and not as a stock market where long-term investors can rely on various portfolio strategies. In 2019, repos accounted for 94.8% of the value volume of trades in bonds on the exchange, and that index has remained practically unchanged over the past 6 years (*Fig. 32*). In 2019, trades in bonds accounted for only 2.1% of the total trading volume. For reference: in 2005, the relative share of repos was 28.0%, and that of market transactions – 12.8%; the rest (59.2%) was taken up by negotiated trades. The low liquidity of trades in bonds on the exchange makes it difficult to determine their fair market value, without which the risks reflected in the records of bond owners are distorted, and investors are prevented from promptly withdrawing their investments from these assets when they need to adjust their portfolios. All other conditions being equal, the low liquidity of financial instruments makes them less attractive in the eyes of investors and pushes up the equity risk premium.

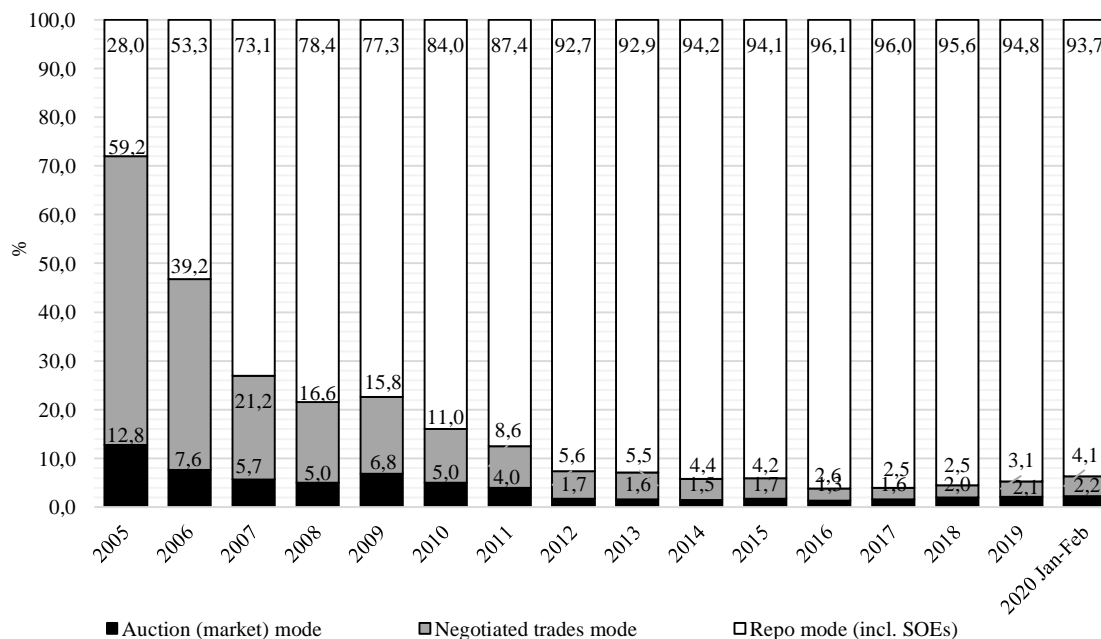


Fig. 32. The structure of trades in bonds on the Moscow Exchange from 2005 through February 2020, %

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

As shown in Fig. 33, the year 2019 saw a continuation of the downward trend in the bond market’s value volume that had emerged in the previous year and was not followed by an increase in the market transactions segment’s liquidity. The shrinkage of the bond segment in the repo market from RUB 219.9 trillion in 2018 to RUB 192.6 trillion in 2019, or by 12.4%, was not offset by a 15% increase in the volume of trades in clearing participation certificates (CPC) from RUB 46.9 trillion to RUB 54.1 trillion, or by a 14.2% increase in over-the-counter repo transactions with the participation of the RF Treasury and the Bank of Russia through the

National Settlement Depository (NSD) from RUB 17.6 trillion to RUB 20.1 trillion. A likely reason for the shrinkage of the bond segment of the money market in 2019 was the reduction of the programs of bank refinancing through repurchase agreements launched by the Bank of Russia and the RF Ministry of Finance.

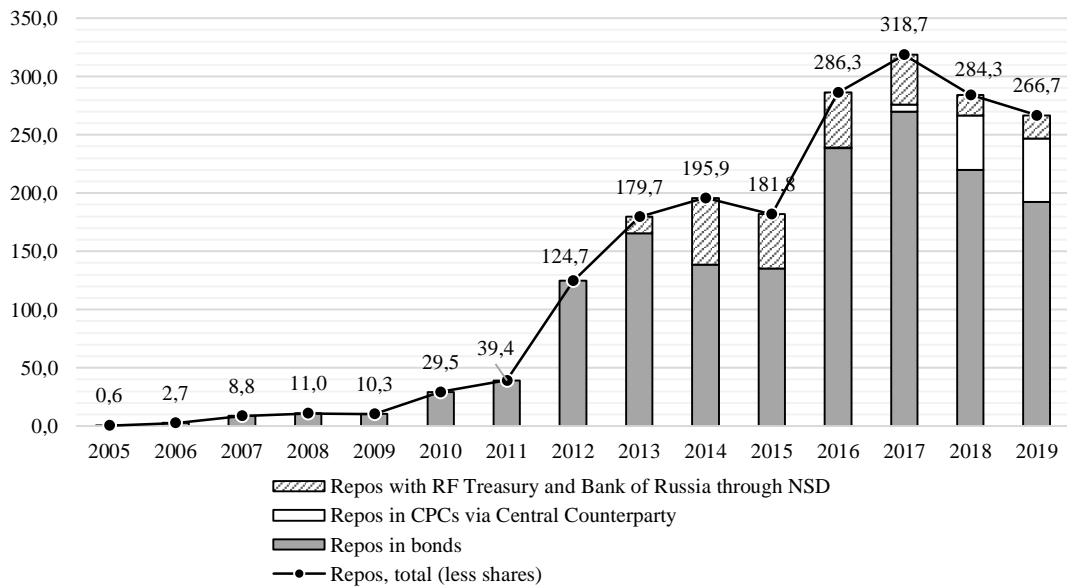


Fig. 33. The value of repos in bonds and clearing participation certificates (CPCs) on the Moscow Exchange in 2005–2019, trillions of rubles

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

3.1.6. The fundamental characteristics of corporate bonds

At the end of 2019, the euphoria of success reigned supreme in the domestic corporate bond market. At the beginning of 2020, the journal ‘Expert’ described it as follows: ‘At the annual Russian Bond Congress, which is traditionally held by Cbonds in December, the managers of the industry’s major operators did not bother to hide their high-spirited mood and hinted at the sizable year-end bonuses they were going to receive as a result of fruitful work in 2019.’¹ However, as early as the end of March 2020, Moody’s warned that the oil price collapse and a weakening ruble could have a negative effect on the capital of those Russian banks that display high numbers of debt securities on their balance sheets.² This situation is a good illustration of the high volatility of corporate bonds and the associated risks for investors.

In Fig. 34, the return and risk (standard deviation) parameters of the corporate bond indexes of 12 countries, including the Russian IFX Index,³ were compared on the time horizons of 1, 5, and 12 years over the period 2008–2019. For the sake of data comparability, the historical series

¹ Remizov, M. (2020). One wants to get a higher interest. Expert, February 24 – March 1, No 9.

² Kazarnovskiy, P., Koshkina, Yu. (2020). Securities add to insecurity. The RBC newspaper. March 20. No 33 (3200).

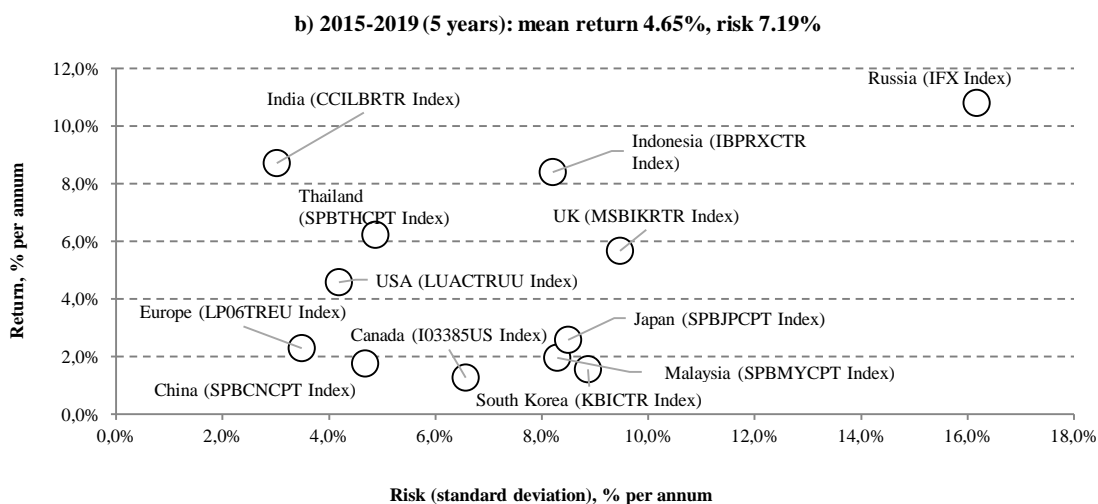
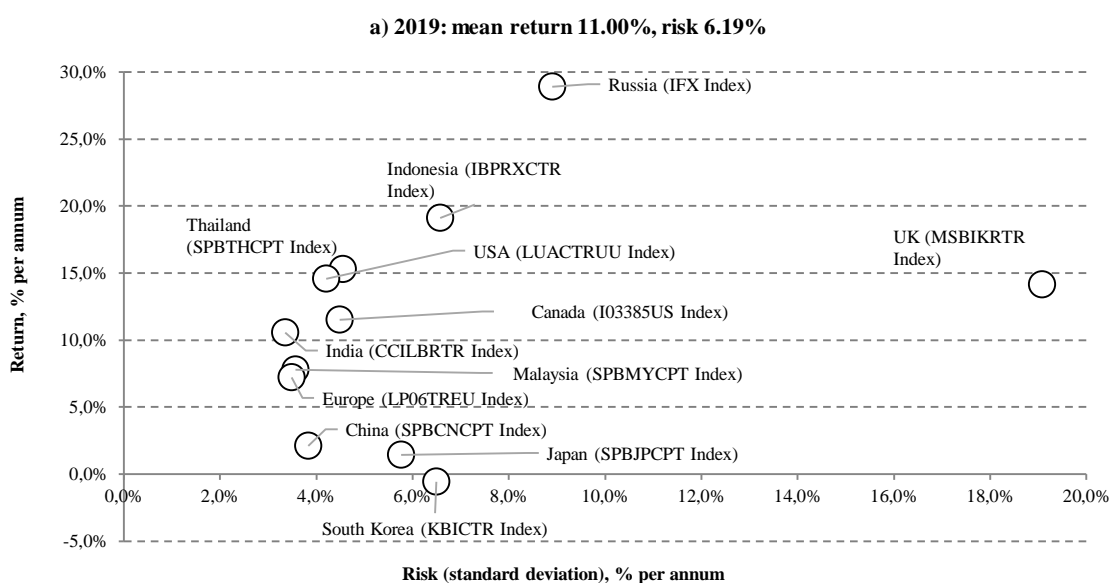
³ The relatively limited sample size can be explained by the fact that Bloomberg publishes the historical data series of corporate bond indexes only for a rather limited number of countries.

RUSSIAN ECONOMY IN 2019

trends and outlooks

of returns and, consequently, also the risks are adjusted by the movement of the US dollar exchange rate.

On all the time horizons considered in this study, the IFX Index was demonstrating, as a rule, the highest risk level, and the return indicator varied depending on a time horizon, declining as they lengthened. In 2019, the return of the IFX Index was 28.9% per annum, while the sample geometric mean stood at 11.0%; the standard deviation on the Russian bond portfolio was 8.9% vs the sample mean of 6.2%. On the 5-year horizon from 2015 through 2019, the mean return of 10.8% per annum on the IFX Index was also above the sample mean of 4.6%, but the risk index of the Russian bond portfolio was 16.2%, or more than twice the sample mean of 7.1%. On the 12-year horizon from 2008 to 2019, the return of the IFX Index was 1.9% per annum, i.e., significantly lower than the sample mean of 4.3%, and the risk indicator was once again almost 2 times higher than the sample mean – 15.9% vs 7.5%.



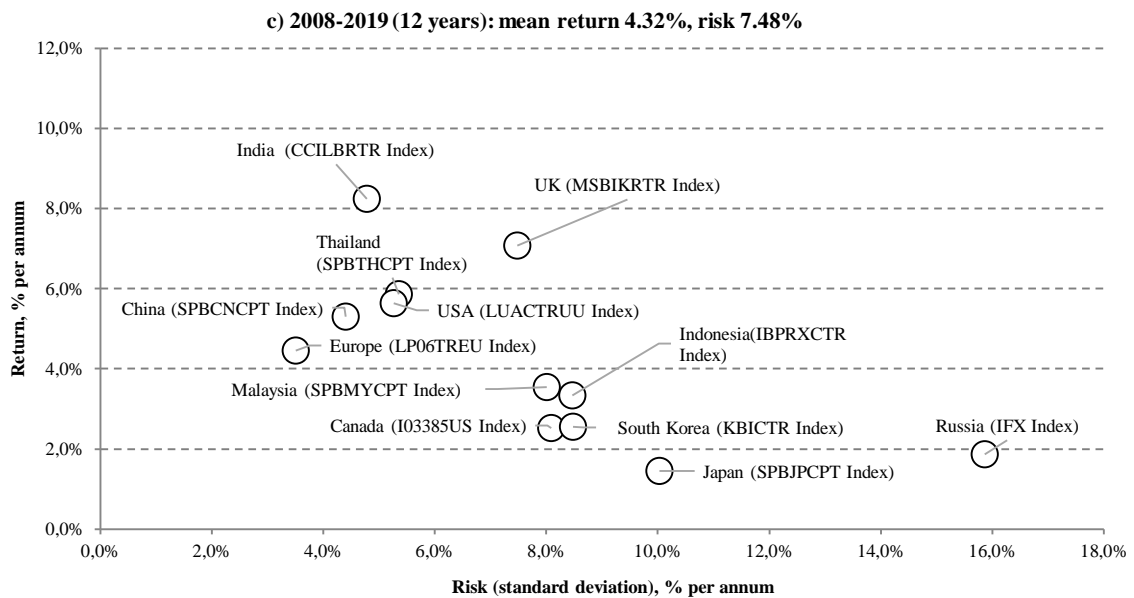


Fig. 34. The geometric mean returns and risks of 12 corporate bonds indexes of different countries¹ from January 2008 to December 2019, on time horizons of 1, 5, and 12 years, % per annum

Source: own calculations based on data released by Bloomberg and Cbonds.

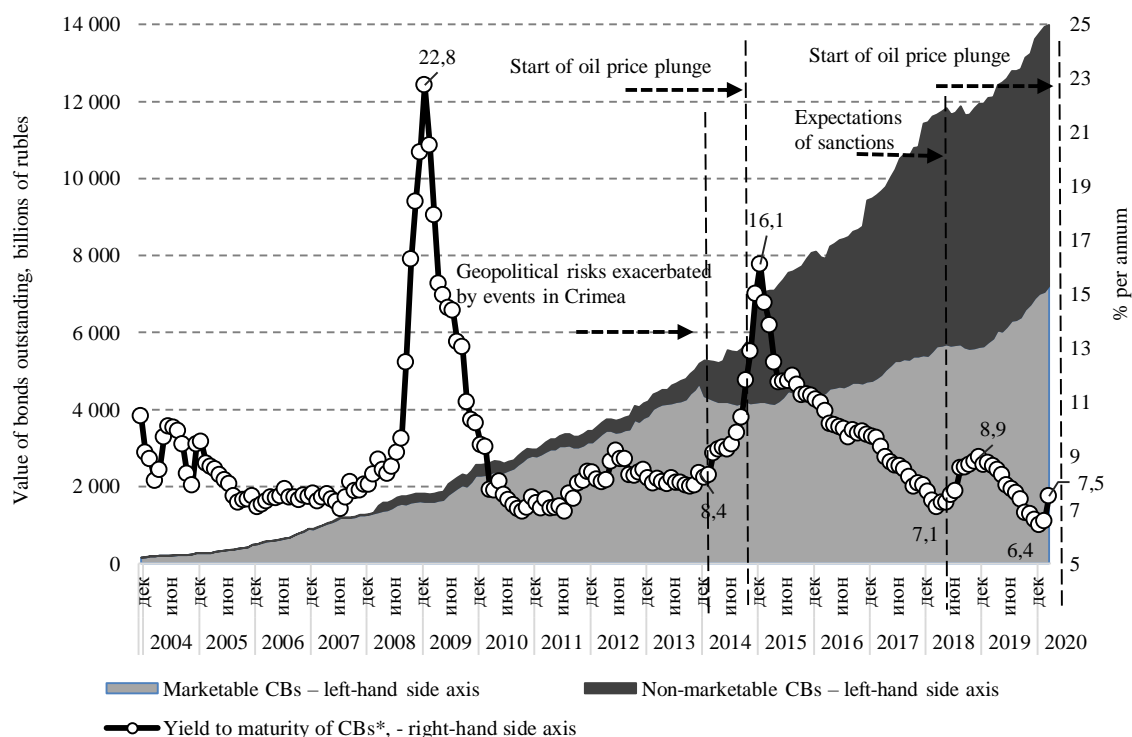
These observations indicate that, in terms of their risk-return tradeoff denominated in foreign currency, long-term investments in Russian ruble bonds are significantly less attractive than their competitors from other countries, both developed and developing ones. The main problem of investing in ruble bonds is the lack of stability in the ruble exchange rate movement, because its frequent downturns reduce the attractiveness of these investments for investors. This also explains why global investors prefer to make short-term investments in ruble bonds, in expectation of snatching an additional yield through the use of a speculative carry trade strategy during the periods of a climbing ruble.

As shown in *Fig. 35*, after the 2008 crisis, the return on the IFX-Cbonds index of ruble corporate bonds was periodically on the rise on the back of oil price downturns and investor fears amid geopolitical risks and international economic sanctions.

Meanwhile, from 2014 onwards, growth in the corporate bond market was sustained mostly by non-marketable bond issues that do not have stock quotes. Against this background, the situation in 2019 appeared to be favorable for growth in this market segment. The average yield to maturity of the IFX-Cbonds index plunged from 8.90% in 2018 to its post-crisis record low of 6.42% in January 2020. Over the same year, marketable bond issues were increasing at a fast rate, and their share in the total market capitalization of corporate bonds rose from 47.0% in 2018 to 50.8% in January 2020.

With the onset of a new wave of financial crisis, the average bond yield increased from 6.42 to 7.49% in March 2020. However, the first few weeks of the crisis have not yet led to any defaults in the corporate debt market.

¹ For the sake of data comparability, the historical data series of returns of each country index were recalculated in US dollars.



* Yield to maturity of IFX-Cbonds portfolio.

Fig. 35. The value of ruble corporate bonds outstanding and the yield to maturity of IFX-Cbonds portfolio from December 2003 to March 2020

Source: own calculations based on data released by Cbonds.

As shown in *Fig. 36*, the yield to maturity of corporate bonds is closely linked to their duration, calculated with due regard for the terms of their offers. As a rule, declining rates of return translate into a faster growth of prices on the bond market, and thus into the shrinking yields to maturity of bonds with longer durations, which serves as an incentive for issuers to more actively offer bonds with long duration. This trend is clearly visible in *Fig. 36* over the period 2015–2018, when declining bond yields were accompanied by a sharp increase in their average market duration. However, this trend demonstrated some significant changes in 2019, when a decrease in the average yield to maturity of the IFX-Cbonds portfolio unexpectedly gave rise to a shrinkage in its duration index from 3.22 years to 2.86 years. Probably, this was a manifestation of another corporate debt market trend that coexisted with the latter: the massive market entry of issuers of bonds with high return and risk levels and no credit history, issued, as a rule, for a short period of time; this resulted in a shrinkage in the average bond duration index, which ran contrary to the market expectations against the backdrop of sliding interest rates. At the same time, an increase in the IFX-Cbonds duration index to 3.15 years in March 2020 was a manifestation of a declining inflow into the market of more risky bonds.

One of the important trends observed in the corporate bond markets in Russia and elsewhere has been an accelerated growth of the so-called high-yield or junk bonds (JB), which are understood as bonds rated below the investment-grade level of BBB, or without any rating at all. According to data released by SIFMA, in 2019 the total value volume of junk bonds issued in the USA amounted to USD 278.3 billion, which represented a 64.3% rise on 2018. The

relative corporate bond market share of junk bonds increased from 12.7% in 2018 to 19.7% in 2019. Throughout the year 2019 and in early 2020, prior to the price volatility surge in the stock and oil markets in March, the US corporate bond market had been demonstrating noticeable downward trends in the yields of junk bonds and BBB-rated bonds towards their record lows of the entire period after the 2008 crisis, as well as an almost zero yield spread of these bond groups (FRB, 2020).¹ All these developments point to an underestimation by market participants of the credit risks of corporate bonds, their current volume of the USA amounting to nearly USD 10 trillion.

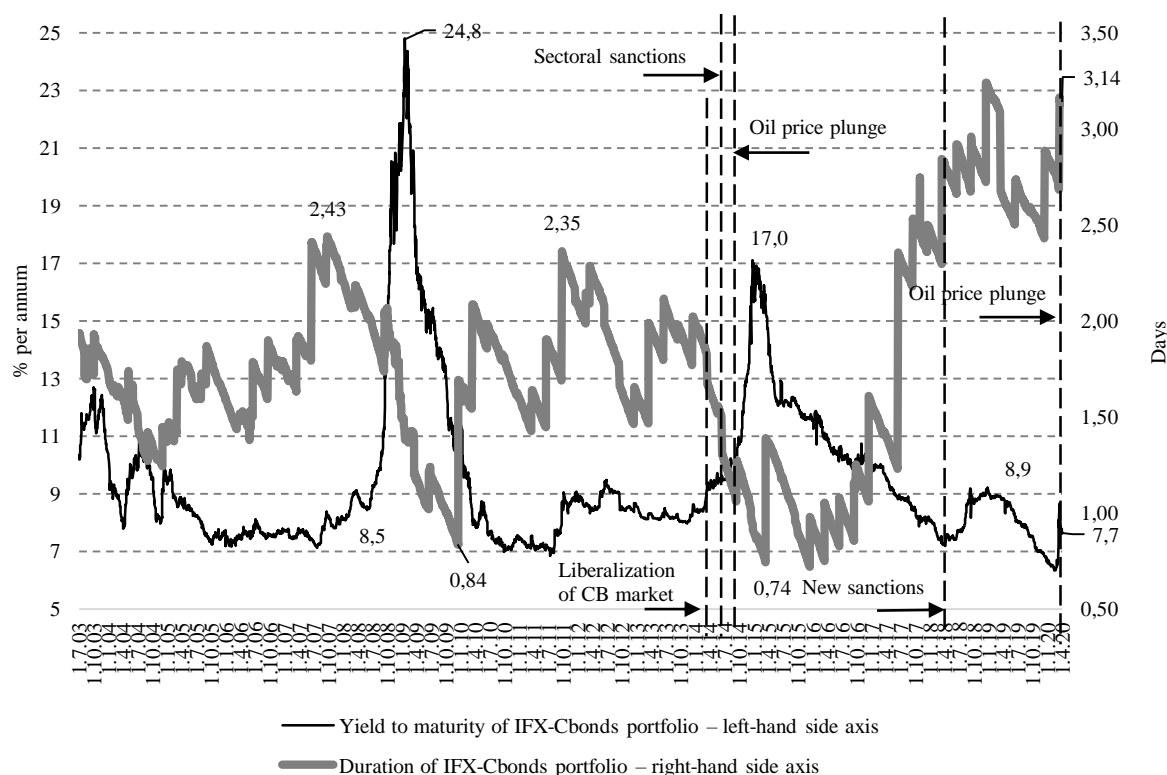


Fig. 36. The yield to maturity and duration indices of IFX-Cbonds portfolio over the period from July 1, 2003 to April 3, 2020

Source: own calculations based on data released by Cbonds.

The factor responsible for this state of affairs is believed to be the oppositely directed movement of the duration induces of junk and BBB-rated bond issues; more particularly, in 2019, the average duration index of investment grade corporate bonds increased by 13.0%, to 8.02 years, while that of junk bonds, on the contrary, plunged by 24.0%, to 2.98 years.² This means that a higher duration of investment grade long-term bonds translated into an increase in their average yield, and a shorter duration of junk bonds pushed down their average yield, thus for the most part distorting the overall picture of yield spreads of corporate bonds with different credit risk levels. Another factor that boosted the demand for junk bonds was the activity of

¹ Monetary Policy Report. February 7, 2020. Board of Governors of the Federal Reserve System. PP. 22, 24.

² Goldfarb S. (2020). The Hidden Factor Making Junk Bonds Less Risky. The Wall Street Journal – online. Jan. 26.

pension funds, mutual funds and other institutional investors, who strove to achieve higher returns on their total investment portfolios by increasing the investments in these types of bonds in face of the key rate being reduced by the US Federal Reserve from 2.25–2.50 % to 1.5–1.75% in 2019, and then to 0–0.25% as of March 16, 2020, as well as the reduction of long-term government bond yields to levels below 1%.¹

In March 2020, the junk bond market in the USA became one of the most dangerous segments that was generating credit risks for the entire financial market. The ICE BofA US High Yield Index Option-Adjusted Spread,² which reflects the yield spread between issues of junk bonds and treasury bonds of a similar duration, increased from 3.57% as of February 19, 2020 to 7.42% as of March 12, 2020; this level was significantly below its peak of 19.88% observed in late November 2008, but nevertheless, the index doubled over the course of just one month. Over the period from February 19 to March 12, 2020, the yield spreads of BBB-rated corporate bond issues (lowest investment grade), as demonstrated by the ICE BofA BBB US Corporate Index Option-Adjusted Spread, also jumped from 1.31% to 2.77%, despite the fact that at the peak of the crisis, in December 2008, they stood on average at 7.84%.

A sharp increase in the yield of junk and lowest investment grade bonds heralds the start of withdrawal of investor funds from these bonds, which in an unfavorable situation may give rise to massive sales of bonds, an even steeper yield growth and, as a result, financial problems for their issuers, because the latter will be unable to refinance their corporate debts. An additional risk associated with BBB-rated bonds may be their downgrading by the rating agencies to the level of junk bonds, which will inevitably lead to sales of such bonds by conservative institutional investors, because the law does not allow them to keep in their portfolios the bonds with a credit rating below investment grade. As of mid-March 2020, although the rating agencies have so far been refraining from a large-scale revision of the investment ratings of corporate bonds, the data released by Credit Benchmark indicated that a number of major financial institutions that conduct own internal ratings of bonds in their portfolios had already begun to downgrade some bond issuers to a junk level.³

In the domestic Russian stock market, the junk bond segment is becoming one of the fastest-growing market segments, because it is considered to be an important source of financing by small and medium-sized businesses. However, in spite of the aggressive promotion of these financial instruments among domestic private investors, no reliable statistics on the issuance of junk bonds have been available so far. According to the estimates released by Forbes, the volume of the ruble junk bond market soared from RUB 8 billion in 2018 to RUB 20 billion in 2019; at the beginning of 2020, about 60 issuers of junk bonds had a second- and third-level listing on the Moscow Exchange. The average coupon yield of junk bonds was 14% per annum, which roughly corresponded to the average interest rates on bank loans issued to small and medium-sized businesses.⁴

It is rather difficult to analyze the risks in this segment of the financial market for lack of comparable historical data on the credit ratings of all corporate bonds issues, adjusted for their

¹ *Wirz M., Danies P., Goldfarb S.* (2020). The Market Meltdown Has a Surprising Survivor: Junk Bonds. The Wall Street Journal – online. March 4.

² Federal Reserve Bank of St. Louise <https://fred.stlouisfed.org/series/BAMLH0A0HYM2>

³ *Wirz M.* (2020). Investment-Grade Bonds Could Turn to Junk Amid Global Rout. The Wall Street Journal – online. March 13.

⁴ *Samiev, P.* (2020). No need to escalate. How to avoid a bubble in the high yield bond market. Forbes. January 28. URL: <https://www.forbes.ru/finansy-i-investicii/391875-ne-nado-nagnetat-kak-izbezhat-puzrya-narynke-vysokodohodnyh-obligaciy>.

specific duration indices. Our calculations based on the maximum available statistical data concerning liquid marketable corporate bond issues released by Cbonds for the period from 2010 through February 2020 have revealed certain specific movement patterns of the various segments of the ruble corporate bond market, which point to their general similarity to the current situation in the US corporate debt market.¹

The data on the value of corporate bonds outstanding over the period from 2010 to February 2020, presented in *Fig. 37*, indicate that in the corporate debt structure, high-risk investment-grade bonds and junk bonds clearly predominated; however, in 2019, there was an increase in the relative share of minimum-risk investment grade bonds and junk bonds. In 2018, in our sample with the total bond value of RUB 3.5 trillion, high-risk investment grade bonds accounted for RUB 1.9 trillion rubles, junk bonds – for RUB 0.7 trillion. By the end of 2019, out of a total bond value of RUB 4.3 trillion, high-risk investment grade bonds and junk bonds had already taken up RUB 1.7 trillion and RUB 0.5 trillion, that is, 39.5% and 11.6%, respectively. The value volume of minimum risk investment grade bond issues in 2019 reached RUB 2.1 trillion. At the same time, there was a notable upward trend in the reliability of corporate debt issuers: the relative share of minimum risk investment grade bonds in the total value of bonds in the sample increased from 19.1% in 2017, to 31.4% in 2018, and to 48.6% in 2019, while the share of high risk investment grade bonds shrank from 70.4% in 2017 to 39.0% in 2019. The relative share of junk bonds did not change, in 2017 it was 10.2%, in 2018 – 15.4%, and in 2019 – 12.3%. At the beginning of 2020, there existed a trend towards an increase in the relative share of high risk investment grade bonds and a shrinkage in that of minimum-risk investment grade bonds, but the data available so far are preliminary.

From December 2015 through January 2017, there was a sharp surge in the issuance of speculative grade bonds. This happened because a rather large number of issuers (22 issuers of 114 bonds outstanding at that time) in late November – early December 2015 switched over to the speculative grade. Among these, we may point out Russian Railways, VTB, Russian Agricultural Bank, Russian Post, Aeroflot, the Auction House of the Russian Federation, and some other joint-stock companies.

After 2015, as the volatility indices of the forex market and financial market were on the decline, alongside the shrinking yields of ruble corporate bonds, there also emerged a general trend of the effective yields of junk and investment grade bonds to move nearer to one and the same level (*Fig. 38*). From January 2015 onwards, the yields of junk and investment grade bonds displayed a continuously downward movement, from 26.7 and 17.8%, respectively, to 8.9 and 7.1% at year-end 2019. The data for the first 2 months of 2020 demonstrate that this

¹ In absence of comprehensive historical rating time series for a wide range of corporate bond issuers, we relied on an alternative credit risk assessment model for calculating the probability of a bond default over the next year or another period. The ranking of companies by their default probability can replace credit ratings and generate daily updated estimates. This model is used by Bloomberg in its credit risk assessments, where a sample of companies is subdivided into 21 groups: 10 investment grade groups (IG1 – IG10), 6 speculative grade groups (HY1 – HY6), and 5 defaulted investment grade groups (DS1– DS5). The IG1 group consists of companies with probability of default over the next year in the range of 0 to 0.002%, the HY1 group in the range of 0.52% to 0.88%, and the DS1 group in the range of 10% to 15%. The higher the group number, the greater the probability of default. Groups IG1 – IG5 roughly correspond to credit rating grades of AAA+ to A (however, the comparison just arbitrary, there is no direct correspondence between the two scales). Groups IG5 – IG10 roughly correspond to credit rating grades of A– to BBB–, and groups HY1 – HY6 - to credit rating grades of BB + to B–. For the period 2010–2018, bond issues were subdivided into three groups according to their credit risk level: investment grade level with minimal risk (groups IG1 – IG5), investment grade level with increased risk (groups IG6 – IG10), and speculative grade level (HY1 – HY6). Defaulted investment grade groups not included in the study.

downward trend in bond yields did not disappear, but do not reflect an increasing market uncertainty. Since 2016, the yield spread between the two classes of bonds has been steadily narrowing, never increasing beyond 2 percentage points, and sometimes it moved into negative zone.

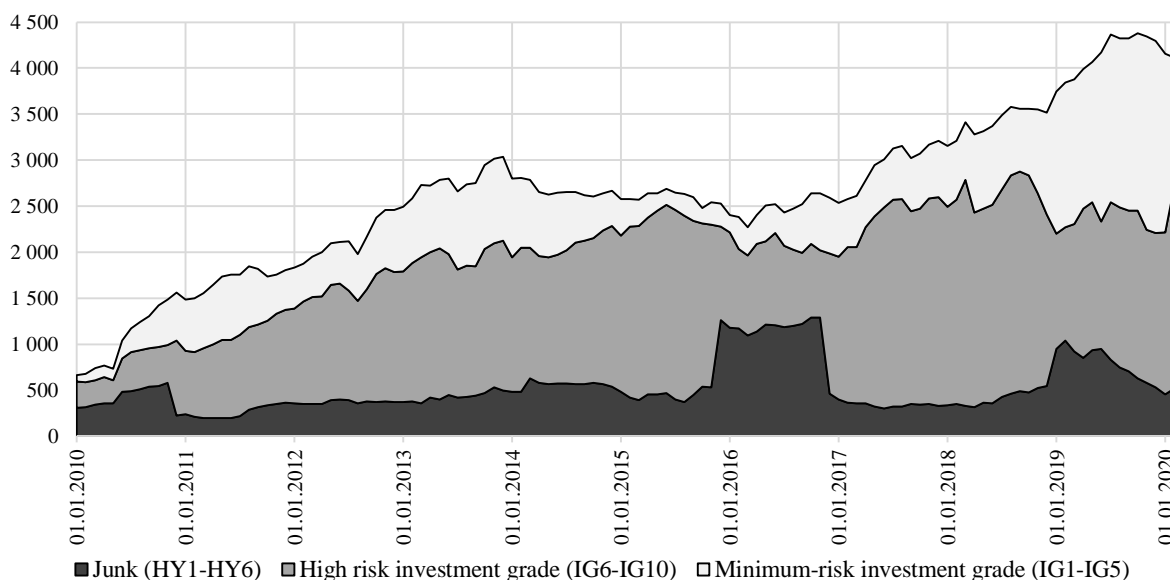


Fig. 37. The value of corporate bonds outstanding, by grade group, billions of rubles, from 2010 through February 2020

Source: own calculations based on data released by Cbonds and Bloomberg.

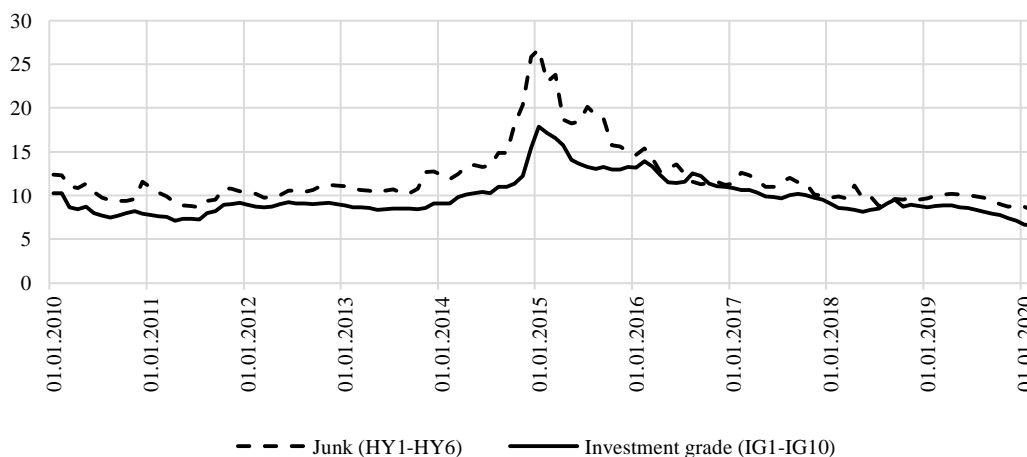


Fig. 38. The mean effective yield of junk bond and investment grade corporate bonds outstanding,¹ %, from 2010 through February 2020

Source: own calculations based on data released by Cbonds and Bloomberg.

¹ The yield is calculated as the arithmetic mean of all bond classes with equal weights, with no consideration for issue volumes or the relative share of each issuer in the total volume.

The very narrow yield spread of corporate bonds with very different risk levels observed over the period 2016–2019 in the domestic financial market closely resembled what was happening over the same period in the US debt market. This phenomenon in both countries was caused by approximately the same factors, namely the increasingly reckless attitude of investors to the credit risks associated with corporate bonds in their pursuit of higher returns in a situation of declining interest rates on bank deposits and the yields of government securities, as well as the somewhat biased estimates of spreads between junk and investment grade bonds, which were influenced by the multi-vectored duration trends in these debt classes.

As shown in *Fig. 39*, from H2 2016 onwards, the duration of investment grade corporate bonds in the domestic financial market was notably on the rise, while that of junk bonds remained at approximately the same level as in 2017, in spite of the increasingly volatile behavior of this particular market indicator in general. In 2018, the average duration of investment grade bonds increased to 2 years, while that of junk bonds – to 1.7 years. By the end of 2019, the duration index began to demonstrate a sharp decline, to 1.8 years for investment grade bonds and to 1.4 years for junk bonds, with a tendency for a further decline alongside an increasing duration spread in 2020. Because a higher duration of investment grade bond issues usually translates into their higher returns, this effect, in face of the unchanging average duration of junk bonds, also contributed to a narrowing average yield spread of the two classes of debt instruments.

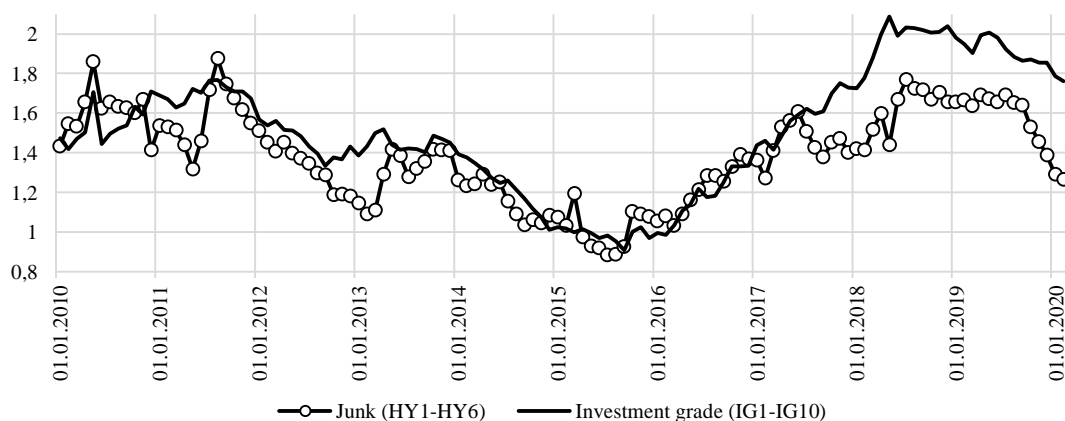


Fig. 39. The average duration¹ of junk and investment grade corporate bonds outstanding, %, from 2010 through February 2020

Source: own calculations based on data released by Cbonds and Bloomberg.

Duration is a measure of interest rate risks of debt financial instruments: bonds with longer terms to maturity are more sensitive than short-term bonds to the changing key rates in the financial market. All other things being equal, a reduced central bank key rate usually triggers a faster price growth, and consequently, a decline in the yield of long-term bonds relative to that of short-term bonds.² If the majority of debt market participants display a surge of uncertainty as to the future economic growth prospects, then, even if the central bank begins to

¹ If the corporate bond terms define that the bonds can be redeemed before the maturity date, their duration is calculated based on their redemption date, and not the maturity date.

² In the USA, when centralized interest rates lose 1 percentage point, the price of 25-year government bonds gains 25 percentage points, and that of 6-year bonds gains 6 percentage points. *Pellejero, S. (2020). Long-Duration Bond Funds Thrive Amid Market Carnage. The Wall Street Journal - online. March 16.*

gradually reduce its centralized rates, the yield spreads between long-term and short-term bonds can narrow, and in the end the yields of the former may even exceed those of the latter. This means that the bond yield curve becomes inverted, when the yields of short-term bond issues of a certain issuer rise above those of bonds with longer terms.

A negative yield spread between long-term and short-term bonds is often considered to be a harbinger of recession. However, this is truer of government bonds rather than corporate bonds.¹

In order to better understand the relevant changes in the average duration of junk and investment grade corporate bonds issued from 2017 onwards, we relied on an aggregate data analysis of bonds grouped depending on their duration. Duration in this case is understood to be modified duration, i.e., period to maturity or coupon period, as applicable. In most cases, it is significantly shorter than the period to maturity of the majority of coupon bonds. As shown in *Fig. 40*, in spite of the positive growth dynamics in the groups of bonds with longer duration (1 to 3 years and more than 3 years), the bond issues with relatively short duration maturing not later than 2018 made up the bulk of corporate bonds outstanding. In 2019, there was an increase in the relative share of bonds with duration of 1 to 3 years, to 52.6% at yearend 2019 vs 43.7% in 2018. The bonds with duration of less than 1 year accounted for 26.6% of the total value of bonds outstanding, and those with duration of more than 3 years – for 20.2%. Corporate bonds, being a relatively short-term debt instrument, cannot function as a fully fledged source of financing for companies that invest in their real capital, because this type of investment required a longer period to generate an adequate return.

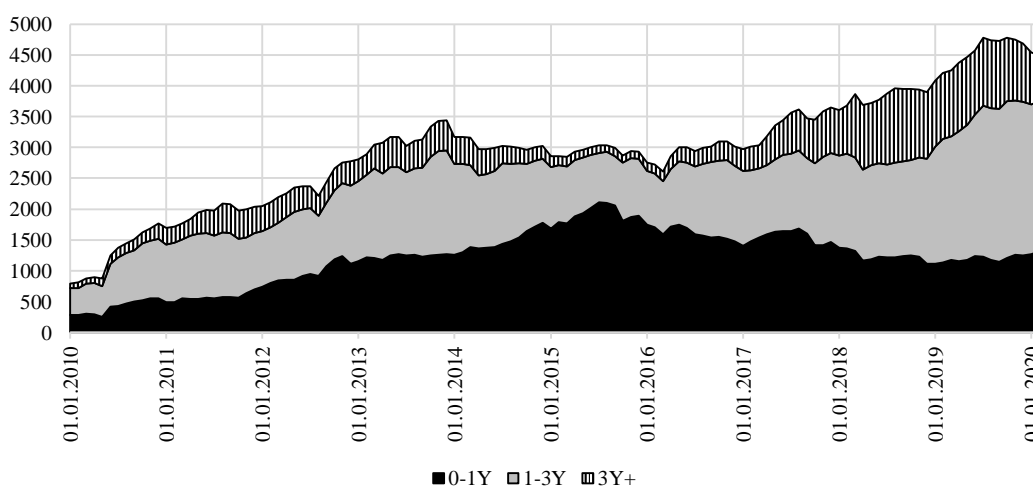


Fig. 40. The total volume of bonds (fixed at the time of offer), by grade group, billions of rubles, from 2010 through February 2020

Source: own calculations based on data released by Cbonds and Bloomberg.

¹ For example, as one of the ‘signals’ built into the Financial Condition Index, NBER experts use the yield spread between 10-year US government bonds and the Federal Fund Rate. See *Hatzius J., Hooper P., Mishkin F., Schoenholtz K., Watson M.* (2010). Financial Condition Index: A Fresh Look after the Financial Crisis. NBER Working Paper Series No 16150. July. URL: <http://www.nber.org/papers/w16150>

For 2010 and early 2020, the calculated mean effective yields in the groups of corporate bonds with durations of 1 year or less, 1 to 3 years, and 3 to 5 years turned out to be rather unexpected (*Fig. 41*). Contrary to the classical notion that there exists a bond risk premium on bonds with longer duration, the average yield of bonds with duration of 1 year or less was found to be the highest over the entire period under review, and the bond issues with the longest duration of 3 years or more demonstrated the lowest effective yield. At the same time, the yield spreads of bonds with different duration narrowed almost to zero in 2019 and early 2020, which means that at that time, investors no longer made any distinction between bonds with different duration from the point of view of bond risk premium.

In our opinion, this can in part be explained by the data presented in *Fig. 39*, from which it follows that corporate bonds with a higher credit risk had a higher average duration. This also explains why the yield of bonds with longer duration turned out to be lower than that of bonds with lower duration and a high credit risk. However, this does not rule out the possibility that the persistently higher yields of short-term corporate bonds compared with long-term debt instruments, coupled with the limited number of bond issues with really long durations of 5 or more years,¹ may be an indication of a certain lack of investor confidence in the long-term prospects of the Russian financial market and their desire to receive an additional compensation for sustaining the liquidity of Russian bonds.

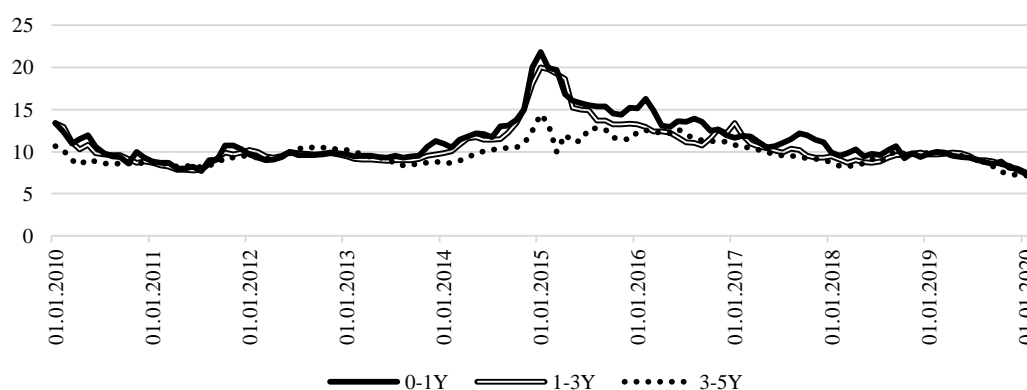


Fig. 41. The mean effective yield of corporate bonds outstanding with different duration, %, from 2010 through February 2020

Source: own calculations based on data released by Cbonds and Bloomberg.

3.1.7. The corporate bond market organization

As of April 1, 2020, 360 corporate bond issues of 141 issuers were listed on the Moscow Exchange; a year earlier, there were 412 issues of 181 issuers. This means that over the year, the number of listed issues shrank by 12.6%, and that of issuers, by 22.1%.

As shown in *Fig. 42* and *Table 6*, the primary corporate borrowing market, similarly to the domestic stock market, is highly concentrated, although in 2019 its concentration level markedly decreased. The market share of the top 10 corporate bond issuers shrank from 58.5% in 2018 to 53.5%, and that of the top 20 issuers over the same period from 78.8 to 68.3%,

¹ According to our calculations, in 2019, bond issues with duration of more than 5 years accounted for only 3.6% of the total corporate bond issue volume.

respectively. The corporate bond market boom observed in 2019 created more opportunities for bond offer by various types of issuers.

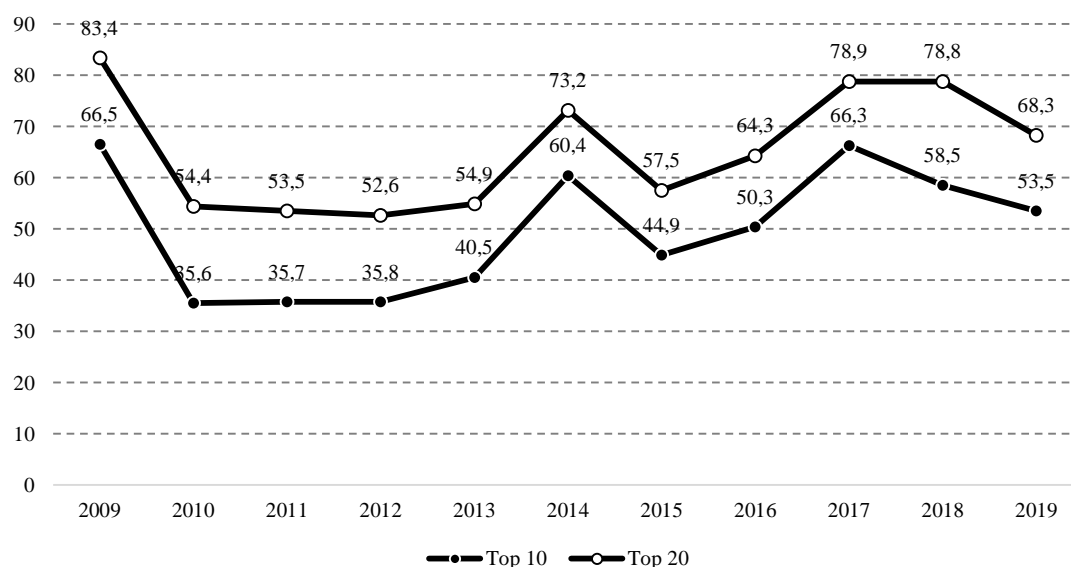


Fig. 42. The relative market shares of the top 10 and top 20 issuers of ruble corporate bonds in 2000–2019, %

Source: own calculations based on data released by Cbonds.

Table 6

The top ten corporate bond (CB) issuers and their share in the total value volume of CB issues

	Bond issuers	2017			Bond issuers	2018			Bond issuers	2019	
		billions of rubles	%			billions of rubles	%			billions of rubles	%
1	Rosneft PJSC	1,051	36.8	1	Sberbank PJSC	301	17.9	1	Sberbank PJSC	465	16.1
2	VEB.RF (State Development Corporation)	126	4.4	2	DOM.RF LLC	137	8.2	2	DOM.RF JSC	253	8.7
3	AKB Peresvet (JSC)	125	4.4	3	Russian Railways	85	5.1	3	VTB Bank (PJSC)	172	5.9
4	MBS Factory	109	3.8	4	Russian Agricultural Bank	78	4.7	4	VEB.RF (State Development Corporation)	170	5.9
5	Transneft PJSC	107	3.8	5	Residential urban settlement LLC	76	4.6	5	Russian Railways	106	3.7
6	O1 Group Finance LLC	88	3.1	6	Rosneft PJSC	70	4.2	6	Gazprombank (JSC)	95	3.3
7	Russian Railways	85	3.0	7	Gazprombank (JSC)	67	4.0	7	Rosneft PJSC	80	2.8
8	Gazprom Neft PJSC	70	2.5	8	VTB Bank (PJSC)	59	3.5	8	MTS	78	2.7
9	Gazprombank (JSC)	65	2.3	9	DOM.RF JSC	55	3.3	9	Avtodor State Company	69	2.4
10	Otkritie Holding JSC	65	2.3	10	Avtodor State Company	52	3.1	10	RUSAL Bratsk OJSC	60	2.1
	Total corporate bond market cap	2,852	100		Total corporate bond market cap	1,674	100		Total corporate bond market cap	2,893	100
	Market cap of top 10 corporate bond issuers	1,890	66.3		Market cap of top 10 corporate bond issuers	979	58.5		Market cap of top 10 corporate bond issuers	1,547	53.5

Source: own calculations based on data released by Cbonds.

Our calculations based on data for a large sample of corporate bonds provided by Cbonds show a steady increase in the share of state-owned companies in the total value of corporate

bonds outstanding (*Fig. 43*). While in January 2003, during the early phase of the corporate bond market's development, SOEs accounted only for 22.2% of the total market cap, by December 2019 it had increased to 71.8%, which clearly points to the specific evolution of the domestic stock market into a mechanism for the support of primarily state-owned companies, ill-suited for performing one of its avowed primary functions – the provision of financing for accelerated development of private companies and the business community as a whole. Over the past year, the corporate bond market cap share of SOEs increased from 70.0% in 2018 to 71.8% in 2019.

A steady growth of the corporate bond market cap share of SOEs testifies to the fact that it is easier for state-owned companies to build trust in their relationships with investors, domestic banks and private pension funds, among which state-controlled entities prevail.

In 2019, Russian companies were not very actively involved in the eurobond market, and the total value of their borrowing there in the amount of USD 103 billion remained approximately at the same level as in 2018 (*Fig. 44*). Meanwhile, the domestic ruble corporate bond market, the effects of the ruble's plunge against the US dollar notwithstanding, demonstrated growth from USD 191 billion in 2018 to USD 210 billion in 2019, or by 9.9%. At present, the domestic ruble corporate borrowing market is about twice as big as the corporate eurobond market.

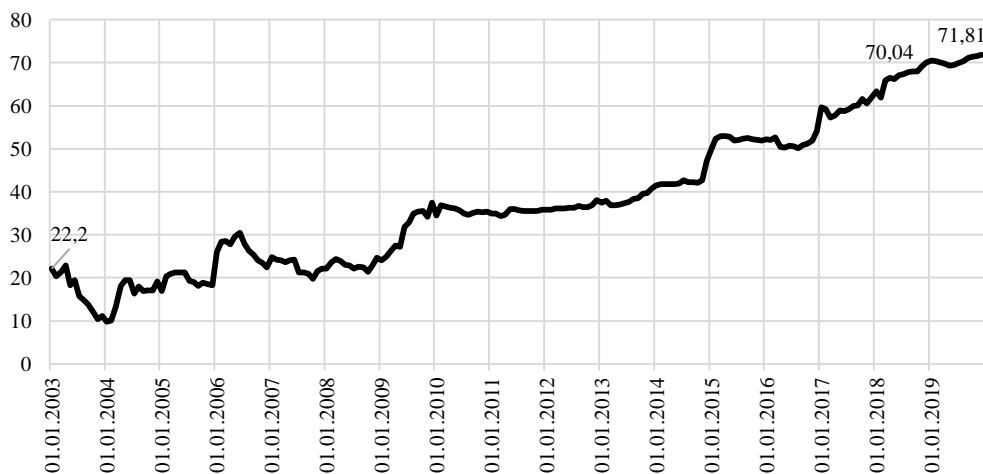


Fig. 43. The relative share of SOEs in the total value of ruble corporate bonds outstanding, %

Source: own calculations based on data released by Cbonds.

In 2019, new instruments appeared on the corporate bond market, and private investors were aggressively encouraged to buy them.

For example, this was true of junk bonds, i.e. debt instruments that were rated below an investment grade level, but offered higher returns. The market placements of junk bonds were organized by relatively small investment companies like Ivolga Capital, Unicervice Capital LLC, and BCS Global Markets. Surprisingly, despite the high risks and the low transparency of issuers, 60–70% of these junk bonds were bought by individuals who did not always understand the risks associated with such investments.¹ The market promotion of junk bonds

¹ *Remizov, M.* (2020). A desire to earn higher interest. *The Expert*, February 24 – March 1, No 9.

was facilitated by the support mechanisms launched by government agencies like the Russian Bank for Small and Medium Enterprises Support (SME Bank), which provided guarantees in the amount of up to RUB 500 million. Another mechanism was represented by subsidies of the RF Ministry of Economic Development earmarked for covering the coupon rate of the bonds with the support of the SME Corporation, as well as subsidies to cover the cost of listing preparation, which involved reimbursement of the bond issuers for up to 2% of the bond issue value, but in an amount not more than RUB 1.5 million.¹ Strangely, these programs did not require that in order to qualify for government support, the bond issuers should have a rating grade and demonstrate the transparency of their financial statements, and that no reasonable restrictions were imposed on the offer of such instruments mostly to inexperienced private investors.

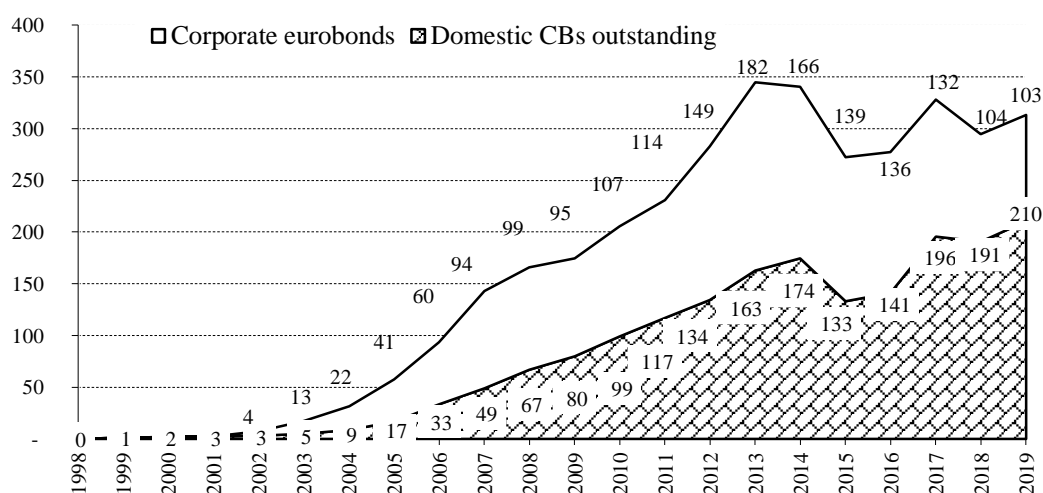


Fig. 44. The volume of Russian corporate bonds outstanding in 1998–2019, billions of US dollars

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

From October 16, 2018, amendments to the Russian legislation on securities came into force, whereby companies were allowed to issue so-called structural bonds, the payments on which are tied to the events or conditions previously agreed upon at the time of their issue. The income on such bonds is usually tied to changes in the value of stocks, stock indexes, commodities and other investment assets. According to *The Kommersant*, in 2019, about 158 structural bond issues were placed to the total value of RUB 145.5 billion.² The leaders in bond issuance were major banks like Sberbank of Russia, VTB, Alfa Bank, and Gazprombank. The main buyers of structural bonds were solvent private investors, who were accredited under financial regulation laws. The investment strategies realized through the placement of structural bonds are not transparent, which in itself is fraught with significant risks for investors. According to *The Kommersant*'s data on the already redeemed bond issues of several major banks, their yields

¹ Ibid.

² Smorodskaya, P. (2020) Risk is structural business. *The Kommersant*. February 7. No 22.

turned out to be at the same level as the yields on similar issues of classic bonds, and frequently even lower.¹

3.1.8. The government bond market

In 2019, the RF Ministry of Finance raised net borrowing in the amount of RUB 1,394 billion in the OFZ market, which was a record high of several previous years. It turned out to be significantly above the net borrowing indicators for 2016, 2017, and 2018, which were RUB 547 billion, RUB 1,270 billion, and RUB 670 billion, respectively. Only as late as March 2020, the previously successful OFZ mechanism began to run out of steam: over January – February, net borrowing amounted to RUB 251 billion, but in March, the RF Ministry of Finance was no longer able to offer OFZs on the market on the same terms. On March 4, 2020, a few days before the massive downfall of stock prices, the RF Ministry of Finance had to cancel the auction for placement of OFZs, and one week before this event, the yields of OFZ issues jumped 0.5–0.7 percentage points.²

In 2019, the policy of reducing the Bank of Russia discount rate contributed to growth in the domestic government securities market; the ruble strengthening, which stimulated an inflow of foreign portfolio investment; and a decline in government bond yields, which forced the RF Ministry of Finance to resort to record-high borrowing. As shown in *Fig. 45*, the total volume of federal loan bonds in Q1 2020 reached the level of RUB 9.2 trillion, which represents an increase of 22.7% relative to RUB 7.5 trillion in 2018.

The structure of OFZ issues on this time horizon, in many of its aspects, reflected the group composition of the key investors in this financial market segment during each phase of its development.³ Federal loan bonds with debt amortization (OFZ-AD), which accounted for 3.4% of the total OFZ value in 2019, are a convenient tool for investing pension savings in a volatile market, but they create difficulties for the RF Ministry of Finance in its public debt management. Over the period 2002–2014, NPFs acted as the growth driver in this segment of the government bond market, primarily due to investment of pension savings. However, from 2014 onwards, their popularity began to wane after the ‘pension saving freeze’. Besides, in 2016, the RF Ministry of Finance exchanged OFZ-AD with face value of RUB 63.7 billion, on favorable terms, for OFZ-PD with face value of RUB 56.4 billion.

The largest segment of the OFZ market is taken up by OFZ-PDs with constant coupon income, which in 2019 accounted for 72.4% of the total OFZ market value; meanwhile, over the period from 2014 through March 2020, this segment was steadily on the rise. The coupon payments of these bonds are fixed in advance for the entire period until their maturity date, and so they are convenient and predictable instruments for different categories of investors. From 2009 to mid-2011, by way of financing the budget deficit, the RF Ministry of Finance placed OFZ-PD issues with the banks with excess liquidity, offering an additional premium above the market rate in the amount of 5–10 basis points.⁴ From early 2012 onwards, non-residents became the main source of liquidity in the OFZ market, and they found OFZ-PDs to be a more

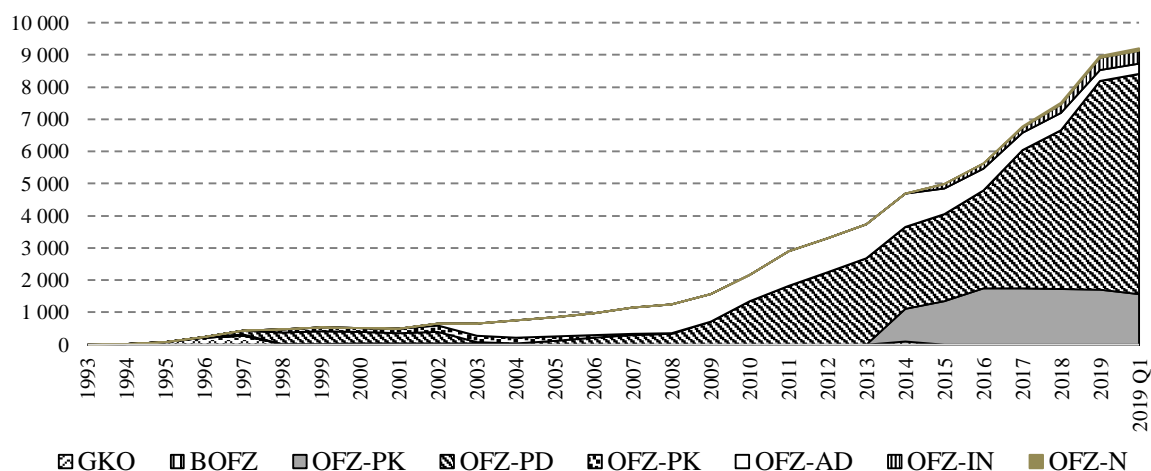
¹ *Smorodskaya, P.* (2020) Risk is structural business. *The Kommersant*. February 7. No 22.

² *Tretyak, A., Mikheeva, A.* (2020). Government debt on a sick leave. *Vedomosti*. March 4.

³ For an analysis of the OFZ market’s evolution, see *Lu Y., Yakovlev D.* Exploring the Role of Foreign Investors in Russia’s Local Currency Government Bond (OFZ) Market. IMF Working Paper, No WP/17/28, February 2017.

⁴ *Lu Y., Yakovlev D.* Exploring the Role of Foreign Investors in Russia’s Local Currency Government Bond (OFZ) Market. IMF Working Paper, No WP/17/28, February 2017, p.10.

convenient instrument.¹ In later years, changes in the market share of these OFZ issues were mainly brought about by the activity of non-resident investors.



Note. Hereinafter, the following abbreviations are used: BOFZ – zero-coupon federal loan bonds; GKO – short-term zero-coupon government bonds; OFZ – federal loan bonds; OFZ-AD – debt amortization federal loan bonds; OFZ-IN – federal loan bonds with a face value tied to the Russian Federation’s official inflation rate; OFZ-PD – constant coupon income federal loan bonds; OFZ-PK – federal loan bonds with a floating coupon tied to the RUONIA rate; OFZ-N – federal loan bonds for retail investors (‘people’s bonds’).

Fig. 45. The value volume of GKO-OFZ offering over the period from 1993 through March 2020, billions of rubles.

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

In 2019, OFZ-PKs with a variable coupon accounted for 19.1% of the total OFZ market value, and their market share, which stood at 30.9% in 2016, was on the decline. The coupon rate of these bonds is tied to RUONIA (interbank benchmark), which is largely determined by the Bank of Russia’s key rate. Since 2015, OFZ-PKs have been popular with non-residents due to the situation of general financial instability and the rising key rate. However, as the key rate was reduced from 11% in 2016 to its current level of 6% and the inflation rate declined, OFZ-PKs have been losing their popularity, because their coupon yield basically depends on the key rate level.

A promising segment of the government securities market is that of OFZ-INs due to the indexation of their face value depending on the level of inflation, as measured by the consumer price index (CPI). In 2019, they accounted for 4.1% of the total OFZ market value. Their market share increased from 2.8% in 2015² to 4.5% in Q1 2020. Due to their protection against inflation, OFZ-INs are in demand among domestic institutional and individual investors.

In 2019, the smallest OFZ market share of 0.7% was taken up by OFZ-N, often referred to as ‘people’s bonds’ because they target individuals and are promoted by the RF Ministry of Finance mostly as an over-the-counter instrument designed to improve the financial literacy of the general population.³ On September 2, 2019, investors were offered a new issue of OFZ-N

¹ Lu Y., Yakovlev D. Exploring the Role of Foreign Investors in Russia’s Local Currency Government Bond (OFZ) Market. IMF Working Paper, No WP/17/28, February 2017,

² The first OFZ-IN issue appeared in 2015 during a period of high ruble volatility.

³ Butrin, D., Kassim, P. (2019). To buy an experience: the RF Ministry of Finance has made OFZ-N part of the family financial planning system. Kommersant Money. September 25, No 39.

to the total value of RUB 15.0 billion, which should be placed within 6 months. The distinctive features of this issue, in which it differed from the previous ones, were the absence of a commission charged by the agent banks, their lower minimum purchase amount set at RUB 10,000, and the active advertising campaign. In addition to Sberbank and VTB, the new bonds were made available for purchase through Promsvyazbank and Post Bank.¹ However, because of the fierce competition with bank bonds, the placement OFZ-N was proceeding at a fairly moderate pace: according to media reports, as of the end of February 2020, out of the total issue value of RUB 15.0 billion, only bonds to the value of RUB 8.8 billion,² or 58.7%, had been sold. Meanwhile, that according to the Bank of Russia, the value volume of bank bonds issued in 2019 was RUB 0.6 trillion.³

In 2019, one of the main growth factors in the OFZ market were the declining yields of government bonds against the backdrop of a stable macroeconomic situation in this country (Fig. 46). The yield to maturity of government bonds (OFZ Cbonds-GBI portfolio index) dropped from 8.53% per annum in December 2018 to 6.21% per annum in December 2019, and to 6.09% per annum in January 2020, thus hitting its record low on the time horizon under consideration (since January 2010). However, from February 2020, the OFZ yield began to rise significantly, to 6.38% in February and to 6.71% in March, which is why the RF Ministry of Finance was forced to cancel its OFZ auctions to be held in March 2020.

From 2016 through February 2020, with some rare exceptions, the OFZ yields were staying above the inflation rate (CPI), thus increasing the attractiveness of government securities in the eyes of domestic investors.

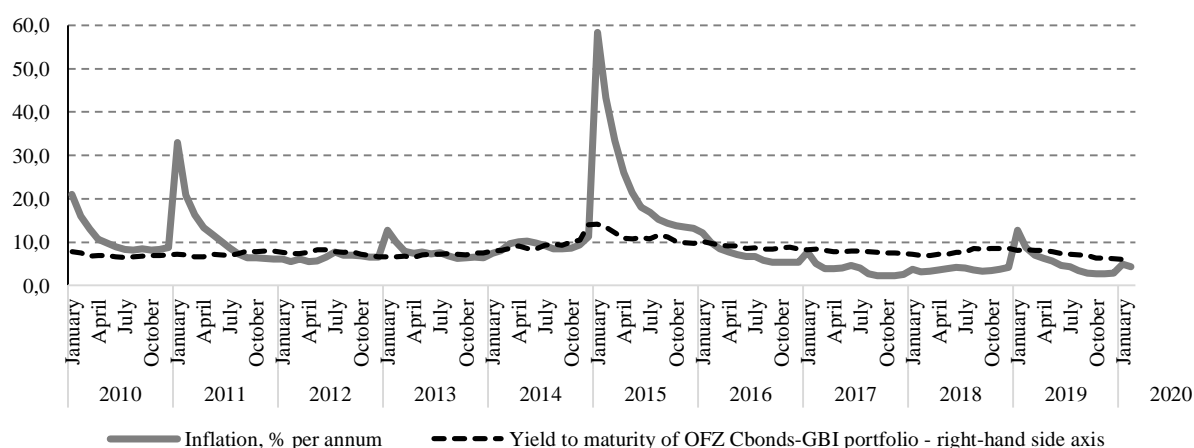


Fig. 46. Inflation (CPI) and yield to maturity of OFZ Cbonds-GBI portfolio over the period from January 11, 2010 through February 28, 2020, % per annum⁴

Source: own calculations based on data released by Rosstat and CBonds.

¹ Gaidarov, V. (2019). People's OFZ for wealthy clients. The Kommersant. December 17.

² Smorodskaya, P., Ladygin, D. (2020). Government bonds will be turned towards the people by the marketplace. It is suggested that OFZ-N should be placed through the Central Bank platform. The Kommersant. February 20.

³ Bank of Russia. (2020). Review of Key Indicators of Professional Securities Market Participants. 2019. No 4. Moscow. P.8.

⁴ The high inflation rate in January 2015, which stood at 58.3% per annum, can be explained by the specificity of the chain method of calculating the CPI, based on the month-to-month price growth in a current year. In January 2015, in response to the forex market shock, price growth jumped to 103.9% of its level in December 2014, which amounts to 58.3% when recalculated in per annum terms.

RUSSIAN ECONOMY IN 2019

trends and outlooks

The opening, by Russia's central depository in February 2013, of nominal holder accounts for foreign clearing and settlement systems triggered an inflow of foreign investment into the domestic government debt market. The relative share of non-residents in the secondary market for OFZ increased from 6.5 percent in July 2012 to 28.1 percent in May 2013 (*Fig. 47*).¹ Later on, about a quarter of OFZs on average was held by non-residents; however, this indicator was changing significantly in response to the cash flows of non-residents, with due regard for the financial and geopolitical risks. Thus, for example, on the back of fears of possible sanctions to be imposed in April 2018 on those global investors who purchased Russian government bonds, the OFZ market share of non-residents shrank from 33.1% in 2017 to 24.4% in 2018. However, in absence of any sanctions against OFZ buyers and in view of the favorable market conditions in 2019, foreign investors returned into this market segment, and their relative share in the structure of OFZ holders in February 2020 rose to its historic peak of 34, 9%.

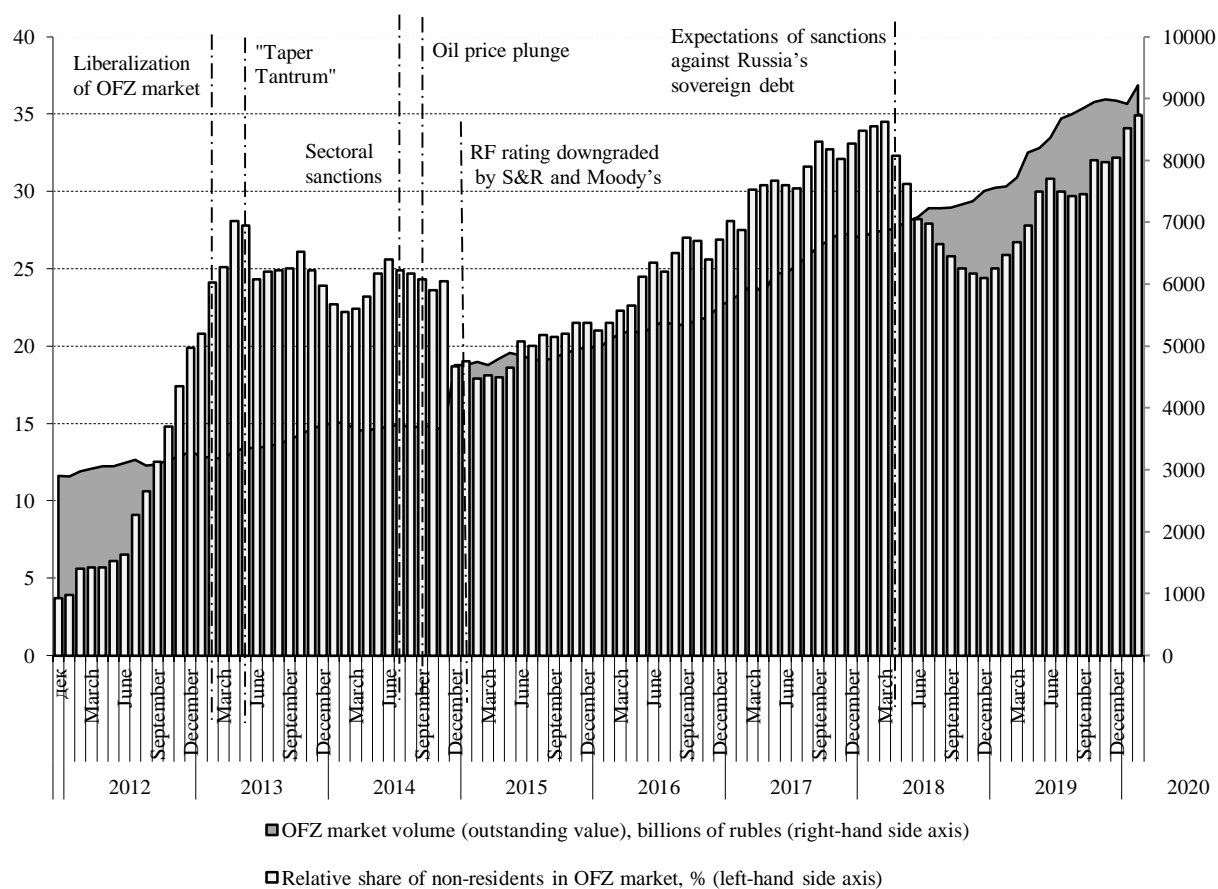


Fig. 47. The OFZ market share of non-residents from February 2012 through February 2020

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

¹ Based on expert estimates, one cannot rule out the fact that prior to the liberalization of the OFZ market in February 2013, the real OFZs market share of non-residents was higher than the official figure of 6.5%. The problem is that before correspondent deposit accounts of Clearstream and Euroclir were opened with the National Settlement Depository (NSD), the depository accounting system existing at that time did not allow the disclosure of information on the non-resident investments in OFZs carried out via depository banks servicing foreign investors.

Thus, so far the OFZ market has been one of the most dynamically growing segments of the domestic financial market, through which the RF Ministry of Finance has been successfully attracting a significant amount of net financing needed to replenish the budget. The existence of diverse OFZ issues coupled with financial stability made government bonds attractive for a wide range of domestic and foreign investors. As before, there were some problems with the investor base, which had to do with the freeze on pension savings, the inadequately developed collective investment schemes targeting government bonds, and the low share of individual investors willing to buy them. In the context of the 2020 crisis, the RF Ministry of Finance may be faced with a surge in interest rates for government securities.

3.1.9. The derivatives market

The economic role of the derivatives market is to increase the transparency of forecasts and investment asset pricing, as well as to provide market participants with opportunities of hedging against sharp fluctuations in asset prices in the future. A surge in derivatives market liquidity is often observed during the periods of increased volatility of investment asset prices. As shown in *Fig. 48*, the monthly volumes of futures transactions in 2017, 2018, and 2019 were displaying a volatile pattern; however, the average volumes of transactions closed over one month remained almost stable, amounting to RUB 6.5 trillion, RUB 6.9 trillion, and RUB 6.4 trillion, respectively. However, in March 2020, in response to signs of an impending financial crisis, the volume of futures transactions increased to RUB 15.2 trillion, which is 2.4 times higher than the average monthly index for 2019. Most of this growth was accounted for by forex and stock index futures.

The options market in 2017–2020 was demonstrating a slow decline, as the average monthly transaction volume in 2017 amounted to RUB 573 billion, in 2018 to RUB 572 billion, and in 2019 to only RUB 416 billion. In March 2020, the value volume of options on the exchange rose to USD 479 billion, which is 15.1% above its average level in 2019, but is still incomparable with the growth rate of futures transactions.

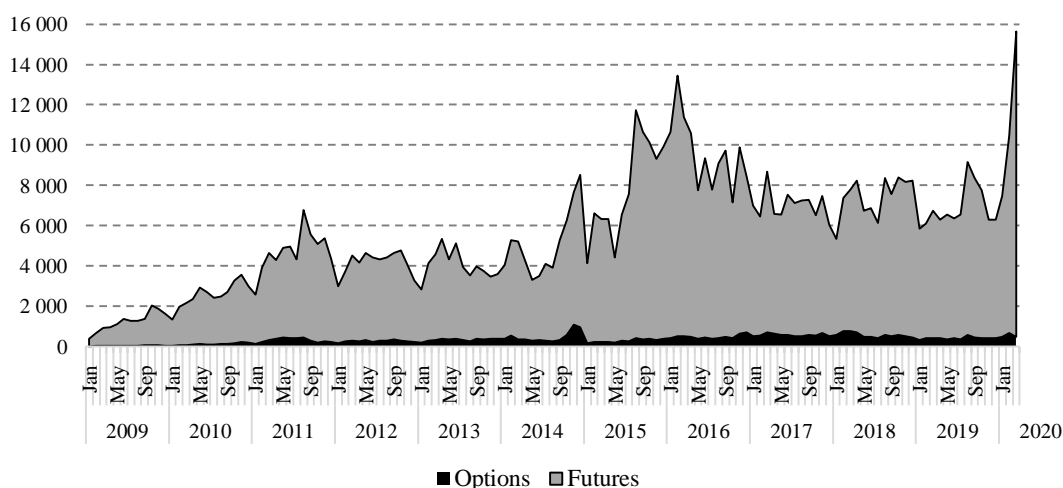


Fig. 48. The value volume of futures and options transactions on the Moscow Exchange from January 2009 through March 2020, billions of rubles

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

In 2019, no major breakthroughs were observed in the futures exchange. As before, the major role in this segment of the derivatives market was played by forex futures; the financial situation in 2019 was relatively stable, and so the share of forex futures in the total value volume of exchange transactions shrank from 42.6% in December 2018 to 40.1% at year-end 2019, and then jumped to 49.5% in March 2020 (Fig. 49). The market share of stock index futures increased from 21.9% in 2018 to 24.2% in 2019, and to 24.3% in March 2020. The market share of transactions in stock market instruments over the same period increased from 4.2% to 5.8%, and then in March 2020 it plunged to 3.7%. In 2019, the growth of commodity-based futures (secured by assets like oil, gold, etc.) slowed down; their share in the overall structure of transactions shrank from 31.3% in 2018 to 29.9% in 2019, and to 22.6% in March 2020.

In 2019, similarly to the situation in the previous years, in spite of the increasingly significant interest-rate risks in the financial markets, no progress could be achieved in the sector of interest rate futures and options. The main obstacles to their development had to do with the absence of reliable indicators of the movement of interest rates in the interbank market, as well as of large investors who would be ready to accept the risks associated with changing interest rates. Although many financial and non-financial organizations strongly need to hedge their contracts against the rising interest rates, there are practically no market participants willing to buy these risks.

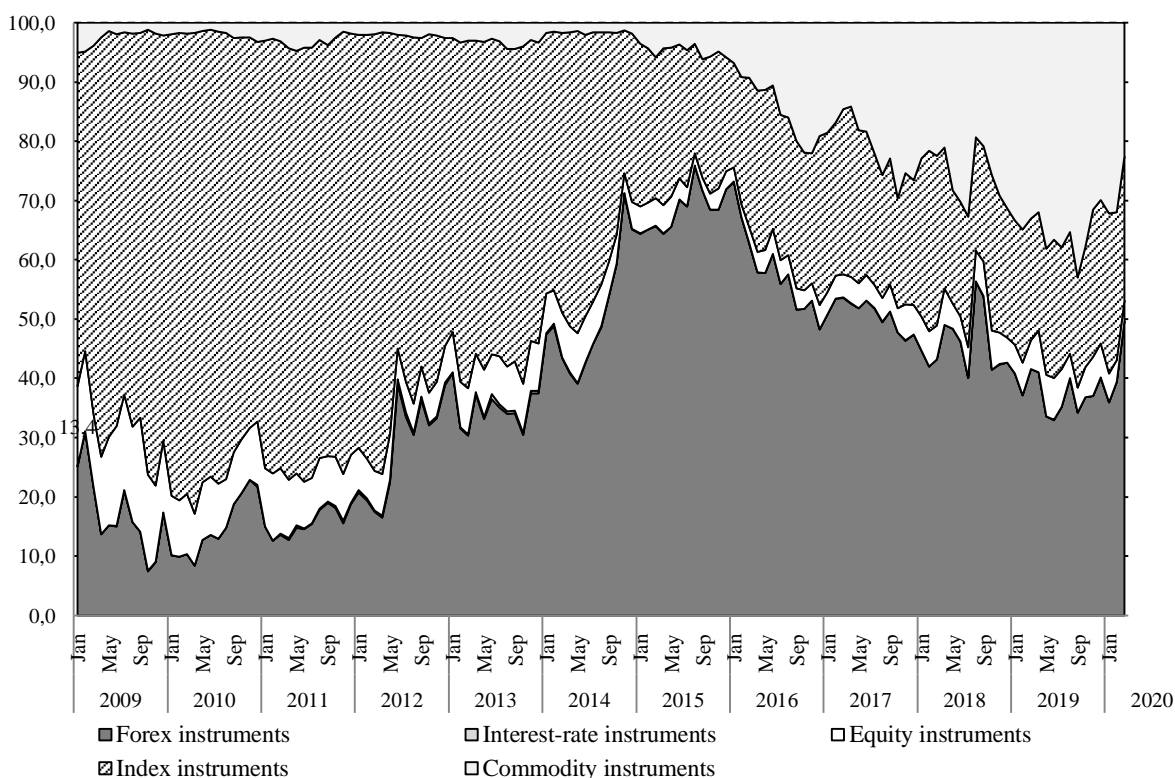


Fig. 49. The futures market structure on the Moscow Exchange over the period from January 2009 through March 2020, % of value volume

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

The options market was probably used to a lesser degree for hedging against investment risks, which was the reason for its relatively moderate liquidity on the stock exchange. The

structure of the Moscow Exchange options market in 2019 demonstrated an increase in the relative share of stock index options: from 53.0% in 2018 to 57.2% in 2019, and then to 58.7% in March 2020 (Fig. 50). The relative share of commodity transactions shrank from 7.2% in 2018 to 6.9% in 2019, and then in March 2020 it increased to 10.3%. The share of forex transactions shrank from 39.4% in 2018 to 34.7% in 2019, and to 30.7% in March 2020.

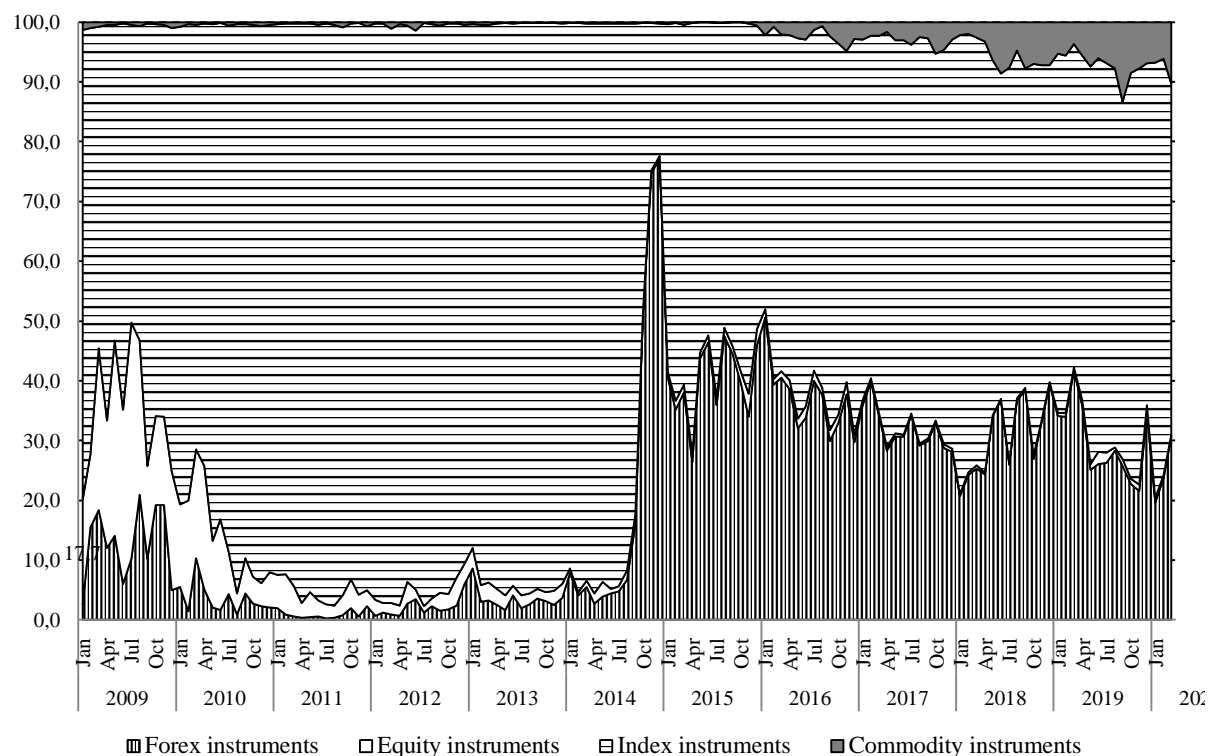


Fig. 50. The options market structure on the Moscow Exchange over the period from January 2009 through March 2020, % of value volume

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

3.1.10. Financial intermediaries and exchange infrastructure

In 2019 and early 2020, the number of professional securities market participants and that of licenses for various types of professional activities continued their decline (Fig. 51). The number of brokerage license holders shrank by 12.4% – from 331 in 2018 to 290 in 2019, and then to 284 in Q1 2020. The number of dealer licenses in 2019 decreased by 12.8% – from 366 to 319, and then to 312; that of equity trust management licenses – by 12.6%, from 230 to 201, and then to 200.

A long-term downward trend in the number of licenses of professional securities market participants has been observed since the 2008 crisis, reflecting the general slowdown in the Russian economy and the shrinking role of the stock market. The creation of a financial mega-regulator in September 2013 slightly sped up this natural process by increasing the administrative costs incurred by market participants. As before, the main reason for the revocation or annulment of professional licenses has remained the licensee’s application with a statement of their desire to discontinue their business activity, and not the prudential measures enforced by the regulator.

A more serious problem has to do not with the revocation of expired licenses of professional securities market (PSM) participants, but a sharp reduction in the number of new PSM participants entering the market, because they exert a positive competitive pressure on the financial services market and its performance level. As shown in *Fig. 51*, since 2012 there has been a significant slowdown in the entry of new players onto the market, the reason being the creation and operation of the mega-regulator. The number of newly issued licenses to PSM participants in 2017, 2018 and 2019 was 33, 22 and 12, respectively; in other words, in 2018, it decreased by a third, and in 2019 – by another 45.4%. The existence of such statistics may point to barriers imposed on the fintech sector, where new technologies and business models are being developed.

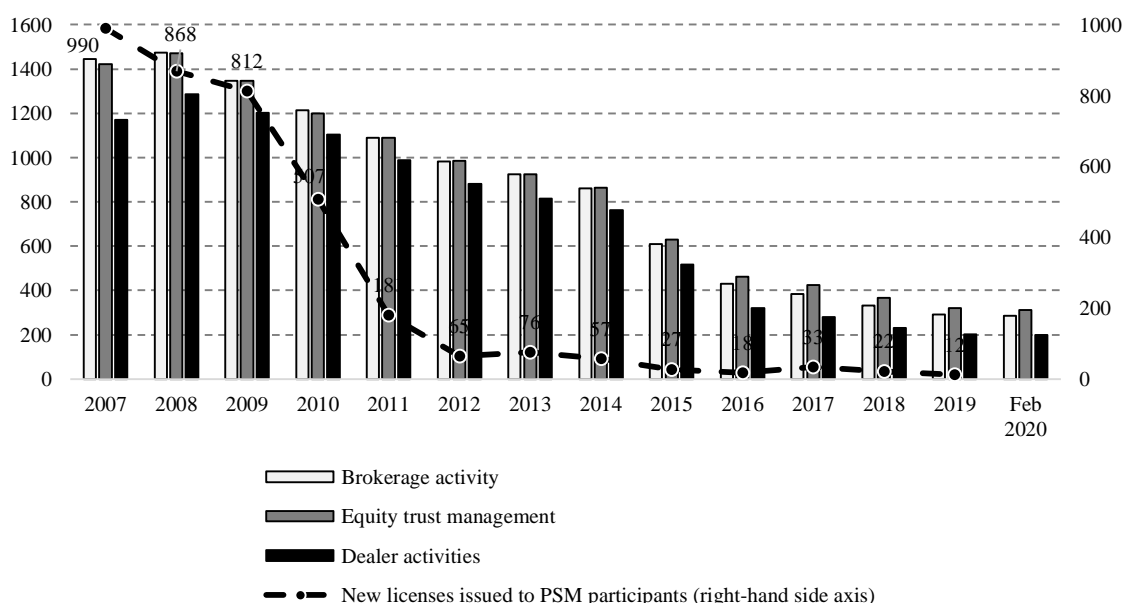


Fig. 51. The number of brokerage, dealer, equity trust management, and professional securities market participant licenses over the period from 2007 through February 2020

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

Alongside the meagre inflow of new market players, there was a noticeably higher concentration of brokerage and equity trust management activities in the major banks and non-bank financial institutions. The relative share of the top 5 brokers in the total number of individual clients increased from 57.2% in 2018 to 60.8% in Q1 2020, while for the top 10 brokers this index slightly declined from 70.5 to 68.1% (*Table 7*).

In the total number of active clients of brokers, i.e. individuals who effect at least one transaction per month on the exchange, the relative share of top 5 brokers over the same period increased from 70.5% to 83.6%, and that of the top 10, from 93.3 to 96.5%. The relative share of brokerage accounts in the total number individual investment accounts (IIAs) also increased sharply from 84.6% in 2018 to 88.8% for the top 5 brokers, and from 94.4% to 96.3% for the top 10 brokers.

Table 7

The relative shares of top 5 and top 10 brokers in the total number of client accounts, %

	2007	2012	2013	2014	2015	2016	2017	2018	2019	Q1 2020
1. Share in the total number of brokers' clients, %										
Top 5 brokers	41.6	62.2	62.3	61.0	58.8	59.1	58.3	57.2	60.2	60.8
Top 10 brokers	51.0	78.5	78.2	76.3	72.3	71.4	68.6	70.5	68.3	68.1
2. Share in the number of active clients, %										
Top 5 brokers	41.9	66.8	69.1	66.0	67.6	65.9	76.7	70.5	80.1	83.6
Top 10 brokers	57.9	84.1	85.8	80.0	79.9	76.5	88.5	93.3	95.8	96.5
3. Share in the total number of individual investment accounts (IIAs), %										
Top 5 brokers					84.2	82.3	84.0	84.6	87.5	88.8
Top 10 brokers					91.2	92.2	95.9	94.4	96.0	96.3

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

In 2019, the Bank of Russia published a draft framework for public consultations titled ‘The Bank of Russia Approaches to the Development of Competition in the Financial Market’¹, which included a set of measures designed to promote competition in the financial market. In our opinion, this document does not provide a comprehensive solution to the competition issue. The main problem with the measures proposed by the Bank of Russia was that they were not oriented to maintaining a competitive environment that could move ahead of the development of fintech and the modern methods of selling financial products by intermediaries based on competing investment platforms with an open architecture of sales.² Instead, the proposed measures had more to do with the implementation, by the Bank of Russia, of its own commercial infrastructure projects in the form of online marketplace, digital citizen profile, and quick payment system.³

Competition in the financial market could be boosted by legislative measures aimed at promoting competition between investment platforms; by creating favorable conditions for the implementation of private fintech projects; by reducing the administrative barriers that make it more difficult for new companies to enter the market; by introducing fiduciary standards for the sale of investment financial products;⁴ and by a more distinct orientation of significant infrastructure development projects to the needs of financial intermediaries and their clients.⁵

In early 2020, the Audit Chamber of the Russian Federation published a report on the results of its expert-analytical study ‘Analysis of the implementation of the Guidelines for the development of the Russian financial market in 2016–2018 and assessment of the Guidelines for the development of the Russian financial market in 2019–2021’.⁶ The main problems of the

¹ Bank of Russia. (2019). Approaches of the Bank of Russia to the development of competition in the financial market. Report for public consultations. November. Moscow. URL: https://www.cbr.ru/Content/Document/File/90556/Consultation_Paper_191125.pdf

² An open architecture for sales of financial products means that financial products of various manufacturers are sold through a financial intermediary and its information platform, with due regard for the needs of each consumer of financial services.

³ For more detailed comments on the Bank of Russia Report (2019) prepared by the Center for Institutions Analysis and Financial Markets (IAES RANEPa), see URL: https://ipei.ranepa.ru/images/2019/FR/komentarii_k_CBR_o_konk.pdf.

⁴ These standards imply imposing restrictions on the conflicts of interest that arise between financial intermediaries when they sell financial products to their clients.

⁵ For further details concerning the development of investment platforms and fintech, see Abramov, A. (2019). To stake out the platform. The Expert, No 44, October 28 – November 3, pp. 64–68.

⁶ The Audit Chamber of the Russian Federation (2020). ‘Analysis of the implementation of the Guidelines for the development of the Russian financial market in 2016–2018 and assessment of the Guidelines for the development

domestic market and its regulation outlined in the report were as follows: inadequate level of cooperation between the RF Government and the Bank of Russia in elaborating and implementing the policy for developing and ensuring the stability of the performance of financial markets; a significant decrease in the level of competition in the financial market, in combination with a 1.5–2 times shrinkage of financial market institutions in certain sectors; the low growth rate in the banking sector; an accelerated growth of capitalization due to the secondary market growth, and not that of public offers of new stocks; the level of insurance sector development that was inadequate to the needs of the economy. The provision of proper solutions to these problems could greatly contribute to the development of the domestic financial market and boost competition between its participants.

In 2011, the two largest Moscow-based exchanges – MICEX and RTS – were merged, and this had some important positive consequences for the development of Russia’s stock market. After the merger, the transactions on the stock and futures markets became easier, and all the liquidity necessary for carrying on exchange trade could now be concentrated in the accounts of participants in trading in the exchange’s single clearing and settlement system. The diversification of the new Moscow Exchange in servicing transactions in different types of monetary and investment assets improved its financial sustainability. Alongside these positive changes, the merger of MICEX and RTS also has some controversial consequences. First of all, now there was no competition between the two exchanges, whilst previously this competition had been a powerful incentive for developing exchange activities in the interests of domestic investors and financial intermediaries.

In 2019, the downward trend in the total volume of trading in various financial instruments (securities, forex and money market instruments, derivatives, commodity instruments) that had first emerged on the Moscow Exchange in 2018, became even more obvious. The total exchange trading volume in 2017, 2018 and 2019 amounted to RUB 888 trillion, RUB 861 trillion, and RUB 798 trillion, respectively; its shrinkage in 2018 amounted to 3.0, and in 2019, to 7.3% (*Fig. 52*).

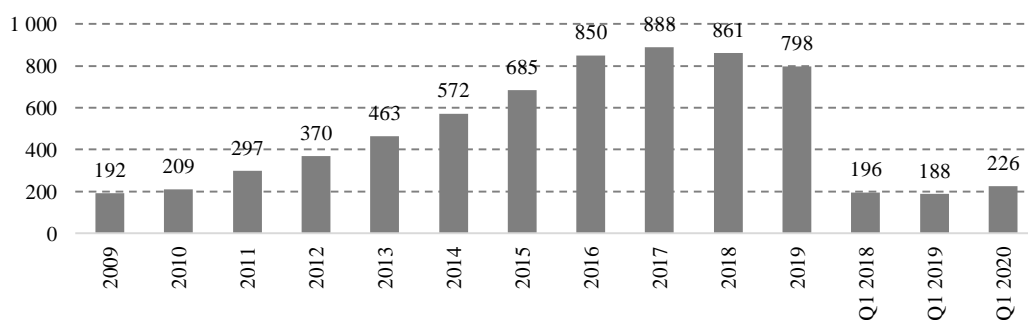


Fig. 52. The volume of trading in all instruments on the Moscow Exchange from 2009 through March 2020, trillions of rubles

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

One of the advantages of the Moscow Exchange over its global competitors is the diversification of its market segments. However, this business model also gives rise to additional risks, namely lower market incentives for the development of less marginal trading

of the Russian financial market in 2019–2021’. Approved by the Collegium of the RF Audit Chamber on December 10, 2019. URL: <http://audit.gov.ru/checks/9603>

segments. At present, this is manifest in the decreasing importance of the stock and derivatives market in the total volume of exchange turnover. As shown in *Table 8*, starting from 2012, when the combined exchange was launched, the stock market share in the overall structure of exchange transactions shrank from 6.5% to 5.1% in 2019, including that of transactions in shares from 3.1% to 1.6%; over that period, the derivatives market share also shrank, from 13.5% to 10.3% in 2019.

The share of the forex market, on the contrary, increased from 31.6% in 2012 to 38.6% in 2019; that of lending market – from 2.5 to 6.7%. The growth of the foreign exchange segment was facilitated by the instability of the ruble exchange rate and the access to operations on the forex market granted to individual clients of brokers and banks. The money market share over the period under consideration shrank from 48.3% to 45.9%, which was probably due to some reduction in the scale of refinancing of the banking system by the monetary authorities.

With the growing volatility in the domestic financial market in March 2020, the share of transactions in stocks and derivatives (mainly currency and stock index futures) in the overall structure of transactions on the Moscow Exchange also increased.

Table 8

The market structure on the Moscow Exchange from 2010 through March 2020, %

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Q1 2020
Stock market,	13.2	10.3	6.5	5.2	3.6	3.0	2.8	4.0	4.7	5.1	6.1
including:											
Shares, Russian depository receipts (RDR), investment fund units	8.0	6.6	3.1	1.9	1.8	1.4	1.1	1.0	1.3	1.6	2.8
Bonds	5.2	3.7	3.4	3.3	1.9	1.6	1.7	3.0	3.5	3.5	3.4
Secondary turnover	3.4	2.9	2.8	2.7	1.5	1.2	1.1	1.2	1.2	1.3	1.5
New offering	1.8	0.8	0.6	0.6	0.3	0.4	0.6	1.7	2.3	2.2	1.9
Forex market,	72.0	70.6	80.0	84.3	85.6	83.3	83.6	86.5	84.8	84.5	79.0
including:											
Money market	33.9	41.3	48.3	50.7	45.7	38.0	44.8	47.3	44.3	45.9	43.2
REPO operations	31.5	38.3	45.8	44.8	32.0	26.4	34.8	38.3	36.0	36.7	35.7
Lending market	2.4	3.1	2.5	2.8	3.7	4.8	4.4	4.2	6.3	6.7	6.4
Forex market	38.1	29.3	31.6	33.7	39.9	45.4	38.8	39.2	40.5	38.6	35.8
Spot trades	18.0	15.8	16.6	12.4	13.6	15.1	12.6	8.8	10.1	8.4	10.8
Swap trades	20.1	13.4	15.0	21.3	26.3	30.3	26.2	30.3	30.4	30.2	25.0
Derivatives market	14.8	19.1	13.5	10.5	10.7	13.7	13.6	9.5	10.4	10.3	14.8
OTC	0.0	0.0	0.0	0.0003	0.0002	0.001	0.002	0.01	0.1	0.1	0.0
Commodity market	0.001	0.003	0.006	0.005	0.003	0.02	0.02	0.01	0.02	0.01	0.00
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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

Thus, in 2019 and early 2020, the financial market continued to display a trend towards a reduction in the number of intermediaries and a higher concentration of brokerage services. The ongoing discussions of possible approaches to regulating competition in the financial markets have not yet produced any valid results. With the exception of some short-term upsurges in Q1 2020, the stock and derivatives markets continued to play a secondary role in the structure of exchange transactions, while their share in the structure of exchange transactions was on the decline. There was also an adverse downward trend in the total volume of trading on the Moscow Exchange.

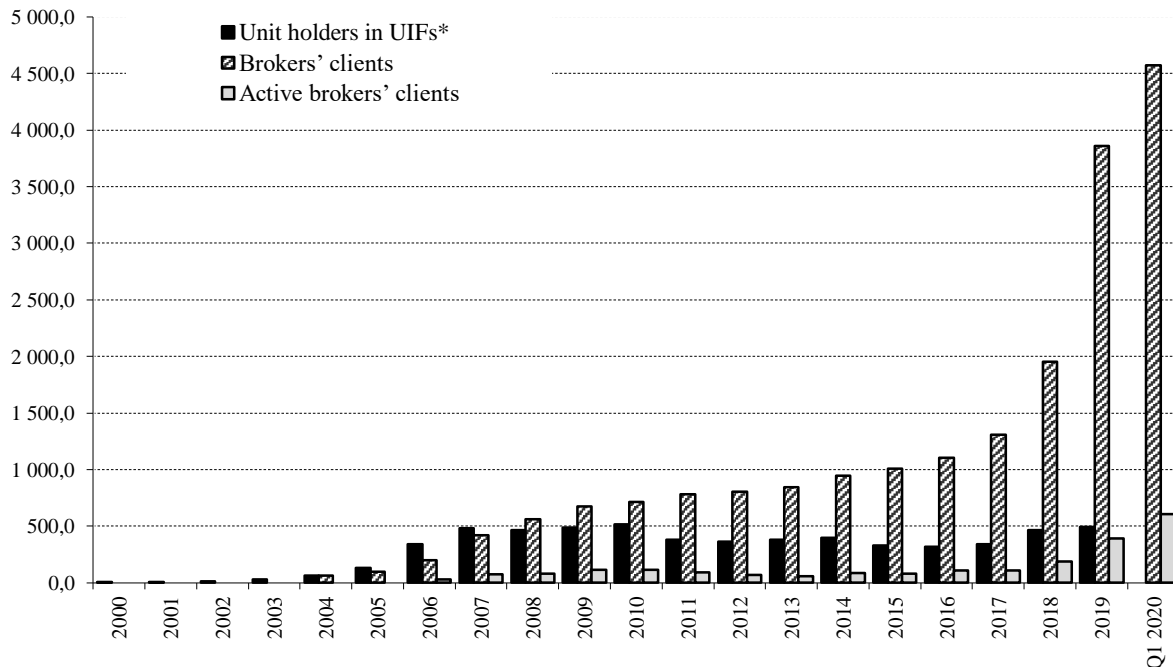
3.1.11. Investors

Private investors

The main event of the financial market in 2019 and early 2020 was a massive inflow of individual investors. As shown in *Fig. 53*, the total number of brokerage accounts of registered investors on the Moscow Exchange increased from 2.0 million in 2018 to 3.9 million in 2019, or 95.0%, and to 4.6 million in March 2020, which represents an increase of 18.0% on December 2019. The number of active individual investment accounts, where the clients effected at least one transaction per month, over the same periods increased from 190,000 to 392,000, or 2.2 times, and then to 607,000, jumping 1.5 times over the course of just one quarter. In Q1 2020, the inflow of new clients into the market accelerated in spite of the falling stock and oil prices, a weakening ruble, and other risks.

The growth in the number of unit holders in open-end mutual funds was more moderate: from 467,000 in 2018 to 493,000 in 2019, or by only 5.6%.

As shown in *Fig. 54*, the competition in the brokerage services market between biggest retail banks for attracting individual clients on a massive scale began to surge in May 2018, when Tinkoff Bank entered this market segment as an independent player. The aggressive marketing methods of the new broker, in combination with the latest click-through technologies for dealing in securities by simply pushing a button on a smartphone, which provide any client with opportunities of buying small blocks of shares in foreign companies, triggered an explosive growth in its client base. The other competing banks (Sberbank, VTB, Otkritie) quickly adopted the new technologies to attract their clients into the stock market, thus further spurring the growth of their respective active client base.



* No data on the number of retail unit holders in UIFs are available for Q1 2020.

Fig. 53. The number of retail clients of trust managers and brokers

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

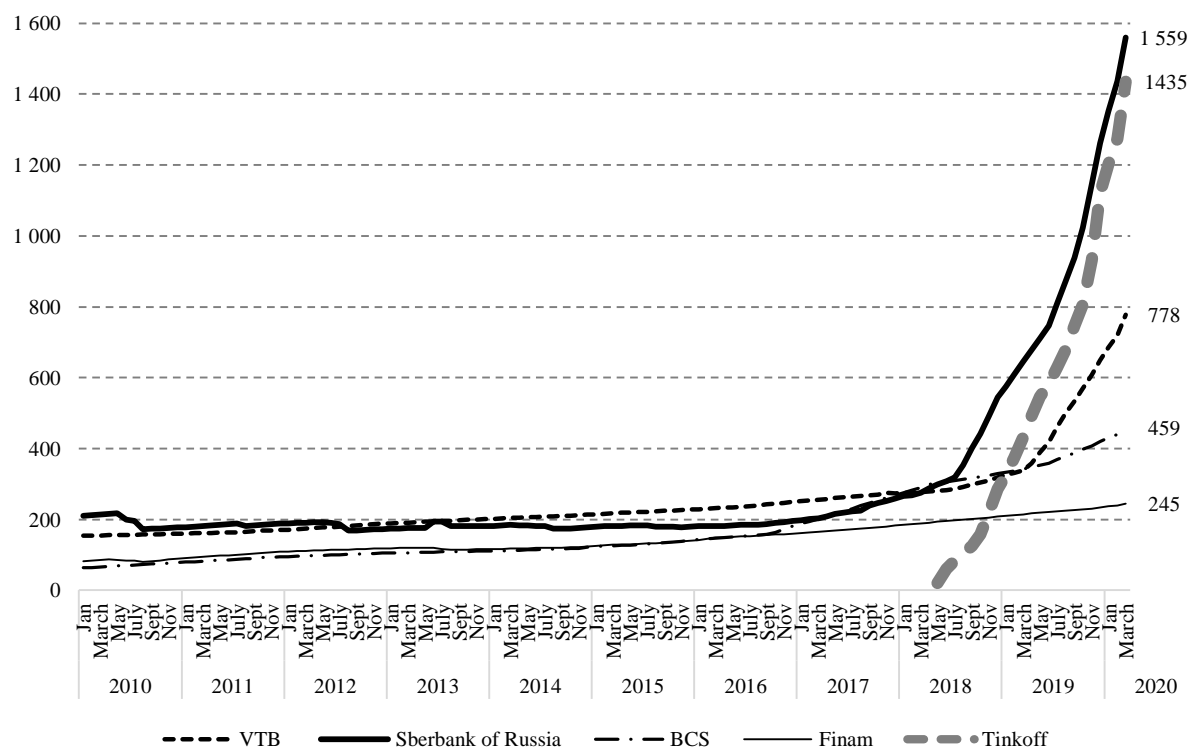


Fig. 54. The number of registered brokerage accounts of the top 5 brokers on the Moscow Exchange, thousands

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

The economic factor behind this phenomenon was the desire of banks, in the situation of a reduced key rate, to offset their lost income generated by deposits by selling to their traditional customers some products with a good profit margin, such as classic bank bonds, structural and insurance products, unit investment funds, and other financial instruments and services.

The number of registered brokerage accounts with Sberbank increased from 544,000 in 2018 to 1,262,000 in 2019, and 1,559,000 in March 2020, with a 2.9-times increase over the period from December 2018 through March 2020. The corresponding indicators for Tinkoff Bank amounted to 286,000, 1,120,000, and 1,435,000, respectively, which represents an increase of 5.0 times over the same period. The third top bank, VTB, had 319,000, 650,000, and 778,000 accounts, respectively, and a 2.4-times increase.

For big non-bank brokerage companies, the movement pattern of brokerage accounts was different. The total number of accounts with BCS was 330,000 in 2018, 420,000 in 2019, and 459,000 in March 2020; thus, over 15 months, their number jumped 39.0%. The corresponding Fig.s for Finam Investment Company were 208,000, 234,000, and 245,000, respectively, with an increase of only 4.7%.

A roughly similar picture was observed with regard to the accounts of active investors, the only difference being that in this segment, it was Tinkoff Bank that held the uppermost position (Fig. 55). The number of accounts of active investors with Sberbank rose from 38,000 in 2018 to 97,000 in 2019, and 171,000 in March 2020, thus increasing 4.5 times over the period from December 2018 through March 2020. The corresponding indicators for Tinkoff Bank were

RUSSIAN ECONOMY IN 2019

trends and outlooks

33,000, 118,000, and 196,000, respectively, with overall growth by 5.9 times. VTB has 21,000, 58,000, and 109,000 accounts, and a total increase by 5.2 times.

The number of accounts of active investors with BCS was 23,000 in 2018, 32,000 in 2019, and 45,000 in March 2020, with an increase of 96.0% over the course of 15 months. The corresponding indicators for Finam Investment Company were 22,000, 29,000, and 38,000, with a total increase of 73.0%.

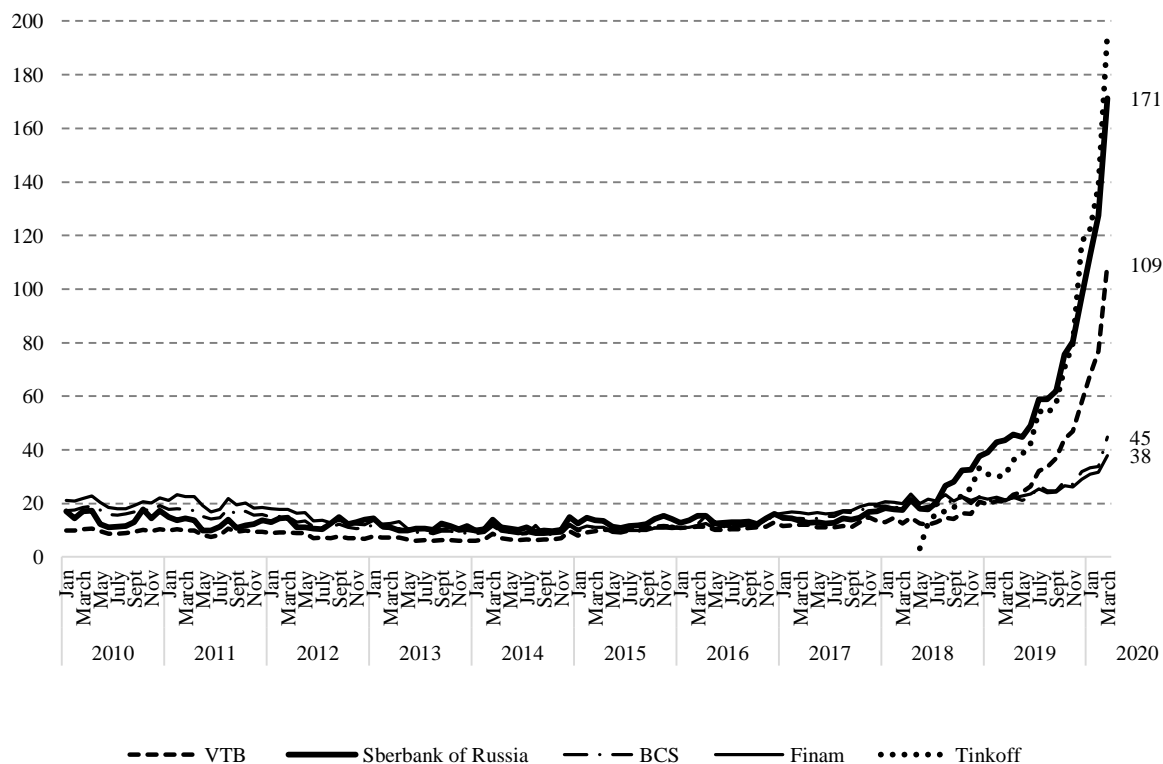


Fig. 55. The number of the registered brokerage accounts of active clients of the top 5 brokers on the Moscow Exchange, thousands

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

The most remarkable event in the segment of private savings over the past 5 years was the introduction of individual investment accounts (IIAs), with some personal income tax exemptions and no serious restrictions on investing the monies kept in these accounts. According to data released by the Moscow Exchange, the number of IIAs in 2018 was 598,000, in 2019, 1,650,000, and in March 2020, 2,060,000, thus increasing 3.4 times over the period from December 2018 through March 2020. Over the same period, the number of IIAs opened in the form of individual trust accounts totaled 84,000 (as of January 2018), 222,000, and 269,000, respectively, with an increase of 3.2 times over the period from January 2018 through March 2020 (*Fig. 56*).

The principal factor pushing up the number of IIAs was the activity of banks engaged in brokerage activities. Over the said 15-month period alone, from December 2018 through March 2020, their relative share in the total number of these IIAs increased from 73.9% to 86.7%, while that of non-bank financial institutions providing brokerage services plunged from 24.8% to 12.9%.

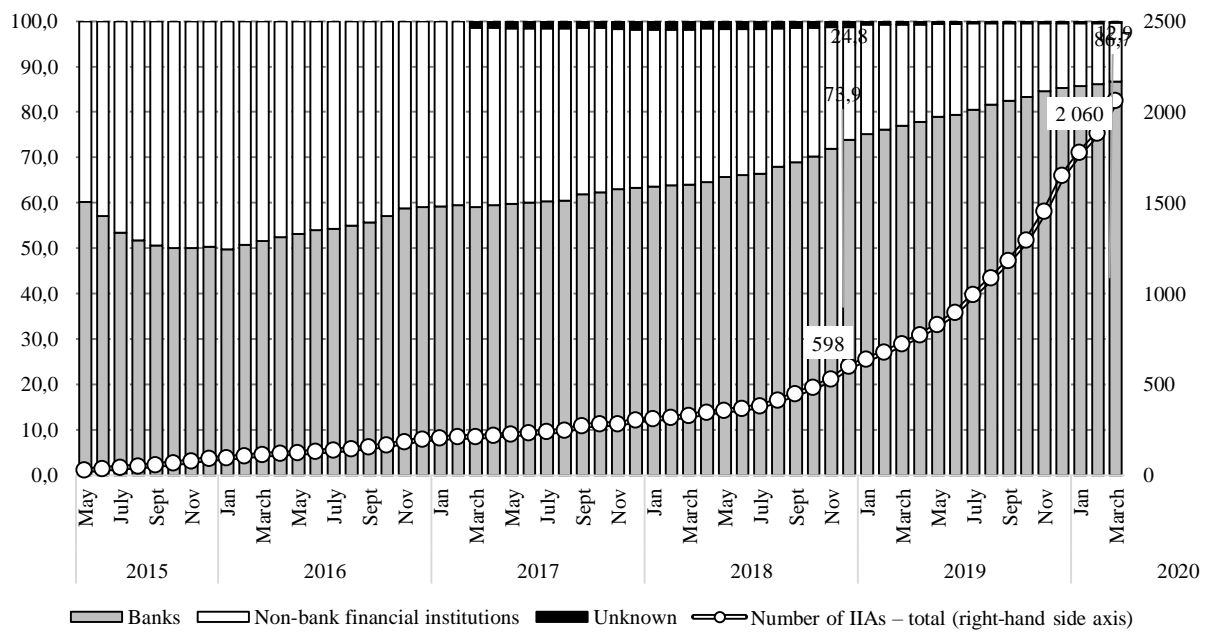


Fig. 56. The movement of the number of individual investment accounts (IIAs) over the period from May 2015 through January 2019, thousands

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

The indisputable leader in competition in the IIA market segment has been Sberbank (Fig. 57). The number of IIAs opened with Sberbank soared from 291,000 in 2018 to 827,000 in 2019, and 1,034,000 in March 2020, with a 3.5-fold increase over the period from December 2018 through March 2020.

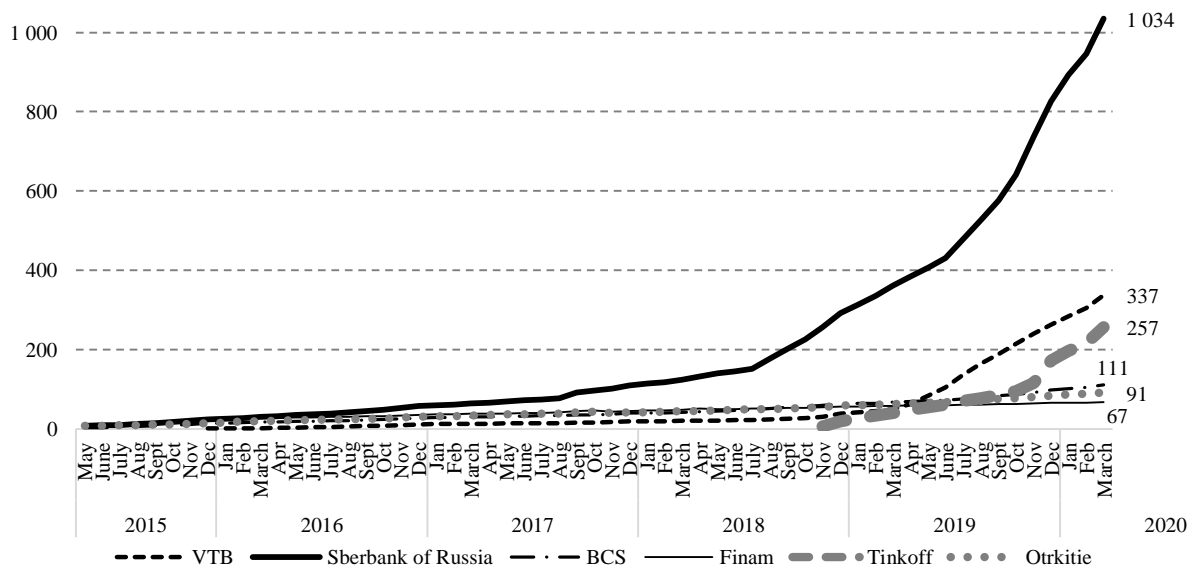


Fig. 57. The number of IIAs with the top 6 brokers, thousands

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

The corresponding indicators for VTB were 38,000, 263,000, and 337,000, respectively, with a 8.9-times rise. The number of IIAs with Tinkoff Bank was 19,000, 172,000, and 257,000, increasing by 13.5 times due to the low starting base; for Otkritie Bank, the corresponding Fig.s were 59,000, 84,000, and 91,000, which represents a 1.5 times increase.

The number of IIAs with BCS was 63,000 in 2018, 98,000 in 2019, and 111,000 in March 2020, with growth by 1.8 times over 15 months. For Finam Investment Company, the corresponding indicators were 56,000, 66,000, and 67,000, with an increase of 19.6%.

The experience of involving individuals in trading on the stock exchange and the movement of IIAs point to the willingness of individual investors to more actively enter the stock market. According to the Bank of Russia, in 2019 the volume of assets kept in IIAs doubled to RUB 197.3 billion, of which RUB 131.1 billion was held in IIAs, and RUB 66.2 billion in individual trust accounts. The average volume of assets held in an IIA shrank from RUB 127,000 in 2018 to RUB 92,000 in 2019, and that held in an individual trust account, from RUB 409,000 to RUB 301,000.¹ This means that against the backdrop of a rapid rise in the number of IIAs, these accounts are being opened to an increasingly small investor category.

According to the same data source of data provided by the Bank of Russia, the structure of IIAs (of both types) in 2019 was demonstrating a shift from government bonds towards corporate bonds, and particularly bank bonds. The relative share of government securities in the structure of assets held in IIAs shrank from 21% in 2018 to 15% in 2019; that of investments in corporate bonds, on the contrary, increased from 13% to 21%, respectively. The relative share of stocks in the structure of assets kept by clients in their IIAs remained stable, at about 23% both in 2018 and 2019. The biggest category of investments kept in IIAs was represented by units in UIFs; however, their share slightly decreased from 27% in 2018 to 25% in 2019. The asset structure in IIAs demonstrated a more noticeable shift towards stocks by comparison with individual trust accounts, where the shift was in favor of bonds.

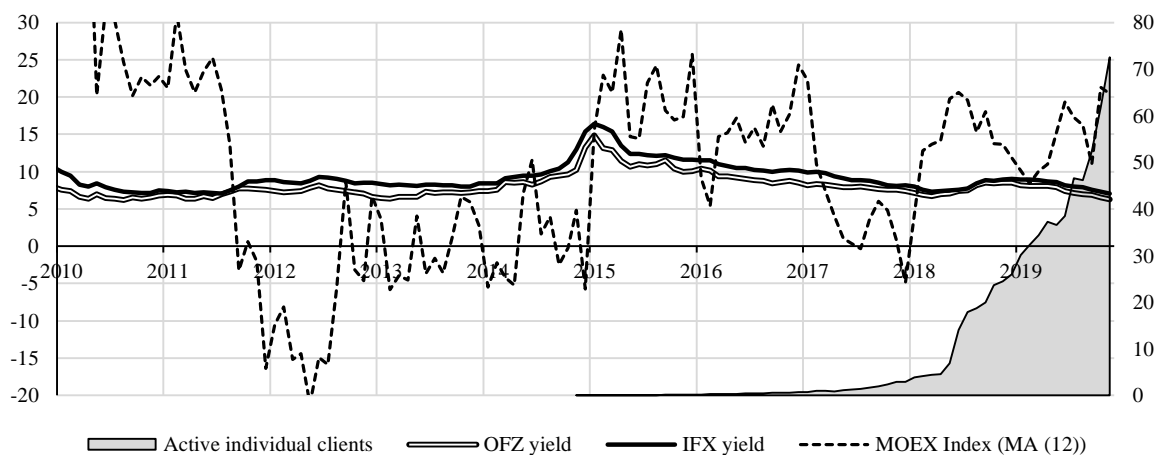
A new trend that emerged in the domestic stock market in 2018–2019 was the rapid increase in the number of investors who traded on the St. Petersburg Exchange (SPB Exchange), specializing in listed securities of reliable foreign issuers. By purchasing, on the SPB Exchange, the stocks issued by major US and European companies, individuals can improve the diversification of their portfolios at moderate transaction costs. The number of active clients of brokers on the SPB Exchange increased from 3,000 in 2017 to 26,000 in 2018, or 8.7 times; in 2019, it reached the level of 72,500, which represents an increase of 2.8 times over the past year (*Fig. 58*).

In early 2020, the Center for Institutions Analysis and Financial Markets (RANEPA IAES) examined² the economic and financial factors influencing the movement patterns of the numbers of individual investors trading on Russian exchanges. There were 4 categories of individual investors: passive investors on the Moscow Exchange, determined on the basis of the total number of client accounts opened by individuals with brokers over the period from December 2006 through December 2019; active investors on the Moscow Exchange, determined on the basis of the total number of individual accounts of active clients of brokers opened over the period from May 2007 through December 2019; the owners of IIAs with the Moscow Exchange in the category of passive investors with a longer horizon for making their investment decisions thanks to their individual income tax exemptions,

¹ Bank of Russia (2020). Review of Key Indicators of Professional Securities Market Participants. 2019. No 4. Moscow.

² The results of the research are scheduled to be published.

determined for the period from May 2015 through December 2019; and the active individual investors on the St. Petersburg Exchange (SPB Exchange) targeting the securities of foreign issuers, determined for the period from November 2014 through December 2019.



Note. The corporate bond yield is the effective yield of the IFX Cbonds index; the government bond yield is the effective yield of the Moscow Exchange’s RGBI index; the stock yield is a 12-month moving average of the MOEX Russia Index.

Fig. 58. The number of active clients trading on the St. Petersburg Exchange (thousands) and the stock and bond yield on the domestic stock market (%), 2010–2019

Source: own calculations based on data released by Bloomberg, Cbonds, and the St. Petersburg Exchange.

Table 9 demonstrates an example of a simple model that reflects the dependence of the monthly growth rate of the total number of registered investors on the Moscow Exchange on several variables, such as real personal income growth, volatility of the ruble exchange rate, the dividend and forex constituents of the MOEX Index, its volatility, the risk premium on domestic bonds,¹ the interest rate on individual deposits,² the dividend yield of foreign stocks, and the entry of Tinkoff Bank³ on the brokerage services market in May 2018.

Based on the data shown in *Table 9* and similar models built for the other indicators that influence the number of individual investors in the stock market, we came to the following conclusions.

The movement of the total number of accounts opened by brokers’ clients on the Moscow Stock Exchange was more strongly influenced by those factors that created the potential for deriving passive income in rubles (the ruble deposit interest rates offered by banks and the size of bond risk premiums, the dividend yields on Russian stocks, the ruble exchange rate volatility), the personal income level, and the surge in brokerage activity that coincided with the entry of Tinkoff Bank into the brokerage services market. The changes in the number of investors in this category did not significantly depend on factors like the returns of Russian and foreign stocks as estimated by the S&P 500.

¹ The yield spread of government bonds and interest rates on bank deposits.

² The average interest rates on bank deposits of 181 days to a year, calculated by the Bank of Russia.

³ The launch of brokerage services by Tinkoff Bank in May 2018 sharply increased the competition between biggest retail banks for new clients in the brokerage services market.

Table 9

**Models for the growth in the number of individual clients of brokers
on the Moscow Exchange**

	Dependent variable: growth in number of individual clients of brokers on Moscow Exchange		
	(1)	(2)	(3)
Constant	1.963** (0.847)	-1.067** (0.533)	0.938*** (0.258)
Real income growth (3 month lag)	0.106*** (0.026)	0.115*** (0.026)	
Dividend yield of MOEX Index		0.655*** (0.103)	
MOEX Index volatility	0.276** (0.125)	0.267* (0.149)	0.414*** (0.103)
Premium on bonds (1 month lag)	0.228* (0.128)		
Deposit interest rate (12 month lag)	-0.156* (0.093)		
MOEX Index, change of last year		0.022 (0.023)	
Dummy (Tinkoff)			4.306*** (0.359)
Ruble exchange rate volatility		-0.613* (0.323)	-0.518** (0.223)
Observations	152	155	155
R ²	0.168	0.292	0.508

Note. The standard deviation of the coefficients is shown in brackets. The significance levels are as follows:
* - $p < 0.1$, ** - $p < 0.05$, *** - $p < 0.01$.

The behavior of holders of *individual investment accounts (IIAs)* could be explained by similar motives, which are typical of passive investors. The movement pattern of IIAs was shaped by the factors associated with passive income, like the ruble deposit interest rates, government bond yields, dividend yields of Russian stocks, and real personal income growth. Some of these variables had a 12-month lag, which reflects the more inert nature of decision-making by the owners of IIAs compared to that of ordinary passive clients of brokers. The movement pattern of IIAs was not influenced by the return on investments in foreign stocks. The tax exemptions granted to IIAs translated into a higher propensity of their holders to invest in risky assets, which was manifest in the way that the size of stock premiums was influencing the movement pattern of IIAs, in contrast to government bond yields.

Private investors with active portfolio strategies, which are estimated using the movement of the number of active accounts of *brokers' clients on the Moscow Exchange*, are prone to resort to speculative forms of income. The number of these accounts grew in proportion to the variables describing a higher propensity to take risks, namely the size of equity risk premium and the volatility of the MOEX Index, the prices of foreign stock and the ruble exchange rate. At the same time, the dividend yield of the MOEX Index and the fact of Tinkoff Bank obtaining a brokerage license were the only two factors that uniformly influenced the movement patterns of both passive and active private investors on the Moscow Exchange.

The movement pattern of the number of *accounts held by active clients of brokers on the St. Petersburg Exchange (SPB Exchange)*, where foreign securities are mainly traded, was most strongly influenced by a limited range of factors that had to do with the comparative returns of Russian and foreign securities. Meanwhile, both the composition of these variables and the vectors of influence differed significantly from the factors that influenced the number of individual investors in the MOEX Index.

Unlike the Moscow Exchange market, the individual investors trading on the St. Petersburg Exchange attach greater importance to the return indices of foreign securities and the returns on Russian stocks recalculated in foreign currency. The ruble return of the S&P 500 with a 2-month lag has a significant and positive effect on the number of investors on the St. Petersburg: an increase in that index is followed, as a rule, by an inflow of individual investors onto the St. Petersburg Exchange. The return of the RTS Index denominated in US dollar, with a 2-month lag, significantly and negatively influenced the number of clients of brokers on the St. Petersburg Exchange: the prospect of receiving a higher return on Russian stocks when the ruble strengthens, as a rule, produced an outflow of investors from the St. Petersburg Exchange.

Thus, the two exchanges were interconnected. The growth of Russian bond and stock premiums increased the attractiveness of the MOEX Index in the eyes of individual investors and made less attractive the foreign securities market of the St. Petersburg Exchange. And vice versa, an increasing exchange rate volatility and a weakening ruble translates in a lower attractiveness of the ruble securities market for domestic investors, who then have to seek an alternative in the form of foreign securities.

Domestic institutional investors

The entry of individual investors into the domestic market made it possible to compensate, in part, for the outflow of foreign investments. However, the positive changes in this direction were not followed by positive developments in the segment of mandatory pension savings and pension reserves. As shown in *Fig. 59*, in 2019, after the pension savings freeze, the pension reserves and savings management sector was growing at a very slow pace. The value of pension savings held by non-governmental pension funds (NPF), state asset managers (SAM) and private asset managers (PAM) increased from RUB 4.3 trillion in 2018 to RUB 4.7 trillion in 2019, or by 8.8%; that of pension reserves held by non-governmental pension funds increased over the same period from RUB 1.3 trillion to RUB 1.4 trillion, or by 12.3%.

In terms of share of GDP, the total value of pension savings increased from 4.2% in 2018 to 4.3% in 2019, and that of pension reserves held by non-governmental pension funds from 1.2% of GDP to 1.3% of GDP, respectively.

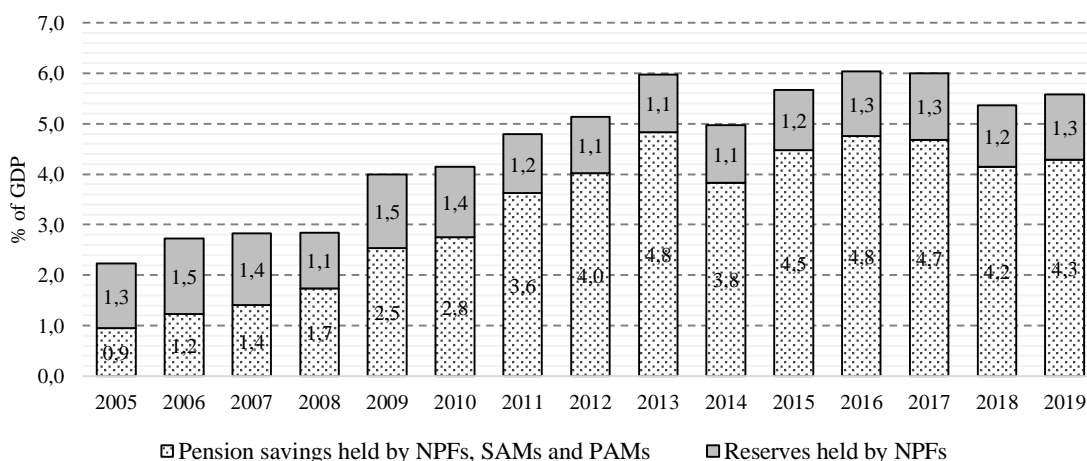


Fig. 59. The movement of pension savings and reserves in 2005–2019, % of GDP

Source: own calculations based on data released by Rosstat, the Bank of Russia, and the RF Pension Fund.

The absence of a properly functioning mandatory corporate pension savings system or voluntary retirement plans for the employed population, stimulated by tax benefits for employees and employers, is currently one of the key constraints on the domestic stock market development. In 2019, the attempts by the RF Ministry of Finance and the Bank of Russia to offer some new promising systems of supplementary retirement programs in the form of individual pension capital (IPC) and guaranteed pension plans (GPP) did not yield any concrete results.¹

In 2019 and early 2020, another collective investment mechanism – open-end mutual funds and interval funds – was demonstrating a more dynamic pace of development. As shown in Fig. 60, net asset value (NAV) of open-end mutual funds in 2018, 2019 and in March 2020 amounted to RUB 315 billion, RUB 454 billion, and RUB 477 billion, respectively, and their NAV over the period from 2018 through March 2020 amounted to 51.4%. The NAV of interval funds over the same periods amounted to RUB 31 billion, RUB 7 billion, and RUB 6 billion, respectively, thus shrinking by 80.6%.² So far, the GDP share of the NAV of these two types of investment funds has amounted only 0.44%, but it continues to grow steadily.

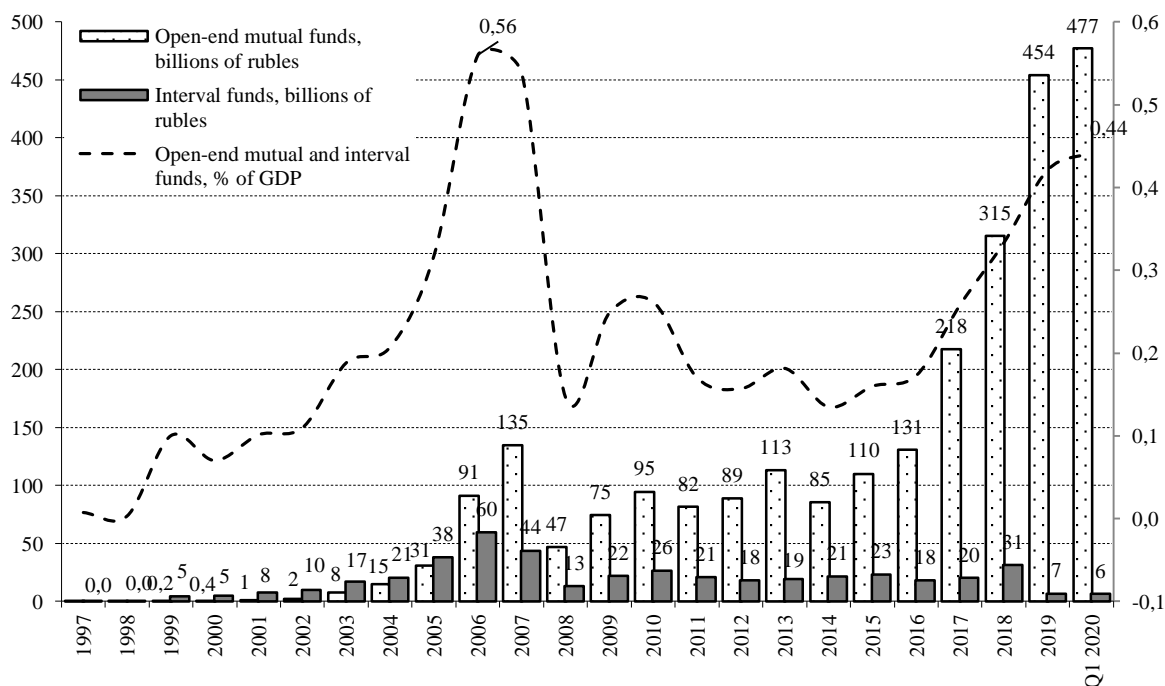


Fig. 60. Net asset value of open-end mutual funds and interval funds from 1997 through March 2020, billions of rubles (left-hand side axis), and their share of GDP, % (right-hand side axis)

Source: own calculations based on data released by Investfunds and Rosstat.

¹ For the commentary of the Center for Institutions Analysis and Financial Markets (IAES RANEPa) concerning the draft law on GPP presented by the RF Ministry of Finance, see URL: https://ipei.ranepa.ru/images/2019/FR/com_FZ_GGP.pdf

² At present, interval funds are not very popular with investors, because they offer low liquidity.

In *Fig. 61*, the results of an analysis of several important and interesting trends in the development of open-end mutual funds are shown. *Fig. 61a* demonstrates that, on medium-term horizons of 2-3 years, growth of the RTS Index is usually followed by a net inflow of investment into open-end mutual funds, while a long-term decline in the index value triggers an investment outflow. In 2019, the RTS Index gained 44.9%, which resulted in an inflow of investor money into the funds in the average amount of RUB 1.5 billion per month. On short-term horizons of several months, investors can resort to an opposite strategy of market timing in order to increase the amount of their shares in open-end mutual funds during the periods of temporary stock price decline. This is exactly what happened in January-February 2020: at a moderate decline of the RTS Index by 16.1%, the stock mutual funds were receiving on average RUB 3.8 billion per month. However, after the stock market crash in March 2020, shareholders withdrew RUB 0.5 billion from these funds.

In *Fig. 61b*, it is shown that also on medium-term horizons, the investor cash inflows into bond mutual funds depend on the size of interest rates on bank deposits. The reduction in interest rates on deposits for a period of 181 days to a year from 12.4% in December 2014 to 4.8% in January 2020 gave rise to a stable investment inflow into bond mutual funds. The average monthly cash inflow into these funds amounted to RUB 4.6 billion in 2018, RUB 1.4 billion in 2019, and RUB 8.4 billion in January – February 2020, while a massive cash outflow from bond mutual funds occurred from July 2018 through March 2019, when the interest rate on bank deposits increased from 5.1% to 6.4%. In March 2020, amid fears of corporate defaults, shareholders withdrew a total of RUB 4.5 billion from open-end mutual funds.

In *Fig. 61c*, alongside an individual investment outflow demonstrated by the foreign funds specializing in Russian stocks (Russia-EMEA-Equity), the accumulated volume of domestic investment in Russian stock mutual funds was gradually approaching a level which was comparable with that of the said foreign investment funds. From December 2004 through February 2020, the accumulated investment in Russia-EMEA-Equity amounted to USD 1.5 billion, while the corresponding index for Russian mutual funds amounted to USD 0.3 million. When the attractiveness of the Russian stock market for these foreign funds peaked in April 2011, their accumulated investment amounted to USD 14.1 billion, while the similar indicator of open-end mutual funds was only USD 0.3 billion.

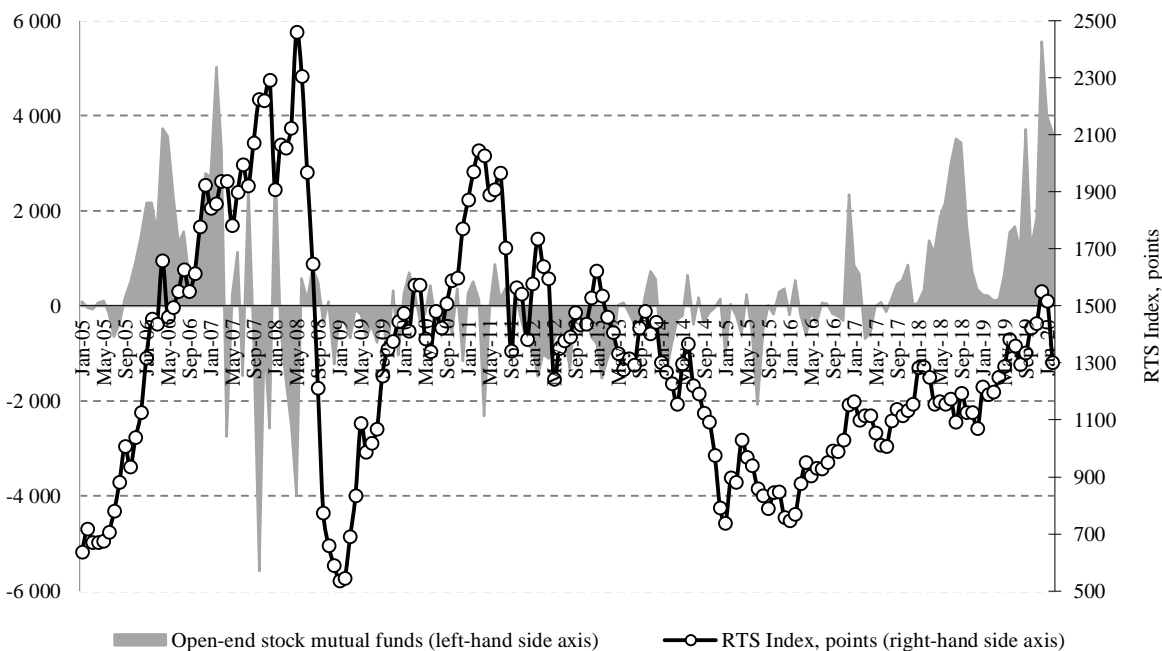
Fig. 61d illustrates the differences in the behavior of foreign and domestic individual investors when they invested in one and the same Russian stock through mutual funds. Essentially, they differ in that foreign individual investors were eager to invest during the periods of low prices for Russian stocks, and withdrew their money from the funds in advance at the first signs of potential risks of stock revaluation and the national currency weakening. Therefore, during the 2019 surge in shares, they were mainly withdrawing their own funds from Russia-EMEA-Equity. But Russian investors, as noted above, rely on more procyclical investment strategies, and so they were investing more as stock prices were climbing, giving practically no regard for the risks of the ruble depreciation. In 2019, their new investment in stock mutual funds amounted on average to RUB 1.5 billion per month.

From the point of view of long-term investments, the Russian stock market is cyclical, and so investors should pay more attention to the possible global diversification of their individual portfolios.

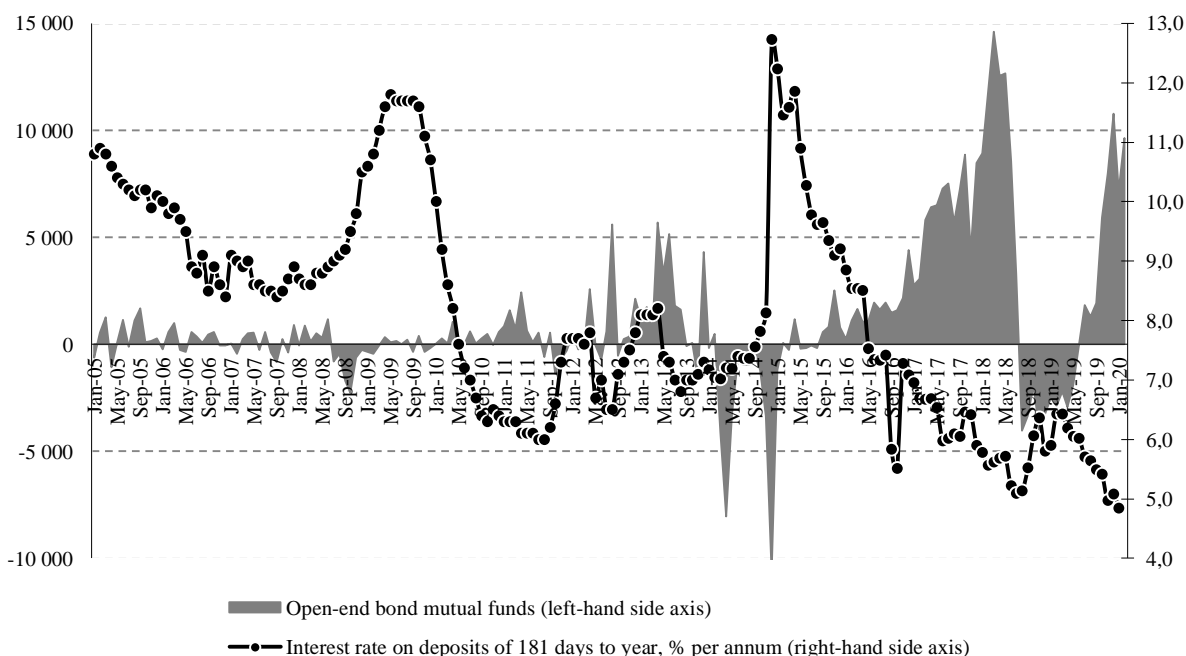
Thus, the year 2019 saw a variety of collective investment trends. The development of the domestic pension savings and reserves is constrained by a number of fundamental unresolved legislative problems. In the mutual fund industry, a tentative domestic savings growth can be observed, which, unlike that of brokerage accounts, is not accompanied by aggressive sales in

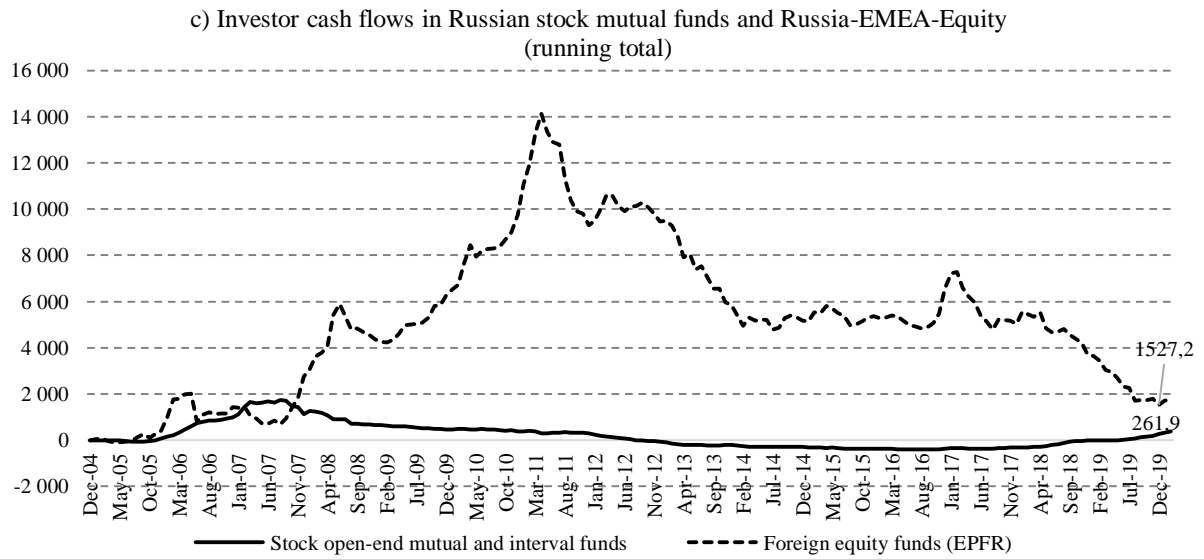
big retail banks. However, the retail mutual fund industry has remained rather small because of the high investment costs and low attractiveness for a really wide range of investors.

a) Open-end stock mutual funds and RTS Index



b) Open-end bond mutual funds and bank deposit interest rate





Note. Fig. (a): monthly net investor cash flows in stock open-end mutual and interval funds, billions of rubles (left-hand side axis) and the RTS Index, points (right-hand side axis). Fig. (b): monthly net investor cash flows in open-end bond mutual funds, billions of rubles (left-hand side axis) and average interest rates on deposits of 181 days to year, % per annum (right-hand side axis). Fig. (c): monthly net investor cash flows in stock open-end mutual and interval funds and foreign equity funds specializing in Russian stocks, running total, millions of US dollars (December 2004 = 0). Fig. (d): monthly net investor cash flows in Russian stock open-end mutual and interval funds (right-hand side axis) and foreign equity funds specializing in Russian stocks (left-hand side axis), millions of US dollars.

Fig. 61. Analysis of the specific behaviors of individual investors in Russian stocks and bonds under different collective investment mechanisms

Source: own calculations based on data released by Investfunds.ru and Emerging Portfolio Fund Research (EPFR Global)¹.

¹ URL: <https://www.epfrglobal.com/>

Foreign investors

In many emerging markets, foreign portfolio investors frequently operate under very similar scenarios. Their decisions concerning investing in or withdrawing from investment funds depend on the general cyclical patterns and the weight of each country in terms of global stock indices, and not on the individual characteristics of each national economy or national issuers.¹

As follows from the data presented in Fig. 62, according to EPFR, the Russian stock market was faced with a massive withdrawal of foreign funds from mid-2011 onwards. A comparison with the other top 5 emerging equity markets (Brazil, India, China, South Korea and Indonesia) has revealed that almost all of them, at about the same time, had to deal with a similar phenomenon, but most of them managed to reverse this trend in 2018. The investment outflow from the Russian stock market, which continued in 2018–2019 despite a reduced risk premium, is an upshot of the uncertain economic growth prospects and unfavorable investment climate in this country in face of persisting geopolitical risks.

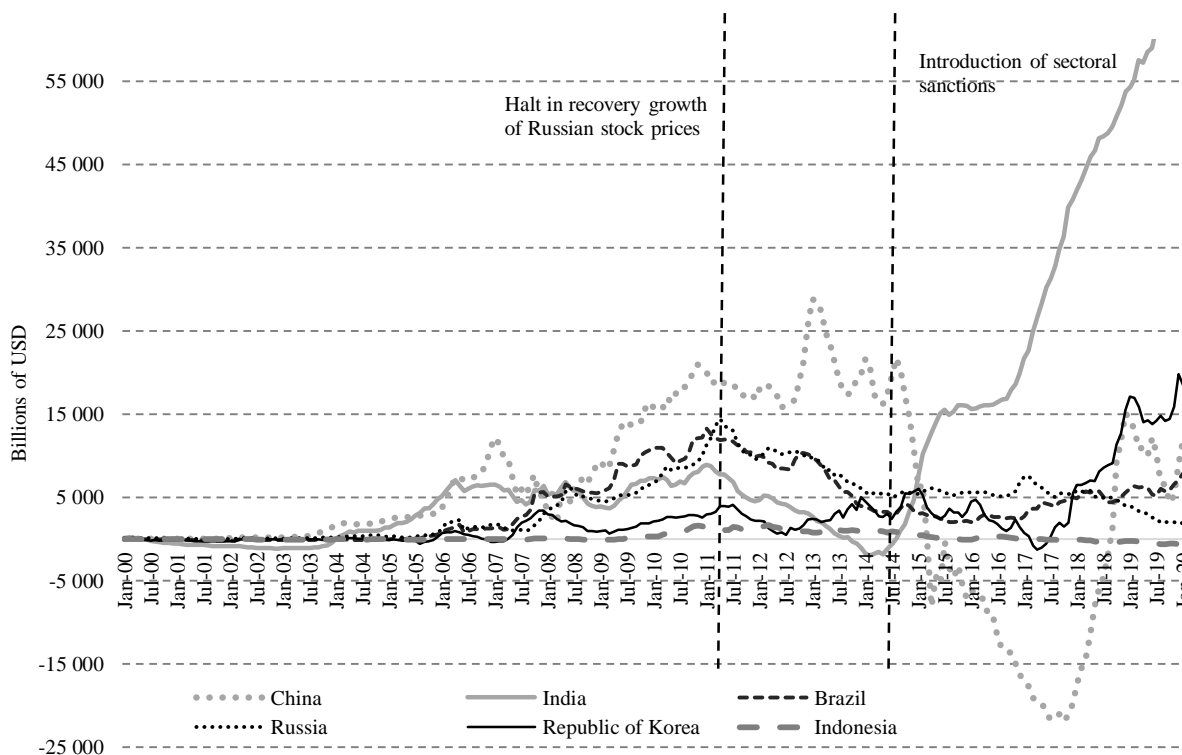


Fig. 62. The cumulative cash flows of foreign investment funds specializing in stocks on some developing markets, from January 2000 through February 2020

Source: own calculations based on data released by EPFR.

The Russian financial market’s attractiveness for foreign investors largely depends on the investment climate. Russia has made significant progress in her Global Competitiveness Index ranking by the World Economic Forum (WEF). This, Russia climbed from 67th place in

¹ For more information on the investment strategy of these funds in Russia, see *Abramov, A.* The difference in the behaviour of domestic and foreign private investors in the Russian stock market. *Russian Economic Developments*, No 11, 2014.

2013 to 43rd in 2018 and 2019 (Fig. 63). Relative to the other BRICS, Russia rose above Brazil, South Africa and India, and is now second only to China.

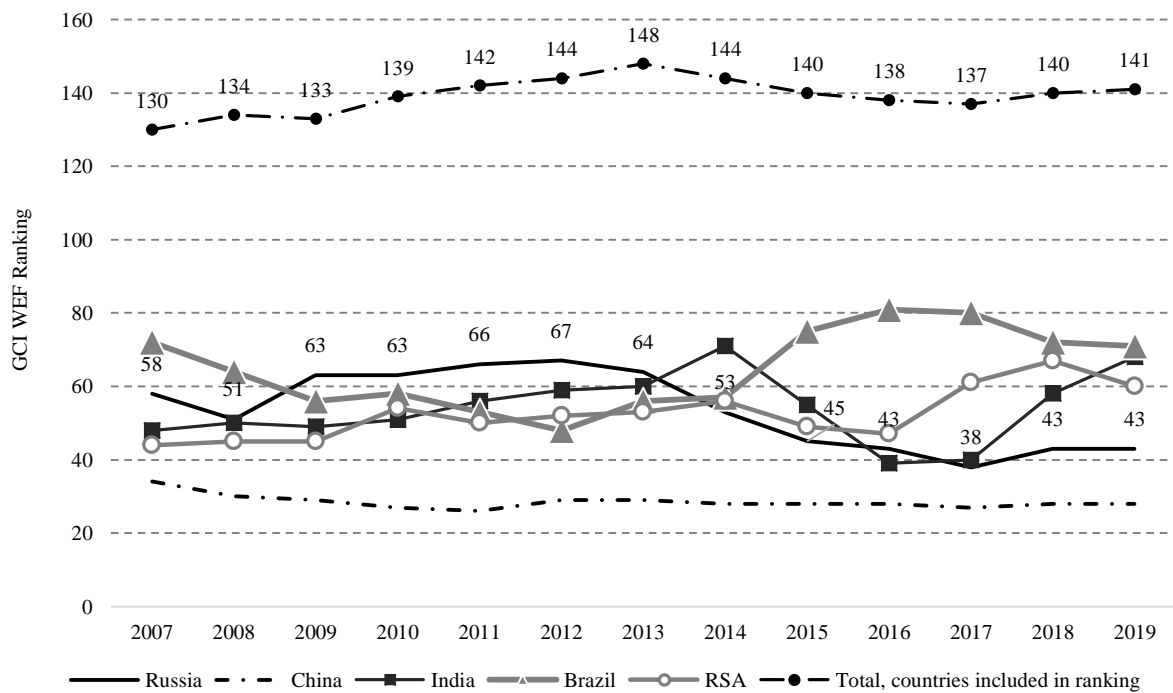


Fig. 63. BRICS members' rankings in the World Economic Forum's Global Competitiveness Index in 2007–2019

Source: own calculations based on data for several years from *The Global Competitiveness Report* released by the World Economic Forum.

Thanks to the availability of long-term data series, we selected three criteria for assessing the investment climate in Russia based on the WEF Global Competitiveness Rankings. If we take the 2013 indices as the base level, it can be concluded that in these three areas, Russia has managed to improve its investment climate quality (Table 10). Thus, for example, by the judicial system independence criterion, Russia moved from 119th place in 2013 to 91st in 2018, by that of compliance with international reporting and audit standards – from 107th place to 97th, and by that of the banking system's reliability – from 124th to 115th place. However, in 2019, by two out of these three criteria (audit and reporting standards, and banks' reliability), Russia's ranking worsened compared to 2018.

Thus, in spite of the macroeconomic and financial sustainability achieved by 2019 and the reduced risk premiums, the Russian stock and bond market, with the exception of the OFZ segment, remained insufficiently attractive for foreign investors, as evidenced by the cash outflow from the foreign equity funds specializing in Russian securities. The developments in March 2020, including the drop in global prices for many financial assets and oil, the slide of many economies into a deep recession in response to the coronavirus pandemic, and the increasing probability of defaults in the risky corporate bond markets of some countries, demonstrate that the Russian market has strengthened its image of one of the world's most risky places for investment.

Table 10

The most problematic aspects of Russia's investment climate according to the rankings in the World Economic Forum's Global Competitiveness Index

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Judicial system independence													
Russia	106	109	116	115	123	122	119	109	108	95	90	92	91
China	82	69	62	62	63	66	57	60	67	56	46	45	47
India	26	43	37	41	51	45	40	50	64	54	53	41	51
Brazil	89	68	78	76	71	71	65	76	92	79	59	79	94
South Africa	23	30	38	44	35	27	22	24	24	16	36	48	33
Audit and reporting standards													
Russia	95	108	119	116	120	123	107	106	102	103	100	89	97
China	102	86	72	61	61	72	80	82	80	68	71	75	78
India	27	30	27	45	51	44	52	102	95	64	69	63	67
Brazil	63	60	70	64	49	42	31	41	70	72	58	65	71
South Africa	6	4	2	1	1	1	1	1	1	1	30	55	49
Banks' reliability													
Russia	108	107	123	129	129	132	124	118	115	121	121	114	115
China	128	108	66	60	64	71	72	63	78	79	82	90	95
India	46	51	25	25	32	38	49	101	100	75	78	83	89
Brazil	36	24	10	14	16	14	12	13	27	38	26	22	19
South Africa	16	15	6	6	2	2	3	6	8	2	37	62	29

Source: own calculations based on data for a number of years from *The Global Competitiveness Report* published by the World Economic Forum.

3.1.12. The Russian financial market risks

One of the key obstacles to the formation of domestic savings in Russia has been the periodically emerging risk of the national currency depreciation. The ruble depreciation usually always follows the same scenario. The decline in oil prices and the intensification of capital outflows trigger an abrupt depreciation of the ruble, followed by a period of 6–8 years when the ruble remains stable and even rebounds slightly (*Fig. 64*). The depreciation lowers the incentives for making domestic savings. The measures undertaken in recent years to liberalize the ruble exchange rate and the introduction of a fiscal rule have helped reduce the risks of national currency depreciation, but in order to properly manage these risks, structural changes in the economy are urgently needed.

As shown in *Fig. 64*, from September 1995 until the present, three ruble devaluation waves were observed in Russia. During the first one, from September 1, 1995 to August 31, 1998, the average exchange rate for the period was RUB 5.7 per USD. After the August 1998 crisis until August 2008, the average exchange rate rose to RUB 27.5 per USD. Beginning from the 2008 crisis, during the period of lower oil prices until September 2014, the average rate stayed at RUB 31.1 per USD. The forex crisis of 2014, followed by long-term decline in the average level of oil prices until the end of 2019, resulted in the national currency's average exchange rate hovering near RUB 61.7 per USD.

The ruble weakening in Q1 2020 in response to the shocks of the pandemic and the intensified competition between oil exporting countries led to the ruble plunging to the level of RUB 80.16 per USD (as of March 20, 2020). It is still unknown at what level oil prices are going to stay when the acute phase of the current crisis is over, but it can be assumed that if the average oil prices should plummet over the next period, this may give rise to yet another wave

of ruble depreciation followed by the emergence of disincentives for households and organizations to keep ruble savings.

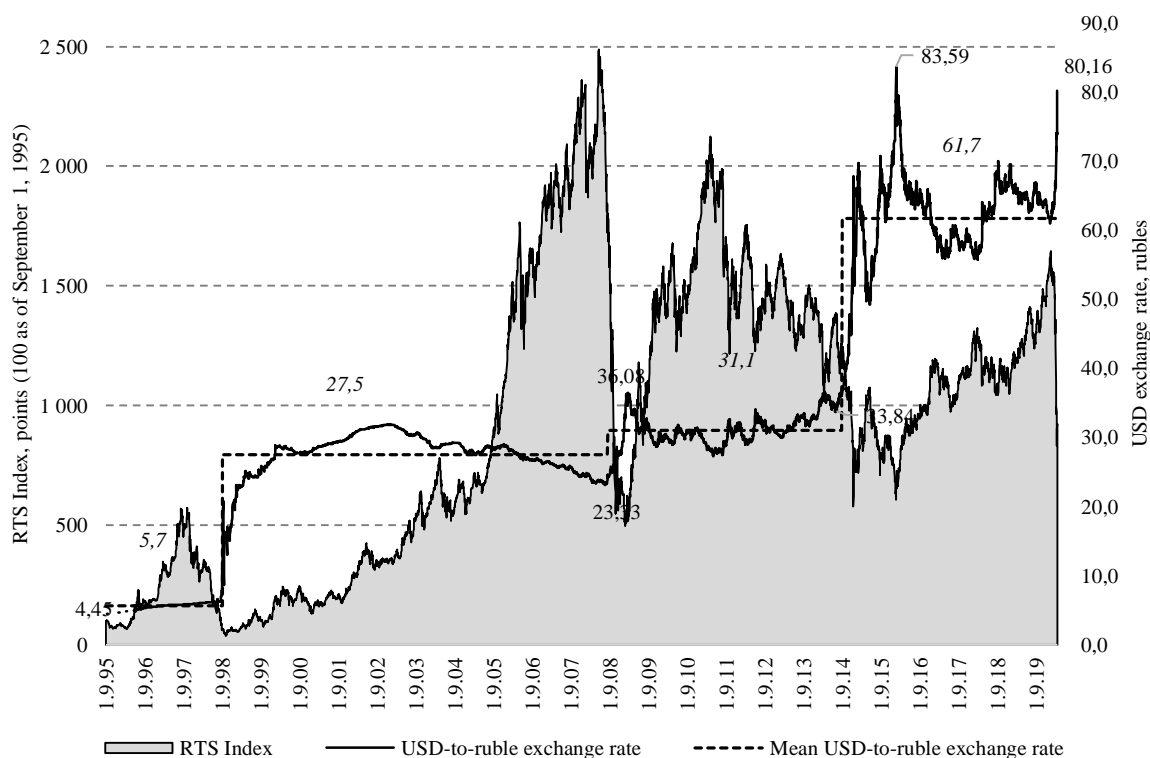


Fig. 64. The movement of the RTS Index and the USD-to-ruble exchange rate over the period from September 1, 1995 through March 20, 2020

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

The stock prices of Russian companies strongly depend on oil prices. The coefficient of determination (R^2) between the absolute monthly values of the RTS Index and the price of Brent crude oil over the period from September 1995 through March 2020 (Fig. 65) is equal to 0.8, which points to a very close interdependence of these two indicators. To a large extent, the price of oil continues to influence the national currency’s exchange rate, especially when certain price shocks occur in the market.

The economic sanctions continue to pose significant risks to the financial market, although their impact on the behavior of market participants is still limited. The main channels whereby the sanctions are influencing the financial market are the restrictions on the amount of lending to Russian companies, the cost of borrowed funds, and the outflow of foreign investment from the stock market. Although the available estimates of the effects of sanctions on the financial market vary significantly, they all mostly have to do with the expected slowdown in GDP growth. There are few studies that analyze directly the consequences of sanctions for the financial market. Thus, according to E. Gurvich and I. Prilepskiy, the total additional net capital outflow resulting from the sanctions is estimated to have been at the level of USD 58 billion in 2014, and USD 160–170 billion in 2014–2017.¹

¹ Gurvich, E., Prilepskiy, I. The impact of financial sanctions on the Russian economy, No 1, January 2016, p.33.

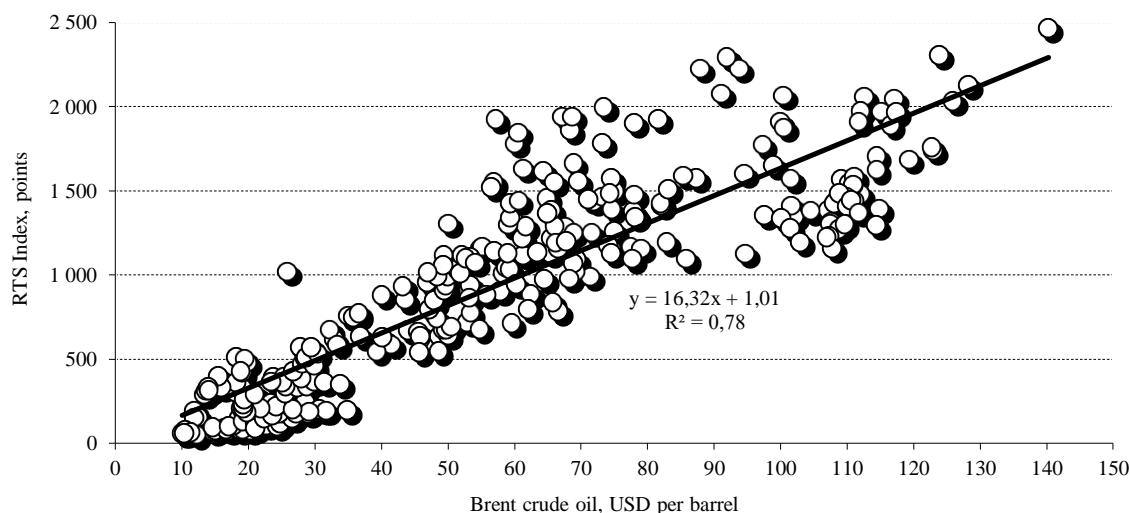


Fig. 65. The dependence of the RTS Index on the price of Brent crude oil, from September 1995 through March 2020

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

The economic sanctions and the current expectations of their possible toughening limit, for big companies and the government, the possibilities to borrow in global markets, and thus suppress the investment activity of the business community, which has a negatively effect on economic growth.

In the context of an impending global financial crisis, one of the most serious threats to financial sustainability in Russia and elsewhere is posed by defaults in the high yield bond market. The massive work stoppages of businesses in their response to the coronavirus epidemic have made it more difficult for companies to fulfill their obligations to creditors. In Russia, this problem is further aggravated by the fact that, unlike many countries, the government has not yet decided to implement large-scale relief programs to compensate businesses for their losses incurred from staying idle.

In addition, as has been shown above, the bond markets of many countries, Russia including, for many years have been displaying a trend towards an underestimation, by investors, of the risks associated with junk bonds. Due to the increased demand, the yield spreads for these instruments were close to those of investment grade bonds, and did not adequately offset the real risks for investors. According to Kenneth Rogoff, who is one of the most eminent financial crisis experts, the corporate debt sector is one of the most vulnerable sectors of the US financial market, as he notes in his interview with Barron's on March 30, 2020. In his opinion, the measures that have been taken there by way of supporting the financial market could prevent defaults in the US debt market. However, the most serious problems can be expected to occur in the developing markets, where the current capital outflows exceed in scale those observed during the Asian financial crisis. Perhaps indeed 'we will see one after another emerging market restructure debt.'¹

The specific risk typical of the Russian financial market in the context of an impending crisis may be the disappointment of the mass investor in the stock market. The soaring number of

¹ *Kapadia R. (2020). The Coronavirus Crisis Could Be as Bad as Anything We've Seen in the Last 150 Years: Harvard Economist. Barron's. March 31.*

brokerage accounts and the scale of activity of their owners in 2019 and early 2020 was the upshot of aggressive marketing by the 3–4 biggest retail banks, which had been aiming at reorienting their traditional client towards brokerage services. At the same time, banks gave preference to direct investments by novice investors, instead of the more secure collective investment mechanisms. This practice did not result in any significant improvements in the standards of sales of financial products and instruments, for example, the reliance on the principles of open sales architecture, or fiduciary duties for sellers and investment consultants. All this was fraught with increased risks of misselling of financial products, which will probably happen in the medium term.

* * *

Overall, 2019 was a successful year. The positive changes that took place over the course of that year can be described in brief as follows:

- the returns of the Russian stock indexes were among the highest in the world; on the back of a stronger ruble, the return of 44.9% of the RTS Index (denominated in foreign currency) was significantly above the return of the ruble-denominated MOEX Index, which stood at 26.6%;
- Russian corporate stocks demonstrated nearly the highest dividend yields around the world, while the equity risk premiums dropped to their record lows of many years;
- in the wake of the Bank of Russia key rate reduction from 7.75% to 6.25%, there was a real boom in the bond market: OFZ issues jumped 90.9% to RUB 2.1 trillion, and corporate bond offer increased by 68.7% to RUB 2.7 trillion;
- while bank deposits were losing their attractiveness, there occurred a massive inflow of individual investors into the stock market; over one year, the number of registered brokerage accounts of individuals on the exchange almost doubled, reaching 3.9 million;
- in the domestic stock market, the inflow of individual investors largely offset the outflow of foreign portfolio investments, while the relative share of individual investors in exchange-traded market transactions increased to 31.7%;
- the returns on the OFZ market fell 6.09%, which is their record low of the entire post-crisis period since 2008; after the recession in 2018, which was caused by the expectation of sanctions, foreign investors returned to this market, their share in the OFZ structure in early 2020 increasing to its historic high of 34.9%;
- the number of individual investment accounts (IIAs) jumped severalfold, to 1.9 million; increasingly, these accounts are becoming important mechanisms for long-term individual savings;
- in the collective investment market, the monies of individual investors were actively flowing into open-end stock and bond mutual funds, which began to play an increasingly prominent role in the financial market.
- At the same time, many domestic financial market issues have remained unresolved, of which the following ones can be pointed out:
 - Russian stock indexes remain in the category of the world’s riskiest; on long-term time horizons, they are significantly inferior to the stock indexes of many developed and developing stock markets;
 - the level of development of the domestic stock market still does not match the scale of the Russian economy, and it is behind the majority of competing markets by certain parameters

like capitalization, the stock market liquidity, volume of IPO transactions, and the number of issuers listed on the exchange;

- in 2018–2019, the Moscow Exchange demonstrated a decline in the total volume of exchange trading, while low liquidity was observed in the segment of market transactions in stocks and bonds, and in the futures and options market;
- the equity and corporate bond markets are characterized by a high level of concentration; the top 10 issuers account for 70.1% of the total stock market cap, and for 53.5% of new corporate bond offer, respectively;
- from year to year, the relative share of state-owned companies (SOE) in the stock capitalization index and the value volume of bonds outstanding has been on the rise; in 2019, it stood at 53.5% in the stock market, and at 71.8% in the corporate bond market;
- the corporate bond market remains insufficiently transparent from the point of view of credit and interest rate risks; the relative shares of high risk bonds and high yield bonds in its structure amounted to 39.5% and 11.6%, respectively;
- the soaring number of individual investors was not associated with any qualitative improvements in the standards for sales of investment and financial products, or an increased transparency of information about the issuers and their financial instruments;
- since 2014, the freeze of the system of compulsory pension savings has continued, and there is still legal uncertainty in the sector of voluntary corporate and individual pension plans;
- as demonstrated by the stock market downfall in March 2020, the risks of ruble depreciation have remained high, which has negative effects on long-term savings.

The first signs of the upcoming financial crisis that appeared in March 2020, alongside a slowdown of the global economy caused by the coronavirus pandemic, have given rise to new risks in the high yield bond and individual savings markets.